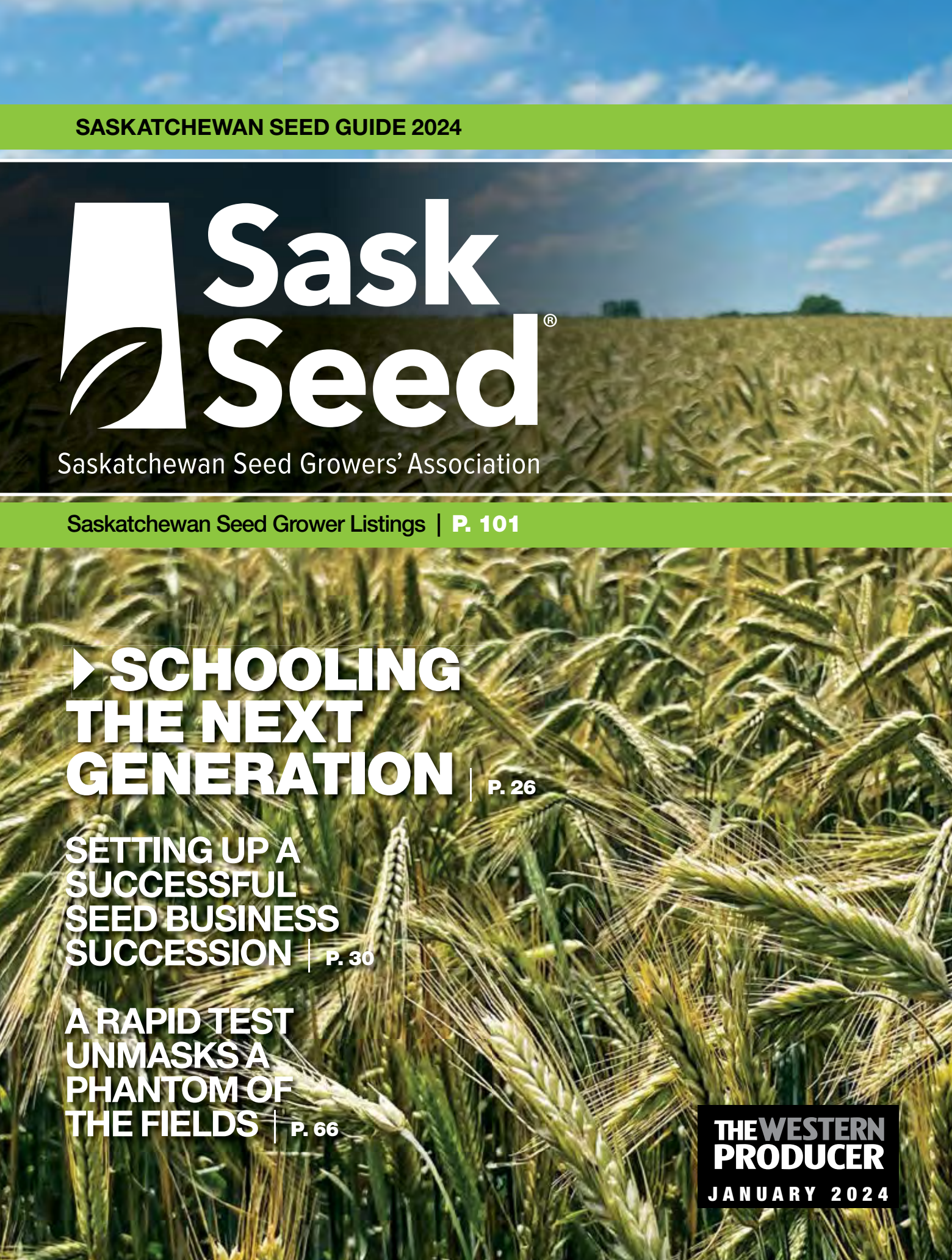
SASKATCHEWAN SEED GUIDE 2024

Sask Seed®

Saskatchewan Seed Growers' Association

Saskatchewan Seed Grower Listings | P. 101



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THE WESTERN PRODUCER
JANUARY 2024

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ON THE COVER: New high-performing varieties and farmer priorities are renewing interest in rye as both a crop and land management tool. **See page 33.** | FP GENETICS PHOTO

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Saskatchewan Seed Growers' Association

KURT PRINTZ
SSGA PRESIDENT

PRESIDENT'S MESSAGE

2023 WAS A YEAR with notable variability across the province of Saskatchewan. It may have been too hot or too cold, too wet or too dry, late or early. Along with the varying weather came different insect and disease pests. Seed growers provide a vast selection of varieties with a range of traits that have been grown and tested locally. By producing these varieties in a system that guarantees quality, SSGA members can help mitigate the many risks farmers face.

Saskatchewan Seed Growers' Association members are your local seed experts; they are immersed in all things related to seed on a regular basis. They can offer firsthand information on variety performance under local conditions and provide knowledge about performance, regional suitability and seed quality. Look to your local trusted seed grower for advice on how a variety fits in your operation and what variety will help you manage the risks you have identified in your operation.

Certified seed is the culmination of a minimum of four years of significant investment by a SSGA member. Working with a seed distribution company, seed growers start growing a variety with a few small sacks of seed that comes directly from the plant breeder or breeding institution. As our members multiply seed from a few acres into large fields of seed production they gain valuable insight into the varieties' characteristics and qualities. Seed growers fields are also inspected by third-party crop inspectors. This ensures that certified seed sold by a SSGA member meets the highest standards of purity and quality set by the Canadian seed industry along with CFIA, but it also means that your local grower has extensive knowledge of the variety and how it performs in different conditions.

SSGA is the voice of pedigreed seed in Saskatchewan. We continue to bring the Saskatchewan perspective to the Seed Regulatory Modernization initiative, CFIA's holistic review of seed regulations. Agriculture is a team sport and we are working to improve our relationships with crop commissions, producer groups and the entire value chain as we advocate for our members at a provincial level. We believe our members can only be successful if the rest of the agriculture team is successful.

The yellow section in this publication provides comparative data from the Saskatchewan Variety Performance Group Trials, collected at numerous sites across Saskatchewan. The Saskatchewan Seed Growers' Association is proud to contribute funding to this project. The data from these trials is valuable when choosing varieties for your farm. Farmers should consider this data along with observations from local seed growers when selecting varieties for their farm.

The same data that appears in the yellow section of this publication data can be accessed by mobile device or computer by using The Saskatchewan Seed Growers Interactive Seed Guide. This resource allows users to search for varieties with specific attributes and allows users to sort varieties by ratings. It also allows farmers to easily identify seed growers who have the varieties that meet your production needs.

I sincerely wish you all the best in 2024, I hope everyone has a safe and productive growing season.

POOLED RESOURCES BENEFIT SPECIALTY CROP RESEARCH

BY MICHAEL ROBIN | SPECIAL TO SASKSEED

WHILE CROPS SUCH AS cereals and oilseeds cover enough acres to attract R&D attention, specialty crops have it a little tougher.

Enter the Diverse Field Crops cluster, formed to support research and development of eight specialty crops: camelina, carinata, canaryseed, flax, hemp, mustard, quinoa and confection sunflower. By working together, they were better able to access federal and provincial government research funding, as well as support from producer-funded sources and private industry. Ag-West Bio in Saskatoon provided management and administrative support for the program.

In 2023, after five years of research through a time that included a drought and a pandemic, the DFCC issued a comprehensive report on its research achievements.

Carol Ann Patterson, DFCC project manager, said researchers showed their resourcefulness in keeping projects going despite health restrictions.

"People were shut down for a year sometimes or with limited access to facilities," she said.

"Somebody told me (University of Saskatchewan) people, they were working in their garages to separate seed. They literally took seed home and were working in their garages to get stuff out so they could plant. So a huge effort, I think, by everybody to work through some very challenging situations and it's paid off."

DFCC research projects yielded results that are now or will soon be in the field. An example from the report are two new mustard varieties, AAC Yellow 80 and AAC Brown 18. They offer the first significant yield increase in decades — nine percent and 20 percent, respectively.

The mustard team also achieved another breakthrough: herbicide resistance.

"It was only in year four that they were able to get one plant that was resistant to Solo (a Group 2 herbicide)," Patterson said. "That in itself was a huge accomplishment. Right now, you have to remember it's one plant, so they're very carefully taking care of that germplasm and starting to bring it up through the breeding cycle."

Another advance still in the works is a winter camelina that provides an oilseed alternative to fall rye. Improved spring-seeded varieties with larger seed size are ready for the field. On the agronomic side, research showed that including camelina and yellow mustard in rotations enhanced pulse crop performance in subsequent years.

Patterson said much of the research has an end-customer orientation. For confection sunflowers, this meant development focused on taste and mouth feel to appeal to European palates.

Hemp | CANADIAN HEMP TRADE ALLIANCE PHOTO

> *They literally took seed home and were working in their garages to get stuff out so they could plant. So a huge effort, I think, by everybody to work through some very challenging situations and it's paid off.*
>
> **CAROL ANN PATTERSON** | DFCC PROJECT MANAGER

"(Processors) have been really interested in the agronomic characteristics of these bigger, longer confectionary sunflower seeds," Patterson said. "They've got a bigger, rounder shoulder. This project enabled those lines to come from research that was done five, six, 10 years ago even, bringing it to fruition so that right now we've got processors that are very, very interested in those one or two lines."

A newcomer to the human food market is canaryseed, which received approval for such uses in Canada and the United States in 2015. With the arrival of glabrous (hairless) varieties out of research at the University of Saskatchewan, the next steps are to develop ways to process and market the seed.

A dehulling process has been optimized and heat processing techniques explored to extend the shelf life. Other work is aimed at marketing the seed to food manufacturers, one aspect of which is to give the human food version a separate name, alpiste, to differentiate it from its birdseed cousin.

Other projects looked at livestock and companion animal markets. One study showed that hemp meal is similar to canola meal for livestock feed. Another showed that camelina oil supplements improved skin and hair health in dogs and helped modulate inflammation in horses.

Now at the end of its first five years, Patterson said two of the seven commodity groups (canaryseed and quinoa) will drop out of the cluster. The remaining players have new funding proposals to Agriculture Canada in the pipeline and hope to continue to develop their crops and market opportunities.

The full DFCC research report is available at www.dfcc.ca.

BELOW AND ABOVE: Quinoa | NORQUIN PHOTO

BELOW: Winter camelina is seeded in the fall and overwinters in the form of a rosette. Its winter hardiness is comparable to that of fall rye. It is the only oilseed that can be grown as a winter crop on the Canadian Prairies. | CHRISTINA EYNCK, AAFC PHOTO

Canary Seed | CANARYSEED DEVELOPMENT COMMISSION PHOTO

DEVELOPING A SHARP FOCUS ON PULSE PRIORITIES

Pea, chickpea and dry beans breeding top the list along with solutions to root diseases

SASKATCHEWAN PULSE GROWERS |
SPECIAL TO SASKSEED

Saskatchewan Pulse Growers (SPG) is connecting innovation and profitability in its rebuild of investments and sharp focus on the activities of greatest impact to farmers and the pulse industry.

One major focus for SPG this past year is rebuilding investments, particularly within research and development. As SPG is carrying a larger accumulated surplus than typical, the Board took the decision to direct $14 million of that into new high-priority research commitments over the next year.

With a strong national pulse research strategy developed in 2021-22 to anchor the industry's focus, a number of new funding portfolios have already been established this past year in areas of research of highest priority to growers, with more to come over the next year.

SPG worked alongside Alberta Pulse Growers, Manitoba Pulse & Soybean Growers, Ontario Bean Growers and Pulse Canada to collaboratively develop and submit the 2023-28 Sustainable Canadian Agricultural Partnership Agri-Science Pulse Cluster application this year.

SPG is committed to contributing $5 million to nine of the projects including research topics on: breeding peas, chickpeas and dry beans; solutions to root diseases; genetic improvement in faba bean; and tools for pulse breeders using imagery. SPG also committed $3 million for 17 new projects under the Saskatchewan Ministry of Agriculture's Agriculture Development Fund (ADF) research application process, for a total of $6.8 million in new pulse research. Topics include breeding tools for peas, dry bean and soybean; monitoring and managing insects, diseases, viruses and weeds in pulses; processing of pulse proteins and more.

In addition to traditional research, SPG has reinvigorated funding into various demonstration trial programs to evaluate technology and research results on-farm.

On the breeding front, SPG continues to work closely with new breeding partner Limagrain, driving growers' greatest challenges into the future outcomes of that program. SPG also continues to build on this new partnership with Limagrain while also making progress on developing new breeding relationships with the University of Saskatchewan's Crop Development Centre for the future. SPG also continues to lead the pulse and soybean regional variety trials, providing unbiased and transparent testing of new varieties, of which the data flows into the Saskatchewan Seed Guide.

CONTINUED ON PAGE10 »

Faba beans are among a range of pulse crops grown in Saskatchewan that includes peas, lentils, chickpeas and dry beans. | DAVID STOBBE PHOTO

» CONTINUED FROM PAGE 8

Collaboration becomes key to all of the areas of work SPG undertakes. SPG has collaborated with other provincial pulse commissions and Pulse Canada to drive research priorities forward, while work continues to be done alongside other crop commissions in Saskatchewan to drive grower advocacy and awareness initiatives. SaskCrops, a collaboration among SPG, SaskWheat, SaskCanola, SaskBarley, SaskFlax and SaskOats, worked on several grower advocacy initiatives this year including a submission to Agriculture & Agri-Food Canada's Sustainable Agriculture Strategy consultation. SPG also worked with Pulse Canada on a similar submission and they led in the advocacy around sustainability topics to Ottawa lawmakers, Bill C-282, interswitching and pushing for an Indo-Pacific trade office.

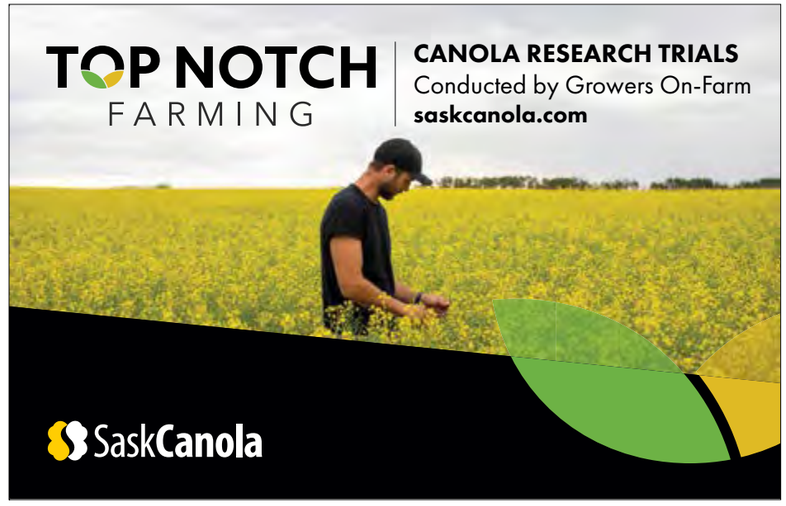
As we continue to rebuild and make new investments, SPG is driven with a sharp focus on the initiatives and activities that will drive innovation and profitability for Saskatchewan producers, while collaborating where makes sense to extend the reach and impact of that work further.

SASKATCHEWAN pulse Growers

TAKING CANOLA RESEARCH DIRECTLY TO PRODUCER FIELDS

New research program partners with farmers to drive research questions and priorities

FROM SASKCANOLA | SPECIAL TO SASKSEED



2023 MARKED THE first year of SaskCanola's new on-farm research program, Top Notch Farming Trials. While we continue to invest in small plot research, we also recognize farmers and agronomists may have farm-specific questions. This program is designed to have farmers drive the concepts to help answer their questions through replicated trials and data collection over a larger area.

The trial for this inaugural year – Foliar N-Fixing Biological Products – was implemented on eight farms across the province covering all regions and soil zones.

In 2023, there were concerns about environmental targets to reduce greenhouse gas emissions associated with nitrogen (N) fertilization. We received questions about how well newer products work and if they could help with N efficiency.

This field-scale trial aimed determine if there are agronomic and economic benefits to applying a commercially available, foliar-applied N-fixing bacteria product in canola. Producer-cooperators were able to determine the value of using this product under the typical management practices and environmental conditions of their operation.

The two main treatments compared crop growth and productivity with and without application of a biological product under a normal operational rate of applied N fertilizer. Two optional treatments compared performance of the product with a reduced rate of applied N. The decision to include two or four treatments depended on the cooperator's objective in conducting this trial.

OPTION A: TWO TREATMENTS

1) No foliar N-fixing biological

1) Envita at recommended rate and timing

OPTION B: FOUR TREATMENTS

1) Normal N rate + No foliar N-fixing biological

2) Normal N rate + Envita

3) Reduced N rate + No foliar N-fixing biological

1) Reduced N rate + Envita

Treatments were replicated and applied in randomized strips in the field. Option A was replicated at least four times for a total of eight strips. Option B was replicated at least three times for a total of 12 strips. All strips were managed the same including seeding date, variety, seeding depth, seed treatment and pesticide application. Data collected included spring soil samples, spring plant densities, general observations throughout the season, weather data, yield and quality.

We have been working with Christiane Catellier at the Indian Head Agricultural Research Foundation (IHARF) for trial management and statistical analysis. Results from this pilot year will be published in February, 2024.

Our goal is to continue growing this program in 2024 and we encourage farmers and agrologists to contact SaskCanola to participate. Benefits include:

- Joining a network of farmers and agronomists interested in on-farm research and learning from each other
- Using your own equipment, land and many of your existing practices while learning how to set up a research trial
- Working with a research specialist or agronomist to mark out trial locations, create maps and collect data
- Participate in summer field tours or the winter wrap up meeting to gain first access to the results of other on-farm, field-scale trials in Saskatchewan

SaskCanola

WORKING TOGETHER FOR BETTER WHEAT

Backed by producers, university and government researchers bring forth new varieties

BY DALLAS CARPENTER, SASK WHEAT | SPECIAL TO SASKSEED

WHEN DRIVING PAST the golden waves of wheat flowing in Saskatchewan fields, most people associate them with images of combines, flour, bread and pasta. For farmers, those golden plants are better associated with labs, microscopes, greenhouses and research plots.

Some of the most innovative wheat varieties are now emerging from the labs and fields of western Canadian universities and Agriculture and Agri-Food Canada research stations thanks to investment by producers through organizations such as the Saskatchewan Wheat Development Commission (Sask Wheat). These varieties take years of rigorous testing with the right equipment and under proper conditions to bring producers a return on their wheat breeding and research investment.

"Recent advances in wheat breeding technologies have led to many impressive varieties of spring wheat, winter wheat and durum and they are being made available for producers quicker than ever before," said Sask Wheat Executive Director Blair Goldade. "Most new wheat varieties come packaged with desirable traits such as improved resistance to FHB, tolerance to wheat midge, tolerance to biotic and abiotic stressors such as drought and heat, and increased yields.

"These new wheat varieties were developed thanks to funding from farmers, and the package of traits they offer producers compared to older varieties bring an abundance of advantages for farms."

The value of the investment wheat producers make into wheat research was highlighted by a report released in March 2022, which found that western Canadian wheat producers received nearly $33 in return through varietal improvements for every dollar they invested in wheat breeding. The study was undertaken by the Canadian Wheat Research Coalition (a partnership of Manitoba Crop Alliance, Alberta Grains, and Sask Wheat), the Western Grains Research Foundation and the Saskatchewan Winter Cereals Development Commission (SWCDC) to quantify the benefits of wheat breeding investments by western Canadian producers over the past 27 years.

Sask Wheat amalgamated with the SWCDC on Aug. 1, 2023. Sask Wheat will now collect the levy for winter wheat, fall rye and triticale, which is $1.00/metric tonne sold. With these crops now within Sask Wheat's established research program, it will lead to greater opportunities for research investment in these crops, especially winter wheat, with several researchers working on new lines and related projects.

CONTINUED ON PAGE 14 »

Harvesting Sask Wheat's "Wheat Wise" on-farm trial plot at the farm of the Stone family east of Davidson. | SASKWHEAT PHOTO

» CONTINUED FROM PAGE 12

The information collected through the Saskatchewan Variety Performance Group (SVPG), which tests variety performance at sites throughout Saskatchewan, is vital for producers looking for data on new and existing varieties. Sask Wheat is among the annual funders of this project, which provides information for the SaskSeed Guide and Varieties of Seeds and Crops Guide.

"Through Sask Wheat, farmers are funding projects that bring value to their farms through scientific innovation and information gathering, as shown through the annual SVPG activities," Goldade said. "This all goes a long way towards improving market opportunities for Saskatchewan wheat and, importantly, increasing the profitability of their farms."SWCDC on Aug. 1, 2023. Sask Wheat will now collect the levy for winter wheat, fall rye and triticale, which is $1.00/metric tonne sold. With these crops now within Sask Wheat's established research program, it will lead to greater opportunities for research investment in these crops, especially winter wheat, with several researchers working on new lines and related projects.

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> *This all goes a long way towards improving market opportunities for Saskatchewan wheat and, importantly, increasing the profitability of their farms*
>
> **BLAIR GOLDADE** | SASK WHEAT EXECUTIVE DIRECTOR

PROVIDING FARM-LEVEL VALUE FOR FLAX GROWERS

Higher yield and improved straw management among the goals of breeding programs

BY KADE KELLENBACH, SASKFLAX | SPECIAL TO SASKSEED

SASKFLAX IS PLEASED to provide an update on the latest and most exciting research projects the Commission is funding to provide value to flax growers at the farm level. The two primary focuses of SaskFlax's research program are breeding new higher-yielding varieties as well as looking at ways to improve ease of straw management.

Our breeding program with Bunyamin Tar'an at the Crop Development Centre continues to provide fresh and exciting approaches to flax breeding. Bunyamin is working to develop speed breeding protocols for flax. Such protocols have already been developed for several other crops and can greatly reduce the time required for breeding. Bunyamin is also working to widen the genetic base for new varieties by backcrossing domesticated flax with its wild ancestors. We look forward to sharing updates about some of the varieties that are currently being developed with growers at events in the summer.

SaskFlax is also funding research looking into microbial degradation of flax straw in the field, with the aim of developing commercially available solutions to hasten the breakdown of flax straw after harvest. An exciting breakthrough is unfolding at the University of Regina's Biology Department, where John Stavrinides and his team are collaborating with funding partners NSERC and SaskFlax to unlock the potential of natural soil microbes to accelerate flax straw decomposition.

The ongoing research has revealed a promising solution: harnessing the power of microbial partnerships. Stavrinides and his team have discovered a dynamic duo of microorganisms, bacteria and fungi, which appear to work in harmony to break down the stubborn lignin and cellulose in flax straw.

The two likely microbial candidates found in this research have a natural synergy in their ability to decompose flax straw efficiently. This discovery has sparked the idea that these microbes could be used to develop a commercially available biological product that can be sprayed onto flax fields after harvest, significantly speeding up straw decomposition.

Less conventional approaches to straw management are also being investigated. Recently completed research by Jodi Souter of J4 Agriscience and funded by SaskFlax and Agriculture and Agri-Food Canada endeavored to identify flax lines with shorter statures to enhance cultivation efficiency. The research revealed a twist: shorter plants did not always mean less biomass. Some plants displayed a horizontal growth pattern with retained long stems.

This unexpected discovery suggests that future breeding efforts should focus on shortening stem length rather than plant height. Another significant revelation was the strong correlation between plant height and yield. In many newer and unregistered varieties, plant height correlates to yield: taller plants yielded more. However in established commercial lines we did not see this trend. This means there are good prospects for breeding commercial lines to achieve short stature plants with high yield.

SaskFlax is thrilled about the exciting advancements in flax research and looks forward to sharing more about these developments with growers in the upcoming year!

New breeding techniques are being applied to flax in pursuit of traits such as short stature and high yield. | SASKFLAX PHOTO

Flax variety trials run by Farming Smarter near Lethbridge last year. | SHERI STRYDHORST PHOTO

ADVOCATING FOR OATS IN THE FIELD AND AT THE POLICY TABLE

Priorities focus on research with partners, fertilizer regulations and lowering market barriers

BY SHAWNA MATHIESON, SASKOATS | SPECIAL TO SASKSEED

SASKOATS CONTINUES TO WORK hard to bring forward the grower voice to ensure that dollars collected from growers are returned, many times over, to benefit them. The commission has five main priorities: Research; Market Development; Advocacy; Building Partnerships; and Communication with Oat Growers, Consumers, the Oat Industry and Governments

In 2023, the oat harvest was, overall, better than expected. Lack of moisture in many areas limited yield potential but yields were good for many considering the amount of rain received.

SaskOats, in coordination with the Prairie Oat Growers Association (POGA), encompassing the three Canadian Prairie provinces, supports nearly 30 projects with eight different funding partners. Oat Growers across Western Canada pay less than $0.16 on every dollar of research and marketing projects due to the associations' being able to leverage funds. This has resulted in $5.3 million of grower dollars compounded into $33.4 million of funding. These projects will lead to new varieties, improved agronomic practices, new markets and new products that will benefit producers and make growing oats more productive and profitable.

SaskOats has also undertaken a significant number of advocacy and policy initiatives over the past year, including working with fellow Saskatchewan crop commissions on many issues as part of the SaskCrops organization. A substantial amount of work has been done on the fertilizer emissions reduction target, research and breeding funding, a review of the Canadian Grain Act and many more!

SaskOats will continue focusing on increasing markets and addressing market barriers, funding research, working with all levels of government to advocate on behalf of producers, and striving to increase the return on investment for those growing oats.

Oats at a Discovery Farm demonstration plot on July 4, 2023. | MICHAEL ROBIN PHOTO

BUILDING A WORLD REPUTATION WITH BETTER BARLEYS

Canadian malting varieties have become the gold standard but improved versions will need some promotion

FROM SASKBARLEY | SPECIAL TO SASKSEED

TODAY, CANADA IS a top producer and supplier of barley and malt to the global malting and brewing industry.

But that hasn't always been the case.

In the early 1970s, the Canadian malting barley industry was miniscule in relation to its current size.

There are several reasons for this increase. One is that over the last 50 years Canadian barley breeders, largely backed by farmer funding, have worked diligently to develop new barley varieties tailored to Canadian conditions and the malting and brewing industry.

Between 1995 and 2020, Western Canadian farmers invested $51.5 million of their check-off dollars into barley breeding efforts.

Varieties coming out of these breeding efforts have shaped the Canadian barley industry – and are currently shaping its future. Here are a few notable examples:

- Harrington, released by Bryan Harvey at the University of Saskatchewan in 1981, was the first two-row barley variety developed in Canada and adapted for local growing conditions. Attractive to farmers, maltsters and export markets, it put Canada on the map as a global supplier of high-quality two-row malting barley.
- AC Metcalfe, released by Bill Legge at Agriculture Canada in 1997, signified a new era for Canadian malting barley. Featuring a seven percent yield increase over Harrington and many other agronomic strengths, AC Metcalfe was a farmer favourite, also offering benefits to maltsters, most notably in terms of extracts.
- CDC Copeland, released by Harvey in 1999, was immediately popular with farmers with its high yields, early maturation, good resistance and disease and lodging, and consistent ability to produce quality malt. But its real draw was its appeal to both adjunct and craft brewers (an emerging sector at the time), with good quality specs and lower protein and enzyme levels. CDC Copeland replaced AC Metcalfe as the top malting barley seeded in Western Canada around 2015 and as of 2023 retains the top spot.
- CDC Churchill, released in 2019 by University of Saskatchewan breeder Aaron Beattie, offers agronomic improvements over AC Metcalfe, including a dramatic yield improvement of 17 per cent,and attractive malting traits for craft brewers such as lower protein levels. Most notable is, as more of a European-type barley, it reflects a new direction for Canadian breeding programs.

AAC Synergy 2-row malt barley yields about 120 percent more than industry standard AC Metcalfe and is moderate or resistant to blotches and stem rust, has medium maturity and good standability. | MICHAEL RAINE PHOTO

U of S barley breeder at a presentation plot of his new variety, CDC Copeland, released in 1999. AC Metcalfe came from the program of AAFC breeder Bill Legge two years earlier. | SASKBARLEY SUPPLIED PHOTO

Despite its appeal, CDC Churchill has yet to take off, reflecting the malting industry's hesitance to accept new varieties to replace AC Metcalfe and CDC Copeland. It's a significant problem for our industry and one that SaskBarley has been working to address, for example by funding work at the Canadian Malting Barley Technical Centre to promote the benefits of newer varieties to brewers domestically and globally. Some progress has been made in gaining acceptance for new varieties such as AAC Synergy, CDC Fraser, AAC Connect and more recently, CDC Churchill. SaskBarley will continue to push for more progress in this area on behalf of farmers.

For a more complete picture of 50 years of Canadian barley breeding, tune in to SaskBarley's special series BarleyBin podcast: *A look back at 50 years of barley breeding in Western Canada*, available at: barleybin.ca

THE CANADIAN MALTING BARLEY TECHNICAL CENTRE (CMBTC) RECOMMENDED LIST provides producers with an indication of which malting barley varieties have the greatest potential for selection and marketing. Each variety on the recommended list has been pilot scale tested at the CMBTC and all exhibit good malting and brewing characteristics. All varieties on the list are registered with the Canadian Food Inspection Agency (CFIA).[1]

RECOMMENDED VARIETIES

VARIETY	SEED DISTRIBUTOR	MARKET COMMENTS	PRODUCTION
AAC Connect	CANTERRA SEEDS	Growing Demand	Increasing
CDC Fraser	SeCan	Growing Demand	Increasing
CDC Copeland	SeCan	Stable Demand	Decreasing
AAC Synergy	FP Genetics	Declining Demand	Stable

Check with your malting barley buyer prior to seeding for additional contracting opportunities including the following varieties: **AC Metcalfe**; **CDC Bow** (SeCan); **Legacy**; **CDC Copper** (FP Genetics); **Bill Coors 100** (Stamp Seeds); **CDC PlatinumStar**; **CDC GoldStar** (CANTERRA SEEDS).

A list of all CGC *designated malting barley varieties* can be seen on the Canadian Grain Commission web site under "Variety Designation Lists".[2]

THE CMBTC AND ITS MEMBERS RECOMMEND

Talk with your malting or grain company representative, local elevator operators, or representative seed company about **opportunities to grow and market malting barley in your area.**

Use certified seed to ensure varietal purity, reduce incidence of disease and increase likelihood of selection for malt.

Explore opportunities to **contract production** of malting barley varieties.

NEWLY REGISTERED VARIETIES IN DEVELOPMENT

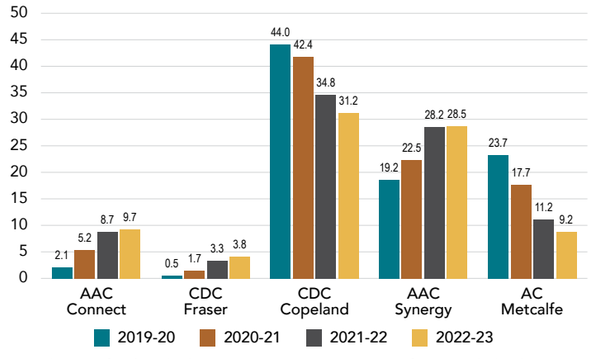
These newly registered varieties are undergoing seed propagation and commercial market development. Contact the seed distributor for opportunities to trial these promising new varieties.

VARIETY	SEED DISTRIBUTOR
CDC Churchill	SeCan
AB BrewNet	SeedNet
AAC Prairie	CANTERRA SEEDS

[1] The varieties on this recommended list are targeted primarily at western Canada and may not reflect malting barley varieties with the greatest potential for selection and marketing in eastern Canada.

[2] https://www.grainscanada.gc.ca/en/grain-quality/variety-lists/

SEEDED AREA BY MAJOR MALTING VARIETY % - W. CANADA



Distribution of malting barley varieties as a percentage (%) of area seeded with malting barley in western Canada in 2022. Source: CGC (based on data from provincial crop insurance agencies).

For inquiries please contact the CMBTC by email at cmbtc@cmbtc.com or call 204-984-4399.

@canadianbarley @MaltAcademy

CANADIAN AGRICULTURAL PARTNERSHIP | PARTENARIAT CANADIEN pour L'AGRICULTURE

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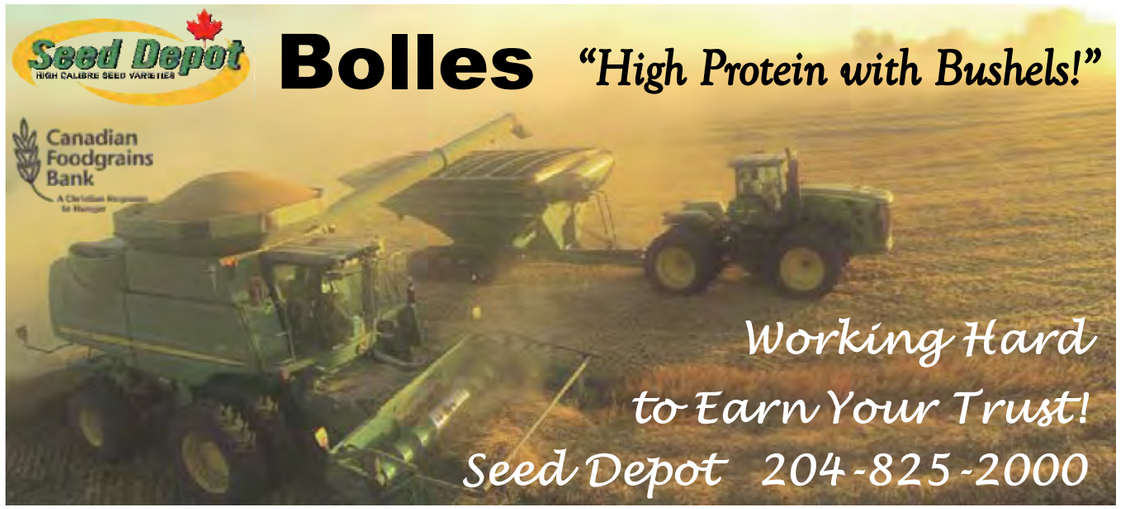

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Beischer Family Seeds	204-564-2676	MB Seeds Ltd.	204-746-4652
Boissevain Select Seeds	204-534-3222	MGM Seed & Service	204-362-8986
Clearview Acres Ltd.	204-748-2666	Nickel Bros	204-773-6734
Crow Lake Farm Ltd.	306-842-6216	Pugh Seeds Ltd.	204-274-2179
Court Seeds	204-386-2354	Swan Valley Seeds	204-734-2526
Fisher Seeds Ltd.	204-622-8800	Triple "S" Seed Ltd.	204-546-2590
Friesen Seeds Ltd.	204-746-8325	Webster Seed Farm	306-645-4386
Hulme Agra Products	204-685-2627	Willis Agro Ltd.	204-461-0386
Jeffries Seed Service	204-827-2102	Willowdale Seeds	204-461-0386
J.S. Henry & Son Ltd.	204-566-2422	Wyrich Seeds	204-801-0659

<u>Wheat:</u> Faller / Brandon / Wheatland / Starbuck / Bolles / Cardale / Prosper

<u>Oats:</u> Souris / Summit **<u>Barley:</u> Conlon (sold out)**

<u>Flax:</u> CDC Glas **<u>Peas:</u> Chrome (limited supply) / Lewochko**

SEED GROWERS OPEN THE FARM GATE TO THE NEXT GENERATION

Ag in the Classroom gives students hands-on experience as to where their food comes from

BY BECKY ZIMMER | SPECIAL TO SASKSEED

ONE OF THE REASONS Rhonda Mayerle wants young people to learn more about the farm is so they know farming or working on a farm is a valuable learning experience and later on down the road, a possible career path.

"We try to emphasize that you can work for a farmer, you could become a farmer yourself. There's ways that you can get involved in agriculture."

Rhonda and her husband Kris run Greenleaf Seeds and KRM Farms near Tisdale. About a third of their 25,000 acres is devoted to seed production.

Through Agriculture in the Classroom, the farm hosted students from across the northeast in both the spring and fall. When Rhonda asked some fellow farmers to bring their livestock, she said students were thrilled to be able to pet the animals, some of them for the first time.

One other guest that comes in the fall is a local beekeeper to teach the kids about honey production. Rhonda said they always hire summer students to work with the bees but it is getting harder and harder to find students.

2023 marked the 10th anniversary for Ag in the Classroom, which runs programs province-wide to get school children out to real Saskatchewan farms, said Jordyn Leib-Minto, program coordinator.

Students, typically from grades three to four since it pairs well with their science and social studies curriculums, are invited to farms in the spring and fall to get a full circle view of grain farming from seeding to harvest. While grain production is an important aspect of any farm, Leib-Minto said many farms invited livestock producers, beekeepers and a diverse range of producers to the farm as well for a busy and exciting day.

"It's really nice when hosts are able to engage members of their community, because obviously we rely on their support to provide people who are going to present to kids in various industries, whether that be in the grain industry, livestock industry," Leib-Minto said. "We've even had the opportunity to have different businesses come out and present, depending on what they do."

Throughout 2023, 1,300 students from 45 schools in the spring and nearly 1,500 students from 42 schools in the fall visited 10 farms across the province.

This past June and October, Amanda McArthur had students from three local schools at her 18,000 acre farm near Watrous.

LEFT: Students get a primer on the different parts of a seeder and how it works at an Ag in the Classroom visit to McArthur Ag Ventures near Watrous in 2023.
RIGHT: Students get up close with a goat during an Ag in the Classroom visit to Greenleaf Farms near Tisdale. The farm invites other producers to participate in the events to enhance the experience for students.
ABOVE: Students with Ag in the Classroom get a hands-on feel for things as they learn about seeds and their byproducts at McArthur Ag Ventures near Watrous.
| BECKY ZIMMER PHOTOS

She and her husband Brennan are part of McArthur Ag Ventures, a multi-generational farm that produces certified seed and includes a mobile seed cleaning business.

Students, teachers, and even parents, were excited to learn about what goes on at the farm, Amanda said. It's not everyday students get that hands-on learning.

"Inside the classroom is really important but getting them to come out and see all of the things that are used on the farm, climbing on the equipment and doing all that, they were super excited and we had a lot of positive feedback."

Planting, fertilizer use and soil health were the focus for the summer day and when students came back in the fall, they got to learn about harvest, marketing and how the grain is used.

Since they grow chickpeas on the McArthur farm, students in the fall not only got to learn about harvest and grain marketing, but also got a taste of the final product. A hummus station was a huge hit as students learned how to make it themselves with locally grown ingredients.

McArthur said the response was overwhelmingly positive.

"Just walking around town in Watrous, I had parents come up to me being, 'like you need to send me that hummus recipe, (my kid) came home from school and said they made hummus and they want to make it at home.'"

For some students, this was the first time they were seeing where their food comes before buying it in a grocery store. McArthur said there is such a disconnect between farmers and consumers that a program like this does wonders for starting this discussion early.

"There's a lot of misconceptions out there. And so hopefully, this will help them kind of learn and guide themselves through all of the misconceptions and marketing and everything else that's out there when it comes to eating healthy food and knowing where your food comes from."

Rhonda Mayerle echoes this sentiment. Farmers care about the land, she said, and they want to share good farming practices with students so they know that farmers want to be good stewards of the land, whether that is showing how farmers take good care of the soil or their livestock.

With so much misinformation out there in marketing or social media, Amanda McArthur is also motivated to support Ag in the Classroom through their Acres for Education fundraiser. For every acre they farm, they give 10 cents to the program. She said that especially in rural areas, programs like this in smaller schools are the foundation of agricultural education. She encourages fellow farmers across the province to join the program and show their own support, either by becoming an Ag in the Classroom farm or by making a financial donation.

Leib-Minto said that getting involved with the Mayerle farm and McArthur farm made it easy to see the passion these two families have for farming and passing along that passion to the next generation. These students are the future of farming, she said, so these are special farmers who are willing to put the time and energy into hosting these events.

"I give them full credit for definitely wanting to make this a priority and getting involved in these programs because it's super special."

Other 2023 host farms included the Ministry of Agriculture across the province, Heritage Mountain Meats in Swift Current, Conservation Learning Centre in Prince Albert, Simplot Grower Solutions in Kindersley, Lindgren Farms in Norquay, and Gateway Veterinary Services in Melfort.

Plant Breeders' Rights Fast Facts

UNDERSTANDING YOUR OBLIGATIONS

On February 27, 2015, all new PBR-protected varieties are protected under legislation that conforms to the UPOV 1991 convention, bringing Canada in line with the rest of the world, and opening opportunities for increased investment to make new varieties available to Canadian farmers. This change has not only brought opportunity, but also new obligations for the value chain.

	91 Progress Through Research / Le progrès grâce à la recherche	PBR Progress through Research
Are all varieties protected under the same Plant Breeders' Rights (PBR) Act?	As of February 27, 2015, all new varieties submitted for PBR are protected under the new legislation. These varieties carry the PBR 91 symbol.	All varieties granted protection under the PBR prior to February 27, 2015 continue under the original Act. These varieties carry the original PBR symbol.
BREEDERS' RIGHTS		
What are breeders' rights?	Breeders' rights are expanded under the new PBR Act. Authorization from the breeder is required to produce, reproduce, sell, clean/condition, stock, import or export seed of PBR-protected varieties.	Authorization from the breeder is required to sell, or produce for sale, seed of PBR-protected varieties.
Can breeders be compensated on harvested grain?	Yes, if seed was obtained and used illegally or without the authorization of the breeder, the breeder can choose to seek compensation, including for lost royalty revenue; lost markets; and for court costs; on delivered grain produced from that seed.	No
FARMERS' PRIVILEGE		
Can farmers save seed?	Yes, the "Farmers' Privilege" is entrenched in the legislation. It allows farmers to produce PBR 91-protected varieties for use as seed on their farms.	It is not spelled out in the legislation, but it is not prohibited.
Can farmers clean grain from PBR-protected varieties for use as seed on their farm?	Yes	Yes
Can farmers sell or advertise for sale seed they have produced from grain of PBR-protected varieties?	No	No
Can farmers exchange seed they have produced from grain of PBR-protected varieties?	No	No
SEED CONDITIONERS' AND GRAIN BUYERS' RESPONSIBILITIES		
Can seed conditioners clean seed of a PBR-protected variety for purposes of propagation?	Yes, if the seed was obtained legally (i.e. certified seed was purchased) and if farm-saved seed will only be used on the farmer's own land.	Yes
Do seed conditioners have certain responsibilities when cleaning farm-saved seed of a PBR-protected variety?	Yes, expanded breeders' rights mean that cleaners may be liable for breaches of the breeder's right. They should take precautions to ensure the seed they are cleaning was obtained legally, and that farm-saved seed that they clean will only be used on the farm of the farmer who has brought it in for cleaning.	No
Do grain buyers have certain responsibilities when handling PBR-protected varieties?	Yes, the harvested material provisions mean that grain buyers may be liable for breaches of the breeder's right. They should be aware of the varieties that are protected under the new legislation and be satisfied that the seed used to produce that grain was legally obtained.	No

Want to learn more about Plant Breeders' Rights? Visit **seeds-canada.ca**

GROW YOUR OWN MANAGERS

Giving the kids responsibility from the start is key the Olson family's succession plan

BY MARY MACARTHUR. | SPECIAL TO SASKSEED

BEING A GOOD DRIVER means staying in your own lane. Having a successful farm and pedigreed seed business with three farming children, husbands and parents also means staying in your own lane.

"Everyone has their own specializations of what they do and of course they've got their lanes and they've got to stay in their lanes," said Lyndon Olson of Archerwill, Sask.

Daughter Lynnell Pomedli is in charge of operating the Seed Source seed cleaning plant and retail business.

Daughter Alica Chalmers is the farm agrologist. She makes plans for fertilizer and herbicides, develops detailed variable-rate seed and fertilizer maps and makes other agronomy decisions.

Son Bryon Olson is a mechanic and along with brother-in-law, Eric Pomedli, are in charge of equipment and field work.

Mother Betty is the accountant, office manager and looks after the equipment portfolio. Father Lyndon oversees the entire operation.

"It's like a company with different divisions and each division has a manager. We have taken a business approach to the farm," Lyndon said.

Having lanes or divisions within the corporate structure not only gives clarification for everyone's role, but it also is a way of showing respect for each other, said Alica Chalmers.

"I don't think there are difficulties of having lanes, it is more like having respect for each other. No one wants to crowd each other because that makes for a very awkward working environment and this just prevents conflict."

Key to keeping everyone in their own farming and business lanes are weekly meetings where each part of the operation is discussed as well as what is happening in the upcoming weeks or months.

"Everyone comes into the office," Betty said. "We either have lunch or whatever. Lots of times the meetings go all afternoon because everyone is thinking of what is required."

During the busy seasons, the meetings focus on upcoming weekly tasks like hauling grain, harvest or other work priorities. During the winter season, there is time for more reflection of what went right or wrong during the year and what can be done to streamline and improve the operation. It is also the time to think about new opportunities. Part of the meetings for the past few years have been the expansion of the seed cleaning plant and the new farm shop.

Lynnell Pomedli is responsible for operating the Seed Source seed cleaning plant and retail business. | MARY MACARTHUR PHOTOS

The children were involved with the farm from a young age when Lyndon began contract seed growing for his seed grower neighbour in the mid-1980s. When the neighbour expanded his seed cleaning plant in 1998, he invited his other neighbours, many who were contract seed growing, to become shareholders in the seed business. Eventually the Olson family became the sole owners of the operation and renamed it Seed Source in 2012.

"It was a diversification of our main farm," Betty said. "It was one of those things that we could add value to our farm."

When the children were young, they and the other neighbour kids were hired to rogue fields in the morning and were rewarded with a barbecue lunch and some social time. Each child also had their own small seed plots they were in charge of roguing.

"There was fun at the end of the day. It wasn't just work," Lyndon said.

The importance of mixing fun and farming continues today with barbecues and fishing trips for the family, staff and their spouses.

Alica said returning to the farm was not an easy decision but it was made easier with all the siblings returning.

"I wanted to see the farm grow and it helped that my other siblings were wanting to go in as well. Then it was let's do something about this. What is unique is that everyone wants to have their input in the farm."

She said it was easier that all three came back to the farm to help spread the workload.

"When you work as a team it's a little easier. It streamlines things and makes it a little bit easier."

Lynnell focuses on the best varieties to grow for the farm and talks to each seed representative, freeing up others from worrying about what to seed. Alica says she focuses on fertilizer and other inputs, so someone else doesn't need to worry about that part of the farm.

"Again, it is going back to trust."

The three siblings also own their own private seed inspection business, Caliber Seed Services. The group hires and trains staff, finds clients, manages the accounts and develops their business sense apart from the main farm.

"These are the sort of things that can make a little bit of money and they can get a little bit of independence," Lyndon said. "It's not connected to the farm and they're not relying on farm income."

The process of setting up the farm company with individual companies within the Lyndon Olson Farms Inc., company began when the children were at university and there was some talk of them returning to the farm.

"We thought, what is this going to look like for the next generations?"

It took more than three years of discussion with lawyers, accountants, farm specialists and bankers to find the best way to structure the farm so not only would the family members be happy, but also Canada Revenue Agency and the financial institutions.

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Bryon Olson works on an engine teardown. He and his brother-in-law Eric Pomedli are in charge of equipment and field work for the family operation near Archerwill, Sask.

Weekly meetings are key to keeping everyone on track in the Olson family's farm operations. Discussion on current issues and planning for the future can run all afternoon. Pictured are Alica Chalmers, Niomi Chalmers, Bryon Olson, Lynnell Pomedli, Eric Pomedli, Huxley Pomedli, Betty Olson and Lyndon Olson.

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While it took time for the banks and others to get used to the complex farm business structure, Lyndon believes as farms get larger and with a mixture of businesses, financial setups similar to theirs will become more normal.

With the structure now in place, over time Lyndon and Betty's shares will diminish and the younger partner's shares will increase.

Each child has their own company to allow each the ability to work within the farm and the ability to go out if they have a specialty interest. They are not tied 100 percent to the farm and 100 percent to each other.

Lyndon believes another thing that is unique about their farm is putting each child in a management role while they were still in their 20s. Soon, all the children will be in their 30s and will have practice making important farm decisions.

"I figure the quicker that the kids get involved the better it is for them because they can experience different scenarios," he said.

"We moved them into their positions rather early. I had started out early in life and part of my deal is get into those positions early so you get good at them," Lyndon said. "There is no use waiting until you're later in life to take over the farm."

He said having the children in decision-making roles allows for a smooth managerial transition. Too often, older farm members refuse to relinquish financial or farm decisions to the younger members and it limits the farms growth.

"I don't want our business to hit a sunset time because we, the senior partners, are hitting a sunset time."

Each year new opportunities, or tasks now managed by Betty and Lyndon, get given to each child as a way of slowly shifting more responsibility to each younger partner. Each child is encouraged to buy land in their own name but farm it together to gain the most efficiency with the joint equipment and staff.

At the end of the year the entire operation is calculated and concluded and each debt and credit for each member and business recorded.

"You can't come back 30 years from now and say they don't know, or they don't quite remember how it went. It's all done to eliminate any disputes." Lyndon said.

Every member of the Olson family has a set of responsibilities. Mother Betty is office manager and looks after the accounts and equipment portfolio.

Hybrid rye varieties have been attracting farmer interest with their higher yields and resistance to lodging, disease and weed competition compared to other cereals such as spring or winter wheat. | FPGENETICS PHOTO

TAKING ANOTHER LOOK AT RYE

New high-performing hybrid varieties and farmer priorities boost cereal popularity

BY BRAEDYN WOZNIAK. | SPECIAL TO SASKSEED

AFTER YEARS OF TRADITIONAL fall rye being a tough sell for growers across Canada, the old cereal, with some updates, has become all the rage.

New hybrid rye varieties have made rye a much more enticing option for both grain and cattle farmers.

Seed company FP Genetics commercialized the first hybrid rye in 2014, working with different genetics to provide a variety of options for farmers.

These new rye varieties yield higher, grow shorter, stand better and offer better resistance against weeds and disease than other cereals such as spring or winter wheat.

"Initially, we took two varieties that were in Europe, brought them to Canada, then tried to figure out how to adapt them in Canada," said Nathan Penner, director of commercialization at FP Genetics.

"The hybrids have been really good," Penner said. "We've seen anywhere from 20 to 40 per cent increased yields. They're very resilient. They've got a lot of triggers. For establishment, they're quick to establish a root; they tiller very aggressively."

He said there have been some issues with stem rust in Europe but that hasn't been the case in Canada.

Because rye flowers outside of the Fusarium window, the fungal disease is rarely an issue. Plus, due to frozen winter soils, snow mould isn't an issue for growers in Canada.

"The rye, in a way, it's a bit bulletproof on the disease side. We don't run into a lot of insect problems," Penner said. "From an input standpoint, it's an excellent crop because you're not putting a lot of inputs into these crops to get bushels you want to have at the end of the day."

Organic farmers have been growing more rye because of its disease resistance and ability to choke out weeds early in plant development but the added bonus of seeding rye in the autumn gives all farmers soil protection throughout the year. The flexibility in seeding dates, as well as the ability to tap early spring moisture, makes it an appealing rotation option.

"From a soil erosion perspective, we've had some tough springs over the years where it's dry and we get a lot of wind erosion," Penner said. "These varieties cover the ground really quickly and are able to hold that ground."

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As rye continues its resurgence across the prairies, expect varieties new and old to be grown and bred.

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While fall rye has typically been grown as a silage or forage crop, a resurgence in the Rye whiskey market has helped push farmers towards the new varieties.

"We compete with Europe to provide grain for the (whiskey) market," he said. "Distilleries seem to prefer the hybrids because of the consistency of the product."

Penner said it's not just the Rye whiskey market that has led to the rye resurgence.

"We've seen increased use in milling, the ethanol industry is taking more rye this year. In Saskatchewan, there's a number of players that are taking rye for ethanol, and part of that is a sustainability story that comes along with growing a fall crop. Then we're seeing some in the feed market as well. I would say it's got potential to grow."

The potential of rye continues to lead to innovation and Penner said they are working on two new varieties from a different European breeder than their previous hybrids, set to commercialize in 2024.

While the hybrid rye varieties have garnered the majority of interest from growers across Canada, they're not the only varieties attracting farmer interest. Ashton Trawin, director of sales at Trawin Seeds in Melfort, says the traditional fall rye variety they sell has seen an uptick in sales.

"For our particular market, we're more on the forage side," said Trawin. "We've seen an increase in rye to be used in cover crops and forage production. Many producers are trying to get a second graze out of silage crops."

Along with fall rye, a spring rye variety called Gazelle has seen its own resurgence.

"It's a very old variety, from the 60s I believe," Trawin said. "It's gained popularity quite a bit in recent years as well. It relieves some of the stress from growing winter cereals and produces very similar to a high-yielding wheat."

As rye continues its resurgence across the prairies, expect varieties new and old to be grown and bred. Rye has an option for every farmer, regardless of purpose and intent.

"I think what we've seen from our customers is that there's different fits on certain farms, for all the different reasons we've been talking about," Penner said. "More guys are trying and figuring out the agronomics. Maybe you've tried rye in the past and it didn't work very well. Consider giving it another try."

HEALTHY CROPS DEMAND GOOD FARMING AND GOOD GENETICS

Researchers search for solutions as diseases evolve to evade genes and crop protection

BY BRAEDYN WOZNIAK | SPECIAL TO SASKSEED

IDENTIFYING AND MANAGING diseases is crucial to farmer success in terms of both yield and grain quality. Spraying technology, chemical application and new seed varieties help in the battle for healthy crops, but fungi, bacteria and other microorganisms continuously adapt, becoming resistant to genetic defences and crop protection products.

So, what are the latest threats?

Pulse crops

Green and yellow peas, chickpeas, lentils, faba beans and lupins are prone to a variety of fungal and bacterial diseases.

Peas and lentils, the most common pulses grown on the prairies, are susceptible to numerous forms of root rot such as *Aphanomyces euteiches, Fusarium avenaceum, Fusarium solani* and *Fusarium oxysporum.*

Michelle Hubbard, pulse pathologist for Agriculture and Agri-Food Canada in Swift Current, says one fungus is much more concerning than the rest.

"If I had to pick the biggest (concern), it's root rot in peas in lentils caused by *Aphanomyces (euteiches),*" she said. "It's difficult to manage because once it's there, it can form resting spores, oospores that can live for 10 years or more in the soil."

Aphanomyces is a very common disease for peas and lentils, which makes it difficult for growers to keep these crops in their rotation. There is no current application that can effectively manage the root rot, nor a crop variety that is completely resistant.

"The most effective thing farmers can do is long crop rotations," Hubbard said. "We typically recommend six to eight years away from peas or lentils, which is a really long time to avoid a crop that otherwise has a lot of benefits."

Hubbard says there are efforts being made to breed pea varieties with resistance to aphanomyces but they will have incomplete resistance and won't be ready until at least 2025. Incomplete resistance leaves the door open for root rot to take hold while also possibly mutating.

Pulse crops such as peas, lentils, chickpeas and faba beans are susceptible to various kinds of root rot with few control options other than long rotations. | FILE PHOTO

"Resistance has taken years and years, especially by researchers in France, to find the pieces of DNA that can confer this partial resistance. If people grow it in areas where there's a lot of root rot, the resistance could be lost, meaning aphanomyces could evolve to overcome that resistance," Hubbard said.

She said other research on Aphanomyces has shown promising but incomplete results. In addition, gypsum applications, which contains calcium and sulfur, have shown an increase in yield in tests done where heavy root rot was present, even if it doesn't decrease the actual prevalence of the disease.

For lentils, the big enemy is Anthracnose, caused by *Colletrotrichum lentis*. It is a redundant disease that produces water-soaked lesions on the plant leaves until they fall off, eventually killing the plant. It can, however, be managed through crop rotation and fungicide application.

The fusarium diseases mentioned earlier, *F. avenaceum, F. solani and F. oxysporum,* can be managed with resistant seed varieties as well as fungicides. If left unmanaged, the root rot can infect and damage both the plant and the seed.

As for chickpeas, ascochyta blight caused by *Ascochyta rabiei* can infect all above ground parts of the plant. It browns the infected area and left alone will kill the plant but can be managed similarly to that of Anthracnose in lentils.

Cereals

Cereal crops such as wheat, barley, rye and oats, are some of the most common grown by farmers across the prairies. Major disease threats are managed through agronomic and cultural practices, resistant varieties and fungicides.

Reem Aboukhaddour, cereal disease pathologist at Agriculture and Agri-Food Canada's Lethbridge site, says each wheat variety must have a minimum level of resistance to five prioritized diseases: stem rust, leaf rust, stripe rust, common bunt and fusarium head blight.

Aboukhaddour's research tests stripe rust against a set of Yr genes, the "most important genes known in commercial cereal varieties in many parts of the world," to see how the genetics defend and how the stripe rust has evolved over time.

She and her colleagues also look at the prevalence and occurrence of the stripe rust, while evaluating all breeding material for potential genetic resistance.

Stripe rust is more common in Alberta than Saskatchewan and Manitoba, while the different species of fusarium fungi that result in head blight is opposite, due to the different climates and soil.

Leaf spot is another area of focus for Aboukhaddour, as she studies the different pathogens that cause leaf spot in wheat. The "leaf spot complex" refers to the multiple diseases that cause similar looking spots on the leaf.

Because it is hard to identify, some genetic varieties may appear fully resistant to leaf spot but may truly only be resistant to a specific leaf spot disease that's prevalent that year, while still being susceptible to others.

As far as the other diseases go, most are under control across

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Bacterial leaf streak is rearing its ugly head in Alberta. | UNIVERSITY OF NEBRASKA PHOTO

Dozens of farms and thousands of acres were affected by bacterial leaf streak, with some fields showing economically damaging levels of the disease. | MIKE HARDING/ ALBERTA AGRICULTURE PHOTO

Verticillium stripe can be identified by stripping away the outer stem tissue or epidermis in a wallpaper-like fashion to search for tiny black microsclerotia. | PHOTO SUPPLIED BY COURTNEY BOYACHEK

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the prairies through pretty standard farm practices, although caution will always be warranted. Rust can be very damaging if management practices were to be relaxed.

"Now in term of damage in the commercial farm, stem rust, common bunt and leaf rust are not much of concern as we have, through fungicides and genetic resistance, kept those under control," Aboukhaddour said. "When we ignore these diseases, they can come back, so that's why they are still priority. Rust can always evolve rapidly to defeat resistance so we need to keep eye on screening for that."

While most diseases are managed well, fusarium head blight (FHB) can be a major issue during wet years. Randy Kutcher, professor and cereal pathologist at the University of Saskatchewan, says FHB can be more difficult to manage than other diseases.

"In durum, it's been really hard to get fusarium head blight resistance," Kutcher said. "They are making progress. That's probably the biggest breeding effort because it's just so difficult.

"There are no single genes like there are in rust that have huge effects. You have to collect lots of small genes and put them in a variety, so it's much more work and it's way harder to do. But we're definitely making progress compared to 20 years ago."

A newcomer to the pathogen pack on the prairies is bacterial leaf streak (BLS).

"In terms of what we're working on, fusarium is number one, but bacterial leaf streak has become something growers should be one the lookout for," Kutcher said.

While not entirely new, BLS was only observed at low levels in Canada until recently. It typically thrives in the northern Great Plains in the United States, but is making its way north of the border.

"I'm not really sure why it's becoming an issue, but certainly south of the border for the past 10-15 years, North Dakota and Minnesota have been saying sometimes bacterial leaf streak is their biggest problem," Kutcher said.

With no effective crop protection products against BLS, using clean seed is the most effective strategy against the seed-borne disease.

Kutcher says efforts are being made to improve soil and seed testing to make sure growers can identify different diseases to make better decisions.

Canola

As one of the biggest cash crops for growers in Canada, canola's popularity and importance drive research into breeding and genetics for the crop across the country.

Farmers face the familiar threats of blackleg, Sclerotinia and clubroot while a rather "new" disease, *Verticillium longisporum* or Verticillium stripe, discovered 10 years ago in Manitoba, has been of rising concern for researchers. Dilantha Fernando, plant pathologist and professor at the University of Manitoba, says conditions weren't favourable for most canola diseases in 2023.

"Pressures are fairly low for the two major diseases you might encounter, blackleg and sclerotinia. The reason is purely environment. We had a very, very, dry season this year, so that was not in favour of the pathogen to infect (canola)."

Verticillium, which primarily causes plant wilting, thrives in different conditions than typical canola diseases which prefer moist conditions.

A key indicator for blackleg is a distinct black wedge in the root cortex. If there's a grayish-hue and starburst pattern in the root cortex, then it's likely verticillium stripe. | PHOTO SUPPLIED BY THE CANOLA COUNCIL OF CANADA.

Pressures are fairly low for the two major diseases you might encounter, blackleg and Sclerotinia. The reason is purely environment. We had a very, very, dry season this year, so that was not in favour of the pathogen to infect.

DILANTHA FERNANDO | UNIVERSITY OF MANITOBA PLANT PATHOLOGIST

"Drier conditions stress the plant out and that stress would help the pathogen verticillium to infect (the plant)," said Fernando. "So that's a little different from blackleg and Sclerotinia. Because of that, there may have been a little bit more pressure."

Clubroot, the soil-borne disease that causes swellings on the roots that can lead to death of the plant, is most common in central Alberta. There are, however, clubroot issues across the prairies, but no other specific region that is highly effected.

Both clubroot and verticillium pathogens can remain in the soil for years. With incomplete resistance varieties and a lack of treatment options, the best management option is crop rotation.

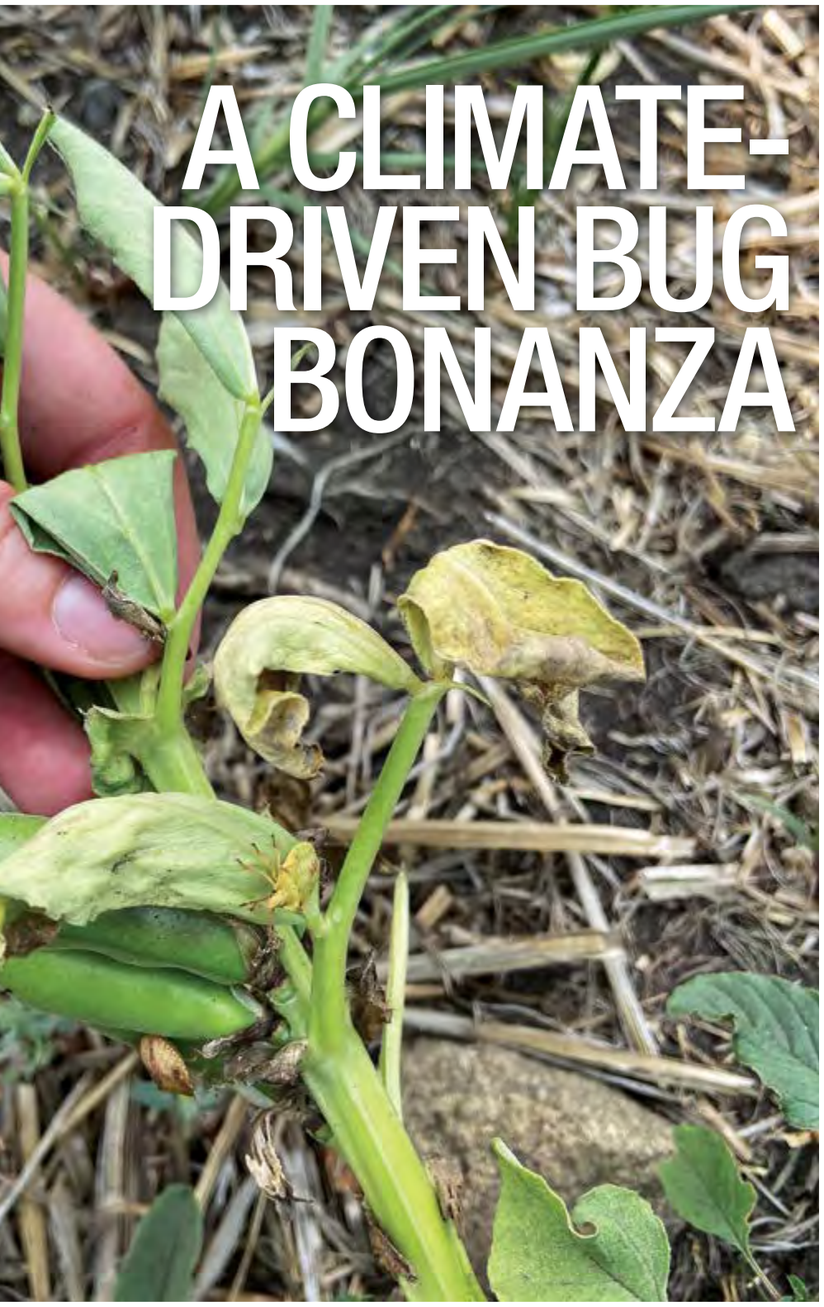
Aside from sclerotinia, these diseases aren't managed through fungicide application, so farmers rely on breeders and genetics to provide resistant varieties.

Blackleg and verticillium are a main focus for developing genetic resistance. Fernando says blackleg has been controlled pretty well in the past but the major resistance gene was compromised in 2009 due to mutations of the pathogen. This forced geneticists and plant pathologists to find new genetic options.

"The first thing is to look for genes that have never been introduced into Canada but are available in Europe and Australia," Fernando said. "Having them in any variety would be very desirable because the pathogen has not been able to mutate that much against them because those genes weren't available."

The other option is to look at "minor genes," Fernando said, which can play a smaller role in resistance but can be effective against a number of different disease strains.

A CLIMATE-DRIVEN BUG BONANZA



Lygus bugs prefer canola but will move on to other crops such as faba beans if their favourite food is unavailable. | SASKATCHEWAN PULSE GROWERS PHOTO

FAR LEFT: Pea aphids are less of a problem in hot, drought conditions since they prefer cooler, wetter conditions to thrive. | SASKATCHEWAN PULSE GROWERS PHOTO
LEFT: A grasshopper takes a moment to enjoy a warm morning in a wheat field near Lowe Farm, Man. A long, warm season and drought conditions in 2023 have entomologists advising farmers to scout early to catch the pests for control measures in their younger phases. | FILE PHOTO

Drought and mild winters are making farmer vigilance ever more important

BY MARY MACARTHUR | SPECIAL TO SASKSEED

LAST YEAR SEAN PRAGER characterized the crop year as strange. His formal diagnosis for the 2023 crop year was "unfortunate, rough, bad."

"This year we had drought and not very much rain except for the dashes in the beginning and it caused really, really, really big problems. It is less strange in a way because a lot of the things that happened are the things that happen when you have drought, said the University of Saskatchewan entomologist.

"Everyone has grasshopper problems and grasshopper problems are what happens when you have drought."

Meghan Vankosky, Agriculture Canada's field crop entomologist and co-chair of the Prairie Pest Monitoring Network said 2023's early hot weather led to some severe pest problems, especially with grasshoppers.

"We found adult grasshoppers in Saskatchewan and in Alberta in the middle of June. We normally would not see adult grasshoppers until July. Because they were adults early they start mating and laying eggs early and that does not bode well for next spring. If we have hot dry conditions again in 2024 the grasshopper season could get off to a very early start," she said.

The pest's early maturity took many people off guard. Vankowsky said another dry spring means producers and agrologists will need to scout early for grasshoppers and another potential bad year.

"The grasshopper eggs will be there and ready to take advantage of good conditions. Early scouting for sure is important because they are a lot easier to kill when they are small than in the third, fourth, fifth and adult stages. The scouting recommendation is to scout roadsides and look for the nymphs and because the nymphs are small, it might mean getting down on your hands and knees and getting close."

Some research is being done by provincial entomologist Jim Tansy on using border plants along fields in an effort to keep grasshoppers out of the main crop. Grasshoppers don't like peas and need to be desperate to feed on peas, she said.

"They will move into it more slowly. Taking those kinds of measures might be an option. Just being aware of the potential risk and being ready to scout in the spring is key," she said.

Vankowsky said the Prairie Pest Monitoring Network and provincial organizations will soon have regional grasshopper maps published and farmers can see what the risks in those areas might be going into the spring.

"For next spring we would need to have really wet weather early in the spring throughout May to help reduce the grasshopper risk for next year."

Prager said dry conditions which forced farmers to cut or cultivate crops early pushed lygus bugs to migrate off canola to any

CONTINUED ON PAGE 42 »

University of Saskatchewan entomologist Sean Prager examines a faba bean plant for signs of lygus bug damage. He said that as drought in 2023 made canola, their preferred snack, less desirable, the pests moved on to other less desirable food sources. | U OF S PHOTO

» CONTINUED FROM PAGE 41

available food source creating even more unusual problems.

"There were a lot of secondary and tertiary things that are less common because of the drought. Those things happen when things are not finding food. We had lygus on a lot more stuff. The canola wasn't as good so the lygus started looking for stuff to eat so you found them on their second, third and fourth choices."

The hot, dry weather didn't just mean more pests, the pea aphids thrive in cooler, wet weather and were not as common as other years.

"When it is warmer you get more generations of insects reproducing more quickly. Individual insect species can be more or less problematic depending on the conditions. Some insects prefer happy plants and some insects prefer stressed plants. The aphids do better in wet years. The grasshoppers like dry years," said Prager.

Watching out for pests earlier in the season, identifying new pests or a change in pests is all part of the change in weather and climate and part of the farmers' new routine, he said.

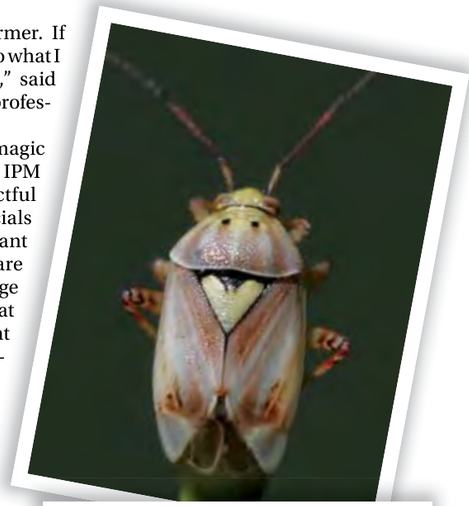
"In general, the winters aren't as cold, the summers are probably hotter, drought is probably more common, maybe not every year, but in general. Cold winters kill insects that are overwintering. You probably don't get as many dead overwinter and hot summers can make things reproduce more quickly unless you get too hot," he said.

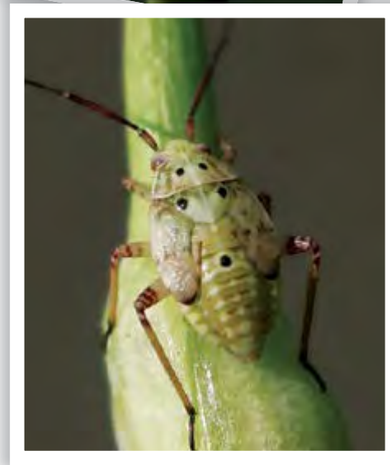
"My guess is it (climate change) will cause more insect problems, not fewer," said Prager.

While farmers don't have a complete tool kit for dealing with dry conditions that bring on more challenges, they still have plenty of options to fight pests.

"Be a good farmer. If you are young, do what I tell you in class," said the university professor.

"There is no magic bullet. Follow IPM guides, be respectful of your beneficials and plant resistant varieties. If you are in a wheat midge area, use wheat midge resistant varieties, or sawfly resistant varieties if you are close to Manitoba. If it is other things be aware of what they are and use your thresholds, rotate your insecticides and rotate your crops. New tools come but most of them are just be a good farmer."





TOP: An adult lygus bug on a canola pod. **ABOVE:** A lygus bug nymph on a canola pod. | CANOLA COUNCIL OF CANADA PHOTOS

Vankowsky said a key tool developed by the scientists is models using data that predict the timing of grasshopper or other pest development. By adding data on pest sightings in the field, the scientists can use their knowledge to predict pest hatching and development throughout the season.

"Between the predictive model and our observation then we can put that together into an informative package we hope farmers can use to know if they should be scouting or not," she said.

Over the winter, Vankosky recommends farmers attend one of the many agronomy research updates or farm production shows to connect with farmers and researchers.

"We are at a lot of those events talking about what we saw last year and our research. Those events are times we talk about insect monitoring programs and what we saw last year. Some of those results are an important way to look forward. They are not all a forecast of what to expect, but they give an idea of what the risk level is this year and generally the risk level into the following year, depending on the weather."

CERTIFIED SEED GETS A PUSH

CAMPAIGN AIMS TO MAKE THE CASE FOR CERTIFIED SEED TO FARMERS, FOOD PROCESSORS AND CONSUMERS

BY MICHAEL ROBIN | SPECIAL TO SASKSEED

A promotional campaign, #ChooseCertifiedSeed, has been launched to highlight the importance of certified seed, explain why it makes a difference and to make the case to farmers, food processors and consumers that it delivers quality results.

Caroline Lafontaine is chief operating officer with the Canadian Seed Growers' Association, the organization behind the campaign. She said farmers are the main focus of the effort, which launched in both English and French on November 1, 2023.

"This is really a campaign focused on commercial farmers that are deciding what to grow on their fields and every year have to make a decision whether or not they're going to spend those extra few dollars to get pedigreed seed," she said.

The campaign features video conversations with seed growers and stakeholders from across the country. It offers first-hand insight into their perspectives, on-farm experiences and passion for the work they do and its value to farmers.

Another impetus for the campaign is to highlight the many benefits of certified seed and the strength of the Canadian certification process, according to the CGSA release on the campaign. This provides the information farmers need to help them make informed decisions on what to plant. It also demonstrates to food processors and manufacturers that certified seed provides a consistent, quality, dependable foundation as ingredients for their products.

Use of pedigreed seed varies widely among crops, growing conditions and other factors, said Lorne Hadley, director of member relations for Seeds Canada. He said for the past few years, the organization has been conducting surveys to determine the percentage of certified seed used.

"There's a huge range," he said. "The last survey, about 10 percent of durum acres in Canada were seeded with certified seed; almost 100 percent of canola is. There's a huge range based on crop kind and use."

Hadley said the #ChooseCertifiedSeed campaign is "an opportunity for us to start to move the needle."

Lafontaine said that while the external push targets commercial farmers, the campaign also includes online content aimed at food processors and indirectly, consumers.

"There's also content on the website that's targeted to food processors who are purchasing ingredients and they can purchase ingredients that were grown from certified seed, that are of known variety and that will perform to provide certain food attributes."

The #ChooseCertifiedSeed website includes rich multimedia content, with information divided into sections that delve into the nuances of Certified seed – its value, quality, identity assurance, traceability and trustworthiness. It is located at choosecertifiedseed.ca.

HOW ARE SEED CERTIFICATION STANDARDS DEVELOPED?

THE CANADIAN Seed Growers' Association (CSGA) has been developing and maintaining seed varietal purity standards since the early 1900s. While most associate CSGA with seed crop certification, its standards development process is also a core function.

Guiding principles

The CSGA standards development process is guided by a set of core principles that helps ensure standards are science-based, transparent, accessible, and inclusive — from both a value chain participation and crop kind perspective.

Our principles:

1. **Science based:** Standards are based on scientific analysis of reliable research and data.
2. **Multi-stakeholder participation:** CGSA standards are developed by the seed sector for the seed sector. Our independent committees include growers, companies, inspectors, analysts, end users and government representatives.
3. **Transparent and accessible:** The process for the development and maintenance of standards is clear. Standards are readily available to the seed sector.
4. **Timely access:** Standards are developed in a timely manner and support the competitiveness of the Canadian seed sector.
5. **No crop kind left behind:** The standards development process supports all crop kinds, including new, innovative and niche crops.
6. **Consensus-based:** Sector consultation is an essential element of standard development and maintenance.
7. **Incorporate new technology:** Technology is used to streamline and create new opportunities while upholding the integrity and credibility of the system.

The principles also ensure the standards development process is agile, able to meet the sector's needs and incorporates new technology. These core principles have helped ensure CSGA's standards are internationally recognized, set a strong foundation for our seed and grain sectors, and enable the Canadian quality advantage.

Who Is Involved?

CSGA standards are cooperatively developed by the Regulatory Services Committee, eight crop-specific working groups, ad hoc working groups when a broader approach is required, and stakeholder consultation.

- **Board of Directors:** responsible for final approval of standards recommended by the regulatory services committee.

Our board is comprised of experienced grower directors, a science advisor and provincially appointed government advisors.

- **Regulatory Services Committee:** Reviews recommendations from the working groups. Recommends standards to the Board of Directors for approval.
- **Crop Specific Working Groups:** Provide independent, crop-specific expert advice on regulatory and technical aspects related to standards development and maintenance. Our eight crop specific working groups are: canola, cereal, corn, forage & turf, hemp, mustard, pulses, and soybeans.
- **Ad Hoc Working Groups:** Formed when a broader or "deep dive" approach to standard development and maintenance is required, which may impact several crop kinds.

Our regulatory services committee and crop-specific working groups are comprised of technical experts, including seed growers, seed companies, variety developers, plant breeders, seed analysts, seed crop inspectors, the CFIA and provincial government representatives.

The importance of international harmonization

As a country that relies heavily on global trade, CSGA represents and supports Canada's interests at the Association of Official Seed Certification Agencies (AOSCA) and the Organization for Economic Cooperation and Development (OECD) Seed Schemes.

These two standards-setting organizations establish minimum standards for the varietal certification of seed. CSGA's standards meet or exceed these minimum standards, ensuring Canadian seed can access international markets and supporting Canada's quality advantage.

A continuous process

The CSGA's standards development process is evergreen. After adoption, CSGA continuously reviews its standards to help support Canadian competitiveness— especially when a standard for a new innovative niche crop kind is required.

For more information on CSGA's standards development process and how you can participate, please visit seedgrowers.ca/csga-standards-development.

CSGA Canadian Seed Growers' Association
ACPS Association canadienne des producteurs de semences

CSGA Standards Development

As Canada's national seed crop certification authority, CSGA establishes and maintains seed crop certification standards for all agricultural crop kinds, except potatoes.

OUR PRINCIPLES

Science-Based
Standards are based on scientific analysis of reliable research and data.

Multi-Stakeholder Participation
CSGA standards are developed by the seed sector for the seed sector. Our independent committees include growers, companies, inspectors, analysts, end users and government representatives.

Transparent & Accessible
The process for the development and maintenance of standards is clear. Standards are readily available to the seed sector.

Timely Access
Standards are developed in a timely manner and support the competitiveness of the Canadian seed sector.

No Crop Kind Left Behind
The standards development process supports all crop kinds, including new, innovative, and niche crops.

Consensus-Based
Sector consultation is an essential element of standard development and maintenance.

Incorporate New Technology
Technology is used to streamline, create new opportunities while upholding the integrity and credibility of the system.

Circular 6
The *Canadian Regulations and Procedures for Pedigreed Seed Crop Production* (Circular 6) establishes the requirements a seed grower and a seed crop must meet for seed crop certification. CSGA has delegated authority under Canada's *Seeds Act* and *Seed Regulations* to establish standards for varietal purity and to determine the varietal purity of seed crops.

Accreditation
CSGA has been ISO 9001:2015 accredited since 2009—a testament to CSGA's desire for continual improvement and quality control across the organization.

International Harmonization
Recognizing Canada's reliance on global trade, CSGA ensures Canada's standards are internationally harmonized and competitive. CSGA supports the Canadian Food Inspection Agency (CFIA) at the OECD Seed Schemes and represents Canada at AOSCA.

OUR PROCESS

1 Strategic Need — Any stakeholder may identify the need for a new or revised standard. *PARTICIPATE*

2 Evaluation — The proposal is reviewed by CSGA's Regulatory Services Committee (RSC) which decides on a path forward.

3 Drafting — The Committee directs one of its Crop-Specific Working Groups, comprised of technical experts, to review the proposal, draft standards, and ensures alignment with international standards, fit for purpose and best management practices. *COLLABORATE*

4 Review — The RSC reviews and approves the draft standard for public consultation.

CONTRIBUTE

5 Consultation — Stakeholders are invited to comment on the draft standard.

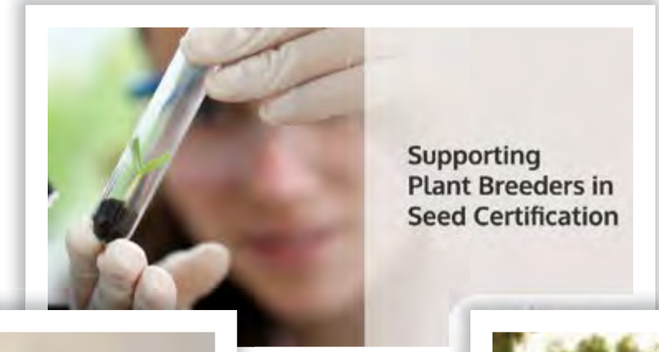
6 Analysis — The Crop-Specific Working Groups and the RSC review feedback and revise the draft standard.

7 Approval — The draft standard is submitted to the CSGA Board of Directors for approval. Subject to Board consensus, the standard is approved and becomes effective February 1. *INFORM*

8 Publication — The new standard is included in CSGA's Circular 6 and a Notice of Change is posted to the CSGA website and circulated to stakeholders.

9 Maintenance — Standards are reviewed within three years of approval to determine if adjustments are required.

CONTINUOUS REVIEW CYCLE



CSGA LEARN

SUPPORTING GROWERS IN SEED CROP CERTIFICATION

THE CANADIAN SEED GROWERS' Association (CSGA) has launched CSGA Learn, Canada's first online seed learning platform offering education resources for the seed sector.

From plant breeders, plot growers and seed growers to farmers, agriculture retailers and agronomists, passion and an eye for details are a must to succeed in the Canadian seed sector. You need to understand seed production, its standards, and best management practices. CSGA Learn was built by seed sector experts using the official Canadian National Occupational Standards for seed production to meet real learning needs for everyone involved in our seed sector. CSGA Learn helps strengthen your understanding of what goes into the Certified blue tag and Canada's reputation as a reliable supplier of quality Certified seed.

With ten courses and four curated programs, CSGA Learn can help you stand out in the modern marketplace and take your seed skills and businesses to the next level. Each course includes field crop photos, how-to videos, glossaries, reference links, best management practices, and practical advice from experienced seed growers.

CSGA Learn Courses

1. Introduction to the Canadian Seed Sector (offered free of charge)
2. Seed Certification Classes
3. Producing Foundation, Registered and Certified Seed Crops
4. Seed Crop Certification Process and Traceability
5. Pre-Inspection and Roguing 101
6. Plot Production
7. Harvest, Handling and Storage
8. Processing, Testing and Selling Seed
9. Building Your Team
10. Breeder Seed Production

CSGA Learn Programs

CSGA has grouped specific courses as curated learning programs based on your specific interests.

Introduction to Seed Production Program: Learn about the sector, seed production procedures, standards, and best management practices to help you succeed in your first years of production in the modern certified seed system.

Probation Plot Grower Program: We Shine a spotlight on seed plot production and roguing for those working towards a CSGA-Accredited Plot Grower status or anyone currently producing plots. Combining this voluntary program with in-field experience will help you obtain a CSGA Plot Grower accreditation.

Experienced Seed Grower Program: Benchmark your skills and knowledge against best management practices from Canada's National Occupational Standards for seed production and distinguish yourself in the market. Completing this voluntary program, combined with their years of seed production experience, provides experienced seed growers with the new national CSGA-Accredited Seed Grower (ASG) recognition.

Plant Breeder Program: As a plant breeder, you are responsible for assuring Breeder seed is grown and processed to the highest standards, and we can help you! This program provides a concise learning tool and is a requirement for applicants to CSGA's Plant Breeder recognition.

Help Your Employees Understand Their Vital Role in The Canadian Seed Sector

From family farms where everyone pitches in to businesses with extensive employee teams supporting operations to those who contract seed production out to other producers, knowledgeable team members are essential to success.

CSGA Learn provides online learning options to take workplace training to the next level.

Managers can organize the learning of team members and track their progress.

Enrolling in CSGA Learn provides a personal dashboard showing your completed courses and your progress in those you are currently taking. You can also view, download, and share completion certificates you have earned during your studies.

You play a vital role in the Canadian Seed Sector! Sign up at csgalearn.ca today!

CSGA LEARN

Course #1 is free!

Our Introduction to the Canadian Seed Sector course is offered free of charge to everyone who enrolls.

Learn more about:

- **The difference between certified and non-certified seed**
- **The seed certification process, from variety development to the sale of Certified seed to commercial producers**
- **The various seed certification classes**
- **And more!**

PRIMING THE NEW CROP VARIETY PIPELINE

Farmer checkoffs, combined with government and industry funding, drive new variety research

BY MARY MACARTHUR

Curtis Pozniak said new genomic technologies are allowing crop breeders to bring new varieties with desirable traits to the field faster. | CHRISTINA WEESE PHOTO

WHAT IS CROP RESEARCH WORTH TO FARMERS?

"Billions," said Curtis Pozniak, Director of the Crop Development Centre at the University of Saskatchewan.

"Consistent stable investment is what really drives innovation. When it relates to new varieties, the investment in plant breeding over the past 25 years with checkoff, together with government and industry funding, has made a difference."

Since its inception in 1971, CDC crop breeders have developed more than 600 varieties of cereal, pulse, forage and oilseed crops. Some notable early examples are Harrington malt barley and Laird lentils which helped introduce a valuable rotation option to Prairie farmers. Today, CDC's Copeland malting barley and Maxim lentils are among the most popular. An economic impact report estimated that CDC's efforts between 1991 and 2015 increased farmers' profitability by $3.8 billion.

Pozniak, also a wheat breeder at the CDC, said producer investment via checkoffs have allowed breeding programs to build long-term stability. This includes everything from land for field testing and disease nurseries to labs, tractors and combines, plus the well-trained people to run it all.

"The checkoff really allows us to focus the breeding program to be effective in developing field-ready varieties," he said. "It really is as simple as that."

Some of the tools Pozniak is particularly excited about are new genomic techniques used to screen for specific crop qualities. This technology has advanced in spades over the past 15 years and now allows rapid screening of a plant's DNA for a range of traits.

"The technology ... has become much less expensive and is high-throughput, allowing breeding programs to screen thousands of samples," Pozniak said. "We're using that routinely now. I am so excited about that technology."

Like farming, new genomic techniques yield bushels – of data. These are key to developing new technology but only if they can be translated into useful information.

"More than ever, we are applying a data-driven approach to crop improvement," Pozniak said. "We are just starting to decipher how to effectively use all this data."

He and his colleagues are working to develop the computational resources and associated support systems to take full advantage of this next-generation genomic information.

Despite the new tech, the basic principles of plant breeding haven't changed over the years – they've just gotten faster and therefore cheaper. Scientists can now identify markers in the lab for disease resistance or seed size and screen breeding material well before testing it in the field.

"The technology doesn't negate the need for plant breeders going out into the field and screening the material and really identifying the best lines that will ultimately be commercialized," Pozniak said.

It does, however, put some powerful new tools in the crop breeder's box. Wheat got a full set of these with the publication of the wheat genome in 2018. Pozniak contributed to this worldwide effort to map the 16 billion base pairs of DNA – five times the size of the human genome. The function of many of wheat's more than 120,000 genes remains a mystery.

"The next generation of research is trying to decode what those genes do and how they work together," he said.

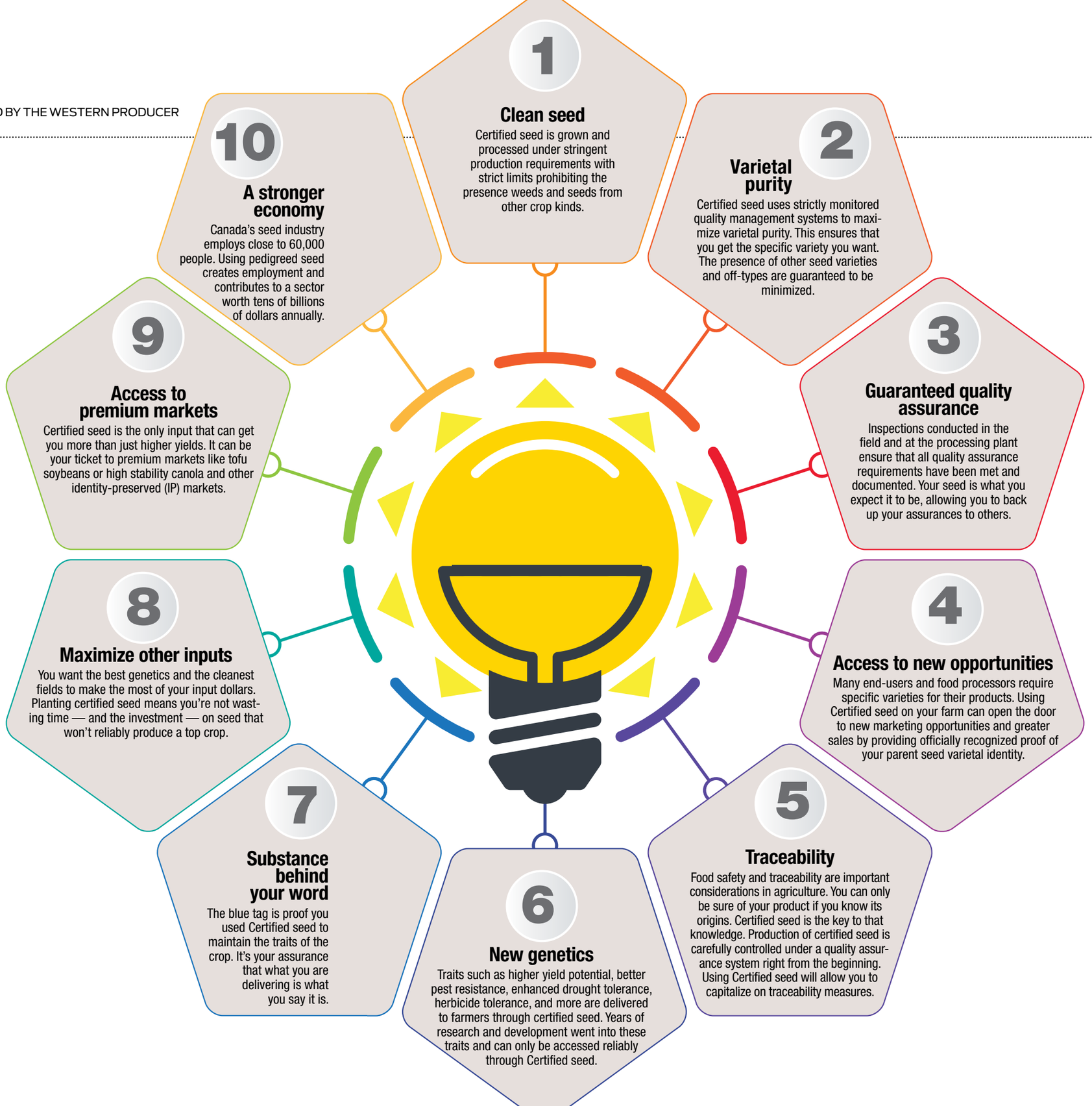
The strategy is to start simple, by identifying genes for high-value traits that are relatively easy to decipher. The next step is to design ways to stack these genes together.

"Understanding how genes work and function together to produce high-value traits is really the holy grail."

In a way, crop development is a self-reinforcing loop that begins with farmer checkoff dollars and comes back to their fields as new varieties that help drive the agri-food sector forward.

TOP 10 REASONS TO USE CERTIFIED SEED

There are many reasons to use certified seed. It's the starting point of a successful crop as well as an important risk management tool. Here are the top 10 reasons why you should use certified seed on your farm. SPECIAL TO SASKSEED



CERTIFIED SEED: IT'S ALL ABOUT QUALITY ASSURANCE


FILE PHOTO

SPECIAL TO SASKSEED

WHAT IS THE Canadian Seed Growers' Association (CSGA) and what does it do?

For many farmers in Canada, the answers to those two questions are clear.

But to others, familiarity with the CSGA is limited. Perhaps they've heard of the association. But they may not fully understand the organization's critically important role in supporting the production of high quality pedigreed seed across the country.

The CSGA represents 4,500 seed growers across Canada.

Its key role is to provide standards for crop certification, according to Canada's Seeds Act and Regulations.

When farmers buy certified seed, they aren't just buying seed, they are buying an assurance of quality and purity.

It takes several generations for new pedigreed seed varieties to become available for commercial production.

The process begins with registered plant breeders at public breeding institutions and private research companies, where the breeder selects desirable traits for new variety development.

It typically takes several years for the plant breeder to assemble enough breeder seed to begin seed multiplication.

The seed is increased over a regulated number of years, depending on whether the crop is self pollinated or open-pollinated.

Open-pollinated crops are available after fewer years to reduce cross-pollination with nearby off-type varieties.

Certified seed is the last generation, and is available to producers for commercial grain production.

All classes of pedigreed seed are strictly regulated to ensure seed purity is maintained, until it reaches commercial growers.

Seed purity is critically important to the pedigreed seed industry and is maintained with the help of a quality assurance system that is administered and upheld by CSGA, in collaboration with the Canadian Food Inspection Agency and other groups.

Seed purity refers to sample quality with respect to weed seeds, inert material (gravel, chaff, fungal bodies, etc.) and the number of off-type seeds, as defined by the Canada Food Inspection Agency.

Varietal purity of 99 percent must be maintained to be classified as pedigreed seed.

To comply with this stringent quality requirement, there are three stages of pedigreed seed crop production that a successful certified grower must follow.

The first stage is crop production.

During production of pedigreed seed, the land used by pedigreed seed growers must be free from off-type varieties and similar crop types.

As well, pre-determined isolation distances must be maintained.

Minimum isolation distances vary from crop to crop and are in place to reduce the chances of varietal contamination through cross-pollination or other means.

The pedigreed seed crop must be free of prohibited noxious weeds, as outlined in the Weed Seeds Order of the Seeds Act.

The crop must also be free of disease and must be inspected by a licensed seed crop inspector before harvest begins.

If the crop passes inspection, the grower will be issued a crop certificate from CSGA.

To ensure varietal purity and eliminate potential contaminants, seed growers often spend much of their time roguing pedigreed seed crops.

This usually involves walking through the crop, row by row, and manually removing contaminants and off-types by hand.

The second stage in the process is seed storage.

Pedigreed seed growers must carefully harvest, handle, condition, and store the grain to ensure that seed purity and quality is maintained.

Equipment and storage facilities must be thoroughly cleaned, and seed from each field should be stored separately to avoid commingling.

The third stage is grading and inspection.

Grading involves germination testing and overall evaluation of seed lot quality and an assessment of the number of weed seeds and off-type varieties in the harvested seed.

Producers who buy certified seed for planting on their commercial grain farms often ask whether the certified seed they are buying contains seed-borne diseases.

The only diseases specified in The Seeds Act are true loose smut in barley and the presence of ergot or sclerotial bodies.

Common seed-borne diseases such as ascochyta in pulses, anthracnose in lentils, fusarium in cereals, and blackleg in canola are not regulated by the Act, and thus it is buyer-beware for these diseases.

Farmers who buy certified seed are therefore encouraged to ask the seed grower whether a seed disease analysis was conducted by a commercial seed testing laboratory.

If a seed disease analysis was conducted, seed buyers can request a copy of the lab report.

Disease-free seed is always recommended for planting.

The presence of weed seeds is another area of potential concern for pedigreed seed growers and seed buyers.

Certified seed is not guaranteed to be free of weed seeds although reputable seed growers will make every effort to ensure the seed they are selling is clean and weed-free.

Upon request, seed dealers must provide buyers with a certificate of analysis outlining the species and number of weed seeds present.

At the Breeder, Select and Foundation levels of pedigreed production, there is almost zero tolerance for any weed seed content. Tolerance levels are slightly higher in the Registered and Certified seed classes.

There are also varying tolerances for the presence of different crop types.

Large seeded crops such as corn, beans and cereals typically have lower tolerances than small seeded crops such as forages, turfgrass or vegetables.

For all crop types, there is zero tolerance for the presence of prohibited noxious weed seeds as outlined in Weed Seeds Order, regardless of the seed's class or pedigree.

In some cases, there may be confusion about noxious weeds that are covered by the Seeds Act (Canada) and noxious weeds that are covered under the Noxious Weeds Act (Saskatchewan).

The weeds covered under these two acts are not the same.

The Seeds Act is administered federally and needs to reflect the needs of the entire country, whereas the Noxious Weeds Act applies to Saskatchewan only.

While many weeds are named as noxious in both Acts, there are some weeds that are found in one Act and not the other.

When buying certified seed, be sure to request a certificate of analysis from suppliers of certified seed to check for noxious weeds that are important to Saskatchewan under the category of other weeds, so that new noxious weeds are not being introduced to land that is clean and free of noxious weed species.

Growers who buy certified seed should always look for the recognizable blue tag when buying certified seed.

The blue tag is an assurance of quality and purity.

When a pedigreed seed crop has successfully passed crop inspection, a CSGA crop certificate is issued, and the resultant certified seed is labeled with an official blue certified tag.

When a producer buys certified seed, it should have an official blue tag, pedigreed documentation (provided from the seller) and a copy of the mechanical purity.

Germination analysis should also be provided.

The widespread usage of genetically modified crops in Canada has caused some export markets to implement a zero tolerance policy for GM seed. However, it is difficult to maintain varietal purity in open pollinated crops like canola.

The current varietal purity standard for certified canola seed is 99.75 per cent.

This means that in a seeding rate of 100 plants per square metre, one GM canola plant may be found.

FAST, ACCURATE VARIETY CONFIRMATION

An AI-driven seed recognition technology promises fast confirmation of varietal purity

BY MICHAEL ROBIN | SPECIAL TO SASKSEED

WITH ENOUGH TRAINING, an experienced seed grower or grain inspector can tell the difference among different varieties of barley, although they may need to take a closer look with a 10x lens or even a binocular microscope.

But what if they're stumped, or the variety for a particular sample is unknown? A genetic test will tell the tale, but these are expensive and can take a week or more to turn around.

Olha Zahoruiko with the Canadian Malting Barley Technical Centre (CMBTC) is evaluating an artificial intelligence-driven solution from ZoomAgri in Argentina that promises to deliver fast, accurate and economical variety identification.

"They introduced quick and cost effective analysis for barley variety testing that takes only three minutes and costs about $15; it depends on the country," Zahoruiko said in a presentation at the Interprovincial Seed Growers Associations Meeting in Saskatoon Nov. 14, 2023.

Zahoruiko was first introduced to the technology in her native Ukraine in 2017 and 2018, where local maltsters used it to identify imported barleys and as a tool for their own barley multiplication programs. She said the company's machines are now established in more than 20 countries around the world. When she came to Canada, she saw the opportunity to bring AI seed identification here.

Through the CMBTC, Zahoruiko and her colleagues have been "teaching" the ZoomAgri machine with Canadian malt barley varieties, creating high-resolution scans of more than 250 samples from different classes, locations and harvest years.

"After digitizing, their images are stored in a database and there they serve as the foundation for training the algorithm to recognize varieties," she said.

> *I can't speak for sure to the seed industry, but for the barley producer who's selling to a malt company or a line company with their malting barley, that's where I see the potential.*
>
> **MITCHELL JAPP** | SASKBARLEY RESEARCH AND EXTENSION MANAGER

FACING PAGE: A ZoomAgriSpex model with a fully loaded seed tray set up for demonstration. A team at the Canadian Barley Technical Centre used more than 250 samples to train the algorithms of a ZoomAgri machine to evaluate its performance with Canadian malt barley varieties. | ZOOMAGRI PHOTO

The ZoomAgri machine looks much like a scanner or photocopier that one might find in any office. A special holder to separate individual seeds sits on top of the scanner bed. The sample — about a cup or several hundred seeds — is poured onto the holder and then spread out.

Once activated, the machine scans the sample and compares the captured images with its internal database. It then identifies it as a known variety or a mix — for example, 90 percent Copeland and 10 percent unknown. Zahoruiko presented findings that show the machine achieves near-parity with genetic testing for varietal recognition.

"It just seemed too good to be true," said Todd Hyra, western business manager with SeCan in Winnipeg, one of the partners in the CMBTC, which has members from the entire malting barley value chain as well as relevant provincial and national government organizations.

"When we met with Marco and Augustine from ZoomAgri back in May, it seemed pretty wild to be able to take a high-resolution digital scan and train it, when the speed of it just seems so out of this world." Hyra said SeCan staff collected samples and sent them to the CMBTC.

The samples first underwent DNA analysis to ensure varietal purity. Then, they were used to train the ZoomAgri machine. By September, the algorithms had enough data for a hot test.

Hyra and his colleagues came to the meeting with barley samples for testing. Until then, they had never seen the ZoomAgri machine in action. They put in samples whose provenance they knew, others that were unknown and still others where they had purposely misidentified the variety.

"Literally in two minutes it was able to generate results on some of these samples," he said.

"It was able to nail them every time. Even if we told them it was

CONTINUED ON PAGE 58 »

A ZoomAgri representative points out how details from high-resolution scans are used to train the machine's artificial intelligence algorithms to discern among varieties. Testing by the Canadian Malting Barley Technical Centre indicate the machine can achieve near-parity with genetic testing for varietal purity. | ZOOMAGRI PHOTO

A special holder on the ZoomAgri machine keeps clean barley kernels separate in preparation for scanning. | ZOOMAGRI PHOTO

» CONTINUED FROM PAGE 57

something different, it would spit out the proper result."

Hyra even brought in a sample that had been lying around in his garage for 10 years, left over from outreach work he had been doing with schools. It turned out to be 100 percent AC Metcalfe, a popular variety at the time.

What makes the technology even more remarkable, Hyra said, is that malting barley varieties not only look a lot alike, but the appearance of varieties can vary depending on region and growing conditions. By providing a wide range of samples from a wide range of growing conditions to start with, the machine learning algorithms are able to assimilate it all.

"I was talking to one of the folks from Argentina about it. He said, 'you just train it.' He doesn't even know what it's looking for," Hyra said.

Fast and accurate varietal confirmation will find obvious applications for large maltsters and exporters, for whom varietal purity is vital, Hyra said. For example, a maltster could receive assurance that an entire 400-tonne batch is as close as possible to 100 percent CDC Fraser or CDC Churchill.

The technology might be less useful to maltsters working with heritage varieties because the ZoomAgri machines might not yet have "learned" these less popular barleys with their algorithms.

"When it can be essentially done on every truckload that's being added to a bin, it just heads off any issues with contamination or mixing of varieties," Hyra said.

That said, he sees the ZoomAgri technology as a complement rather than replacement for existing seed variety certification process.

A fast way to check for variety and varietal purity could be a valuable addition to a seed grower's tool kit.

"They'll use their own processes to keep it pure, but this provides that extra check for relatively low cost; just extra peace of mind," he said.

Mitchell Japp, research and extension manager with SaskBarley, another CMBTC partner, agrees the ZoomAgri technology will likely be a supplement to the gold-standard DNA testing, albeit a "game changing" one for producers. After all, genetic testing still takes five to seven days, which cannot keep up with the pace of production and deliveries.

"This will allow an elevator to have a technology in place that allows them to get the result before they dump."

This gives producers more control of a given load, Japp said. Currently, if a load of barley fails the genetic test and it's already been delivered, it gets downgraded to feed. A fast, accurate varietal test at the elevator would allow a producer to haul a load back home to consider other marketing options.

"If it proves to be robust enough to be used in the varietal purity testing associated with malting barley, where the industry is looking for 95 percent or better purity, if that can be used in an in line elevator, a producer would have that option to say, 'yeah, these results look great, dump it,'" Japp said.

From the grain buyer's standpoint, a fast and accurate testing method would also allow more frequent testing rather than testing by bin or lot. Japp said the technology may be less attractive at the seed grower level, where tried and true genetic testing can more easily be used because time is less of an issue.

"I can't speak for sure to the seed industry, but for the barley producer who's selling to a malt company or a line company with their malting barley, that's where I see the potential."

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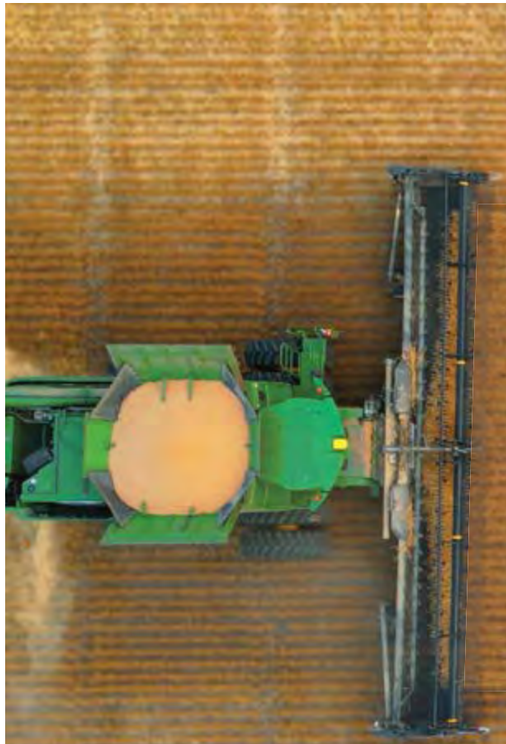

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SO YOU WANT TO BE A SEED GROWER

Producing certified seed adds a whole new level of complexity to a farm operation

BY BECKY ZIMMER. | SPECIAL TO SASKSEED

A LOT OF CARE AND CONSIDERATION goes into every crop grown on the prairies but this levels up when farmers are growing pedigreed seeds.

We spoke with three long-time seed growers with more a hundred years of combined experience among them. All mentioned two major parts of their operation: cleanliness and planning to eliminate risk of contamination.

Steve Tomtene has been farming pedigreed seed since the 1970s as part of Tomtene Seeds in Birch Hills. Striving for purity has always been a key part of his family's business, first with his father, then himself and now with his son managing the certified seed and seed cleaning end of things.

Tomtene Seeds sells several different classes of wheat, barley, oats, yellow flax and yellow peas. Steve said ensuring purity takes years of planning crop rotations before his first square hectare plot of licensed variety breeder seed is even put into the ground.

"We have to make sure that we're planting on soil that has no previous crops that would be inseparable, (for example, wheat among the barley). So if you're planting a barley field on a piece of land, that land should not have had barley on it for several years, make sure there's nothing left in the soil to volunteer and create contamination."

Starting with a small package of breeder seed, producers work their way up to a full field of certified seed a couple of hundred bushels at a time, Tomtene explained. Even working with multiple varieties in square hectares on one quarter, he has to meticulously plan with 10-metre isolation zones between the different plots, the bordering ditches and neighbouring fields. Even knowing what his neighbours will be planting is valuable to identify possible contamination points and solving those issues before they happen.

To isolate crops and keeping weeds out, Mark Watson uses a 10-foot-wide mower and a three-point hitch sprayer to maintain these important buffer zones.

Watson Seeds near Avonlea, Sask. has been a family-run seed business since the 1960s. Watson didn't much like the hours each growing season spent scouting fields in the hot summer sun with mosquitoes and bugs for company when he was a teenager, so he plans accordingly.

We have to make sure that we're planting on soil that has no previous crops that would be inseparable, (for example, wheat among the barley).

STEVE TOMTENE | TOMTENE SEEDS

Cleaning oats. For a seed grower, cleaning seed takes on an added level of time and complexity, with scrupulous cleaning between fields and care to never work with similar-seeded crops back-to-back. | FILE PHOTO

Making sure machinery is well-cleaned between crops has cut back on some of that scouting time, he said, but also having a plan for his machinery has meant the added reassurance there will not be contamination down the road. It's a lot of work thoroughly cleaning out his two air seeders so when planning his lentil seeding schedule, he does not plant his red variety shortly after his small green lentil crop since there's no easy way to sort the two. The same goes for planning which combine will go in which field, he said, although thorough cleaning after taking off each field is still an important part of his operation.

Crops with different sized seeds are more forgiving, Watson said, as those crops are easier to separate using his seed cleaning equipment.

Such technologies have advanced tremendously since Kris Mayerle's grandfather started what would become Greenleaf Seeds near Tisdale. Colour sorters are an example.

"We can pull wild oats out of oats because a camera looks at it, sees the black wild oat and takes it out," he said.

A third of Mayerle's 25,000 acres of cropland is dedicated to pedigree seed production. Putting extra thought into his own schedule and instilling that forethought into his team means an easier time cleaning machinery and saving crops from contaminants that will just cause headaches down the road.

"If you don't start with good, clean seed and keep it clean all the way through, you get to a point where it might not be a saleable product, or it just wouldn't be worth it anymore because you have contamination," he said.

Even with production improvements over the years and knowing what equipment works best on his operation, cleaning is a tedious but essential part of his operation. Mayerle explains that the job of cleaning their 100-plus bins during the summer and plus equipment and trailers during seeding and harvest time adds up to about a quarter of the time of one full-time employee.

In his years of growing pedigree seed, Tomtene said he has learned which equipment works the best for efficient grain handling. He's also come up with some homemade solutions to machinery problems, like scouting out difficult areas to clean.

He remembers working with brushes and brooms to clean out

CONTINUED ON PAGE 64 »

If you don't start with good, clean seed and keep it clean all the way through, you get to a point where it might not be a saleable product, or it just wouldn't be worth it anymore because you have contamination.

KRIS MAYERLE | GREENLEAF SEEDS

Seeds of different sizes, such as peas and lentils, can be separated by seed cleaning equipment but this is difficult or impossible for other crops such as wheat and barley. | FILE PHOTO

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flat bottom bins when he was younger but now, with hoppers bins and diesel air compressors, blowing out bins between crops has definitely become easier.

"We have a 185 (cubic feet per metre) diesel-powered air compressor that we use for blowing down all the equipment throughout the season, every year. That's become a very valuable asset for us."

When it comes to moving grain, conveyors are easier to clean than screw augers, Tomtene said, although screw augers with a reverse option has made them easier to clean as well.

At Mayerle's seed cleaning plant, they keep things simple by using only elevator legs and conveyors to minimize time and effort for cleaning.

While technological improvements paired with decades of experience makes things easier, the job of a seed producer is still not easy. Watson said that farmers wanting to get involved in pedigreed seed production should be prepared for the mounds of paperwork that add to the not inconsiderable workload of any grain grower. It's more than just "throwing grain in the ground and combining it come fall," he said, so farmers really have to think about whether they are ready to tackle seed production in their operation.

Prepping a field for pedigreed barley means growing several years of other crops first to ensure no volunteers from previous barley crops show up. | FILE PHOTO

SUSSING OUT A PHANTOM OF THE FIELDS

A new rapid genetic test detects aster yellows in hard-to-diagnose cereal crops

BY MARY MACARTHUR | SPECIAL TO SASKSEED

MOST FARMERS CAN IDENTIFY aster yellows on canola with their deformed pods and starburst flowers, but an Agriculture Canada research scientist wants farmers to look for aster yellows in cereal crops, the favourite host of the leafhopper.

"Wheat is not nearly as fun as canola when it gets infected with aster yellows. It doesn't turn into crazy shapes like aster yellows makes the canola do, it doesn't make the flowers go green instead of yellow, it doesn't turn pods into weird looking bladder shaped things. It is a lot harder to diagnose aster yellows in cereal crops," said Tyler Wist, a field crop entomologist who has spent the past 11 years studying aster leafhoppers and their impact on western Canadian agriculture.

Despite easily seeing evidence of aster yellows in canola, the crop isn't the favourite food or home of the aster leafhopper.

"They prefer wheat, barley and oats. That is what they eat and that is what they like to reproduce on, but those little things will feed on over 300 different plants. We don't know why they are generalists. They like to hang around on the plants they can live on and reproduce on. Brome grass also seems to be a pretty good host for them," said Wist, of Saskatoon.

Aster yellows are caused by phytoplasma. Originally thought to be a virus, it is like a bacterium that doesn't have a very good cell wall. It can't survive anywhere other than inside of a leaf hopper or inside of a plant.

Wist's project, along with molecular biologist Tim Dumonceau, was to develop a more rapid test for the presence of aster yellow in both the plant and the leaf hopper. Before, it could take a week to identify the presence of aster yellows.

"Now we can smash them up and a half an hour later after we extracted their DNA tell if they have aster yellows or not."

This summer, the pair, along with weed scientist Breanne Tidemann, were at the Ag in Motion field day and identified a camelina plant believed to be infected with aster yellows. Dumonceau was so excited that he drove back to Saskatoon from the field site to pick up his aster yellow testing kit and when he returned tested the plant in the field.

"When he did get back, half an hour later we had the answer. It was positive. That was pretty cool. So we have done tests on leafhoppers in the field and on plants."

With fewer tillers, bleached leaves and stunted plants, aster yellows in cereal can look like many other cereal crop diseases. Crop losses from aster yellows in cereal crops are often called phantom losses, put down to lower yields caused by an unidentified source.

Because of the precise testing, the researchers now know exactly how many plants or leafhoppers are infected with the bacterium. 2023 was a huge year for aster yellows. The leafhoppers that were infected with the disease jumped to 16 percent from less than one percent on normal years.

The test has been licensed to three private laboratories and Wist and his colleagues are working with the provincial lab to allow farmers to send samples for testing.

Wist's project also focused on trying to predict when a large aster yellow outbreak would happen and where the leafhoppers originated. They believed the aster leafhoppers moved into Canada from the United States, but needed to identify their route north.

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Aster yellows in canola from a field south of Dauphin, Manitoba | JUSTINE CORNELSEN PHOTO

Aster yellows is easy to spot in canola, since infection turns flowers green and distorts pods into "weird looking bladder-shaped things." Its effects in cereal crops are more subtle. | TYLER WIST PHOTO

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Through testing, they found the leaf hoppers originated and grew on wheat crops.

"That was telling us the likely origin of leaf hoppers are wheat crops. What wheat is not very good at is showing symptoms of aster yellows and it is not very good at giving aster yellow infection to leafhoppers."

What Wist and others also know is the presence of aster leafhoppers doesn't mean they are infected with the bacterium that can in turn infect the plants. Most years the leaf hoppers arrive on the winds in Canada with little infection. Wist wanted to know what happened to cause the large numbers of infected leaf hoppers.

"A lot of leafhoppers plus a high percent of infection means the aster yellow is high. What you need is when leafhoppers come in, you need to know how infected they are. Are they infected? Yes, we need to worry. If they're not infected then we don't need to worry very much. Leafhoppers on their own aren't going to do a whole lot of damage."

2012 was a really bad aster yellow year in western Canada. With a drought in the wheat areas in the United States, the only

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Aster leafhoppers are responsible for transferring the aster yellows pathogen to crops such as canola and cereals. In 2023, 16 percent of the leafhoppers tested by Ag Canada carried aster yellows, compared to less than one percent in a typical year. | FILE PHOTO

One of the things we have been trying to do is to call an alarm bell if years like this happen. There are so many questions yet to be answered.

TYLER WIST | RESEARCH SCIENTIST FIELD CROP ENTOMOLOGY

» CONTINUED FROM PAGE 68

green plant available for leafhoppers were weeds.

"My thought in 2012 was that aster yellow probably moved onto weeds in the source area and picked up the aster leafhopper phytoplasma from the reservoir plants and came up and migrated like they usually do and brought this infection with them."

A similar early US drought this spring made Wist look closely at the leafhoppers around the May long weekend in Canada. Wist and his crew were out with sticky cards and sweep nets looking for aster yellows, but weren't identifying the migrating insects.

"Then on May 23, boom we found the leaf hoppers just everywhere."

Using wind data, they were able to track the winds back 20 to 24 hours, the amount of time a leafhopper can survive, to the wheat-growing and drought-impacted area of Nebraska.

With the connection now between infected leafhoppers and midwest US drought, they now need to figure out what it means to Canadian farmers.

One of the key factors in reducing the aster yellows infection in Canadian canola is that most of the canola seed is treated with an insecticide against flea beetles that also kills the leafhoppers before it can transmit the aster yellows phytoplasma. While most canola is treated with insecticide, the leaf hoppers preferred cereal hosts are not.

Work still needs to be done to see the best way to reduce the infection of plants and raise the awareness of leaf hopper infection to farmers.

"One of the things we have been trying to do is to call an alarm bell if years like this happen. There are so many questions yet to be answered."

Effects of aster yellows on cereals are fewer tillers, bleached leaves and stunting, which mimics many other diseases. Lower yields are often filed under "phantom losses," in that their cause is unknown. | FILE PHOTO

Prairie Grain Development Committee

The Prairie Grain Development Committee (PGDC) facilitates exchange of information relevant to development and commercialization of improved cultivars of grain crops for the Canadian prairies.

In 2023, the four independent recommending committees put forward the following lines for registration:

Prairie Recommending Committee for Wheat, Rye and Triticale:

CROP TYPE	NAME	CLASS	DEVELOPER
Wheat	BW1116	Canada Western Red Spring (CWRS)	Santosh Kumar – AAFC Brandon
Wheat	PT4002	Canada Western Red Spring (CWRS)	Santosh Kumar – AAFC Brandon
Wheat	BW5089	Canada Western Red Spring (CWRS)	Richard Cuthbert – AAFC-SCRDC
Wheat	BW5090	Canada Western Red Spring (CWRS)	Richard Cuthbert – AAFC-SCRDC
Wheat	BW5095	Canada Western Red Spring (CWRS)	Richard Cuthbert – AAFC-SCRDC
Wheat	BW5098	Canada Western Red Spring (CWRS)	Pierre Hucl - CDC at U of S
Wheat	LAR18-04850	Canada Western Red Spring (CWRS)	Vladimir Pajic – Limagrain Cereals Research Canada
Wheat	LAR18-03928	Canada Western Red Spring (CWRS)	Vladimir Pajic – Limagrain Cereals Research Canada
Wheat	PT799	Canada Western Red Spring (CWRS)	Dean Spaner – University of Alberta
Wheat	BW5100	Canada Western Red Spring (CWRS)	Dean Spaner – University of Alberta
Wheat	DT1024	Canada Western Amber Durum (CWAD)	Curtis Pozniak – CDC at U of S
Wheat	DT1028	Canada Western Amber Durum (CWAD)	Curtis Pozniak – CDC at U of S
Wheat	HY2129	Canada Prairie Spring Red (CPSR)	Harpinder Randhawa – AAFC Lethbridge
Wheat	LAR17-7773	Canada Prairie Spring Red (CPSR)	Vladimir Pajic – Limagrain Cereals Research Canada
Wheat	HY2136	Canada Prairie Spring Red (CPSR)	Richard Cuthbert – AAFC-SCRDC
Wheat	SWS496	Canada Western Soft White Spring (CWSWS)	Harpinder Randhawa – AAFC Lethbridge
Fall Rye	KWS Teodor (RT260)	Fall Rye	Herman Wehrle - KWS Seeds Canada Ltd.
Spring Triticale	T293	Spring Triticale	Mazen Aljarrah – Olds College Field Crop Development Centre
Winter Triticale	WT0042	Winter Triticale	Mazen Aljarrah – Olds College Field Crop Development Centre
Winter Triticale	WT0047	Winter Triticale	Mazen Aljarrah – Olds College Field Crop Development Centre

Prairie Recommending Committee for Oat and Barley:

CROP TYPE	NAME	CLASS	DEVELOPER
Hulled Oat	OT3115	Spring, Milling Oat	Aaron Beattie, Crop Development Centre, University of Saskatchewan
Hulled Oat	OT7109	Spring, Milling Oat	Weikai Yan, AAFC Ottawa and Kirby T. Nilsen, AAFC Brandon
Two-Row Hulless Barley	HB20349	Spring, Food Barley	Aaron Beattie, Crop Development Centre, University of Saskatchewan
Two-Row Hulless Barley	HB21147	Spring, Food Barley	A. Badea and J.R. Tucker, AAFC Brandon
Two-Row Hulless Barley	HB20351	Spring, Malting Barley	Aaron Beattie, Crop Development Centre, University of Saskatchewan
Two-Row Hulless Barley	HB21355	Spring, Malting Barley	Aaron Beattie, Crop Development Centre, University of Saskatchewan
Two-Row Hulled Barley	FB21701	Spring, General Purpose	Jim Anderson, Nutrien Ag Solutions, Michael Mckay, Highland Specialty Grains
Two-Row Hulled Barley	FB21704	Spring, General Purpose	Jim Anderson, Nutrien Ag Solutions, Michael Mckay, Highland Specialty Grains
Two-Row Hulled Barley	FB21106	Spring, General Purpose	Aaron Beattie, Crop Development Centre, University of Saskatchewan
Two-Row Hulled Barley	TR20269	Spring, Malting Barley	A. Badea, J.R. Tucker and W.G. Legge, AAFC Brandon
Two-Row Hulled Barley	TR20661	Spring, Malting Barley	F. Capettini, P. Juskiw, Y. Kabeta, K. Xi, J. Zantinge, and L. Oatway, Olds College Field Crop Development Centre and T.K. Turkington, AAFC Lacombe
Two-Row Hulled Barley	TR20933	Spring, Malting Barley	B.J. Ulmer, Syngenta Seeds and M. Beaith, FP Genetics

Prairie Recommending Committee for Oilseeds:

CROP TYPE	NAME	CLASS	DEVELOPER
Brown Mustard	B3963	AAC Brown Elite	Bifang Cheng
Oriental Mustard	O3841		Bifang Cheng
Oriental Mustard	O3848		Bifang Cheng
Yellow Mustard	Y4016		Bifang Cheng
Brown Mustard (non-restored (male sterile) hybrid)	MSH 85	AAC Guard	Howard Young

Prairie Recommending Committee for Pulse and Special Crops:

CROP TYPE	NAME	CLASS
Dry Bean	L17GN963	great northern
Dry Bean	L18PS600	pinto
Dry Bean	L18PS601	pinto
Dry Bean	HMS Victory	navy
Dry Bean	Bronco (41767-15)	pinto
Field Pea	P1209-2119	yellow
Field Pea	P1230-3352	marrowfat
Field Pea	CDC 1513-2	marrowfat
Field Pea	CDC 5856-3	forage
Field Pea	CDC 6083-4	yellow
Field Pea	CDC 6138-10	yellow
Field Pea	6020-11	yellow
Field Pea	6087-11	yellow
Field Pea	6121-9	yellow
Field Pea	6138-1	yellow
Field Pea	6232-4	green
Field Pea	EP_6816	yellow
Field Pea	EP_8272	yellow
Faba Bean	Casanova	tannin
Faba Bean	Dosis	tannin
Faba Bean	Futura	tannin
Faba Bean	DL19.7202	low tannin
Faba Bean	DL20.8703	low tannin
Lentil	7301-6	small red
Lentil	IBC 1306	large red
Lentil	7026-13	small red
Lentil	7214-15Y	large green
Lentil	7219-4	small red
Lentil	7258-4	small red
Lentil	7731-9Y	large green
Lentil	7741-15br	small red
Lentil	7745-7	small red
Lentil	7757-12	large green
Lentil	7785-10	small red

CROP TYPE	NAME	CLASS
Specialty Lentil	7208-34	extra small red
Specialty Lentil	7358-11	small green
Specialty Lentil	7865-8	french green
Specialty Lentil	8587-1-H2-13-bk	black
Specialty Lentil	8627-1-H2-4	black
Specialty Lentil	7865-8	french green
Specialty Lentil	8587-1-H2-13-bk	black
Specialty Lentil	8627-1-H2-4	black

CANADIAN FOOD INSPECTION AGENCY

VARIETY REGISTRATION REPORT

The list that follows contains the names and details of crop varieties registered by the Canadian Food Inspection Agency's Variety Registration Office between Nov. 15, 2022 and Nov. 15, 2023.

CROP KIND	VARIETY NAME	CANADIAN REPRESENTATIVE	TYPE OF REGISTRATION	REGIONS	TRANS-GENE	EXPERIMENTAL NAME	REGISTRATION DATE	EXPIRY DATE
Alfalfa	Dominator II	Quality Seeds Ltd.	National			AFX164030	2022-01-21	N/A
Alfalfa	Stealth III	Quality Seeds Ltd.	National			AFX135019	2022-01-21	N/A
Alfalfa	54Q16	Pioneer Hi-Bred Production	National			0	2022-01-28	N/A
Alfalfa	Altroia	Sollio Agriculture	National			CW A125023	2022-07-08	N/A
Alfalfa	Samba	Sollio Agriculture	National			TPCL1702, LS 1401	2022-07-29	N/A
Alfalfa	Shift	BrettYoung Seeds Ltd.	National			AFX163009	2022-07-29	N/A
Alfalfa	Shockwave II	BrettYoung Seeds Ltd.	National			AFX164046	2022-07-29	N/A
Alfalfa	Stockpile II	BrettYoung Seeds Ltd.	National			AFX164048	2022-07-29	N/A
Alfalfa	54HVX43	Gold Medal Seeds Ltd. (Forage Genetics International)	National		Y	FG H0416A3126	2022-08-19	N/A
Alfalfa	Catalyst	Gold Medal Seeds Ltd. (Forage Genetics International)	National			FG C0317A3152	2022-08-26	N/A
Alfalfa	LegenDairy AA	Gold Medal Seeds Ltd. (Forage Genetics International)	National			FG C0316A3159	2022-08-26	N/A
Alfalfa	Stellar III	Quality Seeds Ltd.	National			AFX164018	2022-09-02	N/A
Alfalfa	Escalade BR	Northstar Seed	National			AFX164047	2022-10-14	
Alfalfa	Exceed	DSV Northstar Seed Ltd.	National			LS 1602, LS 02AR, LS 1602AR	2022-11-10	
Alfalfa	WL 329HQ	Gold Medal Seeds (Forage Genetics International)	National			FG C0316ML134	2023-06-09	
Alfalfa	WL 3521HQ	Gold Medal Seeds (Forage Genetics International)	National			FG C0518A3663	2023-06-09	
Alfalfa	Cronus Plus	Gold Medal Seeds (Forage Genetics International)	National			FG C0516A3154	2023-06-09	
Alfalfa	Rebound AA	Gold Medal Seeds (Forage Genetics International)	National			FG C0415C4159	2023-06-09	
Alfalfa	Caliber	Quality Seeds Ltd.	National			AFX174085	2023-06-23	
Alfalfa	Shield II	Quality Seeds Ltd.	National			AFX184017	2023-06-23	
Barley	AB Dram	Olds College	National			TR14617	2023-09-11	
Barley	AAC Prairie	Agriculture & Agri-Food Canada	National			TR17255, BM0850-029	2021-11-26	N/A
Barley	Bighorn	Nutrien Ag Solutions Inc.	National			TR18748, HO516-388	2022-03-25	N/A
Barley	Cantu	Nutrien Ag Solutions Inc.	National			TR18747, HO516-373	2022-03-25	N/A
Barley	Ibex	Nutrien Ag Solutions Inc.	National			TR18749, HO516-350	2022-03-25	N/A
Barley	Dublin	Céréla Inc.	National			CLO09-004.017	2022-03-25	N/A
Barley	PSL Kerns	Céréla Inc.	National			OS14-16.32	2022-03-25	N/A
Barley	Celesta	Sollio Agriculture	National			C2M18260, CFO1815	2022-04-01	N/A
Barley	Elegancia	Sollio Agriculture	National			CFO1803, C2M18248	2022-04-01	N/A
Barley	AAC Cranbrook	Agriculture & Agri-Food Canada	National			OB2930-35	2022-04-22	N/A
Barley	AAC Sorel	Agriculture & Agri-Food Canada	National			CH1009-1	2022-06-30	N/A
Barley	CDC Durango	University of Saskatchewan	National			TR19175, SB160566	2022-07-22	N/A
Barley	AB Standswell	Olds College	National			T09156061, SR18524, FB 492	2022-09-09	N/A
Barley	Pixel	Semican International (Seed)	National			SM_WB08	2022-09-16	N/A
Barley	Visuel	Semican International (Seed)	National			SM_WB10	2022-09-16	N/A
Barley	LCS Calypso	SeCan Association	Amendment			LN10246/SC18-012WB	2022-09-23	N/A
Barley	SU Ruzena	SeCan Association	Amendment			AC 09/274/10, SC18-002WB	2022-09-23	N/A
Barley	Orion	Céréla Inc.	National			CLO10-008,010	2023-06-09	
Barley	AS Lafleur	Céréla Inc.	National			CLO10-018,138	2023-06-23	
Barley	AS Manon	Céréla Inc.	National			CLO11-011,032	2023-06-23	
Barley	AAC Stockton	Agriculture & Agri-Food Canada	National			TR20270, BM1212-197	2023-08-11	
Barley	Jet	Céréla Inc.	National			CLO11-010,014	2023-08-11	
Barley	Ferguson	Nutrien Ag Solutions Inc.	National			TR19758, HO516-553	2023-11-03	
Barley	RGT Asteroid	SeCan Association	National			SC19-012RB	2023-11-10	
Barley	AAC Malcolm	Agriculture & Agri-Food Canada	National			OB2705n-11	2023-11-24	
Barley, Two-Row, Spring	AAC Lariat	Agriculture & Agri-Food Canada	National			TR19268	2022-10-14	
Barley, Two-Row, Spring	AB Maximizer	Olds College	National			FB20601, J12037056	2022-12-08	
Barley, Winter	KWS Orbit	La Coop Fédérée (Sollio Agriculture)	National			CFOA2002	2022-12-08	
Bean, Field	CDC Whitetrack	University of Saskatchewan	National			4910CBB-2	2022-01-21	N/A
Bean, Field	Lyra	ADM-Seedwest (Paul Paget)	National			14164	2022-04-22	N/A
Bean, Field	xMystic	ADM-Seedwest (Paul Paget)	National			17454	2022-04-22	N/A
Bean, Field	OAC Souper	University of Guelph	National			ACUG 19-5	2022-06-10	N/A
Bean, Field	OAC Paint	University of Guelph	National			P15HR077	2022-06-30	N/A
Bean, Field	OAC Sunrise	University of Guelph	National			56130	2022-06-30	N/A
Bean, Field	Stavros	University of Guelph	National			ACUG19-NDC1	2022-06-30	N/A
Bean, Field	OAC Seal	University of Guelph	National			ACUG 19-3	2022-06-30	N/A
Bean, Field	OAC Blaze	University of Guelph	National			ME24	2022-07-08	N/A
Bean, Field	XPT One	University of Guelph	National			ME78	2022-07-08	N/A
Bean, Field	Krimson	Western Harvest Bean	National			BD1003	2022-09-09	N/A
Bean, Field	Amaranto	Bayer Cropscience Inc.	National			SV3709GC, 14-C6-BRB-0001, BRB-DJ09-1031	2022-11-04	
Bean, Field	Cabernet	Bayer Cropscience Inc.	National			EX 341	2022-11-04	
Bean, Field	Clouseau	Bayer Cropscience Inc.	National			EX 08530714	2022-11-04	
Bean, Field	Red Rover	Bayer Cropscience Inc.	National			EX 08520700	2022-11-04	
Bean, Field	Liberty	ADM-Seedwest (Paul Paget)	National			15095	2023-06-09	
Bean, Field	HMS Victory	ADM-Seedwest (Paul Paget)	National			15094	2023-06-09	
Bean, Field	Blast	University of Guelph	National			OAC 20-3	2023-10-10	
Bean, Field	Steam	University of Guelph	National			OAC 20-7	2023-10-10	
Bean, Field	Bannock	University of Guelph	National			OAC 20-B4	2023-10-10	
Bean, Field	Umbra	University of Guelph	National			OAC 20-B5	2023-10-10	
Bean, Field	OAC Tong	University of Guelph	National			OAC 20-D1	2023-10-10	
Bean, Field	Eternal	University of Guelph	National			P16HR025	2023-10-10	
Bean, Field	OAC Resilient	University of Guelph	National			OAC 20-6	2023-10-10	
Bean, Field	OAC Bechamel	University of Guelph	National			OAC 20-8	2023-10-10	
Bean, Field	OAC Agate	University of Guelph	National			OAC 20-C1	2023-10-10	
Bean, Field	OAC Volterra	University of Guelph	National			OAC 20-C3	2023-10-10	
Bean, Field	OAC Endevour	University of Guelph	National			OAC 20-D2	2023-10-10	
Bean, Field	OAC Märzen	University of Guelph	National			OAC 20-L1	2023-10-10	
Bean, Field	OAC Sienna	University of Guelph	National			OAC 20-P2	2023-10-10	
Bean, Field	Bronco	Western Harvest Bean	National			41767-15	2023-11-24	
Bean, Field, Otebo Type	HIME	Hensall Disctrict Cooperative	National			(none)	2022-10-21	
Canola and Rapeseed	P510G	Pioneer Hi-Bred Production	National		Y	19GN2359G	2023-06-23	
Canola and Rapeseed	CP22T1C	Monsanto Canada ULC (Bayer Crop Science Canada)	National		Y	X19W94263	2022-01-21	N/A
Canola and Rapeseed	4005A679-09	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A679-09	2022-04-22	N/A
Canola and Rapeseed	DK901TF	Bayer Cropscience Inc.	National		Y	X20E50350	2022-06-10	N/A
Canola and Rapeseed	4004A198-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4004A198-28	2022-06-17	N/A
Canola and Rapeseed	4004A765-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4004A765-28	2022-06-17	N/A
Canola and Rapeseed	PV 881 OCM	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A276-28	2022-06-17	N/A
Canola and Rapeseed	4005A435-18	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A435-18	2022-06-17	N/A
Canola and Rapeseed	4005A578-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A578-28	2022-06-17	N/A
Canola and Rapeseed	4005A678-18	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A678-18	2022-06-17	N/A
Canola and Rapeseed	4005A698-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A698-28	2022-06-17	N/A

CROP KIND	VARIETY NAME	CANADIAN REPRESENTATIVE	TYPE OF REGISTRATION	REGIONS	TRANS-GENE	EXPERIMENTAL NAME	REGISTRATION DATE	EXPIRY DATE
Alfalfa	Dominator II	Quality Seeds Ltd.	National			AFX164030	2022-01-21	N/A
Alfalfa	Stealth III	Quality Seeds Ltd.	National			AFX135019	2022-01-21	N/A
Alfalfa	54Q16	Pioneer Hi-Bred Production	National			0	2022-01-28	N/A
Alfalfa	Altroia	Sollio Agriculture	National			CW A125023	2022-07-08	N/A
Alfalfa	Samba	Sollio Agriculture	National			TPCL1702, LS 1401	2022-07-29	N/A
Alfalfa	Shift	BrettYoung Seeds Ltd.	National			AFX163009	2022-07-29	N/A
Alfalfa	Shockwave II	BrettYoung Seeds Ltd.	National			AFX164046	2022-07-29	N/A
Alfalfa	Stockpile II	BrettYoung Seeds Ltd.	National			AFX164048	2022-07-29	N/A
Alfalfa	54HVX43	Gold Medal Seeds Ltd. (Forage Genetics International)	National		Y	FG H0416A3126	2022-08-19	N/A
Alfalfa	Catalyst	Gold Medal Seeds Ltd. (Forage Genetics International)	National			FG C0317A3152	2022-08-26	N/A
Alfalfa	LegenDairy AA	Gold Medal Seeds Ltd. (Forage Genetics International)	National			FG C0316A3159	2022-08-26	N/A
Alfalfa	Stellar III	Quality Seeds Ltd.	National			AFX164018	2022-09-02	N/A
Alfalfa	Escalade BR	Northstar Seed	National			AFX164047	2022-10-14	
Alfalfa	Exceed	DSV Northstar Seed Ltd.	National			LS 1602, LS 02AR, LS 1602AR	2022-11-10	
Alfalfa	WL 329HQ	Gold Medal Seeds (Forage Genetics International)	National			FG C0316ML134	2023-06-09	
Alfalfa	WL 3521HQ	Gold Medal Seeds (Forage Genetics International)	National			FG C0518A3663	2023-06-09	
Alfalfa	Cronus Plus	Gold Medal Seeds (Forage Genetics International)	National			FG C0516A3154	2023-06-09	
Alfalfa	Rebound AA	Gold Medal Seeds (Forage Genetics International)	National			FG C0415C4159	2023-06-09	
Alfalfa	Caliber	Quality Seeds Ltd.	National			AFX174085	2023-06-23	
Alfalfa	Shield II	Quality Seeds Ltd.	National			AFX184017	2023-06-23	
Barley	AB Dram	Olds College	National			TR14617	2023-09-11	
Barley	AAC Prairie	Agriculture & Agri-Food Canada	National			TR17255, BM0850-029	2021-11-26	N/A
Barley	Bighorn	Nutrien Ag Solutions Inc.	National			TR18748, H0516-388	2022-03-25	N/A
Barley	Cantu	Nutrien Ag Solutions Inc.	National			TR18747, H0516-373	2022-03-25	N/A
Barley	Ibex	Nutrien Ag Solutions Inc.	National			TR18749, H0516-350	2022-03-25	N/A
Barley	Dublin	Céréla Inc.	National			CLO09-004.017	2022-03-25	N/A
Barley	PSL Kerns	Céréla Inc.	National			OS14-16.32	2022-03-25	N/A
Barley	Celesta	Sollio Agriculture	National			C2M18260, CFO1815	2022-04-01	N/A
Barley	Elegancia	Sollio Agriculture	National			CFO1803, C2M18248	2022-04-01	N/A
Barley	AAC Cranbrook	Agriculture & Agri-Food Canada	National			OB2930-35	2022-04-22	N/A
Barley	AAC Sorel	Agriculture & Agri-Food Canada	National			CH1009-1	2022-06-30	N/A
Barley	CDC Durango	University of Saskatchewan	National			TR19175, SB160566	2022-07-22	N/A
Barley	AB Standswell	Olds College	National			T09156061, SR18524, FB 492	2022-09-09	N/A
Barley	Pixel	Semican International (Seed)	National			SM_WB08	2022-09-16	N/A
Barley	Visuel	Semican International (Seed)	National			SM_WB10	2022-09-16	N/A
Barley	LCS Calypso	SeCan Association	Amendment			LN10246/SC18-012WB	2022-09-23	N/A
Barley	SU Ruzena	SeCan Association	Amendment			AC 09/274/10, SC18-002WB	2022-09-23	N/A
Barley	Orion	Céréla Inc.	National			CLO10-008,010	2023-06-09	
Barley	AS Lafleur	Céréla Inc.	National			CLO10-018,138	2023-06-23	
Barley	AS Manon	Céréla Inc.	National			CLO11-011,032	2023-06-23	
Barley	AAC Stockton	Agriculture & Agri-Food Canada	National			TR20270, BM1212-197	2023-08-11	
Barley	Jet	Céréla Inc.	National			CLO11-010,014	2023-08-11	
Barley	Ferguson	Nutrien Ag Solutions Inc.	National			TR19758, H0516-553	2023-11-03	
Barley	RGT Asteroid	SeCan Association	National			SC19-012RB	2023-11-10	
Barley	AAC Malcolm	Agriculture & Agri-Food Canada	National			OB2705n-11	2023-11-24	
Barley, Two-Row, Spring	AAC Lariat	Agriculture & Agri-Food Canada	National			TR19268	2022-10-14	
Barley, Two-Row, Spring	AB Maximizer	Olds College	National			FB20601, J12037056	2022-12-08	
Barley, Winter	KWS Orbit	La Coop Fédérée (Sollio Agriculture)	National			CFOA2002	2022-12-08	
Bean, Field	CDC Whitetrack	University of Saskatchewan	National			4910CBB-2	2022-01-21	N/A
Bean, Field	Lyra	ADM-Seedwest (Paul Paget)	National			14164	2022-04-22	N/A
Bean, Field	xMystic	ADM-Seedwest (Paul Paget)	National			17454	2022-04-22	N/A
Bean, Field	OAC Souper	University of Guelph	National			ACUG 19-5	2022-06-10	N/A
Bean, Field	OAC Paint	University of Guelph	National			P15HR077	2022-06-30	N/A
Bean, Field	OAC Sunrise	University of Guelph	National			56130	2022-06-30	N/A
Bean, Field	Stavros	University of Guelph	National			ACUG19-NDC1	2022-06-30	N/A
Bean, Field	OAC Seal	University of Guelph	National			ACUG 19-3	2022-06-30	N/A
Bean, Field	OAC Blaze	University of Guelph	National			ME24	2022-07-08	N/A
Bean, Field	XPT One	University of Guelph	National			ME78	2022-07-08	N/A
Bean, Field	Krimson	Western Harvest Bean	National			BD1003	2022-09-09	N/A
Bean, Field	Amaranto	Bayer Cropscience Inc.	National			SV3709GC, 14-C6-BRB-0001, BRB-DJ09-1031	2022-11-04	
Bean, Field	Cabernet	Bayer Cropscience Inc.	National			EX 341	2022-11-04	
Bean, Field	Clouseau	Bayer Cropscience Inc.	National			EX 08530714	2022-11-04	
Bean, Field	Red Rover	Bayer Cropscience Inc.	National			EX 08520700	2022-11-04	
Bean, Field	Liberty	ADM-Seedwest (Paul Paget)	National			15095	2023-06-09	
Bean, Field	HMS Victory	ADM-Seedwest (Paul Paget)	National			15094	2023-06-09	
Bean, Field	Blast	University of Guelph	National			OAC 20-3	2023-10-10	
Bean, Field	Steam	University of Guelph	National			OAC 20-7	2023-10-10	
Bean, Field	Bannock	University of Guelph	National			OAC 20-B4	2023-10-10	
Bean, Field	Umbra	University of Guelph	National			OAC 20-B5	2023-10-10	
Bean, Field	OAC Tong	University of Guelph	National			OAC 20-D1	2023-10-10	
Bean, Field	Eternal	University of Guelph	National			P16HR025	2023-10-10	
Bean, Field	OAC Resilient	University of Guelph	National			OAC 20-6	2023-10-10	
Bean, Field	OAC Bechamel	University of Guelph	National			OAC 20-8	2023-10-10	
Bean, Field	OAC Agate	University of Guelph	National			OAC 20-C1	2023-10-10	
Bean, Field	OAC Volterra	University of Guelph	National			OAC 20-C3	2023-10-10	
Bean, Field	OAC Endevour	University of Guelph	National			OAC 20-D2	2023-10-10	
Bean, Field	OAC Märzen	University of Guelph	National			OAC 20-L1	2023-10-10	
Bean, Field	OAC Sienna	University of Guelph	National			OAC 20-P2	2023-10-10	
Bean, Field	Bronco	Western Harvest Bean	National			41767-15	2023-11-24	
Bean, Field, Otebo Type	HIME	Hensall Disctrict Cooperative	National			(none)	2022-10-21	
Canola and Rapeseed	P510G	Pioneer Hi-Bred Production	National		Y	19GN2359G	2023-06-23	
Canola and Rapeseed	CP22T1C	Monsanto Canada ULC (Bayer Crop Science Canada)	National		Y	X19W94263	2022-01-21	N/A
Canola and Rapeseed	4005A679-09	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A679-09	2022-04-22	N/A
Canola and Rapeseed	DK901TF	Bayer Cropscience Inc.	National		Y	X20E50350	2022-06-10	N/A
Canola and Rapeseed	4004A198-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4004A198-28	2022-06-17	N/A
Canola and Rapeseed	4004A765-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4004A765-28	2022-06-17	N/A
Canola and Rapeseed	PV 881 OCM	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A276-28	2022-06-17	N/A
Canola and Rapeseed	4005A435-18	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A435-18	2022-06-17	N/A
Canola and Rapeseed	4005A578-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A578-28	2022-06-17	N/A
Canola and Rapeseed	4005A678-18	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A678-18	2022-06-17	N/A
Canola and Rapeseed	4005A698-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A698-28	2022-06-17	N/A
Canola and Rapeseed	4005A778-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A778-28	2022-06-17	N/A
Canola and Rapeseed	4005A887-28	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A887-28	2022-06-17	N/A
Canola and Rapeseed	4005A470-09	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A470-09	2022-06-17	N/A
Canola and Rapeseed	P516L	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A490-09	2022-06-17	N/A

CROP KIND	VARIETY NAME	CANADIAN REPRESENTATIVE	TYPE OF REGISTRATION	REGIONS	TRANS-GENE	EXPERIMENTAL NAME	REGISTRATION DATE	EXPIRY DATE
Canola and Rapeseed	4005A540-09	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A540-09	2022-06-17	N/A
Canola and Rapeseed	4005A579-09	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National		Y	4005A579-09	2022-06-17	N/A
Canola and Rapeseed	BY 7102LL	DL Seeds Inc.	National		Y	DL192375LL	2022-07-08	N/A
Canola and Rapeseed	L350PC	BASF Canada, Inc.	National		Y	0CN0124	2022-08-12	N/A
Canola and Rapeseed	LR354PC	BASF Canada, Inc.	National		Y	0CN0138	2022-08-12	N/A
Canola and Rapeseed	V14-1	Cargill Limited	Amendment		Y	14H1222	2022-06-30	N/A
Canola and Rapeseed	V24-1	Cargill Limited	Amendment		Y	16RH5088	2022-06-30	N/A
Canola and Rapeseed	V33-1CL	Cargill Limited	Amendment		Y	17MH2622	2022-06-30	N/A
Canola and Rapeseed	BY 6204TF	Cargill Limited	Amendment		Y	18TH80070M	2022-06-30	N/A
Canola and Rapeseed	4005B143-41	Pioneer Hi-Bred Production	National		Y	4005B143-41	2023-06-09	
Canola and Rapeseed	4005B226-09	Pioneer Hi-Bred Production	National		Y	4005B226-09	2023-06-09	
Canola and Rapeseed	P519L	Pioneer Hi-Bred Production	National		Y	4005B404-09	2023-10-23	
Canola and Rapeseed	B3019	Pioneer Hi-Bred Production	National		Y	4006B812-09	2023-10-23	
Canola and Rapeseed	P617SL	Pioneer Hi-Bred Production	National		Y	4005B703-35	2023-11-22	
Canola and Rapeseed	4005B542-02	Pioneer Hi-Bred Production	National		Y	4005B542-02	2023-06-09	
Canola and Rapeseed	B3018N	Pioneer Hi-Bred Production	National		Y	4005B173-41	2023-10-10	
Canola and Rapeseed	4006B225-09	Pioneer Hi-Bred Production	National		Y	4006B225-09	2023-06-09	
Canola and Rapeseed	NC527CRTF	NuSeed (Formerly Seeds 2000)	National		Y	NC2005TF	2023-06-23	
Canola and Rapeseed	V25-6T	Cargill Limited	National		Y	20TH5280	2023-06-16	
Canola and Rapeseed	L359HPC	BASF Canada, Inc.	National		Y	1CN0155	2023-06-23	
Canola and Rapeseed	L358HPC	BASF Canada, Inc.	National		Y	1CN0153	2023-06-23	
Canola and Rapeseed	BY 6216TF	DL Seeds. Inc.	National		Y	DL200844TF	2023-08-11	
Canola and Rapeseed	PV 781 TCM	Nutrien Ag Solutions Inc.	National		Y	PS-FHF 19-51010	2023-08-18	
Canola and Rapeseed	DKTF 95 HL	Bayer Cropscience Inc.	National			X19V94379	2023-11-17	
Canola and Rapeseed	DKTFLL 22 CRSC	Bayer Cropscience Inc.	National			L19W94093	2023-11-17	
Canola and Rapeseed	DK902TF	Bayer Cropscience Inc.	National		Y	X20W50202H	2023-11-17	
Canola and Rapeseed	DK900TF	Bayer Cropscience Inc.	National		Y	X20W50057H	2023-11-17	
Canola and Rapeseed	DKLL 83 SC	Bayer Cropscience Inc.	Interim		Y	H19W94354	2021-09-10	2024-09-10
Canola and Rapeseed	H5501	Cargill Limited	Interim		Y	20TH5001	2022-03-25	2025-03-25
Canola and Rapeseed	H5508	Cargill Limited	Interim		Y	20TH5508	2022-03-25	2025-03-25
Canola and Rapeseed	V25-4T	Cargill Limited	Interim		Y	20TH4389	2022-03-25	2025-03-25
Canola and Rapeseed	BY 6214TF	Bayer Cropscience Inc.	Interim		Y	X20W50344	2022-06-10	2025-06-10
Canola and Rapeseed	4005B173-41	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	Interim		Y	4005B173-41	2022-06-17	2025-06-17
Canola and Rapeseed	4005B558-41	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	Interim		Y	4005B558-41	2022-06-17	2025-06-17
Canola and Rapeseed	CS2800 CL	DL Seeds Inc.	Interim		N	DL191703CL	2022-07-08	2025-07-08
Canola and Rapeseed	CS3100 TF	DL Seeds Inc.	Interim		Y	DL215018TF	2022-08-12	2025-08-12
Canola and Rapeseed	DK400TL	Bayer Cropscience Inc.	Interim		Y	L21W50150	2023-06-09	2026-04-25
Canola and Rapeseed	DK903TF	Bayer Cropscience Inc.	Interim		Y	X21V50252	2023-06-09	2026-04-25
Canola and Rapeseed	P520L	Pioneer Hi-Bred Production	Interim		Y	4005D0027-09	2023-11-16	2026-06-16
Canola and Rapeseed	B3020	Pioneer Hi-Bred Production	Interim		Y	4005D066-09	2023-11-16	2026-06-16
Canola and Rapeseed	PS-LAC 21-2958	Nutrien Ag Solutions Inc.	Interim		Y	PS-LAC 21-2958	2023-10-05	2026-08-11
Canola and Rapeseed	PS-FVN 21-2416	Nutrien Ag Solutions Inc.	Interim		Y	PS-FVN 21-2416	2023-10-05	2026-08-11
Canola and Rapeseed	PS-FDM 20-32005	Nutrien Ag Solutions Inc.	Interim		Y	PS-FDM 20-32005	2023-10-05	2026-08-11
Canola and Rapeseed	PS-FCC 20-32008	Nutrien Ag Solutions Inc.	Interim		Y	PS-FCC 20-32008	2023-10-05	2026-08-11
Canola and Rapeseed	H22W30072	Bayer Cropscience Inc.	Interim		Y	H22W30072	2023-11-24	2026-11-17
Canola and Rapeseed	DK800LL	Bayer Cropscience Inc.	Interim		Y	H22W30102	2023-11-24	2026-11-17
Canola and Rapeseed	DK801LL	Bayer Cropscience Inc.	Interim		Y	H22W30228	2023-11-24	2026-11-17
Clover	Klondike	DLF Pickseed Canada Inc.	National			N/A	2023-11-24	
Faba Bean	xAllison	DL Seeds. Inc.	National			NPZ 18.7306, DL18.7306	2022-07-22	N/A
Faba Bean	CDC 1089	University of Saskatchewan	National			1089-1-2	2022-09-02	N/A
Faba Bean	CDC 1142	University of Saskatchewan	National			1142-16	2022-09-02	N/A
Faba Bean	NAVI	KGB Meier Farms Inc.	National			A01155	2022-12-08	

CROP KIND	VARIETY NAME	CANADIAN REPRESENTATIVE	TYPE OF REGISTRATION	REGIONS	TRANS-GENE	EXPERIMENTAL NAME	REGISTRATION DATE	EXPIRY DATE
Faba Bean	Dosis	DL Seeds. Inc.	National			Dosis	2023-08-11	
Fescue	Rosparon	Northstar Seed Ltd	National			Efa 054806	2022-04-01	N/A
Fescue	Baltas	Northstar Seed Ltd	National			Efp 03-328	2022-04-14	N/A
Fescue	Modena	BrettYoung Seeds Ltd.	National			ilvo156016	2023-08-11	
Fescue	Hyperbola	DLF Pickseed Canada Inc.	National		N	DLF FPR-3159	2023-09-01	
Fescue, Tall, Forage Type	Rostuque	Northstar Seeds Ltd.	National			Efa 024009	2022-10-21	
Flax	CDC Esme	University of Saskatchewan	National			FP2591	2023-06-09	
Lentil	CDC Monarch	University of Saskatchewan	National			IBC 1306	2023-08-18	
Lupin	Lunabor	Lupin Platform Inc.	National			BO 143449/17	2022-07-08	N/A
Mustard	AAC Brown Elite	Agriculture & Agri-Food Canada	National			B3963	2023-11-24	
Mustard	AAC Guard	Agriculture & Agri-Food Canada	Contract			MSH85	2023-11-24	
Oat	AAC Zip	Agriculture & Agri-Food Canada	National			OA1584-3	2022-03-11	N/A
Oat	Katana	Sollio Agriculture	National			C3M18274, CFA1802	2022-04-01	N/A
Oat	Nika	Sollio Agriculture	National			C3M1828, CFA1809 (Sample has C3M18281!)	2022-04-01	N/A
Oat	CDC Anson	University of Saskatchewan	National			OT3112, SA162676	2022-06-30	N/A
Oat	AAC Wesley	Agriculture & Agri-Food Canada	National			14P12-DM, OT2129	2022-07-08	N/A
Oat	Eldorado	Semican International (Seed)	National			17ANS05	2022-09-16	N/A
Oat	Lavoie	Semican International (Seed)	National			17ANS01	2022-09-16	N/A
Oat	AAC Neville	Agriculture & Agri-Food Canada	National			OT2134 and 07P35-BP	2023-06-09	
Oat	Forto	Semican International (Seed)	National			18ANS03	2023-06-09	
Oat	Shaka	Sollio Agriculture	National			C3M20410, CFA2011	2023-08-11	
Oat	AAC Wallace	Agriculture & Agri-Food Canada	National			OA1613-5	2023-08-11	
Oat	AAC Wight	Agriculture & Agri-Food Canada	National			OA1623-5	2023-08-11	
Oat	AAC Anthony	Agriculture & Agri-Food Canada	National			OA1627-1, OT7104	2023-08-11	
Oat	AAC Basil	Agriculture & Agri-Food Canada	National			OA1644-13	2023-08-11	
Oat	AAC Loki	Agriculture & Agri-Food Canada	National			OA1609-7	2023-08-11	
Oat	CDC Byer	University of Saskatchewan	National			OT3115, SA172419	2023-08-18	
Orchardgrass	Duero	Northstar Seeds Ltd.	National			ZDg 024069	2022-10-21	
Pea, Field	AAC Planet	Agriculture & Agri-Food Canada	National			P0936-3913	2022-01-21	N/A
Pea, Field	CDC Citrine	University of Saskatchewan	National			CDC 5296-2	2022-03-25	N/A
Pea, Field	CDC Huskie	University of Saskatchewan	National			CDC5360-4	2022-03-25	N/A
Pea, Field	CDC Acer	University of Saskatchewan	National			203PMR-16	2022-07-29	N/A
Pea, Field	CDC Blazer	University of Saskatchewan	National			3012-1LT	2022-07-29	N/A
Pea, Field	CDC Dakota	University of Saskatchewan	National			CDC 2098-20	2022-07-29	N/A
Pea, Field	CDC Dundurn	University of Saskatchewan	National			791-1	2022-07-29	N/A
Pea, Field	CDC Mosaic	University of Saskatchewan	National			CDC 1816-4	2022-07-29	N/A
Pea, Field	MFR131	University of Saskatchewan	National			757-1	2022-07-29	N/A
Pea, Field	MFR171	University of Saskatchewan	National			1217-2	2022-07-29	N/A
Pea, Field	Redbat 8	University of Saskatchewan	National			2710-1	2022-07-29	N/A
Pea, Field	Redbat 88	University of Saskatchewan	National			2799-3	2022-07-29	N/A
Pea, Field	CDC Rocket	University of Saskatchewan	National			617-20	2022-08-12	N/A
Pea, Field	1Boost	DL Seeds. Inc.	National			Y152033, DL152033	2022-08-26	N/A
Pea, Field	ProStar	DL Seeds. Inc.	National			LRP 1813, DL1813	2022-08-26	N/A
Pea, Field	CDC S110-22	University of Saskatchewan	National			1174-3	2022-09-16	N/A
Pea, Field	CDC S120-22	University of Saskatchewan	National			1245-3	2022-09-16	N/A
Pea, Field	CDC Boundless	University of Saskatchewan	National			CDC 5779-1	2023-06-23	
Pea, Field	CDC Engage	University of Saskatchewan	National			CDC 5947-4	2023-06-23	
Pea, Field	AAC McMurphy	Agriculture & Agri-Food Canada	National			P1120-3513	2023-08-11	
Pea, Field	Caphorn	DL Seeds. Inc.	National			LRP 1814, DL 1814	2023-08-11	
Pea, Field, Yellow	Winterberry	DL Seeds. Inc.	National			RLH16086	2022-12-08	
Potato	Alaska Gold	Solanum International Inc.	National			SM 12-129-12	2022-04-14	N/A
Potato	Austrian Crescent	Cradle Isle Enterprises	National			Heirloom	2022-07-22	N/A
Potato	Purple Peruvian	Cradle Isle Enterprises	National			Heirloom	2022-07-22	N/A
Potato	La Ratte	Cradle Isle Enterprises	National			Heirloom	2022-07-22	N/A

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Potato	AAC Griffin	Agriculture & Agri-Food Canada	National			V05060-2 (AR2016-05)	2022-07-22	N/A
Potato	Mackinaw	Global Agri Services Inc.	National			MSX540-4	2023-06-09	
Rye	KWS Receptor	KWS Seeds Canada Ltd.	National			RT252	2022-08-12	N/A
Rye	KWS Sandor	KWS Seeds Canada Ltd.	National			RT256	2022-08-12	N/A
Rye	SU Cossani	Semican International (Seed)	National			19SSH02	2022-08-19	N/A
Rye	SU Performer	Semican International (Seed)	National			19SSH01	2022-08-19	N/A
Ryegrass	Dolomit	Northstar Seed Ltd	National			LMU 029	2022-04-14	N/A
Ryegrass	Valerio	Northstar Seed Ltd	National			LPF 06271	2022-04-22	N/A
Ryegrass	Sendero	Northstar Seed Ltd	National			DSVLm 090099	2022-04-22	N/A
Ryegrass	TetraGrain SLT	Donna Hancock	National			PST-2-TETS	2022-04-22	N/A
Ryegrass	Sherlock	Northstar Seed Ltd	National			SLM 24348/08	2022-06-24	N/A
Ryegrass	Dexter 1	DLF Pickseed Canada Inc.	National			CLP 424	2022-07-08	N/A
Ryegrass	Mervana	BrettYoung Seeds Ltd.	National			breeders reference: ILVO115345 ; German variety test: WV 557xxx	2023-06-09	
Ryegrass	Melsprinter	Imperial Seed (1979) Ltd.	National			(none)	2023-03-17	
Soybean	PV 27S0005R2X	Bayer Cropscience Inc.	National		Y	MKT319A1-C0DNN	2021-04-09	N/A
Soybean	PV 28S001R2X	Bayer Cropscience Inc.	National		Y	MKT119A1-C0DNN	2021-04-09	N/A
Soybean	Raymond	RDR Grains Et Semences	National			CLS13-005,001	2022-04-14	N/A
Soybean	S13-Y4XF	Syngenta Canada Inc.	National			X12187XF, EXP-1322XF	2022-07-08	N/A
Soybean	5028DH10-02	Pioneer Hi-Bred Production	National		Y	PW133604113	2022-09-23	N/A
Soybean, Oilseed	SI 1422XTN	Bayer Cropscience Inc.	National		Y	RM1720A3-B0DNN (GI1720A3-B0DNN)	2022-12-08	
Sunflower	N4H161 CL	Philip Hilderbrand	National		N	N4H161 CL	2022-04-22	N/A
Sunflower	P63HE501	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	National			XF17866	2022-06-03	N/A
Sunflower, Hybrid, Oilseed	RGT Rivollia	DL Seeds. Inc.	National			RA1012735	2022-12-02	
Sunflower, Hybrid, Oilseed	RGT Llincoln	DL Seeds. Inc.	National			CTPS 4054391	2023-06-09	
Timothy	Aturo	Northstar Seed Ltd	National			ZPhp 048325	2022-04-29	N/A
Timothy	Radde	Northstar Seed Ltd	National			Ephp 048213	2022-04-29	N/A
Timothy	CDC Tiznow	University of Saskatchewan	National			ST1	2022-11-10	
Timothy	Brute	BrettYoung Seeds Ltd.	National			Bor 0504; TI 058	2023-10-05	
Triticale	AB Snowcat	Olds College	Regional	BC, AB, SK, MB		WT0023, 00D016023	2022-04-29	N/A
Triticale	AB Bronco	Olds College	Regional	BC, AB, SK, MB		WT0006, 02D006005	2022-07-22	N/A
Wheat	Donalda	University of Alberta	National	BC, AB, SK, MB		BW5065, Entry 8 Parkland B 2017, UAW1131*F8SSD080	2022-01-28	N/A
Wheat	Redcliff	University of Alberta	National	BC, AB, SK, MB		PT793, Entry 18 Parkland B 2017, UAW1267*F7MBK78	2022-02-18	N/A
Wheat	Arvida	Céréla Inc.	National	QC		CLB08-72, 012	2022-02-18	N/A
Wheat	Peribonka	Céréla Inc.	National	QC		CLB08-008, 008	2022-02-18	N/A
Wheat	AAC Coldfront	Agriculture & Agri-Food Canada	Regional	BC, AB, SK, MB		W601, LR535	2022-02-25	N/A
Wheat	Arona	Céréla Inc.	Regional	QC		CLB08-034, 040	2022-03-11	N/A
Wheat	Algonkin	Semican International (Seed)	Regional			07SH21.24	2022-03-25	N/A
Wheat	Hudson	Semican International (Seed)	Regional	ON, QB		05SH24.10	2022-04-01	N/A
Wheat	OAC Moon	University of Guelph	Regional	ON		OAC 19-SRW-01	2022-04-22	N/A
Wheat	Artika	Semican International (Seed)	Regional	QC		13SW613.04W	2022-06-30	N/A
Wheat	25R64	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	Regional	ON		W10028111, 6035BR06-01, YW19B	2022-08-19	N/A
Wheat	B700SRW	Corteva Agriscience, DowDuPont (Ex Dow Agrosciences)	Regional	ON		W090195D1, YW18R, XW18R	2022-08-19	N/A
Wheat	AAC Antler	Agriculture & Agri-Food Canada	Regional	BC, AB, SK, MB		DT2015, A1323-EW05	2022-09-02	N/A
Wheat	CDC Evident	University of Saskatchewan	Regional	BC, AB, SK, MB		DT1020, 13.037.289.005	2022-09-02	N/A
Wheat	AAC Dutton	Agriculture & Agri-Food Canada	Regional	BC, AB, SK, MB		BW1094	2022-09-16	N/A

CROP KIND	VARIETY NAME	CANADIAN REPRESENTATIVE	TYPE OF REGISTRATION	REGIONS	TRANS-GENE	EXPERIMENTAL NAME	REGISTRATION DATE	EXPIRY DATE
Wheat	AAC Darby	Agriculture & Agri-Food Canada	Regional	BC, AB, SK, MB		PT495	2022-09-16	N/A
Wheat	AAC Hassler	Agriculture & Agri-Food Canada	Regional	BC, AB, SK, MB		PT496	2022-09-16	N/A
Wheat	Mirador	Semican International (Seed)	National			07SH11.02	2023-06-23	
Wheat	CDC Envy	University of Saskatchewan	Regional	BC, AB, SK, MB		PT5003, W15423	2023-06-09	
Wheat	CDC Vosk	University of Saskatchewan	Regional	BC, AB, SK, MB		GP233, WAX13008	2023-06-09	
Wheat	AAC Harfang	Agriculture & Agri-Food Canada	Regional	QC		12WAAC-0737.5, CRGBa18.1, WW-92.(11)G	2023-06-09	
Wheat	Zarbio	Sollio Agriculture	National			C1M20377, ST869-19, CFB2010	2023-06-23	
Wheat	Alotta	University of Alberta	Regional	BC, AB, SK, MB		GP250, Entry 24 GP B 2019, 534478*601	2023-06-30	
Wheat	OAC Virgo	University of Guelph	National			OAC20-SRW-03	2023-07-28	
Wheat	AAC Westking	Agriculture & Agri-Food Canada	National			BW5090	2023-10-10	
Wheat	AAC Walker	Agriculture & Agri-Food Canada	National			BW1116	2023-10-10	
Wheat	AAC Spike	Agriculture & Agri-Food Canada	National			PT4002	2023-10-10	
Wheat	LAR18-03928	Limagrain Cereals Research Canada	Regional	BC, AB, SK, MB		LAR18-03928	2023-11-17	
Wheat	LAR18-04850	Limagrain Cereals Research Canada	Regional	BC, AB, SK, MB		LAR18-04850	2023-11-24	
Wheat	Recoil	Limagrain Cereals Research Canada	Regional	BC, AB, SK, MB		LAR17-7773	2023-11-24	
Wheat	CDC Wiseton	University of Saskatchewan	National			DT1024; D13.055.063	2023-11-24	
Wheat	25R29	Pioneer Hi-Bred Production	Interim			W120310DH-AF0, Y19A, 6035BR05-01,6PWGL11B	2023-08-11	2026-08-04
Wheat, Spelt	Comburger	Sollio Agriculture	Regional	PQ		FR220/12	2022-12-08	
Wheat, Spring	Audika	Céréla Inc.	Regional	PQ		CLB09-027, 002	2022-12-08	
Wheat, Spring	Basile	Céréla Inc.	Regional	PQ		CLB09-142, 048	2022-12-08	
Wheat, Spring	Kerson	Céréla Inc.	Regional	PQ		CLB09-024, 012	2022-12-08	
Wheat, Winter	AAC Overdrive	Agriculture & Agri-Food Canada	Regional	AB,SK, MB		W614	2022-12-08	
Wheat, Winter	Swoop	C&M Seeds	Regional	ON, PQ		CM18-004	2022-12-08	

AGRICULTURE CANADA 2023 VARIETY REQUEST FOR PROPOSALS

Agriculture and Agri-Food Canada (AAFC) would like to thank the companies that submitted proposals to commercialize pedigreed seed of AAFC varieties under the 2023 Request for Proposal. Based upon company profile, marketing and production strategy, financial offer and investment, our evaluation committee has selected the following proposals:

Variety	Company (Awarded License Rights)
BW1116 Canada Western Red Spring Wheat	FP Genetics Inc.
BW5089 Canada Western Red Spring Wheat	FP Genetics Inc.
BW5090 Canada Western Red Spring Wheat	SeCan Association
BW5095 Canada Western Red Spring Wheat	SeCan Association
DT2010 Canada Western Amber Durum Wheat	FP Genetics Inc.
ECSW237 Canada Eastern Other Wheat	Synagri S.E.C.
ECSW244 Canada Eastern Red Spring Wheat	Synagri S.E.C.
HB20144 Two-Row Hulless Food Barley	Tomtene Seed Farm
HY2129 Canada Prairie Spring Red Wheat	Nutrien Ag Solutions (Canada) Inc.
OA1675-1GS Oat	Synagri S.E.C.
PT4002 Canada Western Red Spring Wheat	SeCan Association
SWS496 Canada Western Soft White Spring Wheat	SeedNet Inc.

No proposals were received or accepted for the following lines. Those varieties marked with an asterisk will be offered again through the 2024 Results of Request for Proposals (RFP) process.

AAFC 21-2 Navy Bean
*HB21147 Two-Row Hulless Food Barley
HW409 Canada Western Hard White Spring Wheat
*HY2136 Canada Prairie Spring Red Wheat
LRC07-4495 Sainfoin
TR20273 Two-Row General Purpose Barley
SWS484 Canada Western Soft White Spring Wheat
*TR20269 Two-Row Malting Barley

APPENDIX OF VARIETIES

BW1116 Canada Western Red Spring Wheat

Developed at the Brandon Research and Development Centre in Manitoba, BW1116 is an awned, doubled haploid line derived from a cross of BW1052/AAC Viewfield. The line 16SB103*A0327 was tested in Central Bread Wheat Registration trials as BW1116 for three years (2020-2022). Three years (2020-2022) of testing on 29 site years, BW1116 was 16 percent higher than Carberry and 7 percent higher yielding than AAC Brandon. BW1116 matured similar to Carberry. BW1116 is semi-dwraf with height and lodging resistance similar to Carberry. BW1116 had test weight similar to AAC Brandon. The kernel weight was similar to AAC Viewfield. BW1116 had protein content 0.6 units lower than AAC Brandon. BW1116 expressed moderately resistant to resistant reaction to Fusarium head blight (FHB). Over three years of testing (2020-2022), BW1116 expressed resistant to moderately resistant reactions to FHB at Carman and Morden with average DON scores lower than all the checks. BW1116 was resistant to the prevalent races of leaf, stem and stripe rusts. BW1116 had moderately resistant to resistant reaction to common bunt. BW1116 is also resistant to wheat midge. BW1116 was deemed acceptable for the CWRS class based on end-use quality data over three years (2020-2022).

BW5089 Canada Western Red Spring Wheat

Developed at the Swift Current Research and Development Centre in Saskatchewan, BW5089 is a very strong strawed semidwarf line with high grain yield and high grain protein content derived from a cross of AAC Goodwin/AAC Brandon//BW981. BW5089 is proposed for the CWRS market classification. Averaged over 34 sites years of the WBWC (2020-2022), BW5089 was observed to yield 5 percent more than AAC Brandon with comparable protein. Kernel size of BW5089 is significantly larger than all checks indicating improved drought tolerance. Plant height and maturity of BW5089 is comparable to AAC Viewfield but resistance to lodging is improved. BW5089 has demonstrated consistently and desirably low FHB symptoms as well as low deoxynivalenol (DON) accumulation in the grain. BW5089 has resistance to all priority one diseases (FHB, leaf rust, stem rust, stripe rust, common bunt) as well as loose smut. End-use quality improvements have been noted for grain protein, flour protein, falling number, amylograph peak viscosity, milling yield, farinograph water absorption, baking water absorption and gluten extensibility. Based on the data generated for BW5089, it would be a major benefit to farmers across the prairies but especially in regions prone to FHB epidemics and to markets needing low DON grain. It would also be an excellent refuge for OWBM resistant CWRS varieties carrying the Sm1 gene.

BW5090 Canada Western Red Spring Wheat

Developed at the Swift Current Research and Development Centre in Saskatchewan, BW5090 is a very strong strawed semidwarf line with high grain yield derived from a cross of AAC Goodwin/AAC Brandon//BW981. BW5090 is proposed for the CWRS market classification. Averaged over 34 sites years of the WBWC (2020-2022), BW5090 was observed to yield six percent more than AAC Brandon with 0.3 units less grain protein. Kernel size of BW5090 is significantly larger than all checks indicating improved drought tolerance. Plant height and maturity of BW5090 is comparable to AAC Viewfield but resistance to lodging is improved. BW5090 has demonstrated consistently and desirably low FHB symptoms as well as low deoxynivalenol (DON) accumulation in the grain. BW5090 has resistance to all priority one diseases (FHB, leaf rust, stem rust, stripe rust, common bunt) as well as loose smut. End-use quality improvements have been noted for amylograph peak viscosity, milling yield, and farinograph water absorption. Based on the data generated for BW5090, it would be a major benefit to farmers across the prairies but especially in regions prone to FHB epidemics and to markets needing low DON grain. It would also be an excellent refuge for OWBM resistant CWRS varieties carrying the Sm1 gene.

BW5095 Canada Western Red Spring Wheat

Developed at the Swift Current Research and Development Centre in Saskatchewan, BW5095 is a very high grain yield doubled haploid line with resistance to Orange Wheat Blossom Midge (OWBM) derived from the cross AAC Goodwin/AAC Alida. BW5095 is proposed for the CWRS market classification. Grain yield of BW5095 averaged over 34 site years (WBWC 2020-2022) was nine percent higher than AAC Brandon. Kernel size of BW5095 is larger than all checks indicating improved drought tolerance. BW5095 is a strong strawed semidwarf with plant height, maturity and test weight comparable to AAC Brandon. BW5095 has resistance to all priority one diseases (FHB, leaf rust, stem rust, stripe rust, common bunt) as well as loose smut. BW5095 has improvements noted for falling number, amylograph peak viscosity, and clean flour yield. Based on the data generated for BW5095, it would be a major benefit to farmers in areas of the prairies wanting to grow a very high yield CWRS variety with short, strong straw and in regions prone to OWBM and stripe rust epidemics.

HB21147 Two-Row Hulless Food Barley

Developed at the Brandon Research and Development Centre in Manitoba, HB21147 is a two-row, colored (purple), hulless, food barley that has a good adaptability across western Canada. More than two years of testing in the Western Cooperative Hulless Barley Registration Test, it demonstrated good agronomic performance for a specialty barley (yield higher than CDC Fibar, high kernel weight and plumpness, and loose hull adherence) combined with high protein content (between CDC Rattan and CDC Fibar), high beta-glucan concentration (approaching CDC Rattan) and high anthocyanins content. HB21147 also demonstrated moderately resistance to surface smuts, loose smut, and FHB as well as intermediate resistance to net-form and spot-form net blotch and spot blotch. The combination of anthocyanin, protein, and beta-glucan content of this genotype renders it a specialty type for use in the food industry and for potential industrial processing.

HY2129 Canada Prairie Spring Red Wheat

Developed at the Lethbridge Research and Development Centre in Alberta, HY2129 is of semi-dwarf stature, with an awned spike and a hollow stem. Based on three years of evaluation in the High Yield Wheat Registration Trial (2020-2022), HY2129 yielded four percent higher than the highest yielding check, AAC Foray, 11 percent higher than AAC Penhold, and 24 percent higher than Carberry. Relative to the highest yielding check over 33 test sites, HY2129 was higher yielding in zones 2, 3 and 4. On average, HY2129 yielded 5427 kg/ha, as compared to 5376 kg/ha for AAC Foray. Over the three years of evaluation, HY2129 matured in 97.6 days as compared to 96.6 days of AAC Foray. HY2129 (71 cm) was 11 cm shorter than AAC Foray and had straw strength similar to AAC Penhold, with a lodging score of 2.7. The protein content of HY2129 was slightly lower than AAC Foray and the test weight of HY2129 (79.4 kg/hL) was higher than AAC Foray. The thousand kernel weight of HY2129 was 35.9 mg making it smaller in size than the CPS checks. HY2129 exhibited good levels of resistance to leaf rust, stripe rust, stem rust and common bunt but intermediate level of resistance to Fusarium head blight. HY2129 carries the Sm1 gene and is therefore midge tolerant.

HY2136 Canada Prairie Spring Red Wheat

Developed at the Swift Current Research and Development Centre in Saskatchewan, HY2136 is a very high grain yield line with short, strong straw and resistance to Orange Wheat Blossom Midge derived from a cross of AAC Penhold/CDC Titanium//G0801-DG*04. HY2136 is proposed for CPS red market classification. Grain yield of HY2136 averaged over 33 site years (HYWC 2020-2022) was 19 percent more than AAC Brandon and 11 percent more than AAC Foray. HY2136 has resistance to stripe rust, stem rust, leaf rust and common bunt as well as intermediate resistance to loose smut. The FHB response has been similar to AAC Foray and CDC Terrain. End-use quality improvements have been noted for amylograph peak viscosity and flour milling characteristics. Functionality of the gluten is stronger as desired for CPS red market classification. Based on the data generated for HY2136, it would be a benefit to farmers in the traditional CPS areas with high occurrence red production areas prone to OWBM infestations, and of stripe rust.

PT4002 Canada Western Red Spring Wheat

Developed at the Brandon Research and Development Centre in Manitoba, PT4002 is an awned, doubled haploid, hollow stemmed spring wheat derived from a cross of AAC Viewfield and AAC Magnet. Three years (2020-2022) of testing on 34 site years, PT4002 was six percent higher yielding than Carberry and yields similar to AAC Brandon. PT4002 matured two days earlier than Carberry. PT4002 had 0.6 percent units lower protein than Carberry. PT4002 is a semi-dwarf line 8 com shorter than Carberry and AAC Brandon. PT4002 has test weight similar to AAC Brandon. PT4002 has been rated MR-I to FHB over three years of testing at Morden and Carmen FHB inoculated testing nurseries. PT4002 reactions to other diseases are: leaf rust (R), stem rust (R), stripe rust (R), and common bunt (MR). PT4002 is susceptible to wheat midge. Quality suitable for CWRS class based on three years data (2020-2022).

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SWS496 Canada Western Soft White Spring Wheat

Developed at the Lethbridge Research and Development Centre in Alberta, SWS496 is of medium tall stature, with an awned spike and a hollow stem. Based on three years of evaluation in the Western Soft White Spring Wheat Registration trials (2020-2022), SWS496 yielded significantly higher than AC Andrew and Sadash. Over 29 test sites, SWS496 yielded four percent higher than AC Andrew and 12 percent higher than Sadash. On average, SWS496 yielded 6293 kg/ha, as compared to 6059 kg/ha for AC Andrew and 5633 kg/ha for Sadash. The grain yield of SWS496 was also significantly higher than AC Andrew (+5 percent) and Sadash (+13 percent) under dry land conditions. Over the three years of evaluation, SWS496 matured in 100.4 days, making it similar to AC Andrew. It was 0.9 cm taller than AC Andrew and 0.7 cm taller than Sadash. SWS496 had excellent straw strength, with a lodging score of 3.3, which is similar to AC Andrew. SWS496 had improved test weight (78.1 kg/hl) over AC Andrew (77.2 kg/hl). The kernel weight of SWS496 was 3.7 mg larger than AC Andrew. SWS496 exhibited good levels of resistance to both stripe and stem rusts and showed intermediate resistance to leaf rust. SWS496 had an intermediate to moderately susceptible reaction to Fusarium head blight which was improvement over the checks. Similar to other cultivars in the class, SWS496 was susceptible to common bunt. SWS496 was resistant to orange wheat blossom midge.

TR20269 Two-Row Malting Barley

Developed at the Brandon Research and Development Centre in Manitoba, TR20269 is a promising two-row hulled malting barley widely adapted to western Canada. It combines good grain yield potential (eight percent higher than CDC Copeland and similar to AAC Synergy) with early maturity and good standability, kernel weight higher than both malting checks, and test weight and kernel plumpness higher than CDC Copeland and similar to AAC Synergy. TR20269 has a good combination of disease resistance, including resistance to stem rust (carries the Rpg1 gene), loose smut and surface smuts, moderate resistance to net-form net blotch, intermediate resistance to spot-form net blotch, spot blotch and FHB. It has a good malting quality profile with higher diastatic power and alpha amylase and lower beta-glucan than the malting checks. Fine extract was similar to CDC Copeland, and soluble protein and FAN levels were similar to AAC Synergy. Overall TR20269 has a good combination of agronomic traits, disease resistance, and malting quality.

PROPOSED LIST OF VARIETY REGISTRATION CANCELLATIONS

The Canadian Food Inspection Agency in consultation with the Canadian Grain Commission has adopted a protocol for the cancellation of variety registrations upon request of the variety's Canadian representative and breeder.

Under this new, extended protocol, a three-year notification of cancellation period will apply to varieties of all crop kinds except hybrid canola and rapeseed. Hybrid canola and rapeseed will require a one-year notification period.

This timeline enables the Canadian representative and breeder to ensure that seed stocks of the variety have been cleared from the market and that growers have been duly notified, well in advance, in order to clear seed stocks in farmers' operations.

This will help farmers to plan for the future and minimize any financial risk to their businesses. Notifications will be posted August 1st in each calendar year and the notification period is from that date forward.

The CFIA and CGC are committed to communicating to farmers well before varieties are cancelled.

Standardizing the period of cancellation will help to prevent financial risk to farmers by avoiding the planting of varieties of field crops, which will no longer be registered for sale in Canada.

Variety registration cancellation for cause, such as non-compliance, fraud or loss of varietal integrity, is not part of this policy and remains an enforcement tool available to the registrar of the CFIA's Variety Registration Office.

The CFIA publishes the Proposed List of Variety Registration Cancellations with the date of cancellation.

The list is revised annually on Aug. 1, and released by the VRO. The CGC revises their Variety Designation Lists throughout the year as changes occur. Note that oilseed soy varieties have been omitted from this publication due to geographical relevance.

Crop Kind	Variety	Reg. #	Date Registered	Date Posted	Date of Cancellation
Spring Oat	Athabasca	1834	1978-04-14	2018-08-01	2021-08-01
Spring Oat	Cascade	1920	1979-04-09	2018-08-01	2021-08-01
Spring Oat	Manic	1942	1979-10-10	2018-08-01	2021-08-01
Spring Oat	Dumont	2250	1982-05-20	2018-08-01	2021-08-01
Spring Oat	Riel	2535	1985-05-10	2018-08-01	2021-08-01
Spring Oat	Marion	2544	1985-06-05	2018-08-01	2021-08-01
Spring Oat	Capital	2848	1987-06-03	2018-08-01	2021-08-01
Spring Oat	Condesa	3017	1988-12-09	2018-08-01	2021-08-01
Spring Oat	AC Stewart	3384	1991-03-05	2018-08-01	2021-08-01
Spring Oat	AC Hunter	3587	1992-04-21	2018-08-01	2021-08-01
Hulless Spring Oat	AC Belmont	3649	1992-08-14	2018-08-01	2021-08-01
Hulless Spring Oat	AC Baton	3963	1994-06-01	2018-08-01	2021-08-01
Spring Oat	AC Francis	4382	1996-08-09	2018-08-01	2021-08-01
Oilseed Flax	AC Watson	4441	1997-01-07	2018-08-01	2021-08-01
Perennial Ryegrass	Rosalin	4606	1997-06-12	2018-08-01	2021-08-01
Oilseed Flax	AC Carnduff	4713	1998-03-13	2018-08-01	2021-08-01
Spring Oat	Kaufmann	5373	2001-11-22	2018-08-01	2021-08-01
Yellow Field Pea	DS-Admiral	5166	2000-06-30	2019-08-01	2022-08-01

2023 INSURED COMMERCIAL ACRES

This report is prepared annually by the Canadian Grain Commission. Seeded area figures reflect insured commercial grain production only. Pedigreed seed production is excluded. Classification of varieties according to their class is based on the Canadian Grain Commission's lists of designated varieties. Variety names shown in this report were based on data keyed from different sources. The CGC has validated and corrected the data as much as possible using official sources. If discrepancies are found, please contact the Canadian Grain Commission. For further information, contact the CGC at 1-800-853-6705.

BY CROP TYPE:
TOTAL INSURED COMMERCIAL ACRES

ALL CROPS SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Canola	105,366	1	5,262,117	26	11,556,127	58	3,145,499	16	20,069,108	100
Wheat	88,431	1	5,685,711	34	7,689,773	46	3,097,068	19	16,560,983	100
Barley	40,536	1	2,770,073	52	2,171,547	41	369,773	7	5,351,929	100
Amber Durum			866,620	17	4,350,532	83	3,754		5,220,906	100
Lentils			399,037	13	2,675,609	87			3,074,646	100
Peas			1,058,125	41	1,340,248	53	154,656	6	2,553,029	100
Soybeans			300		37,493	2	1,477,397	98	1,515,190	100
Oats			245,971	24	461,693	45	312,288	31	1,019,952	100
Mustard			149,419	27	401,349	72	7,430	1	558,198	100
Corn			16,778	3	927		497,522	97	515,227	100
Flaxseed			38,789	11	272,762	80	28,046	8	339,597	100
Chickpeas			36,395	16	196,147	84			232,542	100
Canary Seed			1,337	1	178,022	97	3,311	2	182,670	100
Beans			50,728	29	1,972	1	123,726	70	176,426	100
Rye	56		27,271	22	13,203	11	85,088	68	125,618	100
Sunflower			3,234	4	1,049	1	85,767	95	90,050	100
Faba Beans			37,314	55	27,387	40	3,217	5	67,918	100
Triticale			27,526	56	18,617	38	3,082	6	49,225	100
Pea Beans	23,955	56					19,183	44	43,138	100
Buckwheat							7,274	100	7,274	100
Total	**258,344**		**16,676,745**		**31,394,457**		**9,424,081**		**57,753,626**	

WHEAT VARIETIES BY CLASS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

ALL WHEAT SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
CWRS	67,781		4,498,170	22	6,514,854	32	2,820,825	14	13,901,630	68
CWAD			857,851	4	3,823,359	19	3,449		4,684,659	23
CPS	11,513		679,581	3	176,409	1	52,548		920,051	4
CWSWS			226,395	1	132,010	1			358,405	2
CNHR	498		96,416		42,849		153,012	1	292,775	1
CWRW	1,941		94,101		18,549		57,066		171,657	1
CWSP	2,113		63,634		91,180		1,725		158,652	1
CWHWS			10,428		10,899				21,327	
CWES							2,490		2,490	
Total	**83,846**		**6,526,576**	**32**	**10,810,109**	**53**	**3,091,115**	**15**	**20,511,646**	**100**

WHEAT VARIETIES BY CLASS: INSURED COMMERCIAL ACRES, NON-DESIGNATED VARIETIES

ALL WHEAT SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
AAC Weyburn VB					27,954	2			27,954	2
CDC Succession CL PLUS			5,478						5,478	
OAC Amber					2,765				2,765	
Rorke SY					2,189				2,189	
PT5003			1,337						1,337	
Manness SY					1,308				1,308	
Pelissier					1,279				1,279	
SY Valda							620		620	
CDC Vantta			495						495	
CDC Flate			140						140	
Alotta			9						9	
SWS496			5						5	
Not Specified	4,586		18,291	1	1,194,701	94	9,087	1	1,226,665	97
Total	**4,586**		**25,755**	**2**	**1,230,196**	**97**	**9,707**	**1**	**1,270,244**	**100**

Sources: Saskatchewan Crop Insurance, Alberta Agricultural Financial Services Corp, Manitoba Agricultural Services Corporation, BC Crop Insurance.

NON-MALTING BARLEY: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

NON-MALT SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
CDC Austenson	7,999		413,127	15	400,179	14	137,448	5	958,753	35
Brahma	3,693		195,686	7	3,696				203,075	7
Esma	767		162,957	6	4,860		17,968	1	186,552	7
Oreana			125,904	5	20,215	1	926		147,045	5
Claymore			62,416	2	65,814	2	8,111		136,341	5
CDC Maverick	324		38,780	1	75,524	3	3,473		118,101	4
Altorado			93,567	3	23,233	1			116,800	4
Canmore			82,262	3	5,919		8,130		96,311	3
Conlon			51,651	2	4,741		38,386	1	94,778	3
Xena			69,388	3	3,455				72,843	3
Champion			56,117	2	13,135		1,106		70,358	3
AB Advantage	977		26,507	1	22,752	1	1,090		51,326	2
CDC Coalition			49,693	2					49,693	2
CDC Cowboy			22,161	1	20,692	1			42,853	2
AB Cattlelac			20,460	1	8,141		3,564		32,165	1
AB Prime			12,808						12,808	
Hague AB					12,766				12,766	
KWS Kellie			11,903						11,903	
AB Hague			11,446						11,446	
AB Wrangler	495		5,996		3,975				10,466	
Goldstar					9,120				9,120	
Ponoka			7,466						7,466	
LG Diablo			7,073						7,073	
Gadsby			6,551						6,551	
Richer							6,544		6,544	
Seebe			6,544						6,544	
Amisk			3,591		2,430				6,021	
CDC Thompson			6,007						6,007	
AB Tofield			5,606						5,606	
AC Rosser			2,237		3,062				5,299	
CDC Trey			3,737						3,737	
AB Standswell			3,442						3,442	
Sundre			2,379		869				3,248	
Excel					3,018				3,018	
Falcon			1,638				870		2,508	
CDC Renegade			1,280		697				1,977	
Alston			1,942						1,942	
AC Albright	1,517		287						1,804	
AC Lacombe			924				803		1,727	
AC Sirius					1,525				1,525	
CDC Stratus			1,449						1,449	
Stander			879						879	
Stockford					852				852	
Desperado			845						845	
CDC McGwire			79		754				833	
Chigwell			808						808	
CDC Dolly					798				798	
AC Ranger			185		521				706	
CDC Richard							505		505	
Otal	32		435						467	
CDC Select			425						425	
CDC Earl			425						425	
AB Maximizer			421						421	
CDC Helgason			371						371	
AC Bacon			320						320	
Condor			312						312	
AC Harper			290						290	
Vivar			262						262	
Busby			249						249	
CDC Bold			247						247	
CDC Aurora Nijo			185						185	
Trochu			162						162	
Bridge			160						160	
CDC Mindon			160						160	
AAC Lariat			148						148	
CDC Sisler			139						139	
Breton			135						135	
Yuma			115						115	
Muskwa			91						91	
Johnston			87						87	
Abee			75						75	
Rasmusson			75						75	
Bonanza			66						66	
CDC Durango			58						58	
Bedford			55						55	
Conrad			50						50	
CDC Tisdale			50						50	
Selkirk			50						50	
B1215			35						35	
Leduc			34						34	
Not Specified	1,075		6,949		214,748	8	12,918		235,690	8
Total	**16,879**	**1**	**1,590,414**	**57**	**927,491**	**33**	**241,842**	**9**	**2,776,626**	**100**

MALTING BARLEY:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

MALT BARLEY SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
AAC Synergy	4,417		303,879	12	482,657	19	42,627	2	833,580	32
CDC Copeland	4,199		262,935	10	303,086	12	7,958		578,178	22
AAC Connect	3,847		97,557	4	181,138	7	36,014	1	318,556	12
Sirish	5,472		297,609	12	8,726		2,151		313,958	12
CDC Fraser			33,527	1	123,466	5	7,465		164,458	6
AC Metcalfe	4,159		44,673	2	41,706	2	5,844		96,382	4
CDC Churchill			44,899	2	30,242	1	3,807		78,948	3
Legacy			7,830		40,333	2	739		48,902	2
CDC Copper	1,183		28,201	1	4,068		1,743		35,195	1
CDC Bow	380		14,555	1	6,586		742		22,263	1
Bill Coors 100			13,652	1	1,850				15,502	1
Cerveza			10,052		3,483		675		14,210	1
Newdale			3,103		4,907		5,903		13,913	1
Celebration					3,644		8,383		12,027	
Bentley			6,082		675				6,757	
AB Brewnet			5,159						5,159	
CDC Platinumstar					3,304				3,304	
Tradition							2,983		2,983	
Harrington			1,197		1,037				2,234	
CDC Kendall					2,182				2,182	
CDC Meredith			765		966				1,731	
CDC Anderson			1,143						1,143	
Robust			80				897		977	
Lowe			560						560	
Torbellino			505						505	
CDC Kindersley			367						367	
CDC Yorkton			310						310	
AAC Prairie			200						200	
Lacey			182						182	
CDC Battleford			182						182	
CDC Mayfair			160						160	
Merit 16			154						154	
Stellar-ND			141						141	
Total	**23,657**	**1**	**1,179,659**	**46**	**1,244,056**	**48**	**127,931**	**5**	**2,575,303**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CNHR WHEAT: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CNHR SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Faller			1,351		9,679	3	117,238	40	128,268	44
AC Foremost			82,647	28	809				83,456	29
Prosper							28,252	10	28,252	10
Harvest			235		8,766	3	1,512	1	10,513	4
Conquer					9,872	3			9,872	3
Oslo			6,995	2					6,995	2
Shelly							6,010	2	6,010	2
Unity					2,992	1			2,992	1
5605HR CL					2,879	1			2,879	1
AAC Redwater	498		1,743	1					2,241	1
Vesper					2,218	1			2,218	1
AC Eatonia			115		1,715	1			1,830	1
Lillian			588		1,051				1,639	1
AC Crystal					1,615	1			1,615	1
CDC Cordon CL Plus			1,220						1,220	
Muchmore			1,183						1,183	
Columbus			262		519				781	
AC Domain					734				734	
AC Taber			60						60	
Park			17						17	
Total	**498**		**96,416**	**33**	**42,849**	**15**	**153,012**	**52**	**292,775**	**100**

CWHWS WHEAT: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWHWS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	TOTAL. ACRES	%
AAC Cirrus	1,819	9	5,676	27	7,495	35
AAC Iceberg	4,242	20			4,242	20
AAC Whitefox	260	1	3,033	14	3,293	15
Snowbird	954	4	1,185	6	2,139	10
AAC Whitehead	2,015	9			2,015	9
Snowstar			1,005	5	1,005	5
Whitehawk	623	3			623	3
AAC Tomkins	515	2			515	2
Total	**10,428**	**49**	**10,899**	**51**	**21,327**	**100**

TRITICALE: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

TRITICALE SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Sunray	3,928	8	1,063	2			4,991	10
Tyndal	4,349	9	521	1			4,870	10
Pronghorn	2,802	6	1,717	3			4,519	9
Bunker	3,422	7	1,035	2			4,457	9
AAC Delight	3,290	7	1,021	2			4,311	9
Taza	758	2	2,040	4			2,798	6
Stampeder AB			1,643	3			1,643	3
Brevis	1,551	3					1,551	3
Surge	1,070	2					1,070	2
Gunner	1,066	2					1,066	2
AB Stampeder	789	2					789	2
Metzger	753	2					753	2
Banjo			723	1			723	1
Bumper	456	1					456	1
Gainer	450	1					450	1
Luoma	342	1					342	1
Pika	233						233	
AC Alta	163						163	
Bobcat	150						150	
AB Snowcat	150						150	
Flex 719	146						146	
AC Ultima	140						140	
Tadeus	110						110	
Not Specified	1,408	3	8,854	18	3,082	6	13,344	27
Total	**27,526**	**56**	**18,617**	**38**	**3,082**	**6**	**49,225**	**100**

RYE: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

RYE SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Hazlet			2,742	2	3,883	3	34,557	28	41,182	33
KWS Trebiano			691	1	4,807	4	13,130	10	18,628	15
KWS Serafino			10,731	9			3,656	3	14,387	11
KWS Receptor			1,118	1			6,389	5	7,507	6
KWS Bono			599				4,643	4	5,242	4
Danko							4,138	3	4,138	3
KWS Propower			3,967	3					3,967	3
Prima			487				3,408	3	3,895	3
KWS Gatano			100		523		2,199	2	2,822	2
KWS Daniello			1,097	1			1,386	1	2,483	2
AC Rifle			596				996	1	1,592	1
KWS Progas			1,303	1					1,303	1
Kodiak			960	1					960	1
Gazelle					551				551	
KWS Performer			550						550	
AC Remington			371						371	
Brasetto			312						312	
SU Cossani			292						292	
Musketeer			255						255	
KWS Aviator			250						250	
KWS Sandor			128						128	
Not Specified	56		722	1	3,439	3	10,586	8	14,803	12
Total	**56**		**27,271**	**22**	**13,203**	**11**	**85,088**	**68**	**125,618**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CWAD DURUM: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWAD SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Transcend	166,303	4	1,181,803	25	1,035		1,349,141	29
CDC Precision	52,651	1	613,957	13	1,201		667,809	14
AAC Stronghold	291,233	6	138,594	3			429,827	9
CDC Defy	7,642		348,647	7	1,213		357,502	8
CDC Alloy	42,737	1	251,998	5			294,735	6
Brigade	35,566	1	236,943	5			272,509	6
AAC Grainland	65,295	1	197,826	4			263,121	6
AAC Spitfire	24,282	1	223,815	5			248,097	5
Strongfield	60,767	1	77,993	2			138,760	3
AAC Congress	20,683		90,434	2			111,117	2
AAC Donlow	10,484		76,306	2			86,790	2
CDC Flare	12,440		56,912	1			69,352	1
CDC Fortitude	14,129		54,230	1			68,359	1
CDC Dynamic	855		49,744	1			50,599	1
AAC Succeed	8,119		40,515	1			48,634	1
CDC Verona	8,735		36,743	1			45,478	1
CDC Credence			35,620	1			35,620	1
AAC Goldnet	18,180		11,109				29,289	1
Commander			17,742				17,742	
AC Navigator			14,837				14,837	
AAC Raymore	10,513		3,237				13,750	
Kyle	653		9,673				10,326	
CDC Carbide			10,078				10,078	
AAC Current	644		9,368				10,012	
Eurostar			9,753				9,753	
AC Avonlea	1,537		7,785				9,322	
Enterprise	491		5,585				6,076	
CDC Desire			4,200				4,200	
AAC Schrader	2,113		1,693				3,806	
AAC Marchwell			3,547				3,547	
AAC Cabri			2,672				2,672	
CDC Vivid	1,374						1,374	
CDC Covert	355						355	
AAC Weyburn	70						70	
Total	**857,851**	**18**	**3,823,359**	**82**	**3,449**		**4,684,659**	**100**

Sources: Sask Crop Insurance, Alberta Ag Financial Services Corp., Manitoba Agricultural Services Corporation, BC Crop Insurance

2023 INSURED COMMERCIAL ACRES (CONTINUED)

BEANS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

BEANS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Vibrant			571	29	43,856	35	44,427	25
Windbreaker	214				29,679	24	29,893	17
Island	14,469	29					14,469	8
CDC Blackstrap			976	49	13,259	11	14,235	8
Eclipse					10,908	9	10,908	6
AAC Whitehorse	7,556	15					7,556	4
Black Tails					6,201	5	6,201	4
Resolute	5,488	11					5,488	3
AAC Y073	4,986	10					4,986	3
AAC Y012	4,807	9					4,807	3
SV6139GR	250				4,311	3	4,561	3
AC Black Diamond	3,004	6					3,004	2
Pink Panther					2,780	2	2,780	2
Crimson					2,779	2	2,779	2
AC Redbond	2,240	4					2,240	1
AAC Black Diamond 2	1,374	3					1,374	1
Hime	150				1,161	1	1,311	1
AAC Whitestar	889	2					889	1
Medicine Hat	841	2					841	
ND Palamino					809	1	809	
Cowboy					774	1	774	
AAC Tundra	732	1					732	
AAC Expedition	728	1					728	
AAC Y015	660	1					660	
Myasi	441	1					441	
Etna	365	1					365	
CDC Starburst	315	1					315	
Fiesta Pinto	205						205	
Not Specified	1,014	2	425	22	7,209	6	8,648	5
Total	**50,728**	**100**	**1,972**	**100**	**123,726**	**100**	**176,426**	**100**

FABABEANS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

FABABEANS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Snowbird	21,582	58	16,500	60			38,082	56
Fabelle	11,552	31	6,859	25			18,411	27
219-16	2,775	7					2,775	4
Navi			1,660	6			1,660	2
Allison					676	21	676	1
Victus	400	1					400	1
CDC Snowdrop	387	1					387	1
DL Nevado	133						133	
CDC Fatima	120						120	
CDC SSNS-1	54						54	
Not Specified	311	1	2,368	9	2,541	79	5,220	8
Total	**37,314**	**100**	**27,387**	**100**	**3,217**	**100**	**67,918**	**100**

CHICKPEAS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CHICKPEAS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	TOTAL ACRES	%
CDC Leader	1,170	3	102,385	52	103,555	45
CDC Orion	33,736	93	25,732	13	59,468	26
Amit (B 90)			12,964	7	12,964	6
CDC Lancer			11,618	6	11,618	5
CDC Consul			4,342	2	4,342	2
CDC Orkney			3,338	2	3,338	1
CDC Frontier			3,129	2	3,129	1
Pearl			3,080	2	3,080	1
CDC Pasqua			1,897	1	1,897	1
Myles			927		927	
CDC Palmer	464	1			464	
Not Specified	1,025	3	26,735	14	27,760	12
Total	**36,395**	**100**	**196,147**	**100**	**232,542**	**100**

CANARY SEED:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CANARY SEED SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Keet	590	44	45,230	25	1,618	49	47,438	26
Cantate			32,301	18			32,301	18
CDC Lumio	347	26	24,071	14			24,418	13
CDC Cibo			18,702	11			18,702	10
CDC Calvi	125	9	11,165	6			11,290	6
CDC Maria			2,394	1			2,394	1
CDC Togo			2,090	1			2,090	1
Elias			1,200	1	577	17	1,777	1
CDC Bastia	275	21	1,107	1			1,382	1
Not Specified			39,762	22	1,116	34	40,878	22
Total	**1,337**	**100**	**178,022**	**100**	**3,311**	**100**	**182,670**	**100**

MUSTARD:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

MUSTARD SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Andante	86,110	58	84,488	21	2,463	33	173,061	31
Centennial Brown	19,719	13	114,998	29			134,717	24
Cutlass	2,919	2	57,035	14			59,954	11
AAC Yellow 80	9,902	7	22,125	6	1,964	26	33,991	6
Forge	9,635	6	17,519	4			27,154	5
AAC Brown 18	773	1	19,586	5			20,359	4
AC Pennant	5,998	4	8,303	2			14,301	3
AAC Adagio	7,392	5	1,243				8,635	2
AAC Oriental 200	2,494	2					2,494	
AC Vulcan			972				972	
Tilney	130						130	
AC Base	120						120	
Not Specified	4,227	3	75,080	19	3,003	40	82,310	15
Total	**149,419**	**100**	**401,349**	**100**	**7,430**	**100**	**558,198**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CRWS WHEAT:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CRWS SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
AAC Brandon	9,287		1,310,442	9	1,595,135	11	1,060,358	8	3,975,222	29
AAC Viewfield	12,225		794,797	6	789,474	6	196,086	1	1,792,582	13
AAC Wheatland			628,224	5	822,037	6	328,943	2	1,779,204	13
AAC Starbuck			45,902		1,025,016	7	611,198	4	1,682,116	12
CDC Landmark	1,275		63,518		446,749	3	17,837		529,379	4
AAC Elie	3,284		331,584	2	115,280	1	54,399		504,547	4
AAC Redberry	4,190		214,161	2	171,083	1	87,311	1	476,745	3
AAC Hockley			79,452	1	76,314	1	140,628	1	296,394	2
AAC Leroy			51,925		182,650	1	46,780		281,355	2
AAC Alida			5,409		237,131	2			242,540	2
AAC Hodge	1,645		33,954		134,495	1	70,898	1	240,992	2
CDC Go	7,691		126,370	1	6,603		2,273		142,937	1
Stettler	1,352		125,055	1	8,126				134,533	1
CDC Hughes			30,229		97,543	1	4,133		131,905	1
Carberry			35,069		76,439	1	6,573		118,081	1
CDC Plentiful			35,388		79,443	1	2,646		117,477	1
CDC Abound	1,535		105,261	1	7,170				113,966	1
Cardale			4,118		79,210	1	25,359		108,687	1
AAC Cameron			227		90,670	1	1,650		92,547	1
CDC Utmost			40,167		37,310				77,477	1
Bolles			5,888		11,716		55,416		73,020	1
AAC Tisdale	7,533		7,018		36,647		10,289		61,487	
CDC Stanley			30,608		24,395		2,449		57,452	
CDC Titanium	346		8,977		48,033				57,356	
AAC Broadacres			19,616		30,408		6,175		56,199	
CDC Ortona			32,758		17,517		1,460		51,735	
Glenn			9,297		30,553		7,434		47,284	
AAC Russell			11,012		34,461				45,473	
SY Cast			21,660		5,025		9,611		36,296	
CDC Silas			23,196		12,205				35,401	
AAC Connery	1,765		24,181		7,594				33,540	
SY Gabbro			17,391		6,513		7,467		31,371	
Parata	2,468		23,949		3,874				30,291	
Shaw			12,982		15,034				28,016	
Thorsby			25,546						25,546	
AAC Redstar	2,049		21,397				1,699		25,145	
CDC Adamant			15,899		8,925				24,824	
AC Barrie			2,804		14,153		6,946		23,903	
CDC Pilar CL Plus			19,791		3,961				23,752	
AAC Jatharia					23,331				23,331	
SY Torach			1,575		11,157		10,425		23,157	
SY Manness			739				20,035		20,774	
Jake	7,921		10,209						18,130	
CDC Skrush			9,468		5,882		1,099		16,449	
AAC Magnet	1,265		4,367		6,708		2,089		14,429	
Daybreak							13,949		13,949	
CDC VR Morris			644		8,833		3,497		12,974	
AC Intrepid	1,950		6,028		3,922				11,900	
CDC Succession CL Plus					11,832				11,832	
Go Early			11,265						11,265	
Ellerslie			8,672		910				9,582	
Superb			6,486		3,084				9,570	
Waskada			102		9,052				9,154	
CDC Imagine			3,698		5,151				8,849	
AC Splendor			6,383		1,547				7,930	
CDC Bradwell			248		7,496				7,744	
Goodeve			416		7,182				7,598	
5604HR CL			1,325		3,540		2,032		6,897	
AC Cadillac			3,798		1,387				5,185	
CDC Teal			2,531				1,681		4,212	
Rednet			3,295		508				3,803	
AC Elsa			1,625		1,842				3,467	
Tracker			3,376						3,376	
AAC Bailey			2,978						2,978	
AAC Prevail			150		2,773				2,923	
SY Brawn			148		2,483				2,631	
SY Crossite			2,610						2,610	
SY Obsidian			2,517						2,517	
WR859 CL					2,464				2,464	
Roblin			1,823						1,823	
AAC Warman			932		850				1,782	
CDC Bounty			1,062		702				1,764	
Laura			599		993				1,592	
SY Sovite					1,482				1,482	
CDC Alsask			1,387						1,387	
Prodigy			306		851				1,157	
Zealand			615						615	
5602HR			466						466	
Journey			442						442	
Sheba			384						384	
5600HR			127						127	
CDC Kernen			105						105	
SY Donald			47						47	
Total	**67,781**		**4,498,170**	**32**	**6,514,854**	**47**	**2,820,825**	**20**	**13,901,630**	**100**

CPSR WHEAT:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CPSR SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
AAC Penhold	2,992		394,782	43	78,140	9	10,281	1	486,195	53
Accelerate	201		70,941	8	39,196	4	35,243	4	145,581	16
AAC Goodwin			82,875	9					82,875	9
5700PR	5,852	1	40,805	4	6,166	1			52,823	6
AAC Foray	1,993		9,548	1	38,990	4			50,531	5
CDC Reign			23,647	3	2,816				26,463	3
SY Rowyn			2,741		11,101	1	7,024	1	20,866	2
Forefront			17,921	2					17,921	2
AAC Crossfield			10,353	1					10,353	1
AAC Entice	475		7,560	1					8,035	1
AAC Ryley			6,873	1					6,873	1
SY Rorke			5,192	1					5,192	1
CDC Terrain			3,270						3,270	
SY985			1,374						1,374	
5701PR			679						679	
AAC Perform			364						364	
AAC Westlock			235						235	
Enchant			150						150	
AAC Rimbey			46						46	
Total	**11,513**	**1**	**679,356**	**74**	**176,409**	**19**	**52,548**	**6**	**919,826**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

LENTILS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

LENTILS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	TOTAL ACRES	%
CDC Maxim	100,688	25	491,496	18	592,184	19
CDC Impulse	71,168	18	383,613	14	454,781	15
CDC Proclaim	84,700	21	331,895	12	416,595	14
CDC Greenstar	28,085	7	219,124	8	247,209	8
CDC Lima	44,931	11	141,632	5	186,563	6
CDC Imvincible			156,973	6	156,973	5
CDC Simmie	19,961	5	124,694	5	144,655	5
CDC Greenland	800		119,681	4	120,481	4
Nimble			83,410	3	83,410	3
CDC Dazil	8,966	2	70,386	3	79,352	3
Redmoon			52,756	2	52,756	2
CDC Kermit			40,526	2	40,526	1
CDC Impower	5,881	1	27,585	1	33,466	1
Eston	636		20,556	1	21,192	1
CDC Peridot CL			20,014	1	20,014	1
CDC Viceroy			16,917	1	16,917	1
Laird	2,235	1	12,194		14,429	
CDC Improve	8,112	2	6,139		14,251	
CDC Marble	5,113	1	8,598		13,711	
CDC Impact	2,189	1	10,408		12,597	
Crimson	580		10,332		10,912	
CDC Imax	3,125	1	5,571		8,696	
CDC Impress			6,733		6,733	
Beluga			4,766		4,766	
CDC Redberry	1,672		2,748		4,420	
CDC Nimble	3,679	1			3,679	
CDC Grimm			2,575		2,575	
IBC 479 CL			2,470		2,470	
CDC Jimini CL			2,440		2,440	
CDC Impala	1,562		815		2,377	
CDC Imperial			2,366		2,366	
CDC SB-4			2,306		2,306	
CDC Iberina			1,645		1,645	
CDC Glamis			1,262		1,262	
CDC Richlea	312		860		1,172	
CDC Red Rider	937				937	
CDC Redwing			889		889	
CDC Rouleau			885		885	
CDC KR-2	350		453		803	
CDC Redmoon	569				569	
CDC Blaze			560		560	
Indianhead			472		472	
CDC Peridot	318				318	
CDC Lemay	300				300	
CDC Redcliff	135				135	
CDC 6956-6	40				40	
Not Specified	1,993	1	286,864	11	288,857	9
Total	**399,037**	**100**	**2,675,609**	**100**	**3,074,646**	**100**

OATS:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWAD SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
CS Camden	23,353	2	108,054	11	69,281	7	200,688	20
AC Morgan	118,994	12	49,881	5	2,780		171,655	17
CDC Arborg	19,401	2	85,592	8	22,947	2	127,940	13
Summit			25,499	3	97,885	10	123,384	12
CDC Endure	3,347		25,161	2	37,277	4	65,785	6
CDC Haymaker	9,369	1	14,699	1	5,232	1	29,300	3
CDC So-I	9,853	1	11,452	1	4,303		25,608	3
ORe3542M	6,753	1	4,277		11,475	1	22,505	2
Triactor			19,541	2			19,541	2
AC Mustang	14,097	1	2,342				16,439	2
AAC Douglas	295				14,839	1	15,134	1
CDC Nasser	9,641	1	5,189	1			14,830	1
Derby	10,233	1	2,701				12,934	1
Douglas					11,729	1	11,729	1
CDC Baler	5,567	1	3,381		1,853		10,801	1
Souris	188		2,972		7,268	1	10,428	1
CDC Ruffian	142		10,003	1			10,145	1
CDC Dancer	348		7,587	1			7,935	1
CDC Morrison	185		5,098	1	1,310		6,593	1
ORe3541M	584		668		3,927		5,179	1
Pinnacle			3,529		654		4,183	
Leggett			2,105		1,594		3,699	
CDC Minstrel	907		2,395				3,302	
Waldern	3,247						3,247	
CDC Orrin	125		2,598				2,723	
Calibre	1,735		828				2,563	
Grizzly	1,277						1,277	
CDC Boyer	127		1,120				1,247	
Triple Crown					1,163		1,163	
Cascade	1,108						1,108	
SW Betania			1,082				1,082	
Furlong	37				1,030		1,067	
AC Juniper	986						986	
Haywire					671		671	
CDC Big Brown	70		527				597	
Victory	526						526	
CDC Norseman	457						457	
AC Murphy	421						421	
Nelson	290						290	
ORe Level48	270						270	
Lu	251						251	
Foothill	144						144	
CDC Seabiscuit	143						143	
7600m	104						104	
AAC Wesley	103						103	
AC Assiniboia	80						80	
CDC Anson	69						69	
Jasper	60						60	
ORe6251M	55						55	
Gehl	10						10	
OT6037	4						4	
OT6036	2						2	
Not Specified	1,013		63,412	6	15,070	1	79,495	8
Total	**245,971**	**24**	**461,693**	**45**	**312,288**	**31**	**1,019,952**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

PEAS: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

PEAS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
CDC Meadow	378,875	36	255,212	19	3,743	2	637,830	25
AAC Carver	229,561	22	131,220	10	33,840	22	394,621	15
AAC Chrome	77,144	7	80,356	6	48,986	32	206,486	8
CDC Inca	30,866	3	115,591	9	4,195	3	150,652	6
CDC Spectrum	39,538	4	94,921	7			134,459	5
AAC Ardill	51,899	5	67,930	5			119,829	5
CDC Amarillo	23,663	2	76,442	6	2,746	2	102,851	4
CDC Lewochko	23,923	2	36,258	3	30,091	19	90,272	4
CDC Saffron	41,264	4	17,928	1			59,192	2
CDC Forest	9,753	1	35,453	3			45,206	2
CDC Canary	29,667	3	15,107	1			44,774	2
AAC Profit	12,747	1	22,831	2	6,778	4	42,356	2
CDC Limerick	15,036	1	18,947	1			33,983	1
CDC Mosaic	2,051		27,461	2			29,512	1
CDC Golden	2,266		24,460	2			26,726	1
CDC Raezer	6,863	1	17,383	1			24,246	1
CDC Spruce	3,243		14,483	1			17,726	1
CDC Blazer	3,744		10,930	1			14,674	1
AAC Aberdeen	6,137	1	5,867		2,335	2	14,339	1
CDC Greenwater	446		13,083	1			13,529	1
CDC Striker	7,186	1	5,691				12,877	1
AAC Lacombe	9,001	1	2,623		1,030	1	12,654	1
Abarth	1,104		5,682		5,342	3	12,128	
LN4228	9,695	1					9,695	
CDC Acer	2,953		5,567				8,520	
AAC Delhi	3,140				3,949	3	7,089	
Thunderbird	6,813	1					6,813	
Eclipse	160		5,995				6,155	
DS-Admiral			4,724				4,724	
CDC Treasure	1,507		2,725				4,232	
AAC Barrhead	3,865						3,865	
Croma	140		2,641		944	1	3,725	
Profi	539		2,859				3,398	
CDC Patrick	218		3,134				3,352	
Magda					3,269	2	3,269	
CDC Bronco			2,928				2,928	
Yellowhead			2,903				2,903	
CDC Tollefson			2,687				2,687	
Banner	2,195						2,195	
AAC Liscard	1,970						1,970	
CDC Hornet	307		1,452				1,759	
Delta			1,707				1,707	
Livioletta					1,323	1	1,323	
4010			1,255				1,255	
CDC Sage			1,197				1,197	
SW Midas	1,193						1,193	
Carneval	539		585				1,124	
AAC Julius	1,026						1,026	
CDC Mozart			1,022				1,022	
Midori			965				965	
Espace			942				942	
OCT-40	934						934	
Garde	906						906	
Agassiz	405		494				899	
CDC Dakota	865						865	
CDC Prosper			715				715	
Crown			710				710	
Majoret			570				570	
AAC Beyond	564						564	
CDC Hickie	552						552	
CDC Leroy	480						480	
CDC Minuet	355						355	
CDC Horizon	280						280	
AAC Comfort	263						263	
Madoc	263						263	
AAC Peace River	192						192	
Pearl	180						180	
AAC Olive	148						148	
Miami	141						141	
Olivin	140						140	
CDC Tetris	132						132	
DL Lacross	80						80	
AAC Planet	72						72	
Carrera	67						67	
CS Prostar	66						66	
CDC 5791-9	30						30	
Trapper	23						23	
CPB Concorde	20						20	
Not Specified	8,730	1	196,612	15	6,085	4	211,427	8
Total	**1,058,125**	**100**	**1,340,248**	**100**	**154,656**	**100**	**2,553,029**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

SOYBEANS: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

SOYBEANS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
S007-Y4			3,383	9	104,650	7	108,033	7
P006A37X					107,002	7	107,002	7
S003-R5X					84,224	6	84,224	6
S007-A2XS					83,427	6	83,427	6
S001-D8X			4,010	11	77,279	5	81,289	5
DKB006-80					76,589	5	76,589	5
NSC Holland RR2X					51,627	3	51,627	3
DKB002-32			5,678	15	41,750	3	47,428	3
P001A48X					37,266	3	37,266	2
S0009-M2			842	2	30,998	2	31,840	2
NSC Winkler RR2X					29,901	2	29,901	2
TH 87003 R2X					28,898	2	28,898	2
B0041RX					27,051	2	27,051	2
P003A97X RR2X					26,332	2	26,332	2
SI 007XTN					25,239	2	25,239	2
NSC Warren RR			8,089	22	16,348	1	24,437	2
DKB005-52					21,474	1	21,474	1
P00A49X					20,861	1	20,861	1
DKB008-48					19,210	1	19,210	1
SI 001XTN					18,836	1	18,836	1
DKB006-29					18,445	1	18,445	1
Akras R2			1,606	4	14,812	1	16,418	1
PV 22S002 R2X			1,622	4	14,269	1	15,891	1
LS 0036RR					15,731	1	15,731	1
S003-Z4X					15,647	1	15,647	1
TH 81007 R2XN					15,068	1	15,068	1
NSC Sperling RR2X					14,122	1	14,122	1
Young R2X					13,918	1	13,918	1
SI 00321XT					13,651	1	13,651	1
NSC Arden RR2X					13,517	1	13,517	1
Bourke R2X					13,092	1	13,092	1
TH82005 R2X					12,885	1	12,885	1
DKB0008-87 RR2X					12,820	1	12,820	1
P005A83X					12,758	1	12,758	1
Merino R2X					11,430	1	11,430	1
Sunna R2X					11,273	1	11,273	1
B0012RX					11,188	1	11,188	1
P005A59E	300	100	1,152	3	9,597	1	11,049	1
PS 0027 RR					11,027	1	11,027	1
Liska			650	2	10,016	1	10,666	1
Kudo R2X					10,251	1	10,251	1
NSC Dauphin RR2X					9,863	1	9,863	1
Mao R2X					9,706	1	9,706	1
TH 88007 R2X					9,622	1	9,622	1
CP005WPRX					8,189	1	8,189	1
DKB008-81					8,092	1	8,092	1
P005A27X					8,074	1	8,074	1
PV 16S004 R2X					7,769	1	7,769	1
SI 00421XT					7,598	1	7,598	1
Mako R2X					6,234		6,234	
Amirani R2					6,053		6,053	
S005-C9X					5,492		5,492	
TH 89004 R2X					5,251		5,251	
P00A75X					4,876		4,876	
OAC Prudence					4,276		4,276	
S0009-F2X					3,744		3,744	
Hart R2X					3,705		3,705	
PV 25S005 R2X					3,601		3,601	

SOYBEANS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
DKB0009-89					3,384		3,384	
SI 00221XTN					3,068		3,068	
Mikado R2X					3,021		3,021	
CP000621WPX					2,849		2,849	
Siberia					2,817		2,817	
Hana					2,765		2,765	
Badger R2X					2,746		2,746	
S0007-S1X					2,531		2,531	
Mahony R2			701	2	1,759		2,460	
DKB006-99					2,325		2,325	
P002A42E					2,294		2,294	
Astro R2					2,218		2,218	
Barker R2X					2,214		2,214	
TH 82005 R2X					2,152		2,152	
Maya					2,110		2,110	
Elmo E3					1,988		1,988	
BY Rainier XT					1,900		1,900	
NSC Cartier					1,853		1,853	
DKB 0008-87					1,832		1,832	
TH 87000 R2X					1,737		1,737	
XB0006A17X					1,707		1,707	
PV 26S007 R2X					1,648		1,648	
S001-B1					1,642		1,642	
Briggs R2X					1,585		1,585	
DKB0008-87			1,554	4			1,554	
PV 28S001R2X					1,536		1,536	
DKB00-99					1,526		1,526	
CP00121WPX					1,520		1,520	
TH83004X					1,511		1,511	
RX ACRON					1,439		1,439	
Fresco R2X					1,408		1,408	
P006T78R					1,394		1,394	
CP000521X					1,315		1,315	
LS 001XT					1,248		1,248	
Major R2X					1,220		1,220	
PV 12S007 RX2					1,120		1,120	
S006-K3X					1,114		1,114	
NSC Coulee RR					1,060		1,060	
Holland NSC RR2X			1,043	3			1,043	
Merritt R2X					1,028		1,028	
BY Rundle XT					1,015		1,015	
P9007					970		970	
P002A63R					965		965	
B0040L1					965		965	
AAC Edward					953		953	
DKB001-07					952		952	
GS1001					900		900	
NSC Gladstone RR2Y					848		848	
B00071RX					827		827	
P9004					823		823	
PV S004XF13					797		797	
LS 0028RR					794		794	
P000A24E					786		786	
McLeod R2					775		775	
TH82008XF					757		757	
Rico R2X					755		755	
Stanley					747		747	
P9008					735		735	

2023 INSURED COMMERCIAL ACRES (CONTINUED)

SOYBEANS: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

SOYBEANS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Kebek					719		719	
S0007B-7X					676		676	
NSC Anola RR2Y			669	2			669	
Accord					652		652	
PV 20S0006R2X			629	2			629	
DKB003-29 RR2X					622		622	
DKB007-67					606		606	
B0066L1					589		589	
NSC Watson RR2Y					575		575	
Jago					562		562	
Foote R2					554		554	
Torro R2					550		550	
LS 0057RR					535		535	
ROSSER					529		529	
P007A68E					520		520	
S00-W3			510	1			510	
Not Specified			5,355	14	65,136	4	70,491	5
Total	**300**	**100**	**37,493**	**100**	**1,477,397**	**100**	**1,515,190**	**100**

CWSP WHEAT: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWSP SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Pasteur			19,399	12	53,764	34	1,725	1	74,888	47
AAC Awesome	1,162	1	29,102	18	20,818	13			51,082	32
Sparrow			4,284	3	12,376	8			16,660	11
Alderon			6,783	4					6,783	4
Pintail	951	1	2,932	2					3,883	2
WPB Whistler					2,760	2			2,760	2
AAC Innova			624		1,462	1			2,086	1
NRG010			435						435	
Peregrine			75						75	
Total	**2,113**	**1**	**63,634**	**40**	**91,180**	**57**	**1,725**	**1**	**158,652**	**100**

CWES WHEAT: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWES SEEDED AREA	MAN. ACRES	%	TOTAL ACRES	%
CDN Bison	2,490	100	2,490	100
Total	**2,490**	**100**	**2,490**	**100**

FLAX: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

FLAX SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
CDC Glas	12,806	33	85,888	31	8,195	29	106,889	31
CDC Rowland	9,185	24	37,817	14	9,029	32	56,031	17
CDC Sorrel	5,130	13	31,095	11	1,920	7	38,145	11
CDC Bethune	1,468	4	21,256	8	1,068	4	23,792	7
AAC Bravo	1,003	3	6,848	3	2,742	10	10,593	3
CDC Neela	1,255	3	7,718	3	1,086	4	10,059	3
CDC Sanctuary	882	2	5,811	2			6,693	2
CDC Dorado	2,142	6	3,560	1			5,702	2
Omega	75		5,434	2			5,509	2
Topaz			5,353	2			5,353	2
AAC Marvelous	722	2	3,036	1	1,522	5	5,280	2
Westlin 72			4,571	2	688	2	5,259	2
VT50	400	1	4,666	2			5,066	1
CDC Plava	1,151	3	1,930	1			3,081	1
Westlin 60	1,085	3	1,317				2,402	1
Westlin 71			2,341	1			2,341	1
AAC Bright			2,237	1			2,237	1
Vimy			2,105	1			2,105	1
Prairie Sapphire	508	1	640				1,148	
CDC Buryu			958				958	
Hanley	260	1					260	
CDC Gold	225	1					225	
Mcgregor	193	1					193	
Norlin	90						90	
Prairie Grande	85						85	
CDC Kernen	54						54	
Not Specified	70		38,181	14	1,796	6	40,047	12
Total	**38,789**	**100**	**272,762**	**100**	**28,046**	**100**	**339,597**	**100**

CWSWS WHEAT: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWSWS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	TOTAL. ACRES	%
Sadash	124,582	35	61,540	17	186,122	52
AC Andrew	31,256	9	56,033	16	87,289	24
AAC Paramount	35,502	10	14,437	4	49,939	14
AC Chiffon	27,429	8			27,429	8
AC Indus	7,200	2			7,200	2
AC Nanda	336				336	
Bhishaj	90				90	
Total	**226,395**	**63**	**132,010**	**37**	**358,405**	**100**

SUNFLOWERS: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

SUNFLOWERS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
P63ME80					15,761	18	15,761	18
6946	1,084	34			14,368	17	15,452	17
P63HE60					12,565	15	12,565	14
P63HE501					12,409	14	12,409	14
N4HM354	620	19			10,293	12	10,913	12
CP455E					4,895	6	4,895	5
CP432E					3,769	4	3,769	4
P63M80					3,130	4	3,130	3

SUNFLOWERS SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
Talon			619	59	2,434	3	3,053	3
Panther DMR					2,685	3	2,685	3
63A21	1,163	36					1,163	1
N4H302 E					1,000	1	1,000	1
P63ME70					606	1	606	1
Panther	367	11					367	
Not Specified			430	41	1,852	2	2,282	3
Total	**3,234**	**100**	**1,049**	**100**	**85,767**	**100**	**90,050**	**100**

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CANOLA: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CANOLA SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
L340PC	2,277	2	601,638	11	2,609,112	23	921,908	29	4,134,935	21
L233P	15,571	15	207,239	4	1,308,384	11	416,330	13	1,947,524	10
L345PC	4,258	4	341,733	6	796,112	7	102,087	3	1,244,190	6
L356PC			145,814	3	704,441	6	367,788	12	1,218,043	6
L343PC	1,243	1	460,231	9	251,198	2	43,497	1	756,169	4
L350PC					432,550	4	156,129	5	588,679	3
L359HPC			37,651	1	326,795	3	18,940	1	383,386	2
L258HPC			53,340	1	213,352	2	85,003	3	351,695	2
45CM39			119,765	2	182,123	2	34,802	1	336,690	2
P505MSL	3,432	3	100,671	2	153,862	1	69,936	2	327,901	2
L357P			20,714		187,900	2	100,718	3	309,332	2
DKLL 83 SC			53,046	1	129,686	1	123,423	4	306,155	2
DK900TF			123,036	2	115,144	1	42,410	1	280,590	1
CS4000 LL	1,934	2	98,355	2	136,697	1	24,858	1	261,844	1
DK902TF			179,779	3	62,120	1	5,908		247,807	1
DKTF98 CR			176,083	3	25,432		1,532		203,047	1
DKTF 99 SC	692	1	38,364	1	129,158	1	27,869	1	196,083	1
DKTFLL 22 CRSC	1,651	2	144,260	3	33,071		16,348	1	195,330	1
PV 781 TCM	1,472	1	108,384	2	78,685	1	6,350		194,891	1
B3010M	2,350	2	153,648	3	26,618		6,519		189,135	1
P506ML	7,143	7	76,675	1	91,324	1	11,391		186,533	1
DK901TF			151,448	3	18,655		8,551		178,654	1
L255 PC			40,747	1	78,106	1	49,664	2	168,517	1
1028 RR			35,747	1	90,554	1	40,190	1	166,491	1
L234PC	1,400	1	88,642	2	50,635		20,778	1	161,455	1
CS2600 CR-T	5,222	5	123,931	2	26,165		603		155,921	1
P612L			84,873	2	57,202		10,577		152,652	1
DKLL 82 SC	1,122	1	37,600	1	74,410	1	31,965	1	145,097	1
45H42			50,650	1	85,766	1	3,466		139,882	1
PV 681 LC	2,206	2	80,165	2	55,415		659		138,445	1
44H44	5,030	5	95,069	2	26,963		2,391		129,453	1
PV 761 TM	1,323	1	13,976		99,881	1	12,107		127,287	1
DKLL 84 CRSC			33,072	1	58,772	1	20,153	1	111,997	1
BY 6211 TF			1,239		92,314	1	11,004		104,557	1
BY 6217TF			45,891	1	40,393		17,442	1	103,726	1
CS3000 TF			71,450	1	26,390		3,260		101,100	1
P516L			48,105	1	45,944		3,986		98,035	
45M35			26,769	1	67,966	1	1,060		95,795	
V25-3T			32,985	1	53,222		2,326		88,533	
DKTF 96 SC			21,882		41,457		20,220	1	83,559	
BY 6204 TF	1,358	1	27,309	1	49,422		3,473		81,562	
LR354PC					60,055	1	19,072	1	79,127	
45CS40	930	1	50,522	1	25,027		1,104		77,583	
P508MCL			1,799		38,245		34,444	1	74,488	
L350PC LL			73,635	1					73,635	
V25-5T			27,031	1	42,906		3,060		72,997	
P501L			24,422		40,513		5,131		70,066	
P509L			36,915	1	30,207		1,847		68,969	
DKTFLL 21 SC	1,650	2	19,429		39,598		8,103		68,780	
B3017N			20,123		30,520		18,025	1	68,668	
B3012			14,219		31,854		19,166	1	65,239	
PV 680 LC			33,927	1	28,188		2,905		65,020	
BY 6207 TF			37,320	1	22,683		2,147		62,150	
PV 660 LCM			16,459		38,076		6,444		60,979	
L241C			52,182	1	6,473		568		59,223	
B1030N			9,035		25,618		21,006	1	55,659	
DKTF 97 CRSC			38,754	1	10,633		5,128		54,515	
PV 280 CLC			3,673		31,687		17,342	1	52,702	
Evolve			13,717		31,896		2,311		47,924	

CANOLA SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
PV 760 TM	4,345	4	21,707		13,914		6,467		46,433	
BY 5125 CL			3,366		35,063		6,630		45,059	
P514CL	1,808	2	7,199		27,979		7,690		44,676	
P511G	1,398	1	29,480	1	10,231		3,001		44,110	
PV 780 TC			31,993	1	9,252		2,657		43,902	
D3158CM			9,432		32,685				42,117	
P515G	260		9,017		28,702		3,886		41,865	
V1030			2,322		34,591				36,913	
B3014			11,729		24,501				36,230	
CS3100 TF			15,511		11,375		8,215		35,101	
LR354PC LL RR			34,868	1					34,868	
6074 RR			1,613		30,977		1,573		34,163	
CS2300			2,870		28,090		3,026		33,986	
BY 6214TF			14,757		8,268		699		23,724	
B4015			21,491				2,090		23,581	
PV 661 LCM			17,861				4,857		22,718	
L140P			1,100		20,224		1,305		22,629	
B2030MN			3,704		7,590		10,740		22,034	
CS2100			6,491		11,845		735		19,071	
NC527CRTF			11,012		6,086				17,098	
DKTF 93 SC	1,789	2	8,952		5,370		910		17,021	
CP22T1C			11,102		5,206				16,308	
PV661 LCM					15,530				15,530	
V25-6T			1,017		14,223				15,240	
L230	85		1,380		11,211		2,423		15,099	
3010 M					15,039				15,039	
CP21T3P			1,490		7,304		5,769		14,563	
L252			1,027		12,336		1,057		14,420	
PV 585 GC			13,337						13,337	
P510SG			13,187						13,187	
45H37	2,061	2	9,044		2,039				13,144	
BY 7102LL			4,073		6,310		1,300		11,683	
CP21L3C			1,646		5,754		3,755		11,155	
B3011			9,872		1,079				10,951	
D3157C			3,586		7,070				10,656	
CS2700 CL	2,645	3	2,000		4,249		1,361		10,255	
LR344PC			1,818		6,334		1,110		9,262	
LBD612RR					8,908				8,908	
DKTF 95 HL			1,370		5,574		1,869		8,813	
L130			270		7,494		790		8,554	
CP20R3C			6,710		1,738				8,448	
B3016			7,527						7,527	
3156M D					7,391				7,391	
PV 540 G			540		5,442		1,357		7,339	
PV 881 OCM			7,332						7,332	
6090 RR			3,935		2,961				6,896	
P510G	496				6,045				6,541	
V25-1T			1,894		4,514				6,408	
PV 200 CL			1,526		3,390		1,416		6,332	
505 Hyola RR					6,197				6,197	
L352C			1,450		2,710		1,710		5,870	
75-42 CR			5,825						5,825	
UA Alfagold			5,687						5,687	
45M38			493		4,138		587		5,218	
2030					5,054				5,054	
45H35					5,008				5,008	
NC355TF	190				1,864		2,160		4,214	
DK 902 TF	4,089	4							4,089	
L135C			472		2,733		741		3,946	

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CANOLA: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CANOLA SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
P502CL			158		3,741				3,899	
CS2500 CL			720		3,115				3,835	
3640					3,787				3,787	
2028 CL			30		2,460		1,233		3,723	
CS2200 CL			183		3,423				3,606	
357 RR					3,599				3,599	
45H22			1,022		2,516				3,538	
DKTF 92 SC					3,536				3,536	
45H29			1,217		1,378		933		3,528	
581PV GC					3,486				3,486	
46M35					3,373				3,373	
45H33			453		2,903				3,356	
6076 CR			3,307						3,307	
PV 581 GC			3,287						3,287	
75-45 RR	1,094	1	2,161						3,255	
P516	3,252	3							3,252	
45CM36			1,353		1,848				3,201	
46A76					2,952				2,952	
P607CL			260		2,340				2,600	
5440					1,765		782		2,547	
DKTF94CR					1,457		985		2,442	
75-65 RR					2,342				2,342	
BY 6216TF			870		1,382				2,252	
45CM44					2,252				2,252	
4166 RR					2,248				2,248	
1026 RR					2,113				2,113	
L150			592		1,445				2,037	
34-55					2,021				2,021	
591PV GCS					1,695				1,695	
75-65RR			1,675						1,675	
2463					1,601				1,601	
NC471TF					1,568				1,568	
VT 510 G			308		1,247				1,555	
2573					1,546				1,546	
P508 MCL	1,515	1							1,515	
DKLL 81 BL			265		1,186				1,451	
1022 RR			267		531		608		1,406	
1768 S					1,381				1,381	
UA Countygold			1,370						1,370	
C52700CL	1,359	1							1,359	
Hyhear 1			1,340						1,340	
2563					1,317				1,317	
84S00 LL					1,299				1,299	
CS2000			1,292						1,292	
CS2800 CL	1,130	1	96						1,226	
501					1,222				1,222	
V1031					1,135				1,135	
1020 RR			125		1,001				1,126	
4157 RR			1,088						1,088	
PV 560 GM			565		520				1,085	
624 RR			455		601				1,056	
LBD612 RR			1,029						1,029	
PV 591 GCS			1,013						1,013	
5505 CL			208		765				973	
PV280	957	1							957	
1016 RR			955						955	
2026 CL			160				787		947	
74-44 BL			421		517				938	
46H75					895				895	

CANOLA SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
2673					849				849	
DKL 34-55							821		821	
SW Wizzard			795						795	
DKTF 935 C			760						760	
V14-1			747						747	
CS2400			742						742	
46A65					732				732	
3345							725		725	
45A51							722		722	
5535 CL					715				715	
45H24			220		494				714	
45H76			710						710	
84S01 LL			696						696	
45H31			687						687	
D3150			679						679	
NEX 830 CL					662				662	
43 E03			662						662	
1012 RR			128				506		634	
08H0004			633						633	
4414 RR			631						631	
1867					589				589	
1143							568		568	
CP19R1C					566				566	
Early One			566						566	
46M34							543		543	
BY 5105 CL			537						537	
45H25			535						535	
83S01 RR			510						510	
585PV GC					490				490	
NX4-202 CL					478				478	
74-01 RR			455						455	
V22-1			35		417				452	
45H32			448						448	
2733					431				431	
NX4-107 RR			430						430	
1024 RR			410						410	
6020 RR			410						410	
5108			410						410	
Hyhear 2			375						375	
Synergy			349						349	
L157H			320						320	
73-45 RR			319						319	
L156H			300						300	
NEX 845 CL			298						298	
Eagle			290						290	
2024 CL			270						270	
30120-B6			240						240	
L 601 P			238						238	
L160S			223						223	
DKC65-95			216						216	
9551			205						205	
4187 RR			201						201	
45H26			194						194	
45H72			190						190	
DK900	190								190	
PV 580 GC			186						186	
2022 CL			181						181	
NC155TF			180						180	
L261			150						150	

2023 INSURED COMMERCIAL ACRES (CONTINUED)

CANOLA:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CANOLA SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
V2030			148						148	
4362 RR			145						145	
6045 CL			139						139	
AC Sunbeam			132						132	
46H70			125						125	
15RH1663			124						124	
829 RR			100						100	
Cash			90						90	
73-15 RR			90						90	
93H01 RR			80						80	
C5174			75						75	
SY4105			56						56	
PV 530 G			42						42	
72-65 RR			30						30	
LBD279			15						15	
Not Specified	14,439	14	3,498		1,259,032	11	28,976	1	1,305,945	7
Total	**105,366**	**100**	**5,262,117**	**100**	**11,556,127**	**100**	**3,145,499**	**100**	**20,069,108**	**100**

CWRW WHEAT:
INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CWRW SEEDED AREA	B.C. ACRES	%	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
AAC Wildfire	1,302	1	77,288	45	10,825	6	25,651	15	115,066	67
Emerson					3,531	2	13,196	8	16,727	10
AAC Gateway	639		7,522	4			3,438	2	11,599	7
AAC Goldrush			986	1	1,157	1	7,400	4	9,543	6
AAC Elevate			2,825	2			3,099	2	5,924	3
CDC Buteo			317		1,008	1	1,677	1	3,002	2
Moats			939	1	2,028	1			2,967	2
AAC Vortex							2,605	2	2,605	2
AAC Network			2,177	1					2,177	1
Radiant			623						623	
AC Readymade			538						538	
CDC Osprey			505						505	
AAC Coldfront			204						204	
AC Bellatrix			177						177	
Total	**1,941**	**1**	**94,101**	**55**	**18,549**	**11**	**57,066**	**33**	**171,657**	**100**

CORN: INSURED COMMERCIAL ACRES, DESIGNATED VARIETIES

CORN SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
P7211AM					63,017	13	63,017	12
P7455R					49,471	10	49,471	10
DKC31-85RIB					39,492	8	39,492	8
P7211HR					28,274	6	28,274	5
DKC21-36RIB					27,045	5	27,045	5
P7844AM					22,533	5	22,533	4
P7527AM					20,567	4	20,567	4
TH6278 VT2P					17,344	3	17,344	3
TH 6977 VT2P					16,234	3	16,234	3
PV 61276 RIB					11,943	2	11,943	2
DKC24-06RIB					11,713	2	11,713	2
P7389AM					10,578	2	10,578	2
P7822AM					10,403	2	10,403	2
P7958AM					10,207	2	10,207	2
DKC29-89RIB					9,301	2	9,301	2
P8588AM					8,880	2	8,880	2
MZ 1544DBR					7,570	2	7,570	1
TH6182 VT2P					7,130	1	7,130	1
DKC33-37RIB					6,396	1	6,396	1
P7861AM					6,149	1	6,149	1
P7417AM					5,815	1	5,815	1
A4939G2 RIB					4,790	1	4,790	1
P7417R					4,706	1	4,706	1
A3979 G2 RIB					4,657	1	4,657	1
TH 6875 VT2P					4,315	1	4,315	1
PV 61180 RIB					4,105	1	4,105	1
TH6072 VT2P					3,909	1	3,909	1
TH6380 VT2P					3,628	1	3,628	1
255					2,812	1	2,812	1
P7861R					2,532	1	2,532	
P7822R					2,388		2,388	
E49K32 R					2,360		2,360	
DKC35-29RIB VT2P					2,335		2,335	
TH 6982 VT2P					2,321		2,321	
DKC28-25RIB					2,166		2,166	
TH4072 RR					2,123		2,123	

CORN SEEDED AREA	ALTA. ACRES	%	SASK. ACRES	%	MAN. ACRES	%	TOTAL ACRES	%
NS 271					2,012		2,012	
DKC33-78RIB					1,842		1,842	
P7574AM					1,829		1,829	
CP1440					1,756		1,756	
TH 7677 VT2P RIB					1,740		1,740	
P6910AM					1,691		1,691	
PV 60273RIB					1,560		1,560	
TH6370 VT2P					1,382		1,382	
DKC36-86RIB					1,272		1,272	
P8294AM					1,226		1,226	
TH6079 VT2P					1,099		1,099	
MZ 1688 DBR					1,079		1,079	
PS 2552RR					1,055		1,055	
DKC26-40					1,038		1,038	
TH7677 VT2P					952		952	
P7005YHR			927	100			927	
DKC32-49RIB					861		861	
PV 60172RR					852		852	
2288VT2P					838		838	
HZ 1398					815		815	
NK 7837					813		813	
P7445R					793		793	
TH 7578 VT2P RIB					758		758	
P6909R					746		746	
A4646G2 RIB					717		717	
PS 2210VT2P RIB					671		671	
2123 VT2P RIB					665		665	
P8537AM					650		650	
DKC 32-12 RIB					648		648	
P3979					579		579	
E080Q1-D					568		568	
MZ 1440					563		563	
DKC32-92					554		554	
P7940AM					534		534	
Not Specified	16,778	100			24,155	5	40,933	8
Total	**16,778**	**100**	**927**	**100**	**497,522**	**100**	**515,227**	**100**

SASKATCHEWAN PEDIGREED SEED GROWERS

2024 Directory of Crop Varieties: This list was prepared by the Canadian Seed Growers' Association (CSGA) and the Saskatchewan Seed Growers' Association (SSGA). It includes varieties eligible for sale in Canada and seed crops issued certificates as of Nov. 15, 2023. CSGA and SSGA assume no responsibility for errors or omissions. The pedigreed class code is listed after the grower's phone number. S = Select; F = Foundation; R = Registered; C = Certified. Seed varieties with additional certification requirements (ACRs) are denoted by a single asterisk (*) after the variety name. Carry-over seed is seed derived from pedigreed seed crops that were issued crop certificates prior to 2023. Carry-over seed is denoted by two asterisks (**) following the pedigreed class code. The data in this listing includes all pedigreed seed crops that have successfully received, or are in the process of receiving, seed crop certification from the CSGA in 2022. Fields that were declined pedigreed status are not included in this listing. Data in this list is provided for informational purposes only. The CSGA and SSGA are not liable for omitted or incorrect seed listings. Users of this list agree to use the data at their own risk and agree to fully indemnify CSGA and SSGA from all losses, damages, liability, judgments, costs and expenses. When purchasing seed, CSGA strongly recommends asking for official seed certification tags as your proof of CSGA certification. A copy of the mechanical purity and germination analysis test certificate should also be made available to you.

ALFALFA

ALFALFA

ALGONQUIN						
Aitken's Alfalfa Seeds	Eyebrow	306-759-7700				C
Cody Yelland	Carrot River	306-768-3335				C
J&J Marchildon Farms	Zenon Park	306-812-8419				C
Le Bras, Mart & Evan	Arborfield	306-812-8414				C
Weighill Farms Ltd.	Carrot River	306-768-7394				C
CM Seeds Ltd.	Carrot River	306-768-8565				C
GIBRALTAR						
DLF Canada Inc.	Winnipeg	204-633-0088				C
INSTINCT						
DLF Canada Inc.	Winnipeg	204-633-0088				C
MATRIX						
Interlake Forage Seeds Ltd.	Fisher Branch	204-372-6920				C
MULTI5301						
Interlake Forage Seeds Ltd.	Fisher Branch	204-372-6920				C
PHABULOUS						
Cody Yelland	Carrot River	306-768-3335		F		

BARLEY

BARLEY

AAC CONNECT (TWO ROW)						
Cay Seeds	Kinistino	306-864-3696				C
Dutton Farms Partnership	Paynton	306-441-6799				C
Foundation Seeds	Saskatoon	306-222-0666			R	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C
Hetland Seeds Ltd.	Naicam	306-874-5694				C
Hyndman Seed Farms Ltd.	Balcarres	306-331-8168			R	
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C
Lung Seeds Ltd.	Lake Lenore	306-368-2414				C
McArthur Ag Ventures	Watrous	306-230-9853				C
Midland Seed Farms Inc.	Kuroki	306-338-2021				C
Seed Source Inc.	Archerwill	306-323-4402				C
Tez Seeds Inc.	Elrose	306-378-7785				C
Webster Seed Farm	Welwyn	306-435-7148				C
Wiens Seed Partnership	Herschel	306-377-2002				C
Winny Seeds	Rosetown	306-831-6032				C
Yauck Seed Farm Ltd.	Govan	306-484-4555			R	
AAC PRAIRIE (TWO ROW)						
Seed Source Inc.	Archerwill	306-323-4402			R	C
AAC SYNERGY (TWO ROW)						
B4 Seed Ltd.	Melfort	306-752-2564		F		
Berscheid Brothers Seeds	Lake Lenore	306-368-2602			R	C
Cay Seeds	Kinistino	306-864-3696			R	C
Charabin Seed Farm	North Battleford	306-445-2939			R	C
Condie Seed	Lumsden	306-569-7333				C
Denis Seed Farms	St. Denis	306-258-2219				C
Ferndale Seeds	Rocanville	306-645-4423				C
Fraser Farms Ltd.	Pambrun	306-741-0475			R	
Frederick Seeds	Watson	306-287-3977				C
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005			R	
Hanmer Seeds Ltd.	Govan	306-484-4327				C
Hyndman Seed Farms Ltd.	Balcarres	306-331-8168				C
KTS Farms Ltd.	Limerick	306-640-8882	S	F		C
Lakeside Seeds	Wynyard	306-554-2078	S	F	R	
LLseeds.ca	Lumsden	306-530-8433				C
Midland Seed Farms Inc.	Kuroki	306-338-2021				C
Ostafie, Robert	Canora	306-563-6244				C
Petruic Seed Company Inc.	Avonlea	306-868-2240				C
Sayers Seed Cleaning Ltd	Delmas	306-481-7686				C
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C
Webster Seed Farm	Welwyn	306-435-7148				C
Wiens Seed Partnership	Herschel	306-377-2002				C
ADVANTAGE (SIX ROW)						
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S			C
DR Huber Farms Ltd.	Landis	306-658-4200			R	
G&R Kerber Farms Ltd.	Rosthern	306-232-4474			R	C
AB HAGUE (TWO ROW)						
Eskdale Acres Inc.	Leross	306-795-7208				C
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F		C
Girodat Seeds Ltd.	Shaunavon	306-297-7837				C
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705				C
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C
ALTORADO (TWO ROW)						
Nutrien Ag Solutions	High River				R	
CANTU (TWO ROW)						
Nutrien Ag Solutions	High River		S	F		
CDC AUSTENSON (TWO ROW)						
Ennis Seeds	Glenavon	306-429-2793				C
G&R Kerber Farms Ltd.	Rosthern	306-232-4474				C
Marcotte, Raymond W.	Kinistino	306-864-2948				C
Nexgen Seeds Ltd	Swift Current	306-750-1701				C
Ostafie, Robert	Canora	306-563-6244				C **
Rempel Seeds Inc.	Nipawin	306-873-7376	S			C
Palmier Seed Farms	Lafleche	306-472-7824				C
Seidle Seed Farm	Medstead	306-342-4377		F		C
Mannanah Seeds	Sturgis	306-547-7432				C
Van Burck Seeds Ltd.	Star City	306-863-4377		F	R	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C
Woroschuk, Andrew	Calder	306-742-4682				C
CDC CHURCHILL (TWO ROW)						
Bodnaryk Family Farm	Rhein	306-273-4263				C
Cay Seeds	Kinistino	306-864-3696			R	
Foundation Seeds	Saskatoon	306-222-0666			R	
Fowler Seeds Ltd.	Central Butte	306-796-7794				C
Frederick Seeds	Watson	306-287-3977			R	C
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005		F		C
Heavin Seed Farms	Melfort	306-921-6440				C
Heavin Seed Farms	Melfort	306-921-9324				C
Heavin, Milton Russell	Melfort	306-752-4071				C
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C

BARLEY

LLseeds.ca	Lumsden	306-530-8433			R		
McArthur Ag Ventures	Watrous	306-230-9853			R	C	
Medernach Farms Ltd.	Cudworth	306-256-3991		F	R		
Ostafie, Robert	Canora	306-563-6244				C	
South Seeds	Melfort	306-752-9840				C	
Starlotte Seeds Ltd.	Naicam	306-380-6216				C	
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687		F	R		
Wakefield Seeds	Maidstone	780-872-2394				C	
Wylie Farms Ltd.	Biggar	306-948-6045				C	
Youzwa, Donald	Nipawin	306-862-7678				C	
CDC CLEAR (TWO ROW HULLESS)							
Tomtene Seed Farm	Birch Hills	306-749-3447				C	
CDC COPELAND (TWO ROW)							
Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C	
Filarczuk Farms	Ituna	306-795-5262				C	
Frederick Seeds	Watson	306-287-3977				C	
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C	
G&R Seeds	Osler	306-239-2071				C	**
Midland Seed Farms Inc.	Kuroki	306-338-2021				C	
Olynick Seeds	Quill Lake	306-338-8078				C	
Ostafie, Robert	Canora	306-563-6244		F			**
Seidle Seed Farm	Medstead	306-342-4377			R		
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687				C	
CDC DURANGO (TWO ROW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F			
Blumer Seed Farm	Dinsmore	306-460-7744	S	F			
Correction Line Seeds	Ceylon	306-869-5423		F			
Heavin Seed Farms	Melfort	306-921-6440	S				
Heavin, Milton Russell	Melfort	306-752-4071	S	F			
Hetland Seeds Ltd.	Naicam	306-874-5694		F			
Mannanah Seeds	Sturgis	306-547-7432		F			
Nakonechny Seeds	Ruthilda	306-932-4409	S	F			
Ostafie, Robert	Canora	306-563-6244	S				
Rugg Seed Farm	Elstow	306-221-9024	S				
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705		F			
Seidle Seed Farm	Medstead	306-342-4377		F			
Southline Ag Services	Climax	306-293-7525		F			
Trawin Seeds	Melfort	306-752-4060	S				
Van Burck Seeds Ltd.	Star City	306-863-4377	S				
CDC FRASER (TWO ROW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S		R		
Berscheid Brothers Seeds	Lake Lenore	306-368-2602				C	
Blumer Seed Farm	Dinsmore	306-460-7744				C	
Cay Seeds	Kinistino	306-864-3696			R	C	
Correction Line Seeds	Ceylon	306-869-5423		F			
Edwards Farm Co. Ltd.	Nokomis	306-528-7809			R		
Eskdale Acres Inc.	Leross	306-795-7493				C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543	S	F			
Filarczuk Farms	Ituna	306-795-5262				C	
Fraser Farms Ltd.	Pambrun	306-741-0475				C	
Frederick Seeds	Watson	306-287-3977			R	C	
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C	
Heavin, G. Harvey & G. Ryan	Melfort	306-921-6440			R		
Hetland Seeds Ltd.	Naicam	306-874-5694			R	C	
Laforge Farms Ltd.	Swift Current	306-773-0924				C	
Luck, Lorne C.	Tisdale	306-873-8882				C	
Lung Seeds Ltd.	Lake Lenore	306-368-2414				C	
McDougall Acres Limited	Moose Jaw	306-693-3649			R	C	
McArthur Ag Ventures	Watrous	306-230-9853				C	
Medernach Farms Ltd.	Cudworth	306-256-3991	S	F	R		
Midland Seed Farms Inc.	Kuroki	306-338-2021				C	
Olynick Seeds	Quill Lake	306-338-8078			R		
Ostafie, Robert	Canora	306-563-6244			R		
Prairieview Seeds	Wadena	306-338-8087			R	C	
Rempel Seeds Inc.	Nipawin	306-873-7376				C	
Rugg Seed Farm	Elstow	306-221-9024		F	R		

Seed Farm 23 Inc.	Porcupine Plain	306-814-7705				C	
Seed Source Inc.	Archerwill	306-323-4402				C	
Seidle Seed Farm	Medstead	306-342-4377	S	F	R		
Starlotte Seeds Ltd.	Naicam	306-380-6216	S	F	R		
Sunset Road Seeds	Richard	306-481-5268				C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R	C	
Tez Seeds Inc.	Elrose	306-378-7785				C	
Thompson, Jan Harris	Naicam	306-874-7138				C	
Thoms Seeds	Bruno	306-231-7892				C	
Toman Agventures Inc.	Guernsey	306-365-8386				C	
Tomtene Seed Farm	Birch Hills	306-749-3447			R	C	
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687	S	F	R		
Wakefield Seeds	Maidstone	780-872-2394			R	C	
Wiens Seed Partnership	Herschel	306-377-2002			R		
Wylie Farms Ltd.	Biggar	306-948-6045				C	
Yauck Seed Farm Ltd.	Govan	306-484-4555			R	C	
CDC GOLDSTAR (TWO ROW)							
Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R		
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R	C	
Southline Ag Services	Climax	306-293-7525				C	
Sunset Road Seeds	Richard	306-481-5268				C	
Tomtene Seed Farm	Birch Hills	306-749-3447				C	
Wylie Farms Ltd.	Biggar	306-948-6045			R	C	
CDC MAVERICK (TWO ROW)							
Foundation Seeds	Saskatoon	306-222-0666				C	
Sayers Seed Cleaning Ltd	Delmas	306-481-7686				C	
CDC MCGWIRE (TWO ROW HULLESS)							
Pender Farms Ltd.	Saskatoon	306-651-4680		F			
Van Burck Seeds Ltd.	Star City	306-863-4377				C	
CDC RENEGADE (TWO ROW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Cote Seed Farms	Cadillac	306-625-7919			R		
Foundation Seeds	Saskatoon	306-222-0666			R		
Fowler Seeds Ltd.	Central Butte	306-796-7794				C	
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F	R		
Hicks, Dale & Barry	Mossbank	306-229-9517				C	
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F			
Wakefield Seeds	Maidstone	780-872-2394			R		
Wylie Farms Ltd.	Biggar	306-948-6045			R	C	
ESMA (TWO ROW)							
Van Burck Seeds Ltd.	Star City	306-863-4377				C	
LEGACY (SIX ROW)							
Cay Seeds	Kinistino	306-864-3696				C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543			R		
Hetland Seeds Ltd.	Naicam	306-874-5694			R		
Ostafie, Robert	Canora	306-563-6244				C	
Van Burck Seeds Ltd.	Star City	306-863-4377				C	
BEAN							
CDC BLACKSTRAP (BLACK)							
Antelope Creek Enterprises Ltd.	Central Butte	306-353-7556			R		
E3 Ag Ventures	Riverhurst	306-796-7393				C	
CDC WHITETRACK (NAVY)							
E3 Ag Ventures	Riverhurst	306-796-7393	S				
McDougall Acres Limited	Moose Jaw	306-693-3649				C	
BIRDSFOOT TREFOIL							
LEO							
Cody Yelland	Carrot River	306-768-3335				C	
BROMEGRASS							
AC SUCCESS (HYBRID)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	
ARMADA (MEADOW)							
Trawin Seeds	Melfort	306-752-4060		F		C	
MBA (MEADOW)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	

CANARY SEED

CDC BASTIA							
Nakonechny Seeds	Ruthilda	306-932-4409			R		
CDC LUMIO							
Condie Seed	Lumsden	306-569-7333				C	
Gizen Farms Ltd.	Prelate	306-628-8127	S			C	
Herle Seed Farm Ltd.	Wilkie	306-843-7696			R		
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R	C	
Petruic Seed Company Inc.	Avonlea	306-868-2240				C	
Wiens Seed Partnership	Herschel	306-377-2002				C	
CM Seeds Ltd.	Carrot River	306-768-8565			R		

CHICKPEA

CDC CONSUL (DESI)							
Gizen Farms Ltd.	Prelate	306-628-8127				C	
CDC KALA (DESI)							
Simpson Farms Joint Venture	Moose Jaw	306-693-9402			R		
CDC LANCER (KABULI)							
F&S Farms Ltd.	Moose Jaw	306-759-7888				C	
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F	R	C	
Girodat Seeds Ltd.	Shaunavon	306-297-7837				C	
Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F	R	C	
Printz Family Seeds	Gravelbourg	306-648-3511			R	C	
CDC ORKNEY (KABULI)							
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F	R	C	
Printz Family Seeds	Gravelbourg	306-648-3511			R	C	
Reisner Farm Ltd.	Limerick	306-642-8666	S	F	R	C	
Tez Seeds Inc.	Elrose	306-378-7785				C	
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R	C	
CDC PASQUA (KABULI)							
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R		
Printz Family Seeds	Gravelbourg	306-648-3511	S	F			
Reisner Farm Ltd.	Limerick	306-642-8666	S	F	R	C	
Simpson Farms Joint Venture	Moose Jaw	306-693-9402			R	C	
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F			
CDC PEARL (KABULI)							
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R	C	
Southside Seeds	Rockglen	306-476-7623	S				

CLOVER

ALTASWEDE (RED)							
DLF Canada Inc.	Winnipeg	204-633-0088		F		C	
DAWN (ALSIKE)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	

FABA BEAN

219-16 (LOW TANNIN)							
Veikle Bros. Farm Inc.	Cut Knife	306-398-7688			R		
Wakefield Seeds	Maidstone	780-872-2394			R		
Willner Farm / Willner Agri Ltd.	Davidson	306-567-4613			R		
CDC 1089							
Cornerstone Seed	Welwyn	306-434-7436	S				
Dutton Farms Partnership	Paynton	306-441-6799	S				
Seed Source Inc.	Archerwill	306-323-4402	S				
Van Burck Seeds Ltd.	Star City	306-863-4377	S				
CDC 1142 (LOW TANNIN)							
Harvest Genetics International Inc.	Saskatoon	204-821-0522	S	F			
South Seeds	Melfort	306-752-9840		F			
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F			
Wilfing Farms Ltd.	Meadow Lake	306-236-7797	S	F			
FABELLE (NORMAL TANNIN)							
Cay Seeds	Kinistino	306-864-3696	S	F		C	
Starlotte Seeds Ltd.	Naicam	306-380-6216	S	F	R	C	C
NAVI			S	F			
Van Burck Seeds Ltd.	Star City	306-863-4377					
SNOWBIRD (LOW TANNIN)							
Cay Seeds	Kinistino	306-864-3696			R	C	
Dutton Farms Partnership	Paynton	306-441-6799				C	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R	C	
VICTUS							
Walker, Wes & David	Outlook	306-873-7733				C	

FESCUE

LAURA (MEADOW)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	
SAVORY (TALL)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	
SENU (MEADOW)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	
SUEDE (TALL)							
DLF Canada Inc.	Winnipeg	204-633-0088				C	
SW MINTO (MEADOW)							
Cody Yelland	Carrot River	306-768-3335				C	
CM Seeds Ltd.	Carrot River	306-768-8565				C	

FLAX

AAC BRAVO							
Hyndman Seed Farms Ltd.	Balcarres	306-331-8168				C	
AAC BRIGHT							
Ostafie, Robert	Canora	306-563-6244				C	
Van Burck Seeds Ltd.	Star City	306-863-4377			R		
AAC MARVELOUS							
KTS Farms Lt.d	Limerick	306-640-8882				C	
CDC ESME							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602	S				
Rugg Seed Farm	Elstow	306-221-9024	S				
CDC GLAS (ADDITIONAL CERTIFICATION REQUIREMENTS APPLY)							
Allan, John Richard	Corning	306-457-7310				C	*

FLAX

Gregoire Seed Farms Ltd.	North Battleford	306-441-7005				C	*
Lung Seeds Ltd.	Lake Lenore	306-368-2414		F			*
Ostafie, Robert	Canora	306-563-6244				C	**
Rugg Seed Farm	Elstow	306-221-9024				C	*
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594				C	*
CDC KERNEN							
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005			R		
Ostafie, Robert	Canora	306-563-6244		F			**
Seed Source Inc.	Archerwill	306-323-4402	S	F	R		
Willner Agri Ltd.	Davidson	306-567-4613	S		R		
CDC MELYN							
Navgaea Consulting Inc.	Rm Of Dundurn	306-713-8056		F			
CDC ROWLAND							
Blumer Seed Farm	Dinsmore	306-460-7744			R	C	
Condie Seed	Lumsden	306-569-7333				C	
Correction Line Seeds	Ceylon	306-869-5423			R	C	
Ennis Seeds	Glenavon	306-429-2793				C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543		F	R		
Fowler Seeds Ltd.	Central Butte	306-796-7794				C	
Fraser Farms Ltd.	Pambrun	306-741-0475		F		C	
Lakeside Seeds	Wynyard	306-554-2078	S	F	R		
Needham, Reginald R.	Oxbow	306-483-5052			R		
Noble, Garry	Mossbank	306-354-2679				C	
Ostafie, Robert	Canora	306-563-6244			R		**
R. & R. Allan Farms	Corning	306-736-7262				C	
Reisner Farm Ltd.	Limerick	306-642-8666				C	
Rugg Seed Farm	Elstow	306-221-9024			R		
Southside Seeds	Rockglen	306-476-7623				C	
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730				C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R		
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687	S		R		
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
Willner Agri Ltd.	Davidson	306-567-4613	S	F	R		
Yauck Seed Farm Ltd.	Govan	306-484-4555			R		
CDC SORREL (ADDITIONAL CERTIFICATION REQUIREMENTS APPLY)							
B4 Seed Ltd.	Melfort	306-752-2564				C	*
Willner Agri Ltd.	Davidson	306-567-4613	S				*
VT50							
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R		
Nutrien Ag Solutions	High River				R	C	

HEMP

HEMP

BOUNTIFUL (DIOECIOUS)							
Navgaea Consulting Inc.	RM Of Dundurn	306-713-8056				C	
HEMPNUT (DIOECIOUS)							
Benson, Thomas	Regina	306-540-9339				C	
MARIE (MONOECIOUS)							
Darrell Mcelroy	Ste. Agathe	204-823-2898			R		

LENTIL

LENTIL

CDC GREENSTAR (LARGE GREEN)							
Condie Seed	Lumsden	306-569-7333				C	
Moen Farms Ltd.	Cabri	306-587-7452			R		
Printz Family Seeds	Gravelbourg	306-648-3511				C	
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C	
CDC GRIMM (LARGE GREEN)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Condie Seed	Lumsden	306-569-7333			R		
Laforge Farms Ltd.	Swift Current	306-773-0924			R		
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R		
Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F			
Printz Family Seeds	Gravelbourg	306-648-3511	S	F			
Reisner Farm Ltd.	Limerick	306-642-8666	S	F	R	C	
Simpson Farms Joint Venture	Moose Jaw	306-693-9402			R	C	
Southside Seeds	Rockglen	306-476-7623	S				
Watson Seeds Ltd.	Avonlea	306-868-4402	S		R		

Wiens Seed Partnership	Herschel	306-377-2002				R	
Willner Agri Ltd.	Davidson	306-567-4613	S				
CDC IMPULSE (SMALL RED)							
Condie Seed	Lumsden	306-569-7333					C
Craswell Seeds Ltd.	Strasbourg	306-270-9338					C
Gizen Farms Ltd.	Prelate	306-628-8127				R	C
McDougall Acres Limited	Moose Jaw	306-693-3649				R	C
Nakonechny Seeds	Ruthilda	306-932-4409				R	
Ostafie, Brendan	Canora	306-563-6244	S				
Palmier Seed Farms	Lafleche	306-472-7824					C
Printz Family Seeds	Gravelbourg	306-648-3511					C
Robinson, Oren A., Marlene & Wade	Landis	306-658-4755			F		
Wiens Seed Partnership	Herschel	306-377-2002	S	F			
CDC JIMINI							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Condie Seed	Lumsden	306-569-7333			R		
Foundation Seeds	Saskatoon	306-222-0666			R		
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336	S	F			
Hicks, Dale & Barry	Mossbank	306-229-9517			R		
Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F	R		
Simpson Farms Joint Venture	Moose Jaw	306-693-9402			R		
Tez Seeds Inc.	Elrose	306-378-7785			R		
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
CDC KERMIT							
Nakonechny Seeds	Ruthilda	306-932-4409	S				
CDC LIMA (LARGE GREEN)							
Blumer Seed Farm	Dinsmore	306-460-7744					C
Condie Seed	Lumsden	306-569-7333					C
Fraser Farms Ltd.	Pambrun	306-741-0475				R	
KTS Farms Ltd.	Limerick	306-640-8882					C
LLseeds.ca	Lumsden	306-530-8433				R	C
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R	C	
Nakonechny Seeds	Ruthilda	306-932-4409		F	R		
Nexgen Seeds Ltd.	Swift Current	306-750-1701					C
Petruic Seed Company Inc.	Avonlea	306-868-2240					C
Southside Seeds	Rockglen	306-476-7623		F			
Watson Seeds Ltd.	Avonlea	306-868-4402			R	C	
Wiens Seed Partnership	Herschel	306-377-2002			R		
Willner Agri Ltd.	Davidson	306-567-4613			R		
CDC MARBLE (FRENCH GREEN)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415			R		
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336	S	F	R		
Nakonechny Seeds	Ruthilda	306-932-4409				C	
Yauck Seed Farm Ltd.	Govan	306-484-4555	S		R		
CDC MONARCH (LARGE RED)							
Antelope Creek Enterprises Ltd.	Central Butte	306-353-7556	S				
Condie Seed	Lumsden	306-569-7333	S	F			
Hanley Farms	Regina	306-539-5403		F			
McDougall Acres Limited	Moose Jaw	306-693-3649	S				
Nakonechny Seeds	Ruthilda	306-932-4409	S				
Wiens Seed Partnership	Herschel	306-377-2002	S				
CDC NIMBLE (SMALL RED)							
Carvers, Ben	Sedley	306-695-7987			R		
Charabin Seed Farm	North Battleford	306-445-2939			R	C	
G&R Seeds	Osler	306-239-2071			R		**
Mawer Acres	Central Butte	306-891-6885				C	
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F			
Southline Ag Services	Climax	306-293-7525				C	
Sundwall Seed Service	Govan	306-484-2010			R		
Townview Seeds Limited	Richmound	306-661-7649				C	
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		

LENTIL

LENTIL

Watson Seeds Ltd.	Avonlea	306-868-4402			R		
Wiens Seed Partnership	Herschel	306-377-2002	S	F		C	
CDC PERIDOT (FRENCH GREEN)							
Nakonechny Seeds	Ruthilda	306-932-4409	S	F			
Yauck Seed Farm Ltd.	Govan	306-484-4555	S	F		C	
CDC PROCLAIM (SMALL RED)							
Fenton Seed Farm Ltd.	Tisdale	306-873-7543		F			**
LLseeds.ca	Lumsden	306-530-8433		F			
CDC REDMOON (SMALL RED)							
Blumer Seed Farm	Dinsmore	306-460-7744				C	
F&S Farms Ltd.	Moose Jaw	306-759-7888				C	
Printz Family Seeds	Gravelbourg	306-648-3511				C	
Willner Agri Ltd.	Davidson	306-567-4613	S			C	
CDC SB-4 (SPANISH BROWN)							
Simpson Farms Joint Venture	Moose Jaw	306-693-9402			R		
CDC SIMMIE (SMALL RED)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F		C	
Blumer Seed Farm	Dinsmore	306-460-7744				C	
Condie Seed	Lumsden	306-569-7333				C	
Craswell Seeds Ltd.	Strasbourg	306-270-9338			R	C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543	S	F	R		
Fraser Farms Ltd.	Pambrun	306-741-0475			R	C	
KD Friesen Farm Corp (Saskatchewan)	Laird	604-607-4953				C	
McDougall Acres Limited	Moose Jaw	306-693-3649			R	C	
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C	
Starquest Farms Ltd.	Hazlet	306-741-6827				C	
Stoll's Seed Barn Ltd.	Saskatoon	306-281-4966				C	
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
Wohlgemuth, Mark	Bredenbury	306-744-7722			R		
INDIAN HEAD (PLOW DOWN TYPE)							
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C	
Yauck Seed Farm Ltd.	Govan	306-484-4555			R		

MUSTARD

MUSTARD

AAC ADAGIO (SINAPSIS ALBA)							
Fraser Farms Ltd.	Pambrun	306-741-0475				C	
AC VULCAN (BRASSICA JUNCEA)							
Fraser Farms Ltd.	Pambrun	306-741-0475				C	
ANDANTE (SINAPSIS ALBA)							
Fraser Farms Ltd.	Pambrun	306-741-0475				C	
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336				C	
CENTENNIAL BROWN (BRASSICA JUNCEA)							
Fraser Farms Ltd.	Pambrun	306-741-0475				C	

OATS

OATS

AAC DOUGLAS (COVERED)							
Cornerstone Seed	Welwyn	306-434-7436				C	
Danielson Seeds Inc.	Norquay	306-594-7644			R		
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381	S	F			
Willner Agri Ltd.	Davidson	306-567-4613	S	F			
AAC NEVILLE							
Heavin Seed Farms	Melfort	306-921-9324		F			
AC MORGAN (YELLOW)							
Filarczuk Farms	Ituna	306-795-5262				C	
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C	
G&R Seeds	Osler	306-239-2071			R		**
Seidle Seed Farm	Medstead	306-342-4377			R	C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594		F	R		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
CDC ANSON							
B4 Seed Ltd.	Melfort	306-752-2564	S				
Berscheid Brothers Seeds	Lake Lenore	306-368-2602	S				
Condie Seed	Lumsden	306-569-7333	S				
Danielson Seeds Inc.	Norquay	306-594-7644	S				

OATS

Fedoruk Seeds Ltd.	Kamsack	306-542-4235		F			
Ferndale Seeds	Rocanville	306-645-4423	S				
Foundation Seeds	Saskatoon	306-222-0666		F			
Lindgren Seeds	Norquay	306-594-7644		F			
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F			
Midland Seed Farms Inc.	Kuroki	306-338-2021	S				
Ostafie, Robert	Canora	306-563-6244	S				
Seed Source Inc.	Archerwill	306-323-4402	S				
Tomtene Seed Farm	Birch Hills	306-749-3447		F			
Trawin Seeds	Melfort	306-752-4060	S				
Van Burck Seeds Ltd.	Star City	306-863-4377	S				
CDC ARBORG							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F		C	
Berscheid Brothers Seeds	Lake Lenore	306-368-2602				C	
Cay Seeds	Kinistino	306-864-3696				C	
Condie Seed	Lumsden	306-569-7333				C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543			R		**
Ferndale Seeds	Rocanville	306-645-4423			R		
Foundation Seeds	Saskatoon	306-222-0666				C	
Frederick Seeds	Watson	306-287-3977				C	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C	
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381	S	F	R		
Lindgren Seeds	Norquay	306-594-7644				C	
Oostafie, Robert	Canora	306-563-6244				C	
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705				C	
Seed Source Inc.	Archerwill	306-323-4402				C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594				C	
Trawin Seeds	Melfort	306-752-4060				C	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
CDC BALER (FORAGE)							
Trawin Seeds	Melfort	306-752-4060	S		R	C	
CDC BYER							
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381	S				
Wilfing Farms Ltd.	Meadow Lake	306-236-7797	S				
CDC DANCER							
Eskdale Acres Inc.	Leross	306-795-7208	S	F			
CDC ENDURE (COVERED)							
Bodnaryk Family Farm	Rhein	306-273-4263				C	
Fedoruk Seeds Ltd.	Kamsack	306-542-4235			R		
Frederick Seeds	Watson	306-287-3977			R	C	
Gaertner Seeds	Tisdale	306-873-4936		F			
Mannanah Seeds	Sturgis	306-547-7432				C	
McDougall Acres Limited	Moose Jaw	306-693-3649				C	
Ostafie, Robert	Canora	306-563-6244				C	
Rempel Seeds Inc.	Nipawin	306-873-7376				C	
Seed Source Inc.	Archerwill	306-323-4402				C	
Seidle Seed Farm	Medstead	306-342-4377		F			
Sunset Road Seeds	Richard	306-481-5268				C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R	C	
CDC HAYMAKER (COVERED)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415			R		
Cote Seed Farms	Cadillac	306-625-7919			R		
Fedoruk Seeds Ltd.	Kamsack	306-542-4235		F	R		
Foundation Seeds	Saskatoon	306-222-0666				C	
Fraser Farms Ltd.	Pambrun	306-741-0475		F	R		
G&R Kerber Farms Ltd.	Rosthern	306-232-4474				C	
Hicks, Dale & Barry	Mossbank	306-229-9517				C	
Ostafie, Robert	Canora	306-563-6244			R		**
CM Seeds Ltd.	Carrot River	306-768-8565			R		
CDC RUFFIAN							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602				C	
Fenton Seed Farm	Tisdale	306-873-7543			R		**
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381				C	
CDC SO-I							
Ardell Seeds Ltd.	Vanscoy	306-668-4415			R		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	

OATS

CS CAMDEN							
Frederick Seeds	Watson	306-287-3977			R	C	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R		
Hetland Seeds Ltd.	Naicam	306-874-5694				C	
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R		
Mile South Farms Ltd.	Carrot River	306-768-7542			R		
ORE BOOST (FORAGE)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S				
Foundation Seeds	Saskatoon	306-222-0666	S				
Fraser Farms Ltd.	Pambrun	306-741-0475	S				
Ostafie, Robert	Canora	306-563-6244	S				
SUMMIT (COVERED)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415			R		
Frederick Seeds	Watson	306-287-3977				C	
Ostafie, Robert	Canora	306-563-6244				C	
TRIACTOR							
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C	
Lung Seeds Ltd.	Lake Lenore	306-368-2414				C	
Mile South Farms Ltd.	Carrot River	306-768-7542				C	
Winny Seeds	Rosetown	306-831-6032				C	
CM Seeds Ltd.	Carrot River	306-768-8565				C	

PEAS

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AAC ABERDEEN (YELLOW)							
Bodnaryk Family Farm	Rhein	306-273-4263				C	
LLseeds.ca	Lumsden	306-530-8433				C	
Penner, David & Braden	Norquay	306-594-7897				C	
Prairie Son Acres	Duval	306-725-7896				C	
AAC ARDILL (YELLOW)							
Hicks, Dale & Barry	Mossbank	306-229-9517		F			
AAC BEYOND (YELLOW)							
Condie Seed	Lumsden	306-569-7333		F			
Cornerstone Seed	Welwyn	306-434-7436	S				
Greenleaf Seeds Ltd.	Tisdale	306-873-4261	S	F			
Seed Source Inc.	Archerwill	306-323-4402	S	F			
Sunset Road Seeds	Richard	306-481-5268			R		
AAC CARVER (YELLOW)							
Condie Seed	Lumsden	306-569-7333				C	
Cornerstone Seed	Welwyn	306-434-7436		F	R		
Gerry Farms Inc.	Creelman	306-457-7720				C	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261	S	F		C	
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C	
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
Townview Seeds Limited	Richmound	306-661-7649				C	
AAC CHROME (YELLOW)							
Condie Seed	Lumsden	306-569-7333				C	
Craswell Seeds Ltd.	Strasbourg	306-270-9338			R	C	
Ferndale Seeds	Rocanville	306-645-4423			R	C	
Foundation Seeds	Saskatoon	306-222-0666				C	
Hyndman Seed Farms Ltd.	Balcarres	306-331-8168				C	
Lindgren Seeds	Norquay	306-594-7644				C	
McDougall Acres Limited	Moose Jaw	306-693-3649		F	R		
McArthur Ag Ventures	Watrous	306-230-9853				C	
Midland Seed Farms Inc.	Kuroki	306-338-2021				C	
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
Redvers Agricultural & Supply Ltd.	Redvers	306-452-8078				C	
Riviere Ag Seeds Ltd.	Radville	306-869-7629				C	
Sayers Seed Cleaning Ltd	Delmas	306-481-7686				C	
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705				C	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
AAC JULIUS (YELLOW)							
Charabin Seed Farm	North Battleford	306-445-2939	S	F			
Condie Seed	Lumsden	306-569-7333		F			
Craswell Seeds Ltd.	Strasbourg	306-270-9338	S	F			
Fedoruk Seeds Ltd.	Kamsack	306-542-4235			R		
Ferndale Seeds	Rocanville	306-645-4423	S	F	R		
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F	R		
Herle Seed Farm Ltd.	Wilkie	306-843-7696		F			
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R		
MCMURPHY (YELLOW)							
Foundation Seeds	Saskatoon	306-222-0666	S				
Shewchuk Seeds	Blaine Lake	306-290-7816	S				
AAC ORIOLE (RED)							
Navgaea Consulting Inc.	RM Of Dundurn	306-713-8056		F			
AAC PROFIT (YELLOW)							
B4 Seed Ltd.	Melfort	306-752-2564				C	
Cay Seeds	Kinistino	306-864-3696				C	
Midland Seed Farms Inc.	Kuroki	306-338-2021				C	
Seed Source Inc.	Archerwill	306-323-4402			R	C	
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
ABARTH (YELLOW)							
Herle Seed Farm Ltd.	Wilkie	306-843-7696			R		
CDC ACER (MAPLE)							
Fenton Seed Farm Ltd.	Tisdale	306-873-7543			R		**
CDC AMARILLO (YELLOW)							
Allan, John Richard	Corning	306-457-7310				C	
Lung Seeds Ltd.	Lake Lenore	306-368-2414				C	
CDC BLAZER (MAPLE)							
Blumer Seed Farm	Dinsmore	306-460-7744				C	
Ostafie, Brendan	Canora	306-563-6244				C	
Tez Seeds Inc.	Elrose	306-378-7785				C	
CDC CANARY (YELLOW)							
Foundation Seeds	Saskatoon	306-222-0666				C	
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C	
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730				C	
Nutrien Ag Solutions	High River					C	
Wakefield Seeds	Maidstone	780-872-2394			R	C	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797			R	C	
Youzwa, Donald	Nipawin	306-862-7678				C	
CDC CITRINE (YELLOW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F			
Berscheid Brothers Seeds	Lake Lenore	306-368-2602		F			
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336		F			
Hanley Farms	Regina	306-539-5403		F			
Kemper Seeds Ltd.	Fulda	306-231-7450		F			
Medernach Farms Ltd.	Cudworth	306-256-3991		F			
Robinson, Oren A., Marlene & Wade	Landis	306-658-4755	S	F			
Rugg Seed Farm	Elstow	306-221-9024	S	F			
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730	S				
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F			
Wiens Seed Partnership	Herschel	306-377-2002	S	F			
Willner Agri Ltd.	Davidson	306-567-4613	S	F			
Youzwa, Donald	Nipawin	306-862-7678	S	F			
CDC ENGAGE (YELLOW)							
Cornerstone Seed	Welwyn	306-434-7436	S	F			
CDC FOREST (GREEN)							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602			R		
Blumer Seed Farm	Dinsmore	306-460-7744				C	
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005			R		
LLseeds.ca	Lumsden	306-530-8433		F		C	
Ostafie, Brendan	Canora	306-563-6244			R		
Prairieview Seeds	Wadena	306-338-8087				C	
Veikle Bros. Farm Inc.	Cut Knife	306-398-7688				C	
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
Watson Seeds Ltd.	Avonlea	306-868-4402		F	R	C	
Wohlgemuth, Mark	Bredenbury	306-744-7722				C	
GREENWATER (GREEN)							
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381	S	F	R		

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CDC HICKIE (YELLOW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Berscheid Brothers Seeds	Lake Lenore	306-368-2602	S	F	R		
Condie Seed	Lumsden	306-569-7333			R		
Cornerstone Seed	Welwyn	306-434-7436	S				
Denis Seed Farms	St. Denis	306-258-2219			R		
Dutton Farms Partnership	Paynton	306-441-6799			R		
Foundation Seeds	Saskatoon	306-222-0666			R		
Girodat Seeds Ltd.	Shaunavon	306-297-7837				C	
Hanley Farms	Regina	306-539-5403		F			
Lakeside Seeds	Wynyard	306-554-2078	S	F	R		
Mannanah Seeds	Sturgis	306-547-7432			R		
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R		
Meadow Ridge Enterprises Ltd.	Saskatoon	306-270-6627			R		
Ostafie, Brendan	Canora	306-563-6244	S				
Prairieview Seeds	Wadena	306-338-8087			R		
Reisner Farm Ltd.	Limerick	306-642-8666	S	F	R	C	
Seed Source Inc.	Archerwill	306-323-4402	S	F			
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687	S		R		
Wiens Seed Partnership	Herschel	306-377-2002	S	F	R		
CDC HUSKIE (GREEN)							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602	S				
Big Dog Seeds Inc.	Oxbow	306-483-2963	S				
Blumer Seed Farm	Dinsmore	306-460-7744	S				
Dutton Farms Partnership	Paynton	306-441-6799	S				
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336	S	F			
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005	S				
Meadow Ridge Enterprises Ltd.	Saskatoon	306-270-6627	S				
Medernach Farms Ltd.	Cudworth	306-256-3991	S				
Veikle Seeds Ltd.	Cut Knife	306-398-4714	S				
Watson Seeds Ltd.	Avonlea	306-868-4402	S				
CDC INCA (YELLOW)							
McArthur Ag Ventures	Watrous	306-230-9853				C	
Ostafie, Brendan	Canora	306-563-6244				C	
Rugg Seed Farm	Elstow	306-221-9024				C	
CDC LEWOCHKO (YELLOW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Brennen, Luck	Tisdale	306-873-1998				C	
Condie Seed	Lumsden	306-569-7333				C	
Edwards Farm Co. Ltd.	Nokomis	306-528-7809			R		
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R		
Medernach Farms Ltd.	Cudworth	306-256-3991				C	
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
Ostafie, Brendan	Canora	306-563-6244			R		**
Rugg Seed Farm	Elstow	306-221-9024		F			
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687				C	
Watson Seeds Ltd.	Avonlea	306-868-4402		F		C	
CDC LIMERICK (GREEN)							
Dutton Farms Partnership	Paynton	306-441-6799			R		
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R	C	
CDC MOSAIC (MAPLE)							
G&R Seeds	Osler	306-239-2071		F		C	
Herle Seed Farm Ltd.	Wilkie	306-843-7696				C	
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C	
CDC RAEZER (GREEN)							
Ostafie, Brendan	Canora	306-563-6244		F			**
CDC RIDER (GREEN)							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602		F			
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336		F			
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005	S	F			
Jones, Bradley, Wanda, Tennille & Jennifer	Wadena	306-338-2381	S				
Meadow Ridge Enterprises Ltd.	Saskatoon	306-270-6627		F			

Starlotte Seeds Ltd.	Naicam	306-380-6216	S	F			
Veikle Bros. Farm Inc.	Cut Knife	306-398-7688		F			
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F			
CDC S110-22 (MARROW FAT)							
Walker, Wes & David	Outlook	306-873-7733	S				
Walker, Wes & David	Outlook	306-873-7733		F			
CDC SPECTRUM (YELLOW)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415		F	R		
Buziak Seed Farm	Mayfair	306-445-6556				C	
Carvers, Ben	Sedley	306-695-7987				C	
Cay Seeds	Kinistino	306-864-3696				C	
Charabin Seed Farm	North Battleford	306-445-2939			R	C	
Fenton Seed Farm Ltd.	Tisdale	306-873-7543			R		
Foundation Seeds	Saskatoon	306-222-0666				C	
Harle, Doug	Regina	306-775-1564				C	
Hetland Seeds Ltd.	Naicam	306-874-5694				C	
Lakeside Seeds	Wynyard	306-554-2078	S	F		C	
Mannanah Seeds	Sturgis	306-547-7432				C	
R. & R. Allan Farms	Corning	306-736-7262				C	
Shewchuk Seeds	Blaine Lake	306-290-7816				C	
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
CDC SPRUCE (GREEN)							
Cherry Ridge Seed Farm	Nipawin	306-862-6859				C	
Starlotte Seeds Ltd.	Naicam	306-380-6216			R	C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R	C	
CDC TOLLEFSON (YELLOW)							
Berscheid Brothers Seeds	Lake Lenore	306-368-2602		F			
Big Dog Seeds Inc.	Oxbow	306-483-2963			R		
Carvers, Ben	Sedley	306-695-7987			R		
Denis Seed Farms	St. Denis	306-258-2219			R		
Eskdale Acres Inc.	Leross	306-795-7493			R		
Fedoruk Seeds Ltd.	Kamsack	306-542-4235			R		
Fenton Seed Farm Ltd.	Tisdale	306-873-7543	S	F	R		
Foundation Seeds	Saskatoon	306-222-0666			R		
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336			R		
Hicks, Dale & Barry	Mossbank	306-229-9517			R		
KD Friesen Farm Corp. (Saskatchewan)	Laird	604-607-4953			R		
Medernach Farms Ltd.	Cudworth	306-256-3991			R		
Ostafie, Brendan	Canora	306-563-6244			R		
R. & R. Allan Farms	Corning	306-736-7262			R		
Rempel Seeds Inc.	Nipawin	306-873-7376		F			
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705			R		
Shewchuk Seeds	Blaine Lake	306-290-7816			R		
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
Wakefield Seeds	Maidstone	780-872-2394			R		
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
Wiens Seed Partnership	Herschel	306-377-2002	S	F	R		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797	S	F			
Willner Agri Ltd.	Davidson	306-567-4613	S	F	R		
Yauck Seed Farm Ltd.	Govan	306-484-4555		F	R		
DL DELICIOUS (FORAGE)							
Van Burck Seeds Ltd.	Star City	306-863-4377				C	
DL GOLDEYE (FORAGE)							
Van Burck Seeds Ltd.	Star City	306-863-4377		F	R		
PROSTAR (YELLOW)							
Greenleaf Seeds Ltd.	Tisdale	306-873-4261	S	F			
Herle Seed Farm Ltd.	Wilkie	306-843-7696			R		
Lung Seeds Ltd.	Lake Lenore	306-368-2414		F			
Tomtene Seed Farm	Birch Hills	306-749-3447		F			

RAPE	**RAPESEED AND CANOLA**							
	SYNERGY (BRASSICA RAPA)							
	Fenton Seed Farm Ltd.	Tisdale	306-873-7543				C	**
RYE	**RYE**							
	GAZELLE (SPRING)							
	Trawin Seeds	Melfort	306-752-4060	S			C	
	HAZLET (WINTER)							
	Ostafie, Robert	Canora	306-563-6244			R		**
SOYBEANS	**SOYBEANS**							
	MAHONY R2							
	LLseeds.ca	Lumsden	306-530-8433				C	
	OAC PRUDENCE							
	Big Dog Seeds Inc.	Oxbow	306-483-2963			R		
	YOUNG R2X							
	Gerry Farms Inc.	Creelman	306-457-7720				C	
	LLseeds.ca	Lumsden	306-530-8433				C	
TIMOTHY	**TIMOTHY**							
	AC ALLIANCE							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
	ARLAKA							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
	BASHO							
	Cody Yelland	Carrot River	306-768-3335				C	
	CDC TIZNOW							
	Cody Yelland	Carrot River	306-768-3335		F			
	CLIMAX							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
	COMER							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
	COMTA							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
	SUMMERGRAZE							
	DLF Canada Inc.	Winnipeg	204-633-0088				C	
TRITICALE	**TRITICALE**							
	AAC DELIGHT (SPRING)							
	Hicks, Dale & Barry	Mossbank	306-229-9517				C	
	AB STAMPEDER							
	Girodat Seeds Ltd.	Shaunavon	306-297-7837				C	
	BUNKER (SPRING)							
	Girodat Seeds Ltd.	Shaunavon	306-297-7837			R	C	
	Traiwin Seeds	Melfort	306-752-4060	S			C	
	TYNDAL (SPRING)							
	Cote Seed Farms	Cadillac	306-625-7919			R		
WHEAT	**WHEAT**							
	AAC ALIDA - AAC BRANDON (CWRS)							
	Big Dog Seeds Inc.	Oxbow	306-483-2963				C	*
	DR Huber Farms Ltd.	Landis	306-658-4200				C	*
	Gaertner Seeds	Tisdale	306-873-4936			R		*
	Ostafie, Robert	Canora	306-563-6244				C	**
	Woroschuk, Andrew	Calder	306-742-4682				C	*
	AAC AWESOME - AC ANDREW (CWSP)							
	Laforge Farms Ltd.	Swift Current	306-773-0924				C	*
	Sayers Seed Cleaning Ltd.	Delmas	306-481-7686				C	*
	Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		*
	AAC BRANDON (CWRS)							
	Allan, John Richard	Corning	306-457-7310				C	
	Big Dog Seeds Inc.	Oxbow	306-483-2963			R		
	Blumer Seed Farm	Dinsmore	306-460-7744				C	
	Carvers, Ben	Sedley	306-695-7987				C	
	Cornerstone Seed	Welwyn	306-434-7436		F		C	
	Filarczuk Farms	Ituna	306-795-5262				C	
	Kondratowicz, Frank	Unity	306-228-7809				C	
	Lepp's Seed Farm	Hepburn	306-254-4243				C	
	LLseeds.ca	Lumsden	306-530-8433				C	
	Nakonechny Seeds	Ruthilda	306-932-4409				C	
	Needham, Reginald R.	Oxbow	306-483-5052				C	
	Ostafie, Robert	Canora	306-563-6244				C	
	Simpsons Farms Joint Venture	Moose Jaw	306-693-9402				C	
	AAC BROADACRES - AAC BRANDON (CWRS)							
	Buziak Seed Farm	Mayfair	306-445-6556				C	*
	Nutrien Ag Solutions	High River		S	F	R	C	*
	AAC CAMERON - CARBERRY (CWRS)							
	Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R	C	*
	CM Seeds Ltd.	Carrot River	306-768-8565			R		*
	Yauck Seed Farm Ltd.	Govan	306-484-4555			R		*
	AAC CIRRUS (CWHWS)							
	Girodat Seeds Ltd.	Shaunavon	306-297-7837				C	
	AAC COLDFRONT (WINTER)							
	Fedoruk Seeds Ltd.	Kamsack	306-542-4235	S				
	Ferndale Seeds	Rocanville	306-645-4423	S				
	McDougall Acres Limited	Moose Jaw	306-693-3649		F			
	Watson Seeds Ltd.	Avonlea	306-868-4402	S	F			
	AAC DARBY - AAC HASSLER (CWRS)							
	Charabin Seed Farm	North Battleford	306-445-2939	S	F			*
	Ferndale Seeds	Rocanville	306-645-4423	S				*
	Foundation Seeds	Saskatoon	306-222-0666	S				*
	Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730	S	F			*
	AAC DONLOW (DURUM)							
	Condie Seed	Lumsden	306-569-7333				C	
	Girodat Seeds Ltd.	Shaunavon	306-297-7837				C	
	Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F		C	
	Printz Family Seeds	Gravelbourg	306-648-3511			R		
	Reisner Farm Ltd.	Limerick	306-642-8666			R	C	
	Southline Ag Services	Climax	306-293-7525				C	
	Winny Seeds	Rosetown	306-831-6032			R		
	AAC FORAY - AAC PENHOLD (CPSR)							
	Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	*
	AAC GOLDNET (DURUM)							
	Townview Seeds Limited	Richmound	306-661-7649				C	
	Winny Seeds	Rosetown	306-831-6032			R		
	AAC GOLDRUSH (WINTER)							
	McDougall Acres Limited	Moose Jaw	306-693-3649				C	
	AAC GRAINLAND (DURUM)							
	Condie Seed	Lumsden	306-569-7333				C	
	Fraser Farms Ltd.	Pambrun	306-741-0475			R		
	Southside Seeds	Rockglen	306-476-7623				C	
	Starquest Farms Ltd.	Hazlet	306-741-6827				C	
	AAC HASSLER (CWRS)							
	Charabin Seed Farm	North Battleford	306-445-2939	S	F			
	Ferndale Seeds	Rocanville	306-645-4423		F			
	Foundation Seeds	Saskatoon	306-222-0666	S				
	AAC HOCKLEY (CWRS)							
	Beautiful Plain Farm Ltd.	Yellow Grass	306-861-2554				C	
	Carvers, Ben	Sedley	306-695-7987				C	
	Charabin Seed Farm	North Battleford	306-445-2939				C	
	Craswell Seeds Ltd.	Strasbourg	306-270-9338			R		
	Edwards Farm Co. Ltd.	Nokomis	306-528-7809				C	
	Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C	
	Ferndale Seeds	Rocanville	306-645-4423	S	F		C	
	Fraser Farms Ltd.	Pambrun	306-741-0475			R		
	Gregoire Seed Farms Ltd.	North Battleford	306-441-7005			R		
	Herle Seed Farm Ltd.	Wilkie	306-843-7696				C	
	Hyndman Seed Farms Ltd.	Balcarres	306-331-8168				C	
	Lakeside Seeds	Wynyard	306-554-2078	S	F	R		
	Lindgren Seeds	Norquay	306-594-7644		F		C	
	Wmc Carthy Seed Farm	Corning	306-224-4848				C	
	McDougall Acres Limited	Moose Jaw	306-693-3649				C	
	Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
	Ostafie, Robert	Canora	306-563-6244				C	
	Redvers Agricultural & Supply Ltd.	Redvers	306-452-8078				C	
	Shewchuk Seeds	Blaine Lake	306-290-7816	S		R	C	

Toman Agventures Inc.	Guernsey	306-365-8386				C		
Wakefield Seeds	Maidstone	780-872-2394	S			C		
Wiens Seed Partnership	Herschel	306-377-2002			R			
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C		
Wylie Farms Ltd.	Biggar	306-948-6045				C		
AAC HODGE - AAC HOCKLEY (CWRS)								
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R			*
B4 Seed Ltd.	Melfort	306-752-2564			R			*
Berscheid Brothers Seeds	Lake Lenore	306-368-2602		F	R			*
Buziak Seed Farm	Mayfair	306-445-6556			R			*
Carvers, Ben	Sedley	306-695-7987				C		*
Cay Seeds	Kinistino	306-864-3696	S	F	R			*
Charabin Seed Farm	North Battleford	306-445-2939	S	F	R	C		*
Condie Seed	Lumsden	306-569-7333				C		*
Craswell Seeds Ltd.	Strasbourg	306-270-9338			R			*
Denis Seed Farms	St. Denis	306-258-2219				C		*
Eskdale Acres Inc.	Leross	306-795-7208			R			*
Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C		*
Fenton Seed Farm Ltd.	Tisdale	306-873-7543	S		R	C		*
Ferndale Seeds	Rocanville	306-645-4423	S	F	R			*
Fraser Agro Ltd.	Yarbo	306-745-3830			R			*
Frederick Seeds	Watson	306-287-3977				C		*
G&R Kerber Farms Ltd.	Rosthern	306-232-4474			R	C		*
Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R	C		*
Hanmer Seeds Ltd.	Govan	306-484-4327				C		*
Herle Seed Farm Ltd.	Wilkie	306-843-7696				C		*
Hetland Seeds Ltd.	Naicam	306-874-5694			R			*
Hyndman Seed Farms Ltd.	Balcarres	306-331-8168				C		*
Josuttes Holdings Ltd.	Paradise Hill	306-248-7077			R			*
Kbi Seed Processing	Manor	306-452-8583				C		*
Kondratowicz, Frank	Unity	306-228-7809				C		*
Lakeside Seeds	Wynyard	306-554-2078	S	F		C		*
Lindgren Seeds	Norquay	306-594-7644				C		*
McArthur Ag Ventures	Watrous	306-230-9853				C		*
Midland Seed Farms Inc.	Kuroki	306-338-2021				C		*
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C		*
Ostafie, Robert	Canora	306-563-6244		F				*
Redvers Agricultural & Supply Ltd.	Redvers	306-452-8078				C		*
Sayers Seed Cleaning Ltd.	Delmas	306-481-7686				C		*
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705			R	C		*
Seed Source Inc.	Archerwill	306-323-4402	S	F	R			*
Shewchuk Seeds	Blaine Lake	306-290-7816			R	C		*
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730				C		*
Toman Agventures Inc.	Guernsey	306-365-8386				C		*
Tomtene Seed Farm	Birch Hills	306-749-3447				C		*
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F	R			*
Veikle Seeds Ltd.	Cut Knife	306-398-4714				C		*
Wakefield Seeds	Maidstone	780-872-2394	S		R			*
Wiens Seed Partnership	Herschel	306-377-2002	S	F	R			*
Wilfing Farms Ltd.	Meadow Lake	306-236-7797			R	C		*
Winny Seeds	Rosetown	306-831-6032			R			*
Wylie Farms Ltd.	Biggar	306-948-6045				C		*
Yauck Seed Farm Ltd.	Govan	306-484-4555			R			*
AAC LEROY - AAC REDBERRY (CWRS)								
Bodnaryk Family Farm	Rhein	306-273-4263				C		*
Denis Seed Farms	St. Denis	306-258-2219				C		*
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C		*
Sayers Seed Cleaning Ltd.	Delmas	306-481-7686			R			*
Seed Source Inc.	Archerwill	306-323-4402				C		*
Starlotte Seeds Ltd.	Naicam	306-380-6216				C		*
Yauck Seed Farm Ltd.	Govan	306-484-4555				C		*
AAC MAGNET (CWRS)								
KTS Farms Ltd.	Limerick	306-640-8882				C		
AAC PARAMOUNT - AC ANDREW (CWSWS)								
Herle Seed Farm Ltd.	Wilkie	306-843-7696				C		*
Wakefield Seeds	Maidstone	780-872-2394		F		C		*
AAC PENHOLD (CPSR)								
Frederick Seeds	Watson	306-287-3977				C		

Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797		F	R			
AAC REDBERRY (CWRS)								
Carvers, Ben	Sedley	306-695-7987				C		
Ennis Seeds	Glenavon	306-429-2793				C		
LLseeds.ca	Lumsden	306-530-8433				C		
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705				C		
AAC RIMBEY - AAC PENHOLD (CSPR)								
Blyth, Darran	Waseca	780-205-2677			R		*	
Olynick Seeds	Quill Lake	306-338-8078			R		*	
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705		F			*	
Starlotte Seeds Ltd.	Naicam	306-380-6216			R		*	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797		F	R		*	
AAC RUSSELL - AAC BRANDON (CWRS)								
Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C	*	
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730				C	*	
AAC SCHRADER (DURUM)								
Ardell Seeds Ltd.	Vanscoy	306-668-4415			R			
Carvers, Ben	Sedley	306-695-7987			R			
Condie Seed	Lumsden	306-569-7333		F	R			
Craswell Seeds Ltd.	Strasbourg	306-270-9338	S	F				
Fraser Farms Ltd.	Pambrun	306-741-0475	S	F	R			
Girodat Seeds Ltd.	Shaunavon	306-297-7837			R			
KTS Farms Ltd.	Limerick	306-640-8882	S	F	R			
McDougall Acres Limited	Moose Jaw	306-693-3649	S	F	R			
McArthur Ag Ventures	Watrous	306-230-9853			R			
Nexgen Seeds Ltd.	Swift Current	306-750-1701			R			
Palmier Seed Farms	Lafleche	306-472-7824			R			
Petruic Seed Company Inc.	Avonlea	306-868-2240			R			
Printz Family Seeds	Gravelbourg	306-648-3511		F	R			
Reisner Farm Ltd.	Limerick	306-642-8666		F				
Simpson Farms Joint Venture	Moose Jaw	306-693-9402	S					
Sundwall Seed Service	Govan	306-484-2010		F				
Wiens Seed Partnership	Herschel	306-377-2002	S	F	R			
Winny Seeds	Rosetown	306-831-6032			R			
AAC STARBUCK - AAC BRANDON (CWRS)								
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R			*
B4 Seed Ltd.	Melfort	306-752-2564	S	F	R			*
Berscheid Brothers Seeds	Lake Lenore	306-368-2602			R	C		*
Big Dog Seeds Inc.	Oxbow	306-483-2963				C		*
Blumer Seed Farm	Dinsmore	306-460-7744				C		*
Carvers, Ben	Sedley	306-695-7987				C		*
Cay Seeds	Kinistino	306-864-3696	S		R			*
Cherry Ridge Seed Farm	Nipawin	306-862-6859				C		*
Cornerstone Seed	Welwyn	306-434-7436				C		*
Craswell Seeds Ltd.	Strasbourg	306-270-9338				C		*
DR Huber Farms Ltd.	Landis	306-658-4200				C		*
Eskdale Acres Inc.	Leross	306-795-7493				C		*
Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C		*
Ferndale Seeds	Rocanville	306-645-4423			R			*
Filarczuk Farms	Ituna	306-795-5262				C		*
Foundation Seeds	Saskatoon	306-222-0666				C		*
Frederick Seeds	Watson	306-287-3977				C		*
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C		*
G&R Kerber Farms Ltd.	Rosthern	306-232-4474				C		*
G&R Seeds	Osler	306-239-2071			R	C		*
Gerry Farms Inc.	Creelman	306-457-7720			R	C		*
Greenleaf Seeds Ltd.	Tisdale	306-873-4261				C		*
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336				C		*
Heavin Seed Farms	Melfort	306-921-6440				C		*
Heavin Seed Farms	Melfort	306-921-9324		F	R	C		*
Hetland Seeds Ltd.	Naicam	306-874-5694				C		*
Lakeside Seeds	Wynyard	306-554-2078			R			*
LLseeds.ca	Lumsden	306-530-8433				C		*
Luck, Lorne C.	Tisdale	306-873-8882				C		*
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R			*
Mannanah Seeds	Sturgis	306-547-7432			R			*

Marcotte, Raymond W.	Kinistino	306-864-2948			R	C	*
Mc Carthy Seed Farm	Corning	306-224-4848				C	*
McArthur Ag Ventures	Watrous	306-230-9853				C	*
Medernach Farms Ltd.	Cudworth	306-256-3991			R		*
Midland Seed Farms Inc.	Kuroki	306-338-2021			R	C	*
Nakonechny Seeds	Ruthilda	306-932-4409			R		*
Ostafie, Robert	Canora	306-563-6244			R		*
Prairieview Seeds	Wadena	306-338-8087			R	C	*
Rempel Seeds Inc.	Nipawin	306-873-7376			R	C	*
Rugg Seed Farm	Elstow	306-221-9024		F	R		*
Seed Farm 23 Inc.	Porcupine Plain	306-814-7705			R		*
Seed Source Inc.	Archerwill	306-323-4402				C	*
South Seeds	Melfort	306-752-9840			R	C	*
Starlotte Seeds Ltd.	Naicam	306-380-6216			R	C	*
Tebbutt, Gregg & Blake D.	Nipawin	306-862-9730				C	*
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R		*
Thoms Seeds	Bruno	306-231-7892				C	*
Tomtene Seed Farm	Birch Hills	306-749-3447			R		*
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F	R		*
Webster Seed Farm	Welwyn	306-435-7148				C	*
CM Seeds Ltd.	Carrot River	306-768-8565			R		*
Wylie Farms Ltd.	Biggar	306-948-6045				C	*
Yauck Seed Farm Ltd.	Govan	306-484-4555				C	*
AAC STRONGHOLD (DURUM)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		
Foundation Seeds	Saskatoon	306-222-0666			R		
Fraser Farms Ltd.	Pambrun	306-741-0475			R		
KTS Farms Ltd.	Limerick	306-640-8882				C	
Moen Farms Ltd.	Cabri	306-587-7452			R	C	
Nakonechny Seeds	Ruthilda	306-932-4409	S	F			
AAC SUCCEED - CDC ALLOY (DURUM)							
Craswell Seeds Ltd.	Strasbourg	306-270-9338		F		C	*
KTS Farms Ltd.	Limerick	306-640-8882				C	*
AAC TISDALE (CWRS)							
Hicks, Dale & Barry	Mossbank	306-229-9517				C	
Reisner Farm Ltd.	Limerick	306-642-8666				C	
Willner Agri Ltd.	Davidson	306-567-4613			R		
AAC VIEWFIELD (CWRS)							
Charabin Seed Farm	North Battleford	306-445-2939			R	C	
McDougall Acres Limited	Moose Jaw	306-693-3649				C	
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594				C	
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
AAC VORTEX (WINTER)							
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
AAC WESTLOCK (CPSR)							
Dutton Farms Partnership	Paynton	306-441-6799		F			
AAC WEYBURN - CDC PRECISION (DURUM)							
Beautiful Plain Farm Ltd.	Yellow Grass	306-861-2554			R		*
Laforge Farms Ltd.	Swift Current	306-773-0924			R		*
LLseeds.ca	Lumsden	306-530-8433		F	R	C	*
Printz Family Seeds	Gravelbourg	306-648-3511			R		*
Riviere Ag Seeds Ltd.	Radville	306-869-7629				C	*
Southline Ag Services	Climax	306-293-7525		F			*
Tez Seeds Inc.	Elrose	306-378-7785				C	*
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		*
Wiens Seed Partnership	Herschel	306-377-2002			R		*
AAC WHEATLAND - AAC BRANDON (CWRS)							
Ardell Seeds Ltd.	Vanscoy	306-668-4415	S	F	R		*
Buziak Seed Farm	Mayfair	306-445-6556			R	C	*
Carvers, Ben	Sedley	306-695-7987				C	*
Charabin Seed Farm	North Battleford	306-445-2939			R	C	*
Condie Seed	Lumsden	306-569-7333				C	*
Cornerstone Seed	Welwyn	306-434-7436	S	F	R		*
Covenant Grain	Hepburn	306-947-7720				C	*
Denis Seed Farms	St. Denis	306-258-2219				C	*
DR Huber Farms Ltd.	Landis	306-658-4200				C	*
Dutton Farms Partnership	Paynton	306-441-6799				C	*

Ennis Seeds	Glenavon	306-429-2793				C	*
Fedoruk Seeds Ltd.	Kamsack	306-542-4235				C	*
Filarczuk Farms	Ituna	306-795-5262				C	*
Fowler Seeds Ltd.	Central Butte	306-796-7794				C	*
Frederick Seeds	Watson	306-287-3977			R	C	*
G & G Edmunds Farms Ltd.	Tisdale	306-873-4780				C	*
Greenshields, Grant, Charlotte, Thomas & Callie	Semans	306-746-7336				C	*
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005				C	*
Josuttes Holdings Ltd.	Paradise Hill	306-248-7077				C	*
Lindgren Seeds	Norquay	306-594-7644				C	*
Lung Seeds Ltd.	Lake Lenore	306-368-2414			R	C	*
Lung Seeds Ltd.	Lake Lenore	306-368-2414				C	*
Mannanah Seeds	Sturgis	306-547-7432			R	C	*
Mawer Acres	Central Butte	306-891-6885				C	*
Medernach Farms Ltd.	Cudworth	306-256-3991			R		*
Midland Seed Farms Inc.	Kuroki	306-338-2021				C	*
Moroz, Troy	Pelly	306-594-7679				C	*
Nakonechny Seeds	Ruthilda	306-932-4409		F	R		*
Olynick Seeds	Quill Lake	306-338-8078				C	*
Osiowy, Bruce M.	Abernethy	306-335-2777			R		*
Ostafie, Robert	Canora	306-563-6244				C	*
Prairieview Seeds	Wadena	306-338-8087				C	*
R. & R. Allan Farms	Corning	306-736-7262			R		*
Rempel Seeds Inc.	Nipawin	306-873-7376			R	C	*
Rugg Seed Farm	Elstow	306-221-9024			R		*
Sayers Seed Cleaning Ltd.	Delmas	306-481-7686				C	*
Shewchuk Seeds	Blaine Lake	306-290-7816				C	*
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C	*
Terre Bonne Seed Farm Ltd.	Melfort	306-921-8594			R	C	*
Tez Seeds Inc.	Elrose	306-378-7785			R	C	*
Thoms Seeds	Bruno	306-231-7892				C	*
Toman Agventures Inc.	Guernsey	306-365-8386				C	*
Trawin Seeds	Melfort	306-752-4060				C	*
Trowell, Kenneth & Larry & Nathan	Saltcoats	306-744-2687	S			C	*
Van Burck Seeds Ltd.	Star City	306-863-4377	S	F	R		*
Veikle Seeds Ltd.	Cut Knife	306-398-4714				C	*
Wakefield Seeds	Maidstone	780-872-2394			R	C	*
Webster Seed Farm	Welwyn	306-435-7148				C	*
Wilfing Farms Ltd.	Meadow Lake	306-236-7797			R	C	*
Winny Seeds	Rosetown	306-831-6032				C	*
Wohlgemuth, Mark	Bredenbury	306-744-7722				C	*
Woroschuk, Andrew	Calder	306-742-4682			R	C	*
AAC WILDFIRE (WINTER)							
Ferndale Seeds	Rocanville	306-645-4423			R	C	
Watson Seeds Ltd.	Avonlea	306-868-4402				C	
AC ANDREW (CWSWS)							
Dutton Farms Partnership	Paynton	306-441-6799				C	
Frederick Seeds	Watson	306-287-3977			R	C	
Herle Seed Farm Ltd.	Wilkie	306-843-7696				C	
Hicks, Dale & Barry	Mossbank	306-229-9517				C	
Nakonechny Seeds	Ruthilda	306-932-4409			R		
Wakefield Seeds	Maidstone	780-872-2394			R		
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
ACCELERATE (CPSR)							
Cornerstone Seed	Welwyn	306-434-7436			R		
Dutton Farms Partnership	Paynton	306-441-6799				C	
Greenleaf Seeds Ltd.	Tisdale	306-873-4261			R	C	
Tomtene Seed Farm	Birch Hills	306-749-3447				C	
ALOTTA							
Hetland Seeds Ltd.	Naicam	306-874-5694	S				
Willner Agri Ltd.	Davidson	306-567-4613	S				
CARBERRY (CWRS)							
Ostapovitch, Fred G. & Glen	Theodore	306-647-2205				C	
CDC ADAMANT - CDC BRADWELL (CWRS)							
Reisner Farm Ltd.	Limerick	306-642-8666			R		*

CDC COVERT (DURUM)							
Nutrien Ag Solutions	High River						C
CDC DEFY (DURUM)							
Blumer Seed Farm	Dinsmore	306-460-7744					C
Condie Seed	Lumsden	306-569-7333					C
Correction Line Seeds	Ceylon	306-869-5423	S	F	R	C	
Cote Seed Farms	Cadillac	306-625-7919				C	
Craswell Seeds Ltd.	Strasbourg	306-270-9338		F	R		
Girodat Seeds Ltd.	Shaunavon	306-297-7837			R		
Gizen Farms Ltd.	Prelate	306-628-8127				C	
LLseeds.ca	Lumsden	306-530-8433				C	
McDougall Acres Limited	Moose Jaw	306-693-3649	S			C	
Nakonechny Seeds	Ruthilda	306-932-4409			R		
Needham, Reginald R.	Oxbow	306-483-5052			R		
Nexgen Seeds Ltd.	Swift Current	306-750-1701				C	
Palmier Seed Farms	Lafleche	306-472-7824				C	
Petruic Seed Company Inc.	Avonlea	306-868-2240	S	F	R	C	
Reisner Farm Ltd.	Limerick	306-642-8666			R	C	
Riviere Ag Seeds Ltd.	Radville	306-869-7629				C	
Simpson Farms Joint Venture	Moose Jaw	306-693-9402				C	
Southside Seeds	Rockglen	306-476-7623				C	
Starquest Farms Ltd.	Hazlet	306-741-6827			R	C	
Sundwall Seed Service	Govan	306-484-2010				C	
Tez Seeds Inc.	Elrose	306-378-7785				C	
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R	C	
Willner Agri Ltd.	Davidson	306-567-4613			R		
Wohlgemuth, Mark	Bredenbury	306-744-7722				C	
CDC ENVY (CWRS)							
Bodnaryk Family Farm	Rhein	306-273-4263	S	F			
Cornerstone Seed	Welwyn	306-434-7436		F			
Gregoire Seed Farms Ltd.	North Battleford	306-441-7005			R		
Penner, David & Braden	Norquay	306-594-7897			R		
Sayers Seed Cleaning Ltd.	Delmas	306-481-7686			R		
Tomtene Seed Farm	Birch Hills	306-749-3447			R		
CDC EVIDENT (DURUM)							
Riviere Ag Seeds Ltd.	Radville	306-869-7629	S				
Heenan Agri Ltd.	Rm Sherwood	306-536-6800	S				
LLseeds.ca	Lumsden	306-530-8433	S				
Condie Seed	Lumsden	306-569-7333	S				
Southside Seeds	Rockglen	306-476-7623		F			
Printz Family Seeds	Gravelbourg	306-648-3511		F			
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F			
CDC FLARE (DURUM)							
Nutrien Ag Solutions	High River					C	
CDC HUGHES-CARDALE (CWRS)							
Nutrien Ag Solutions	High River					C	*
CDC LANDMARK - AAC VIEWFIELD (CWRS)							
Palmier Seed Farms	Lafleche	306-472-7824				C	*
Cay Seeds	Kinistino	306-864-3696				C	*
Ostafie, Robert	Canora	306-563-6244			R		*
Wiens Seed Partnership	Herschel	306-377-2002				C	*
CDC ORTONA (CWRS)							
Nutrien Ag Solutions	High River				R		
CDC PILLAR CL PLUS (CWRS)							
Nutrien Ag Solutions	High River					C	*
CDC PRECISION (DURUM)							
Watson Seeds Ltd.	Avonlea	306-868-4402				C	
CDC REIGN (CPSR)							
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	
CDC SILAS (CWRS)							
Charabin Seed Farm	North Battleford	306-445-2939	S	F	R	C	
Sayers Seed Cleaning Ltd.	Delmas	306-481-7686			R		
Buziak Seed Farm	Mayfair	306-445-6556				C	
Kondratowicz, Frank	Unity	306-228-7809				C	
Veikle Seeds Ltd.	Cut Knife	306-398-4714			R		
CDC SKRUSH (CWRS)							
Needham, Reginald R.	Oxbow	306-483-5052				C	

CDC SUCCESSION CLPLUS - CDC PILAR CLPLUS (CWRS)							
Nutrien Ag Solutions	High River				R	C	*
CDC UTMOST - HARVEST (CWRS)							
Ostafie, Robert	Canora	306-563-6244				C	**
Palmier Seed Farms	Lafleche	306-472-7824				C	*
CDC VANTTA (DURUM)							
Southline Ag Services	Climax	306-293-7525			R		
Petruic Seed Company Inc.	Avonlea	306-868-2240	S				
Starquest Farms Ltd.	Hazlet	306-741-6827			R		
Correction Line Seeds	Ceylon	306-869-5423			R		
Fraser Farms Ltd.	Pambrun	306-741-0475			R	C	
Nexgen Seeds Ltd.	Swift Current	306-750-1701			R		
McDougall Acres Limited	Moose Jaw	306-693-3649			R	C	
Watson Seeds Ltd.	Avonlea	306-868-4402	S	F	R		
JAKE (CWRS)							
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C	
PARATA (CWRS)							
Je-Jo Farms Ltd.	Glaslyn	306-342-7789				C	
SADASH - AC ANDREW (CWSWS)							
Charabin Seed Farm	North Battleford	306-445-2939				C	*
Wilfing Farms Ltd.	Meadow Lake	306-236-7797				C	*
SNOWBIRD (CWSWS)							
Tomtene Seed Farm	Birch Hills	306-749-3447			R		
SPARROW - ALDERON (CWSP)							
Sayers Seed Cleaning Ltd	Delmas	306-481-7686				C	*
Hanley Farms	Regina	306-539-5403				C	*
Van Burck Seeds Ltd.	Star City	306-863-4377				C	*
WPB WHISTLER (CWSP)							
Willner Agri Ltd.	Davidson	306-567-4613			R		

WHEATGRASS

AC GOLIATH (CRESTED)							
Cody Yelland	Carrot River	306-768-3335				C	
Trawin Seeds	Melfort	306-752-4060		F		C	
CDC SALT KING (GREEN HYBRED)							
Cody Yelland	Carrot River	306-768-3335		F			
GREENLEAF (PUBESCENT)							
Cody Yelland	Carrot River	306-768-3335				C	
KIRK (CRESTED)							
Cody Yelland	Carrot River	306-768-3335		F		C	
DLF Canada Inc.	Winnipeg	204-633-0088				C	
REVENUE (SLENDER)							
Cody Yelland	Carrot River	306-768-3335		F		C	

Varieties of Grain Crops 2024

Table of Contents

Symbols and Abbreviations Used:

§ Variety may not be described in 2025
--- Insufficient test data to describe
na Not applicable
❁ Applied for PBR protection at time of printing (UPOV'91)
Plant Breeders' Rights (UPOV'78) at time of printing
Plant Breeders' Rights (UPOV'91) at time of printing
VUA Variety Use Agreement in effect

Relative Maturity: VE = Very Early, E = Early, M = Medium, L = Late, VL = Very Late

Agronomic Rating: VG = Very Good, G = Good, F = Fair, P = Poor, VP = Very Poor

Disease Resistance: R = Resistant, MR = Moderately Resistant, I = Intermediate Resistance, MS = Moderately Susceptible, S = Susceptible

The information contained herein is provided by the Saskatchewan Advisory Council on Grain Crops. To reproduce this information in whole or in part, permission must be obtained from the council. Please contact the Ministry of Agriculture, Crops and Irrigation Branch, c/o Matthew Struthers at 306-787-4664, or *matt.struthers@gov.sk.ca*.

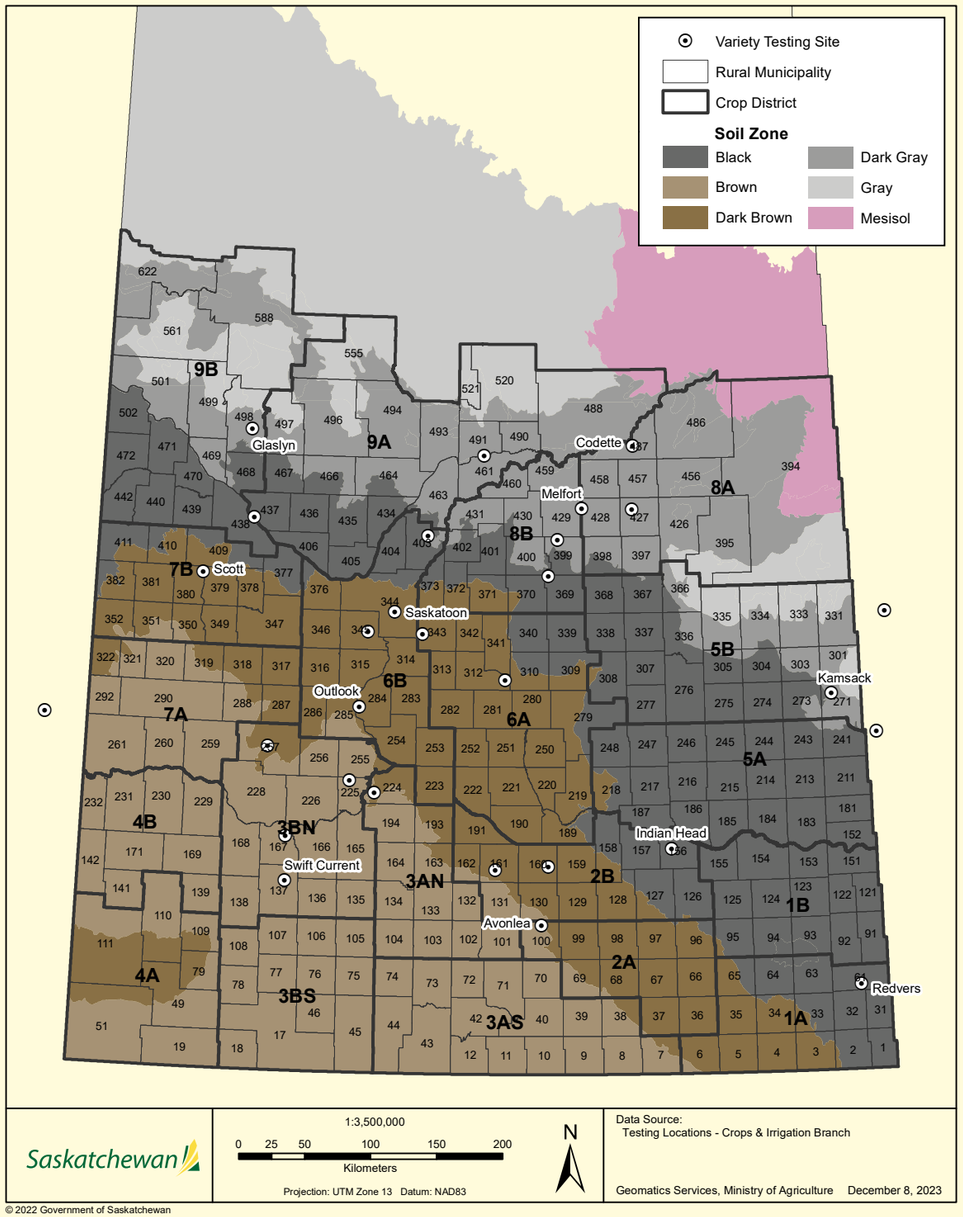
Accessing Public Release Varieties

Breeder seed of public release varieties is available to anyone (including producers and seed growers) for multiplication, increase and marketing. There are no royalties or seed marketing agency fees attached to use or sale of seed produced from breeder seed of public release varieties. While subsequent seed production may be Pedigreed, this is the buyer's choice and the buyer may increase the seed of public release varieties in any way they wish (only pedigreed seed can be sold by variety name, for most major crop kinds). To purchase breeder seed of public release varieties, contact the breeding institution listed in the Breeding Institution and Seed Distributors listings on pages VR37 to VR39.

Legal Disclaimer

This guide is for informational purposes only. The information presented is based on aggregated data and observations, but significant individual variations may occur due to conditions such as farm management practices, climate, soil type and geographical location. While reasonable care was exercised in the preparation of the guide, no guarantees or warranties regarding the accuracy, reliability or completeness of the information are given. This guide may not reflect the newest information available and may not be regularly updated. It is the sole responsibility of the user to evaluate the accuracy and appropriateness of the information.

Regional Variety Testing Locations



The cropland of Saskatchewan has been divided into four areas based roughly on agro-climatic conditions. Crop yields can vary from area to area. In choosing a variety, producers will want to consider the yield data in combination with marketing and agronomic factors.

Area 1: Drought is a definite hazard and high winds are common. Sawfly outbreaks often occur in this area. Cereal rust may be a problem in the southeastern section.

Area 2: Drought and sawfly may be problems in the western and central sections of the area. Cereal rust may be a problem in the southern section.

Area 3: Sawfly can also be a problem. Drought is not as likely to be a problem in this area, particularly in the east. Cereal rust may occur in the eastern portion. The frost-free period can be fairly short in the northern section.

Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest conditions are frequent problems.

Note About Dividing Lines:

The dividing lines do not represent distinct changes over a short distance. The change from one area to another is gradual.

Regional Variety Testing in Saskatchewan relies on support from many organizations, including:

SASKATCHEWAN pulse Growers

Sask Wheat DEVELOPMENT COMMISSION

SaskBarley DEVELOPMENT COMMISSION

SaskOats DEVELOPMENT COMMISSION

Saskatchewan

SaskFlax

SaskSeed Saskatchewan Seed Growers' Association

SCA SASKATCHEWAN CATTLEMEN'S ASSOCIATION

The Saskatchewan Advisory Council on Grain Crops (SACGC) and the Saskatchewan Variety Performance Group (SVPG) coordinate, supervise and review the collection, analysis and reporting of information in this booklet. Membership consists of representatives from:

- Saskatchewan Ministry of Agriculture
- Seed Companies
- Saskatchewan Seed Growers' Association
- Crop Commissions
- Agriculture and Agri-Food Canada
- Crop Development Centre
- University of Saskatchewan
- Saskatchewan Crop Insurance Corporation

SACGC and SVPG gratefully acknowledge the contributions of all individuals and organizations involved in the generation and publication of this information.

Testing Varieties in Saskatchewan

By The Ministry of Agriculture

Grower dollars at work testing varieties of grain crops across Saskatchewan. Variety results are reviewed and approved by SACGC to ensure information published is based on sound scientific principles.

Regional testing of crop varieties is conducted to provide producers with information on the agronomic performance of varieties under different agro-climatic conditions. Saskatchewan producers will continue to have the opportunity to evaluate the newest grain crop varieties and their suitability for production in different regions of the province. Many funders contribute to variety testing in Saskatchewan.

The Ministry of Agriculture provides $100,000 toward a testing program that is based on industry-government partnership. Technical and in-kind support is also provided by Agriculture and Agri-Food Canada, Saskatchewan Crop Insurance Corporation and The Western Producer, publisher of the *2024 SaskSeed® Guide*.

The Saskatchewan Variety Performance Group (SVPG) administers the program for spring cereals, fall rye and flax. SVPG is composed of representatives from the seed industry, producers, breeders and government agencies. The Saskatchewan Seed Growers' Association administers the funds for SVPG. Crop coordinators manage the data and provide expertise for their respective crops. An entry fee system is used, in which variety owners or companies with the distribution rights to a particular variety pay a portion of the cost of having the variety tested. The Saskatchewan Seed Growers' Association, Saskatchewan Wheat Development Commission, Saskatchewan Barley Development Commission, Saskatchewan Oat Development Commission, SaskFlax and Saskatchewan Cattlemen's Association collectively provide more than $200,000 to the core program. Supplementary funds enhance the core program.

Saskatchewan Pulse Growers (SPG) funds the pulse and soybean regional variety trials for Saskatchewan growers. For the 2023 trials, this funding was approximately $354,200 which is partially off-set by entry fees for varieties entered into the trials. SPG collaborates with 14 research organizations at 23 locations to conduct the trials, including the Crop Development Centre at the University of Saskatchewan, Agriculture and Agri-Food Canada research stations, provincial AgriARM sites, the Canada-Saskatchewan Irrigation Diversification Centre, New Era Ag Research, Chinook Applied Research Association, Parkland Crop Diversification Foundation, SM Ag Research, Palliser Triangle Research, Discovery Ag Research and the Conservation Learning Centre.

The results from all variety trials of all crop kinds tested are reviewed by the Saskatchewan Advisory Council on Grain Crops (SACGC), which also updates disease and other agronomic information and approves the data prior to inclusion in this publication.

Relative yield of varieties

Trials are conducted using uniform protocols and standard check varieties. Data is collected from as many sites as are available and statistically analyzed. Results in this publication are aggregated over a number of years and on an area basis for most crops.

Grain yield is a function of genetic and non-genetic factors. Variety trials are designed to measure yield differences due to genetic causes. It is important to minimize variability due to non-genetic factors such as moisture, temperature, transpiration, weeds, diseases and other pests. Experimental design uses replication (repeated plantings of the varieties) and randomization (the position of the varieties within the test is assigned by chance) to estimate the precision with which the genetic factors can be measured.

Relative yield is the yield of one variety expressed as a percentage of the check variety. Yields obtained in these trials are not identical to those obtained in commercial production. However, the relative ranking of these varieties compared to the check variety, obtained over a number of years at several locations, would remain the same regardless of whether the grain yield was measured in small plots or large-scale fields. Relative yield is the best estimate of expected yield advantage in the areas indicated.

Considerations For New Variety Selection

There are various factors to consider when selecting a new variety and it all depends on what your main priority is. Some factors to consider include:

- Market – Identify your target market and make sure the variety selected matches the specifications and quality expected by your buyers, such as seed size, colour, functionality and other attributes.
- Maturity – Identify realistic expectations on maturity needed to achieve optimum yield and quality in your region.
- Disease resistance – Select varieties with better resistance for high-risk areas or fields. Resistance helps with disease management, but may or may not reduce the reliance on fungicide application.
- Herbicide tolerance – Consider the weeds or volunteers that may be present in the field to determine if herbicide-tolerant options are a good choice.
- Seed size – If seed size does not affect the market choice, then consider the seeding costs of the variety. Smaller-seeded varieties are usually cheaper to seed and have fewer production issues with plugging seeding equipment and other operations. Faba beans are a good example where seed size may be an important consideration.
- Crop growth habit and other physiological factors – Factors such as growth habit (determinate or indeterminate), plant height, standability, harvest management and quality parameters such as resistance to sprouting, seed coat breakage and bleaching.
- Yield – This is often the highest priority, as it directly relates to the ultimate goal of net return. In some cases, the advantages and higher performance of new varieties may not necessarily translate into higher yield, due to environment or management practices. If all other factors have been considered, then use yield potential as the deciding factor.

What Are Plant Breeders' Rights?

By The Ministry of Agriculture

The goal of the Plant Breeders' Rights (PBR) legislation is to encourage investment and innovation in the crops sector. There are many ways to accomplish this, but the International Union for the Protection of New Varieties of Plants (UPOV)-based PBR balances the interests of the farmer and the breeder. This gives the farmer fair access to the use of purchased seed and the breeder can expect a royalty from every farmer buying seed of the breeder's variety.

PBR protection helps ensure that companies and institutions that invest in plant breeding can keep reasonable control of their varieties and secure fair compensation for their efforts. Some of the benefits of PBR include:

- Access to new and improved plant varieties and improving the bottom line for producers. Enhanced protection under the revised PBR Act will encourage the introduction of new varieties from other countries (once registered in Canada), as well as stimulate investments in variety development in Canada.
- Farmers may save seed for use on their own farms if the original seed was obtained legitimately. However, seed may not be sold for sowing, without the consent of the breeder.

Plant breeders' rights are a form of intellectual property rights that allow plant breeders to protect new varieties of plants. When plant breeders' rights are granted, the breeder gets exclusive rights in relation to propagating material (e.g. seed) of their new plant variety. Sale, trade, exchange, or any other transfer of the seed for propagation purposes is prohibited by law without the written permission of the breeder or their agent.

UPOV is the International Union for the Protection of New Varieties of Plants. To be a member, a country must have legislation that aligns with a ratified UPOV convention. There are 78 UPOV member countries, 61 of which have ratified UPOV'91-compliant legislation.

Varieties protected by PBR are identified with one of two logos. Varieties protected prior to Feb. 27, 2015, are identified by:

PBR
Progress through Research

and those protected on or after Feb. 27, 2015, are identified by:

91
Progress Through Research
Le progrès grâce à la recherche

Varieties previously protected by PBR remain under the same rules as before. Varieties protected since Feb. 27, 2015, are protected under the new PBR Act.

The new PBR Act provides additional mechanisms for the breeder to seek compensation for the unauthorized use of protected varieties. It has always been illegal to sell PBR-protected seed without the consent of the breeder. Now, it is also illegal to purchase seed without the consent of the breeder, meaning both the seller and purchaser can be liable if the seed sale is not approved. The best way to ensure that the seed is being purchased legally is to purchase certified seed. Producers should look for the blue certified seed tag and keep it in their records as long as they grow grain derived from that original seed purchase.

Canada's initial PBR Act facilitated access to new and improved varieties for farmers. With the updated PBR Act, farmers will benefit from even greater access to new or improved crop varieties and breeders will be better able to protect the investments in the development of new varieties.

For more information, visit *www.seeds-canada.ca* or contact the PBR Office at *pbr.pov@inspection.gc.ca*.

Plant Breeders' Rights status can change throughout the year. Significant efforts are taken to ensure the correct logo is applied at the time of printing this guide. The PBR Office maintains an online database (*www.inspection.gc.ca)* that can be accessed to verify accuracy and/or changes to PBR status.

A Variety Use Agreement (VUA) will be applied to specific varieties as determined by plant breeders and their seed distributors. When producers purchase a VUA variety and then divert some of that grain at harvest for seed use and plant it the following spring, they will declare that use in the VUA Platform and will then be invoiced a Variety Use Fee for use of the variety. This royalty

VUA™

fee, which is set at the time of certified seed purchase, will be invoiced to the producer every year that farm saved seed of the VUA variety is grown.

Varieties with a VUA will be designated in this guide with VUA symbol following entry in the data tables. The VUA platform is managed by Seeds Canada. For more information, visit: *www.seeds-canada.ca/variety-use-agreement*.

Seed Quality and Seeding Rates Are Crucial to a Good Plant Stand

By The Ministry of Agriculture

Seed quality and seeding rates are important for establishing good plant stands and unlike the weather, are two factors we can control. Plant population sets the stage for the yield potential of a crop. Research has shown that each crop has an optimum plant density range that producers should target when seeding their crop. Rates may be adjusted depending on the conditions in the field, date of seeding, weed pressure, seed-placed fertilizer and other pressures that may affect emergence or plant stand.

Determining the quality of the seed starts with a seed test prior to buying seed or seeding the crop. Sending a seed sample to a qualified lab can provide information on germination, vigour, diseases present, purity and thousand kernel weight (TKW). All of these factors help inform growers of whether the seed is suitable for planting and influence seeding rates for that seed lot. Germination tells us how many seeds are expected to germinate and vigour gives an indication of how well the seedlings will thrive under stressful conditions. TKW provides the seed size, which is vital when calculating seeding rates to target optimum plant populations. Average TKW for varieties are listed in the *Varieties of Grain Crops,* but individual seed lots can vary tremendously. Having the actual TKW for the seed lot being grown is important for the accuracy of seeding rates.

Changes in the canola seed industry require you to pay closer attention to seeding rates, or to change how you approach seeding. Companies are selling seed based on categories of seed size, represented by thousand seed weight (TSW).

Crop	Target Plant Population (per m^2)	Target Plant Population (per ft^2)	TKW (grams)
Wheat – hard red spring	250	24	31 – 38
Wheat – CPS	250	24	39 – 50
Durum	210 – 250	20 – 24	41 – 45
Wheat – SWS	210 – 250	20 – 24	34 – 36
Barley – 2 row	210 – 250	20 – 24	40 – 50
Barley – 6 row	210 – 250	20 – 24	30 – 45
Oat	350	35	30 – 45
Triticale – spring	310	29	42 – 48
Brown and Oriental Mustard	70 – 120	7 – 11	2 – 3
Yellow Mustard	70 – 120	7 – 11	5 – 6.5
Canola	60 – 100	6 – 9	2.5 – 7.5
Flax	300 – 400	30 – 40	5 – 6.5
Pea	85	8	125 – 300
Faba bean	45	4	350 – 425
Lentil	130	12	30 – 80
Chickpea	44	4	220 – 450
Soybean[1]	44 – 57	4 – 5	n/a
Canary seed[2]	n/a	n/a	6 – 7
Camelina	210	20	1 – 1.8
Hemp (green)	100 – 125	10 – 12	12 – 18
Hemp (fibre)	300 – 375	30 – 35	12 – 18
Quinoa[2]	n/a	n/a	2.8

[1] Soybeans are seeded based on seeds per acre and it is recommended to target 200,000 seeds per acre with air drills and 180,000 seeds per acre with planters. The soybean emergence rates are higher with planters than airdrills due to airflow causing some damage to sensitive seeds.

[2] Target plant stands are not well established for Canary seed and quinoa. Canary seed target 35 to 45 kg/ha (500 to 750 seeds/m^2). Quinoa target 10 kg/ha (10 lbs./ac.).

The majority of canola seed today falls into a TSW range of 4.0 to 5.9g. The TSW is currently listed on a bag, but each bag is equal weight and price; thus, the number of seeds between bags with different TSWs might be inconsistent. Bag weights will differ between each TSW category, but the number of seeds per bag will be much more consistent across TSWs listed on the bags; germination and vigour will not differ. Pricing should remain consistent, as well, regardless of bag weight. The important consideration to note is that seeding rate must be adjusted accordingly to achieve consistent establishment (and plant stand density) across any of the TSWs.

Calculating Seeding Rates

Thousand kernel weight (TKW), germination rate and target plant populations are needed when calculating the seeding rate. Crops and varieties can vary significantly in seed size, especially pulses and not knowing your TKW could mean seeding too heavily and spending more on seed than needed, or seeding too lightly and limiting yield potential. Emergence rate is more difficult to estimate, as it is dependent on germination and environmental conditions.

Expected seedling survival is typically five to 20 per cent less than the germination rate with pulses and cereals — more under ideal conditions and less under adverse conditions. For canola, expected survival rates range from 40 to 60 per cent. Factors to take into account when determining the expected seedling survival are seeding date, soil temperature, moisture and texture, as well as seed quality and possible soil-borne diseases and insect pressures. The amount of seed-placed fertilizer and the seeding depth are factors that can also affect seedling survival. The formula below should be used to determine the target seeding rate:

$$\textbf{Seeding Rate kilograms per hectare (kg/ha)} = \frac{\textbf{(target population per square metre x TKW* in grams)}}{\textbf{\% field emergence or survival (in whole number, i.e. 85)}}$$

To convert to pounds per acre, multiply the seeding rate (in kg/ha) by 0.89 *TKW = Thousand Kernel Weight

For example: With **CDC Amarillo** yellow peas, the target plant population is 85 plants/m^2. A seed lot with TKW of 235 grams and germination at 98 per cent under good emergence conditions (using 88 per cent emergence, which is 10 per cent less than the germination rate) would have a target seeding rate of: 85 x 235 / 88 = 227 kg/ha, or 202 lbs./ac. or 3.4 bu./ac.

Interpreting Seed Test Results

By Jason Danielson, Discovery Seed Labs

Seed testing can give an indication of how fit your seed is for planting. Tests should be done for germination, vigour and disease. This package of tests can help you better understand how suitable seed will be for spring.

The germination test will give you an indication of the percentage of seeds that will grow in an ideal growth environment. The vigour test indicates the percentage of seed that will grow in adverse conditions. Even though the vigour assay is not standardized between seed labs, the results should be indicative of the seed's fitness when grown in harsher conditions. Combining the information from the germination and vigour tests will give you a good snapshot of the fitness of your seed.

Ideally, the germination rate from your sample should be higher than 85 per cent. The vigour should be close to the germination value; but if there is variation, it should be no greater than 10 percentage points. A large difference could be an indication of issues in the seed, especially if storage conditions over the winter months are not ideal.

Challenging harvest conditions can decrease the viability of the crop for seed. A germination test in the fall may not be representative of the germination in the spring, after several months of storage. A fall germination test can be helpful in determining seed needs for the upcoming year. A germination test closer to spring is recommended to ensure the seed remains sound for spring planting.

Grain dryers can be used on crops intended for seed, but the grain dryer must be kept at temperatures safe for the seed. High temperatures in grain dryers can reduce germination. For more information on grain drying and storage, visit *www.saskatchewan.ca* and search "drying grain."

If forced to use seed with a lower germination rate, you will have to increase the seeding rate to reach your target plants per square foot. Keep in mind that you cannot just increase the seeding amount by the percentage you are off from 100 per cent as not all of the seeds you are adding to the increased seeding rate will germinate. A seeding rate calculator can be a helpful tool to determine the correct seeding rate.

Significant time between when your test was completed and when seeding will occur can result in your germination and vigour values dropping. You can retest your seed in the spring to determine if germination has changed from the initial test in the fall.

When performing your own germination tests, it can be challenging to determine if a seed has germinated and is healthy, versus a seed that develops weak roots that won't grow into a plant. Other issues such as fresh and hard seeds, in addition to seed dormancy, can lead to inaccurate results. A certified seed analyst is trained to conduct seed tests.

There are different diseases of interest depending on the crop that you are seeding. For cereals, the main diseases to test for are *Cochliobolus sativus* (root rot), *Ustilago nuda* (smut) and *Fusarium* (root rot) — both *Fusarium graminearum* and total. Although *F. graminearum* is not the most aggressive *Fusarium* species for seedling blight, any areas that have not had fusarium head blight (FHB) caused by *F. graminearum* should avoid introducing it. The *Fusarium* total reported on the seed test includes *F. graminearum*.

For pulses, the diseases of interest are *Ascochyta* (leaf blight), *Anthracnose*, *Botrytis* (grey mould) and *Sclerotinia* (white mould). The amount of disease pressure during the last growing season will determine what you will likely have available for quality of seed.

A good practice is to always use the best seed you can source. In good years you should look for seed with little to no presence of disease. In challenging years when the disease is higher, it is important to still source the best seed available and be sure to use seed with good germination.

When using seed with high disease and low germination, more seed is needed to achieve the target plants per square foot. Increasing the seeding rate increases the amount of disease inoculum that you are adding to your soil. A seed treatment can be a good investment in a variety of scenarios, including when using seed with higher disease levels.

Soil Germination Test

It is important to communicate if the crop intended for seed has been treated with pre-harvest glyphosate. Otherwise, the seed will be tested in a normal germination test and the glyphosate may adversely affect germination. This adds an additional cost because the sample will have to be retested for germination. If there is a possibility of glyphosate on the seed, a soil germination test should be requested to "tie up" any glyphosate that might be on the outside of the seed so it does not have adverse effects when the seed is germinating.

Some crop desiccants are registered for use on crops intended for seed production. Glyphosate is not a desiccant. Glyphosate is not recommended for any crop that is to be used for seed. Glyphosate at pre-harvest can cause germination and possibly vigour problems if the herbicide was applied before the seed was fully mature. Crops sprayed with pre-harvest glyphosate may germinate, but the seedling could be stunted and deformed. Crops treated prematurely are off-label and have the potential to threaten export markets.

Seed Samples

The quantity of seed tested is minuscule compared to the size of the seed lot that it represents. Improper sampling is the greatest source of error in seed testing. Make certain the sample is representative of the entire seed lot. To collect a representative sample, gather more seed than needed for a given test. Hand sample or use a probe so that all areas of the seed lot are represented. If the seed is in a bin, sample it from the top, centre, sides and bottom. Do not take your seed sample from beside the bin door. It might be more appropriate to collect subsamples as the seed is being transferred from a truck or bin. After collecting the seed, thoroughly mix it.

Regardless of how accurately the technical work is, the results can only show the quality of the sample submitted for analysis. Consequently, every effort must be made to ensure the samples sent to the analyst accurately represent the composition of the lot in question.

Seed Quality and Seed-Borne Diseases

By The Ministry of Agriculture

Use of seed from cereal crops infected with *Fusarium* species may result in poor emergence. Such seed should be treated with a registered fungicide before planting. Use of infected seed may introduce *Fusarium* diseases into unaffected areas. Tolerance for *Fusarium* vary with species. Refer to the Ministry of Agriculture publication *Seed Quality and Seed-Borne Diseases of Cereal Crops* for more information.

Smuts that attack wheat, barley, oat and rye can be controlled by seed treatment. If seed from a crop in which bunt or smut was observed must be used for seed, seed should be tested and seed treatment should be considered. If the presence of smut is uncertain, varieties rated susceptible (S) should be treated every year, those rated moderately susceptible (MS) every second year and those rated intermediate resistance (I) every third year.

Only systemic fungicides will control true loose smut of barley and wheat and stem smut of rye. Pathogens causing the other types of smut (covered, false loose, oat smut and bunt) are carried on the outside of the seed and can be controlled by non-systemic seed treatments.

The virulent form of blackleg of canola is widespread in Saskatchewan. Seed treatment with a recommended fungicide can reduce the level of disease. Use of canola seed commercially coated with an appropriate seed treatment is a convenient alternative to on-farm seed treatment.

Pulse growers should use seed that has been tested for seed-borne diseases such as ascochyta, anthracnose and botrytis. Tolerances for seed infection vary with the pulse crop, the disease, weather conditions of the region and the availability of a seed treatment. If infection of the crop from sources other than seed is likely, using seed with low infection levels becomes less important. In regions with frequent rainfall and high humidity, tolerances will be lower.

For ascochyta blight of lentil, use of seed with up to five per cent seed infection is acceptable in the Brown and Dark Brown Soil Zones, but zero per cent is desirable in the Black Soil Zone. A seed treatment for ascochyta-infected lentil seed is available and is recommended if seed infection levels approach five per cent. In pea, up to 10 per cent seed infection with ascochyta is acceptable.

In chickpea, zero per cent ascochyta seed infection is recommended because of the high rate of transmission of the disease from the seed to the emerging seedlings and its highly destructive nature. Refer to Saskatchewan Agriculture's publication *Seed Quality and Guidelines for Seed-Borne Diseases of Pulse Crops.*

Handle delicate seeds (i.e. pulses) with care, as seed coats are susceptible to damage—run augers full and slow and watch fan speeds on airseeders. Use a seed treatment if seeds have a high level of disease, show signs of mechanical damage, or the forecast is for wet, cool environmental conditions that may delay emergence. Kabuli chickpeas must have seed treatment or reduced emergence will occur.

Root rots can include a complex of pathogens such as *Fusarium spp*., *Rhizoctonia solani*, or *Pythium spp*. and more recently, *Aphanomyces euteiches*. There is no indication of differences in susceptibility between varieties or crops for most of the root rot pathogens, with the exception of *Aphanomyces*. Currently all pea and lentil varieties are susceptible to *Aphanomyces* root rot. Current faba bean and chickpea varieties have partial resistance and along with soybean, could be considered other nitrogen-fixing crops that have resistance to *Aphanomyces*.

With soybeans, the best management practices for *Phytophthora* stem rot include selecting varieties with genetic resistance and using a seed treatment that is labeled for control.

Wireworms that attack all grain crops, pea leaf weevil in pea and faba beans and flea beetles that attack canola and mustard can be controlled by seed treatments containing insecticides.

The degree of control with seed treatments depends on five factors:

1. active ingredients
2. rate of application
3. seed- and soil-borne fungal diseases or insects present
4. environmental conditions
5. quality of seed coverage.

Check individual product labels for specifics.

Adequate coverage is important to ensure each seed is protected and the seeds are completely covered (especially important with contact type seed treatments).

Read the label carefully before using any seed treatment. Information on their use and recommended rates is found in the Ministry of Agriculture publication *Guide to Crop Protection*. Carryover stocks of treated seed should be tested for germination before planting. Treated seed must not be delivered to an elevator or used for feed.

Seed-Borne and Seedling Diseases and Actions to Minimize Impact

Crop	Disease Pathogen	Economic Threshold	Action If Over Threshold
Field Peas Lentils	*Aphanomyces euteiches (*Root Rot)	Soil-borne only	Consider seed treatment if disease history is present
Field Peas	*Ascochyta complex*	10% on seed	Use seed treatment
Lentils	*Ascochyta lentis*	5% on seed	Use seed treatment
		10% on seed	Do not use seed
	Stemphylium botryosum	May be detected on seed tests	Unknown
	Colletotrichum lentis (Anthracnose)	May be detected on seed tests	Not considered high risk of seed to seedling transmission
Chickpeas	*Ascochyta rabiei*	0.3% on seed	Do not use seed
Faba Beans	*Colletotrichum sp.* (Anthracnose) Seed rot/damping off: *Fusarium, Pythium, Rhizoctonia*	Unknown	Consider seed treatment if disease history
Soybeans	Seed rot/damping off: *Fusarium, Pythium, Rhizoctonia, Phamapsis, Phytophythora*	Unknown	Consider seed treatment if disease history
Field Peas Chickpeas Lentils	Seed rot/seeding blight (pathogens unspecified)	Unknown	Use seed treatment
	Seed rot/damping off: *Botrytis + Fusarium*	10% on seed	Use seed treatment
	Seed rot/damping off: *Rhizoctonia, Botrytis, Fusarium, Pythium*	Soil-borne only	Consider seed treatment if disease history and/or will be seeding under cool, moist soil conditions

Source: Seed Quality and Guidelines for Seed-Borne Diseases of Pulse Crops, Ministry of Agriculture

Plant Disease Resistance

By The Ministry of Agriculture

Resistance to the most important diseases in Western Canada is assessed in most crops as part of the variety registration process. The methods used to assess resistance in each crop are different. In some cases, spores of the pathogen are applied to plants in the greenhouse or in the field. In other cases, assessment is based on naturally occurring infection in the field. Each variety for the applicable crops is rated on a five-point scale of Resistant (R), Moderately Resistant (MR), Intermediate Resistance (I), Moderately Susceptible (MS) and Susceptible (S).

Because of variation in disease levels from year to year, each new variety is assigned a rating relative to a few existing varieties that serve as disease level standards or checks. Varieties differ in resistance because of differences in their genetic makeup and/or differences in the genetic makeup of the pathogen that causes the disease. However, the genetic makeup of a pathogen can change over time and can enable the pathogen to overcome the resistance in a variety. In such cases, a variety with good resistance can quickly display poor resistance to a particular disease. Unfortunately, because not all varieties are tested side-by-side every year, the ratings of older varieties may be less reliable.

Preserving the efficacy of disease resistance genes in current crop varieties is the most economical method of plant disease control. Disease resistance can be prolonged with good agronomic and integrated pest management practices. Crop type, variety and fungicide rotation are important methods of preserving the effectiveness of disease resistance genes and fungicides. Disease resistance genes usually become ineffective due to short rotations and the prolonged use of one crop variety on a large acreage.

A number of factors can affect the level of disease symptoms observed at a given location in a given year. Environmental conditions such as moisture and temperature, the genetic makeup of both the variety and the pathogen and the amount of the pathogen present can all affect the level of disease. Although a variety with Intermediate (I) resistance can show disease symptoms under favourable conditions, a Susceptible (S) variety would have much more disease under the same conditions.

For example, ascochyta blight of chickpea is a very aggressive fungal disease. It can completely kill Susceptible (S) varieties within two weeks of symptoms first appearing. Chickpea varieties currently grown commercially in Saskatchewan have Intermediate (I) ascochyta blight ratings. This resistance weakens as plant development nears the flowering stage.

Fusarium-Damaged Kernels

By The Ministry of Agriculture

Fusarium head blight has become more common in Saskatchewan. Producers will find out the level of fusarium-damaged kernels (FDK) and perhaps DON (deoxynivalenol) on their grain from the elevator. However, *Fusarium* infection levels are needed to determine seed quality.

FDK does not provide the whole story regarding *Fusarium* infection. FDK is a measure of grain quality, not seed quality. Seed can be infected by *Fusarium* even when FDK are not present.

Fusarium spp. can infect the plant at different stages of the kernel development. Early infection may lead to an aborted floret, while later infection may leave spores on the kernel without showing visual symptoms. Tombstone kernels (FDK) are infected between those extremes.

Because there is no correlation between FDK and *Fusarium* infection of the seed, FDK cannot be used to predict *Fusarium* infection levels. A disease test is needed to determine if seed has *Fusarium* spores on it that could cause seedling blight or root rot.

Fusarium infection on the seed can sometimes be managed with a seed treatment. *Fusarium graminearum* is a particularly aggressive form of fusarium head blight, so recommendations are to prevent its introduction into new areas.

Seed treatments are used to manage seedling blights caused by *Fusarium spp.* The primary source of fusarium head blight infection is infected residue. Seed is not considered a contributing factor to fusarium head blight.

In areas where *F. graminearum* is not established, seed with more than five per cent *F. graminearum* is not recommended for planting. Seed with two to five per cent *F. graminearum* should be treated with an appropriate seed treatment.

F. graminearum now has a wide distribution in Saskatchewan, so, for most producers, a seed treatment should be used when total *Fusarium* species is greater than 10 per cent.

If seed is tested early in winter, germination should be retested again in the spring, especially if disease is present. Germination can decrease during storage.

For more information, refer to the Ministry of Agriculture publication *Seed Quality and Seed-Borne Diseases of Cereal Crops.*

Relative Maturity

By The Ministry of Agriculture

Ratings

Maturity is measured from seeding to physiological maturity, which is the stage at which the crop is at the appropriate ripeness for swathing. The actual number of days to reach maturity depends on local climatic conditions and to some extent, on management practices.

Some of the tables in this booklet express the relative maturity in days while others use a five-category scale: VE, E, M, L and VL (very early, early, medium, late, very late). The limits for each category can vary from crop to crop. In barley, for example, AAC Synergy would be M, with L and E varieties plus or minus one to two day and VL and VE varieties beyond this range.

Comparisons

The relative maturity of varieties of different crops is important when making plans for seeding.

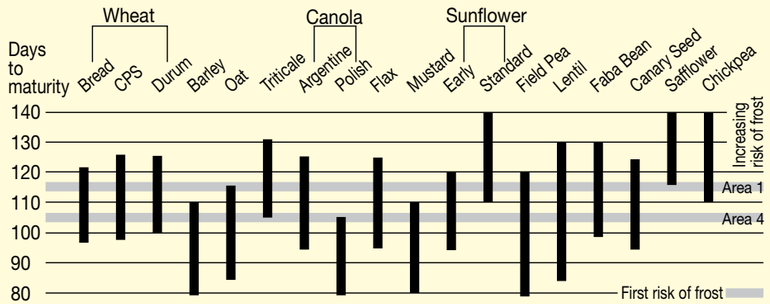
The chart on the right compares the relative maturity ranges for crops grown in Saskatchewan. Within each crop there are early and late maturing varieties. Whether a crop matures before the first killing frost depends on seeding date, management practices and environmental factors. Not all crops have a wide area of adaptation.

It is noted that climatic conditions can cause a wide variability in crop maturity.

Understanding Soybean Maturity Ratings

Soybean maturity ratings are currently based on three approaches: corn heat units, maturity groupings and days to maturity. The preferred ways to measure soybean maturities are through maturity group classifications or days to maturity. The maturity group (MG) rating system classifies soybean varieties from MG 000 in northern areas to MG IX in southern areas of North America, based on latitude ranges and photoperiod sensitivity. Each MG region covers one or two degrees of latitude, or about 200 to 300 km from north to south. For Saskatchewan, soybeans are most suited with 00 and 000 MG. Each MG can have subgroupings with a zero to nine decimal number following the group (or zone) number and these decimal places equate to slight increases in maturity. In the 00 maturity ratings, a subgroup of 00.1 would be earlier maturing than 00.9. Note that these MG ratings are not entirely standardized between seed companies. Check with your seed supplier to better understand MG ratings. Days to maturity is a direct measure of the days each variety takes to reach physiological maturity and is averaged across locations. The lower the number, the earlier-maturing the variety was across the sites tested. This value is obtained through the Regional Variety Testing Program and is an independent rating. Growers are advised to use all maturity information available to choose appropriate varieties for their area.

Relative maturity ranges for spring crop grown in Saskatchewan



Average Days from Seeding to Physiological Maturity	
Peas	Medium (M) = 90 days; add three to four days for each rating beyond medium
Lentils	Early (E) = 100 days; Very Late (VL) = 110 days based on May 1 seeding
Chickpeas	Kabuli 110 – 120 days; Desi 110 days
Faba Beans	104 – 107 days
Dry Beans	E = 100 days; Late (L) = 110 days based on May 20 seeding
Soybeans	118 – 128 days

Irrigated Variety Performance

Due to the limited testing for irrigation production many of the crop commodities grown under intensive irrigation do not meet the qualifications necessary for inclusion into the provincial Varieties of Grain Crops. However, the Irrigation Crop Diversification Corp (ICDC) does conduct variety evaluations under irrigation for all commonly grown irrigated crops. Results of these trials are summarized annually into a publication entitled “Crop Varieties for Irrigation” which can be found at *www.irrigationsaskatchewan.com/icdc* under ICDC Publications.

General Seed Facts

By The Ministry of Agriculture

Pedigreed Seed

Use certified seed regularly. This assures that the seed has high genetic purity and high germination and is relatively free from weeds and other crop seeds.

Re-Use of Hybrid Seed

Seed grown from a hybrid variety (regardless of crop or variety) should not be re-used, since a 20 to 25 per cent yield reduction can occur in the next generation. This reduction is due to loss of hybrid vigour and possible occurrence of male-sterile plants. Lack of uniformity for maturity and quality traits can also occur.

Seed Cleaning

Seed should be cleaned carefully to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. Not all seed-cleaning plants are equipped to clean grain to acceptable seed standards.

Crop Rotation

Seeding into stubble of the same crop kind will increase disease risk, particularly in higher rainfall areas. Residue of infected crops may harbour disease pathogens. Maintain a diverse crop rotation.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common grass species. Oat is rarely attacked and all broadleaf species are immune. Grain containing 0.1 per cent ergot is considered poisonous and should not be used for food. Refer to the Ministry of Agriculture publication *Ergot of Cereals and Grasses*.

Damp and Frozen Seed

Seed that is stored damp or tough may be low in germination and may lack adequate vigour. Grain that will be used for seed should be dried, if necessary, soon after harvest. The drying temperature should be below 37 C for batch driers and 43 C for recirculating and continuous driers. Ensuring the grain is dried at a low temperature will help to maintain a viable embryo and germination rates. Frozen grain should always be tested for germination by a seed-testing laboratory before planting. Such grain will frequently produce a high percentage of abnormal seedlings.

Wheat Midge

All wheat classes, including durum and triticale, are susceptible to wheat midge. Producers in infested areas should be prepared to spray fields with recommended insecticides if necessary, unless varieties are midge-tolerant. Consider the use of midge-tolerant varieties. Refer to the Ministry of Agriculture publication *Wheat Midge - Overview and Control Methods*.

Seeding Guidelines

Crop	Recommended Minimum Average Soil Temperature at Seeding Depth (C)	Estimated Seeding Dates for Saskatchewan	Recommended Seeding Depth (cm/in)
Peas	5	Mid-April to Mid-May	3 – 8 / (1.2 – 3.2)
Lentils	5	Mid-April to May	2.5 – 7.5 / (1 – 3)
Chickpeas—Kabuli	7	Prior to May 25	3.5 – 6 / (1.5 – 2.5)
Chickpeas—Desi	10	Prior to May 25	3.5 – 6 / (1.5 – 2.5)
Faba Beans	3 - 5	Mid-April to Mid-May	5.1 – 7.6 / (2 – 3)
Dry Beans	12	May 25 to June 5	5 – 6 / (2 – 2.5)
Soybeans	10	May 10 to May 25	1.9 – 3.8 / (.75 – 1.5)

Source: Ministry of Agriculture

Safe Rates of Seed-Placed Fertilizer

By The Ministry of Agriculture

Phosphorus (P) is an important plant nutrient. Phosphorus promotes the development of extensive root systems and vigorous seedlings. Encouraging vigorous root growth is an important step in promoting good nodule development and nitrogen fixation for all legumes and growth of all crops. It also plays an important role in promoting earlier and more uniform maturity in all crops. Maximum safe rates of actual seed-placed phosphate fertilizer vary by crop and are based on knife openers with a one-inch spread, nine-inch row spacing and good to excellent soil moisture. For wider rows and/or narrower seed spread behind the opener, or under dry conditions, the maximum safe rates would be lower. These recommendations are based on monoammonium phosphate (11-52-0), which has a relatively low salt index and should not be used for other fertilizers. The table at right summarizes the maximum safe rates of seed-placed phosphorus (P_2O_5) fertilizer in narrow row systems based on knife openers with a one-inch spread, nine-inch row spacing and good to excellent soil moisture. Wider row spacing and/or narrower seed spread openers would have reduced tolerance and safe rates should be adjusted lower.

Crop	Actual P_2O_5 (lbs./ac.)
Cereals	50
Canola	25
Canary seed	30
Flax	15
Pea	15
Faba Bean	40
Lentil	20
Mustard	20
Chickpea	20
Soybean	20
Dry Bean	30

* Source: *Guidelines for Safe Rates of Fertilizer Placed with the Seed, Ministry of Agriculture*

CEREAL CROPS

Wheat

Main Characteristics of Varieties

Category and Variety	Years Tested[1]	Yield (%) Area 1 & 2	Yield (%) Area 3 & 4	Protein (%)	Resistance To: Lodging	Sprouting	Stem Rust	Leaf Rust	Stripe Rust	Loose Smut	Bunt	Leaf Spot	FHB	Head Awnedness	Stem Solidness[2]	Rel. Maturity (days)	Seed Wt. (mg)	Volume Wt.[3] (kg/hL)	Ht. (cm)
CWRS[4]	--- Relative to AAC Brandon ---														--- Relative to AAC Brandon ---				
AAC Brandon	6	100	100	14.3	G	P	R	R	MR	MR	S	I	MR	Y	H	101	35.9	80.7	81
CDC Adamant VB[5]	5	99	103	+0.1	P	F	R	I	MS	S	S	MS	I	Y	SS	-1	-2.4	+0.1	+4
AAC Alida VB[5]	5	98	98	+0.1	VG	VG	R	R	MR	R	I	MS	MR	Y	H	0	+1.0	+0.2	+7
Bolles	5	92	93	+1.0	VG	F	MR	R	MR	---	S	---	I	Y	H	0	+0.3	-1.4	+1
SY Brawn VB[5]	5	96	101	+0.1	F	F	MR	R	I	---	MR	---	I	Y	H	-2	-3.4	-1.5	+9
AAC Broadacres VB[5]	4	102	101	-0.2	VG	F	R	R	MR	---	R	---	I	Y	H	0	+1.7	-0.1	+4
AAC Cameron VB[5]	5	103	110	-0.3	F	F	MR	MR	S	S	R	I	I	Y	H	-1	+2.2	-0.6	+17
Carberry §	6	94	94	+0.2	VG	F	MR	R	MR	MR	R	MS	MR	Y	H	+1	-0.6	-0.1	0
Cardale §	5	93	96	+0.1	F	G	R	R	S	I	MR	MS	MR	Y	H	-1	-2.1	-1.3	+4
SY Cast	5	97	99	+0.3	VG	G	R	R	R	---	R	---	I	Y	H	0	-0.3	-1.0	0
AAC Connery §	5	97	93	+0.5	VG	G	R	MR	R	MR	I	I	MR	N	H	-1	-0.6	-1.0	+3
SY Crossite	5	100	101	-0.2	F	G	R	R	R	---	MS	---	MR	Y	H	0	+1.1	-0.8	+8
AAC Darby VB[5]	1	92	93	+0.1	F	---	MR	R	R	---	MS	---	I	Y	H	-3	-1.7	-1.8	+6
Daybreak VUA	4	99	100	-0.2	F	P	R	MR	MR	---	S	---	I	Y	H	-1	+2.2	+0.8	+6
AAC Dutton VB[5]	2	100	104	-0.4	G	F	R	R	MR	---	R	---	MR	Y	H	-1	-1.1	-0.4	+2
AAC Elie	5	99	99	0.0	G	F	R	R	MR	I	I	I	I	Y	H	+1	-0.8	-0.1	-2
Ellerslie §	5	93	96	-0.2	VG	F	R	MR	R	---	S	---	I	N	H	-2	-3.5	-2.7	+7
CDC Envy	4	97	99	-0.4	F	F	I	R	MR	---	R	---	I	Y	H	-2	+0.7	-1.6	+2
AAC Hassler	2	98	100	+0.1	F	P	MR	R	R	---	MS	---	I	Y	H	-4	-1.7	-1.9	+8
AAC Hockley	4	99	103	+0.1	VG	F	MR	R	R	---	R	---	MR	Y	H	0	-1.8	+0.8	+1
AAC Hodge VB[5]	4	102	107	-0.3	G	P	R	R	R	---	R	---	MR	Y	H	-1	-1.3	+0.4	+6
CDC Hughes VB[5]	5	98	101	0.0	G	G	R	MR	I	MR	MS	I	I	Y	SS	-1	+1.5	+0.1	+2
Jake §	5	86	93	+0.8	F	F	R	MR	R	---	MR	---	MS	Y	H	-3	-3.3	-0.8	+7
CDC Landmark VB[5]	5	103	105	0.0	G	G	R	MS	MR	MR	MS	I	I	Y	SS	-1	+0.5	+0.7	+3
AAC LeRoy VB[5]	5	98	102	-0.2	F	G	MR	MR	MR	---	I	MS	MR	Y	H	-1	-0.4	+0.3	+6
AAC Magnet §	5	92	96	+0.3	VG	P	R	R	I	---	S	MS	MR	Y	H	-1	+1.1	-1.2	+5
SY Manness	4	93	100	-0.2	VG	G	R	R	I	---	S	---	I	Y	H	-1	-5.2	-0.8	-2
SY Obsidian	5	94	96	-0.1	VG	F	MR	R	MR	R	MS	I	MS	Y	H	-1	+0.6	-0.2	+3
CDC Ortona §	5	94	98	0.0	G	VG	R	R	R	---	S	---	I	N	H	-3	-5.1	-2.0	+8
CDC Pilar CLPlus	5	98	97	-0.4	VG	VG	MR	R	MS	---	MR	---	I	Y	H	-1	-0.5	-0.6	-3
AAC Redberry	5	99	100	0.0	F	G	R	R	R	R	I	MS	I	Y	H	-3	-1.7	+0.7	+6
Rednet §	5	92	97	+0.3	F	F	R	R	R	---	S	---	MR	Y	H	-1	-1.1	0.0	+14
AAC Redstar	4	92	102	-0.1	F	G	R	MR	MR	---	MR	---	MR	Y	H	-2	-0.5	-1.2	+8
AAC Russell VB[5]	5	97	101	0.0	G	F	MR	R	R	---	MR	---	MR	Y	H	0	+1.5	-0.1	+4
Sheba	4	94	97	-0.7	G	G	R	R	R	---	MR	---	I	N	H	0	-3.4	-0.5	+8
CDC Silas	4	99	99	-0.3	F	F	MR	R	I	---	MS	---	I	Y	H	0	-1.9	-1.3	+3
CDC SKRush	5	99	103	-0.1	G	P	MR	R	MR	---	I	---	MR	Y	H	-1	-3.7	-1.0	+7
CDC Stanley	6	98	100	+0.1	G	G	R	MR	I	MR	S	I	MS	N	H	-1	-3.2	-1.8	+12
AAC Starbuck VB[5]	5	104	108	-0.2	F	F	I	MR	MR	MR	S	S	MR	Y	H	0	-0.1	+0.4	+2
Stettler	6	100	99	+0.5	F	G	MR	MS	MR	R	MR	MS	MS	Y	H	0	-1.1	-0.5	+8
CDC Succession CLPlus VB[5]	5	98	96	-0.1	VG	VG	MR	MR	I	-	S	-	MS	Y	H	0	+2.3	-0.9	+3
AAC Tisdale §	5	95	98	+0.8	F	P	R	R	S	MR	MR	MS	MR	Y	H	-2	+0.1	-0.6	+8
CDC Titanium VB[5] §	5	98	101	+0.8	P	P	I	R	R	MS	I	MS	MR	Y	H	-2	+0.3	-0.4	+10
Tracker	5	89	95	+0.1	F	F	R	R	R	---	S	---	I	N	H	-2	-4.8	-2.2	+6
CDC Utmost VB[5] §	6	102	106	0.0	F	G	MR	R	I	MS	S	I	MS	N	H	-3	-1.4	-1.5	+11
AAC Viewfield	5	105	101	-0.3	G	G	R	MR	R	S	MR	I	I	Y	H	0	-2.2	+0.7	-3
AAC Wheatland VB[5]	5	104	106	-0.2	VG	G	R	R	I	R	MR	S	I	Y	H	0	-0.6	+0.1	+1

Wheat (cont'd)

Category and Variety	Years Tested[1]	Yield (%) Area 1 & 2	Yield (%) Area 3 & 4	Protein (%)	Resistance To: Lodging	Sprouting	Stem Rust	Leaf Rust	Stripe Rust	Loose Smut	Bunt	Leaf Spot	FHB	Head Awnedness	Stem Solidness[2]	Rel. Maturity (days)	Seed Wt. (mg)	Volume Wt.[3] (kg/hL)	Ht. (cm)
CPSR[4]	--- Relative to AAC Brandon ---														--- Relative to AAC Brandon ---				
Accelerate VUA	5	102	109	-1.1	G	P	R	R	R	---	S	---	I	Y	H	-1	-4.1	-0.7	-3
AAC Foray VB[5]	5	104	107	-1.5	F	P	MR	R	I	MS	I	MS	I	Y	H	+1	+7.1	-1.6	+6
UA Forefront	3	106	104	-1.2	VG	F	R	R	R	---	I	---	MS	Y	H	+1	+4.3	-1	-3
AAC Penhold	5	100	99	-0.7	VG	VG	MR	R	MR	I	R	I	MR	Y	H	-2	+4.3	-0.4	-9
AAC Perform	2	111	111	-1.6	VG	VP	R	R	MR	---	I	---	MS	Y	H	+1	0.0	-1.7	+3
CDC Reign §	5	100	105	-0.6	G	VG	MR	R	I	---	S	---	I	Y	H	+1	-1.7	-0.6	+3
AAC Rimbey VB[5]	3	108	108	-1.9	F	VG	R	R	R	---	I	---	I	Y	H	0	+5.4	-1.9	-1
SY Rorke §	4	104	107	-1.4	F	F	R	R	S	---	MS	---	I	Y	H	+1	-2.8	-0.5	0
SY Rowyn §	5	95	99	-0.9	F	F	R	R	MR	I	S	I	MR	Y	H	0	-4.9	-0.6	-4
AAC Westlock	2	109	105	-1.3	G	G	R	R	R	---	R	---	MR	Y	H	+1	+4.8	-1.1	0
CWSWS[4]																			
AC Andrew	5	122	129	-3.0	VG	P	MR	MS	I	S	S	---	I	Y	H	+1	+0.1	-3.1	+1
AAC Chiffon VB[5]	5	125	125	-3.3	P	P	S	I	MR	S	S	---	S	Y	H	+2	+1.5	-3.6	+12
AAC Paramount VB[5]	5	122	122	-3.3	VG	P	I	I	R	MR	S	---	MS	Y	H	+1	+0.7	-2.8	+7
Sadash VB[5]	5	128	131	-3.7	VG	P	MR	I	R	I	S	---	S	Y	H	+1	-0.6	-2.7	+4
CWSP[4]																			
Alderon §	5	126	121	-3.0	VG	F	MR	R	MR	---	MS	I	MS	N	H	+4	+0.1	-7.4	-5
AAC Awesome VB[5]	5	125	126	-3.0	F	P	R	MR	R	I	I	I	I	Y	H	+1	+4.2	-1.6	+8
Pasteur	5	112	118	-2.0	VG	G	MR	R	MR	MS	S	I	I	N	H	+2	+0.4	-1.2	+5
Sparrow VB[5]	5	124	125	-2.6	VG	G	MR	R	MR	---	I	I	MR	N	H	+4	-0.1	-4.3	+1
WPB Whistler	4	108	118	-2.9	VG	F	R	R	R	---	I	---	MS	N	S	+3	+1.5	-4.6	-3
TBA[4,6]																			
Alotta	1	---	123	-2.2	VG	---	R	R	R	---	I	---	MS	Y	H	+2	+7.1	-1.9	-1
AAC Spike	1	94	95	-0.1	VG	G	R	R	R	---	MR	---	MR	Y	H	-1	-2.0	+0.4	-6
AAC Walker VB[5]	1	100	108	-0.2	G	VG	R	R	R	---	MR	---	MR	Y	H	0	-0.6	+0.4	0
AAC Westking	1	104	101	0.0	VG	F	MR	R	I	MR	R	---	MR	Y	H	-1	+1.3	+0.1	-1
CWHWS[4]																			
AAC Tomkins	4	96	95	+0.1	G	F	MR	R	MS	---	MR	---	I	Y	H	-1	-1.0	-1.6	+3
AAC Whitehead VB[5]	4	104	109	-0.5	G	F	R	R	MR	---	R	---	I	Y	H	-1	+2.0	-2.2	+3

[1] Years tested indicates years tested in Saskatchewan regional trials. Grain yield analysis includes up to three years of data from registration testing at sites in Saskatchewan.
[2] H = Hollow; SS = Semi-solid; S = Solid.
[3] Multiply by 0.8 = lbs./bu.
[4] Includes direct and indirect comparisons with **AAC Brandon**.
[5] VB = varietal blend. Information on refuge varieties on page VR13.
[6] At time of printing, recently registered varieties have not been assigned to a variety designation list by the Canadian Grain Commission. More information on variety market class eligibility can be found at *www.grainscanada.gc.ca*. Seed of new varieties **AAC Spike** and **AAC Westking** is expected to be available fall 2025. Seed of new variety **AAC Walker VB** is expected to be available 2026. Seed of new variety **Alotta** expected to be available fall 2024.

Varietal Blend Components

Midge Tolerant Variety	Refuge Variety	Crop Kind	Midge Tolerant Variety	Refuge Variety	Crop Kind
AAC Succeed	CDC Alloy	Durum	CDC Landmark	AAC Viewfield	Wheat
AAC Weyburn	CDC Precision	Durum	AAC Leroy	AAC Redberry	Wheat
CDC Adamant	CDC Bradwell	Wheat	AAC Paramount	AC Andrew	Wheat
AAC Alida	AAC Brandon	Wheat	AAC Rimbey	AAC Penhold	Wheat
AAC Awesome	AC Andrew	Wheat	AAC Russell	AAC Brandon	Wheat
SY Brawn	SY Cast	Wheat	Sadash	AC Andrew	Wheat
AAC Broadacres	AAC Brandon	Wheat	Sparrow	Alderon	Wheat
AAC Cameron	Carberry	Wheat	AAC Starbuck	AAC Brandon	Wheat
AAC Chiffon	AC Andrew	Wheat	CDC Succsssion CLPlus	CDC Pilar CLPlus	Wheat
AAC Darby	AAC Hassler	Wheat	CDC Titanium	Stettler	Wheat
AAC Dutton	AAC Brandon	Wheat	CDC Utmost	Harvest	Wheat
AAC Foray	AAC Penhold	Wheat	AAC Walker	AAC Hockley	Wheat
AAC Hodge	AAC Hockley	Wheat	AAC Wheatland	AAC Brandon	Wheat
CDC Hughes	Cardale	Wheat	AAC Whitehead	AAC Tomkins	Wheat

Durum Wheat

Category and Variety	Years Tested[1]	Yield (%) Area 1 & 2	Yield (%) Area 3 & 4	Yield (%) Irrigation[2]	Protein (%)	Resistance To Lodging	Sprouting	Stem Rust	Leaf Rust	Stripe Rust	Loose Smut	Bunt	Leaf Spot	FHB	Head Awnedness	Stem Solidness[3]	Rel. Maturity (days)	Seed Wt. (mg)	Volume Wt.[4] (kg/hL)	Ht. (cm)
CWAD		--- Relative to Strongfield ---																	--- Relative to Strongfield ---	
Strongfield	6	100	100	100	14.3	P	F	R	R	MR	R	MR	I	S	Y	H	101	42.9	79.7	87
CDC Alloy	5	107	109	107	-0.3	F	F	MR	R	R	I	R	MS	MS	Y	H	1	-0.6	0.8	3
AAC Antler ✪	2	108	104	---	0.0	F	F	R	R	R	---	R	---	MS[6]	Y	H	1	-1.9	0.9	2
Brigade	5	105	113	110	-0.9	F	F	R	R	MR	S	R	I	MS[6]	Y	H	2	+0.6	0.4	7
AAC Congress	5	109	107	113	-0.5	P	F	MR	R	R	MR	R	MS	MS	Y	H	1	-0.7	0.5	2
CDC Covert §	5	109	107	109	-0.5	G	G	R	R	R	---	R	---	S	Y	H	1	-4.4	0.3	-1
CDC Credence §	5	108	110	102	-0.7	F	F	MR	R	MR	MR	R	I	MS[6]	Y	H	1	-0.6	0.0	7
CDC Defy	5	111	111	115	-0.9	G	F	MR	R	I	---	R	---	MS[6]	Y	H	0	-3.0	1.3	4
AAC Donlow	5	111	106	111	-0.7	F	G	R	R	R	---	R	---	MS[6]	Y	H	1	-3.0	1.0	0
CDC Dynamic §	5	105	106	110	+0.1	F	G	MR	R	MR	I	R	I	MS	Y	H	0	-0.9	0.6	1
CDC Evident ✪	2	116	114	---	-0.8	F	F	R	R	R	---	R	---	MS	Y	H	1	-1.2	0.0	2
CDC Flare	5	102	103	108	-0.3	VG	P	MR	R	S	R	R	I	MS	Y	H	0	+0.6	-0.9	0
CDC Fortitude	5	104	103	98	-0.2	F	F	MR	R	R	MS	R	MS	MS	Y	S	1	-1.2	0.3	-2
AAC GoldNet §	5	110	109	109	-0.3	G	G	MR	R	R	---	R	---	S	Y	H	1	-3.0	0.6	4
AAC Grainland	5	105	108	104	-0.2	F	G	MR	R	R	R	R	MS	MS	Y	S	1	-0.4	-0.6	1
CDC Precision	6	106	109	107	-0.4	G	F	MR	R	R	MS	R	MS	MS	Y	H	1	-0.7	0.9	2
AAC Schrader ✪	3	108	106	117	-0.3	F	F	R	R	R	---	MR	---	I	Y	H	1	-0.9	0.5	5
AAC Spitfire	5	108	110	111	-0.4	G	F	R	R	R	MS	R	MS	S	Y	H	0	0.0	-0.1	-1
AAC Stronghold	5	101	100	112	-0.3	VG	G	R	R	MR	R	I	I	MS	Y	S	2	+0.9	0.7	-2
AAC Succeed VB[5] §	5	106	108	105	-0.2	F	F	MR	R	I	R	R	MS	MS	Y	H	0	+1.6	-0.5	2
Transcend	5	102	105	93	-0.1	F	G	R	R	R	S	R	I	MS[6]	Y	H	1	-1.1	0.1	7
CDC Vantta ✪	3	109	97	113	-0.8	G	G	I	R	R	---	R	---	MS	Y	H	3	-0.9	1.0	-8
CDC Verona §	5	102	106	103	-0.2	G	F	R	R	R	MS	R	MS	MS	Y	H	1	-0.6	-0.1	2
AAC Weyburn VB[5] ✪	4	111	110	114	-1.1	F	F	MR	R	R	---	R	---	MS	Y	S	2	+0.3	-0.2	1

[1] Years tested indicates years tested in Saskatchewan regional trials. Grain yield analysis includes up to three years of data from registration testing at sites in Saskatchewan.
[2] For further information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.
[3] H = Hollow; SS = Semi-solid; S = Solid.
[4] Multiply by 0.8 = lbs./bu.
[5] VB = varietal blend. Information on refuge varieties on page VR13.
[6] These varieties generally express lower Fusarium Head Blight symptoms compared to other MS rated cultivars.

ADDITIONAL INFORMATION

Producers are strongly encouraged to use a combination of the Canadian Food Inspection Agency's List of Registered Varieties *www.inspection.gc.ca* and the Canadian Grains Commission's Variety Designation Lists *www.grainscanada.gc.ca* to determine the registration and grade eligibility status of varieties.

Grain yield, protein content, time to maturity, seed weight, volume weight, and plant height of all varieties of common wheat and durum wheat are compared to **AAC Brandon** and **Strongfield**, respectively. In 2023, the spring wheat and durum varieties supported for registration since 2018 were grown in replicated trials at up to 16 locations. Years tested indicates number of years variety was assessed in regional testing, however, grain yield analysis includes data collected during registration testing at sites in Saskatchewan.

Most varieties have been rated for their relative resistance to pre-harvest sprouting. Under wet post-maturity conditions varieties rated poor have a reduced ability to retain high Hagberg Falling Number values relative to those rated good or very good. Varieties with high test weight retain grade better under adverse harvest weather than those with low test weight. During wet harvest weather, grades drop more rapidly due to sprouting in swathed than in standing crops. **Errors were discovered in calculations of historical sprouting ratings**; corrected sprouting ratings are now reported. Please refer to article in this booklet for detailed explanation.

Solid stemmed wheat variety **WPB Whistler** and durum varieties such as **AAC Grainland**, **AAC Stronghold**, **AAC Weyburn VB** and **CDC Fortitude** typically provide the best protection against sawfly cutting. In addition, semi-solid stem spring wheat varieties like **CDC Adamant VB**, **CDC Hughes VB** and **CDC Landmark VB** have been shown to provide limited protection against sawfly cutting. However, preliminary data from observations of hollow stemmed wheat and durum, taken at yield trial sites with high infestations of wheat stem sawfly in recent years have indicated reduced cutting/toppling (below 40 per cent cutting) in the following varieties: **Accelerate**, **AAC Brandon**, **SY Brawn**, **Daybreak**, **CDC Envy**, **AAC Russell VB**, **AAC Spike**, **AAC Starbuck VB**, **CDC Succession VB CL Plus**, **SY Manness**, **CDC Vantta**, **AAC Viewfield** and **AAC Whitehead VB**. Observations at the same sites indicate a high level of cutting/toppling (above 50 per cent cutting) in the following varieties: **Bolles**, **AAC Broadacres VB**, **AAC Darby VB**, **AAC Hassler**, **AAC Hockley**, **AAC Hodge VB** and **AAC Wheatland VB**. This information is limited and will be updated as research progresses.

New races of leaf rust and stripe rust continue to evolve. Therefore, the rust resistance in varieties may change from year to year. The seed guide contains the most up-to-date information on rust resistance in current varieties. Early seeding may minimize risk of crop losses for varieties sown in southeastern Saskatchewan that are rated poor or very poor to leaf rust. Field scouting throughout the growing season is encouraged so that timely corrective action can be undertaken if required.

All varieties are at least moderately resistant to shattering. All varieties have moderate resistance to common root rot.

Seed of varieties rated moderately susceptible and susceptible for bunt and loose smut should be treated with a recommended fungicide. Please refer to the Seed Facts section of this booklet or the most recent Guide to

WHEAT ADDITIONAL INFORMATION (CONT'D)

Crop Protection. All wheat and durum varieties exhibit similar susceptibility to ergot infestation.

Varietal Blend (VB) designated varieties possess the same *Sm1* gene, which confers tolerance to Orange Wheat Blossom Midge. To manage against the build-up of midge resistance to the *Sm1* gene, an interspersed refuge is used commercially. These varieties are not immune to wheat midge and can suffer some midge damage when high midge infestation levels occur. More information on midge tolerant wheat cultivars and interspersed refuge can be found at *www.midgetolerantwheat.ca*.

CANADA WESTERN RED SPRING (CWRS)

CDC Adamant VB, **CDC Hughes VB**, and **CDC Landmark VB**, have partially solid stems which may provide protection against the wheat stem sawfly.

Seed of new varieties **AAC Darby VB**, **CDC Envy** and **AAC Hassler** is expected to be available fall 2024. Seed of new varieties **AAC Dutton VB** is expected to be available fall 2025.

CDC Succession CLPlus VB and **CDC Pilar CLPlus** are tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX.

CANADA PRAIRIE SPRING RED (CPSR)

Seed of new variety **AAC Westlock** is expected to be available in limited quantities fall 2024.

CANADA WESTERN HARD WHITE SPRING (CWHWS)

Varieties in the Hard White market class are intended for whole wheat bread and yellow alkaline noodle markets.

CANADA WESTERN SOFT WHITE SPRING (CWSWS)

Soft white spring wheat may be used as a feedstock in the production of ethanol. Soft white spring wheat varieties are susceptible to pre-harvest sprouting. The leaf spot pathogens that affect other wheat classes also affect soft white cultivars and therefore recommendations for leaf spot control are similar.

CANADA WESTERN SPECIAL PURPOSE (CWSP) SPRING

Varieties in the Special Purpose market class have no defined quality attributes and may have specific end-uses. Most varieties are intended for ethanol and livestock feed purposes. Producers are encouraged to contact the variety distributor or developer regarding uses of these varieties. **WPB Whistler** has solid stems which provides protection against the wheat stem sawfly.

CANADA WESTERN AMBER DURUM (CWAD)

CDC Fortitude, **AAC Grainland**, **AAC Stronghold** and **AAC Weyburn VB** have a solid stem which can provide protection against the wheat stem sawfly. **CDC Flare** is tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX.

Seed of new variety **AAC Evident** is expected to be available in limited quantities fall 2024. Seed of new variety **AAC Antler** is expected to be available in limited quantities fall 2026.

CWAD varieties are generally more susceptible than CWRS varieties to Fusarium Head Blight. Growing varieties with improved resistance is recommended to reduce infection and disease propagule production as part of an integrated management strategy. **AAC Schrader** is the first CWAD variety rated as intermediate to Fusarium Head Blight. **Brigade**, **CDC Credence**, **CDC Defy**, **AAC Donlow**, and **Transcend** generally express lower Fusarium Head Blight symptoms compared to other MS rated cultivars. These varieties are noted in the table with an MS[6] rating for FHB resistance. Mycotoxin (DON) production by FHB fungi is generally lower for **CDC Defy**, **AAC Donlow** and **Transcend.**

All durum varieties are susceptible to two new races of loose smut.

Triticale

Main Characteristics of Varieties

Variety	Years Tested	Yield (%) Area 1 & 2	Yield (%) Area 3	Test Weight (kg/hL)	Seed Weight (mg)	Height (cm)	Maturity (days)	Resistance To Lodging	Stem Rust	Leaf Rust	Bunt	Root Rot	Ergot	FHB
Spring Habit		--- Relative to AC Ultima ---												
AC Ultima	20	100	100	72.7	43.3	101	104	G	R	R	R	I	MS	I
Brevis	14	110	111	+3.1	-0.5	-7	+1	VG	R	R	R	---	I	I
Bunker	4	92	97	+3.0	+1.1	+5	+1	G	MR	R	R	I	I	MR
AAC Delight	8	104	104	+0.6	+4.2	-2	+2	VG	R	R	R	---	I	I
Pronghorn	20	98	100	-0.3	+0.5	+7	+2	G	MR	R	R	I	I	MR
Sunray	11	104	103	-1.2	-0.4	-1	+1	G	R	R	R	---	MR	MS
Taza	9	103	97	-0.8	+0.5	+6	+2	G	R	R	R	---	I	S
Tyndal	9	98	101	+0.8	-1.2	-6	0	G	R	R	R	---	---	MS
Winter Habit		--- Relative to Pika ---												
Pika	6	100	100	68	---	125	E	F	---	---	---	---	---	---
Luoma	5	100	96	-1	---	+1	L	F	---	---	---	---	---	---
Metzger	5	96	101	-1	---	-14	E	G	---	---	---	---	---	---

ADDITIONAL INFORMATION

Spring triticale matures two to four days later than **AC Andrew** CWSWS wheat; therefore it should be planted as early as possible. Newer triticale varieties yield two to 10 per cent higher than **AC Andrew**. Susceptibility to fusarium head blight is at least as great in triticale as in wheat. **AC Ultima** has an improved Hagberg Falling Number. **Brevis** has shorter and stronger straw. **AAC Delight**, **Tyndal** and **Bunker** are spring forage types and along with **Taza**, have reduced awns.

Winter triticale has winter hardiness equal to that of winter wheat. **Luoma** and **Metzger** have reduced awns. **Metzger** is shorter with stronger straw.

All triticale cultivars are susceptible to ergot infection and similar in reaction. Severe infestation of ergot can occur in any of the available cultivars if environmental conditions are favourable. **Sunray** represents an improvement in ergot resistance.

Fall Rye

Main Characteristics of Varieties

Variety	Years Tested	Yield (%) Area 1 & 2	Yield (%) Area 3 & 4	Protein (%)	Winter Survival	Resistance To[1] Lodging	Resistance To[1] Shattering	Resistance To[1] Ergot[2] (%)	Heading Date[3] (days)	Maturity[4] (days)	Seed Weight (mg)	Volume Weight[5] (kg/hL)	Height (cm)	Falling Number (sec.)
Open-Pollinated		- Relative to Hazlet -							----------		Relative to Hazlet		----------	
Hazlet	20	100	100	11.3	VG	G	VG	1.1	Jun 9	Aug 2	36.6	73.4	100	182
Danko	4	102	94	+0.6	VG	VG	---	---	-2	-2	-3.7	+0.5	0	---
Prima	32	92	96	+0.3	VG	G	F	-0.3	-1	-3	-5.2	-0.8	+11	+48
Hybrid Varieties														
KWS Bono	11	127	128	-1.1	VG	VG	---	0.0	+1	0	-4.5	-0.3	-12	+104
Brasetto	6	113	122	-0.9	VG	G	---	0.0	0	+1	-3.5	-1.7	-10	+107
KWS Daniello	7	118	117	-0.6	VG	VG	---	-0.1	0	0	-4.2	-1.3	-9	+120
KWS Receptor ✪	4	134	138	-1.0	VG	VG	---	-0.1	0	-2	-5.8	-0.2	-10	+104
KWS Sandor ✪	4	124	129	-1.2	VG	VG	---	-0.4	0	-1	-5.5	-1.0	-9	+110
KWS Serafino ✪	7	127	130	-1.0	VG	VG	---	-0.2	0	0	-4.7	-0.8	-9	+135
KWS Trebiano ✪	7	124	126	-0.8	VG	VG	---	-0.3	0	0	-1.9	-0.6	-7	+123

[1] Ratings: VG = Very Good; G = Good; F = Fair.
[2] Ergot bodies in grain as per cent of total weight during registration testing. All varieties are susceptible to ergot. Current testing does not suitably differentiate genetically controlled resistance to ergot infection (varietal differences) from other factors such as weather, crop development stage, inoculum load and management.
[3] Flowering typically occurs seven to 14 days after heading, depending on weather conditions.
[4] Wet and cool conditions can prolong maturity beyond these dates.
[5] Multiply by 0.8 = lbs./bu.

ADDITIONAL INFORMATION

Fall rye is much more cold tolerant than winter wheat or winter triticale, with field survival being approximately 30 to 100 per cent better than winter wheat for current fall rye varieties.

A major factor in marketing rye grain into the milling market is sprouting. This is generally measured using the Hagberg falling number test and is measured in seconds. Typically, a falling number of 180 seconds or greater is preferred by the rye milling market. Falling number is heavily influenced by moisture around harvest time and producers must make sure rye is harvested in a timely manner, similar to wheat crops. There is considerable variation in fall rye varieties for falling number; this must be considered if the milling market is the targeted end-user for rye grain.

Very little recent information on shattering in rye has been obtained, as it has not been observed in field trials recently, thus no information is available for recently released varieties.

For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.

Forage Rye

KWS Propower is a hybrid fall rye variety that is suited for silage use.

Winter Wheat

Main Characteristics of Varieties

Category and Variety	Years Tested[1]	Yield (%) Area 1 & 2	Yield (%) Area 3 & 4	Protein (%)	Winter Survival	Resistance To Lodging	Resistance To Stem Rust	Resistance To Leaf Rust	Resistance To Stripe Rust	Resistance To Bunt	Resistance To FHB	Head Awnedness	Maturity Rating	Seed Weight (mg)	Volume Wt.[2] (kg/hL)	Height (cm)
CWRW[3]		-- Relative to CDC Buteo --											------- Relative to CDC Buteo -------			
CDC Buteo	25	100	100	12	VG	F	I	I	S	S	MR	Y	M	33.7	81.1	90
AAC Coldfront ♕	5	113	117	+0.3	VG	VG	R	R	R	S	I	Y	L	-1.7	+0.3	-7
AAC Elevate ♕ §	12	107	102	-0.4	G	VG	MR	I	S	MR	I	Y	M	2.5	-2.4	-8
Emerson ♘	15	100	95	+0.5	G	VG	R	I	MR	S	R	Y	M	-3.8	-0.6	-4
AAC Gateway ♘	14	97	98	+0.5	F	VG	MR	I	MR	S	I	Y	M	-0.2	-1.1	-14
AAC Goldrush ♕	10	104	107	+0.2	VG	VG	MR	R	I	S	I	Y	M	-0.8	-2.9	-5
Moats ♘	16	103	101	+0.3	G	F	R	MR	MR	MS	S	Y	M	-1.1	-0.6	+1
AAC Network ♕	8	101	101	+0.5	G	G	R	MR	R	MR	I	Y	L	-2.6	-1.1	-13
Radiant ♘ §	23	102	102	0.0	VG	VG	S	S	S	S	S	Y	L	+1.8	-2.2	-1
AAC Vortex ♕	7	98	106	+0.5	VG	VG	R	R	R	S	MR	Y	M	+0.2	-0.2	-6
AAC Wildfire ♕	12	111	115	-0.1	VG	G	S	I	MR	MR	MR	Y	VL	+1.2	-2.3	-5
CWSP[3]																
AAC Icefield ♕	10	100	98	-0.9	F	G	R	MR	MR	S	I	Y	M	-3.0	-1.9	-10
Pintail	15	108	111	-1.7	VG	F	MS	MS	MR	S	S	N	M	-3.9	-4.5	-2

[1] Registration trial data used to supplement regional trial data.
[2] Multiply by 0.8 = lbs./bu.
[3] Includes direct and indirect comparisons with **CDC Buteo**.

WINTER WHEAT ADDITIONAL INFORMATION

Winter wheat can be grown successfully in most areas if seeded into standing stubble within the optimal seeding date period (generally before Sept. 15) and if there is adequate snowfall.

Winter wheat will often escape fusarium head blight (FHB) and orange wheat blossom midge damage if recommended seeding dates are followed.

For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.

CANADA WESTERN RED WINTER (CWRW)

AAC Vortex is a new variety with very good winter survival and lodging resistance, resistance to all rusts and moderate resistance to FHB.

Seed of **AAC Network** became available in fall 2021.

Radiant and **AAC Elevate** have tolerance to the wheat curl mite vector that transmits Wheat Streak Mosaic Virus. To preserve the effectiveness of this wheat curl mite tolerance gene, agronomic practices that eliminate the "green bridge" of plant material that provides a reservoir for the mite should be followed whenever possible.

AAC Wildfire expresses tolerance to some biotypes of the Russian wheat aphid.

Radiant and **AAC Wildfire** express bronze chaff at maturity.

CANADA WESTERN SPECIAL PURPOSE (CWSP)

Varieties in the Special Purpose market class have no defined quality attributes and may have specific end uses. Most varieties are intended for ethanol and livestock feed purposes. Producers are encouraged to contact the variety distributor or developer regarding specialty uses of these varieties.

The awnless head of **Pintail** may improve palatability when harvested for forage or silage.

AAC Icefield is a hard white winter wheat that expresses high milling yield of bright-white, low-ash flour with good gluten strength at lower protein concentrations that may be of interest in some niche markets. For more information contact the distributor.

Interpreting Resistance to Sprouting in Wheat

What does resistance to sprouting of wheat in the SaskSeed Guide mean?

When a common wheat or durum wheat variety reaches physiological maturity (30 per cent to 35 per cent moisture), the seeds generally will not germinate until dormancy has been overcome. The length of time of this dormancy is referred to as degree of resistance to sprouting. The dormancy period is under genetic control and is a trait of each variety.

How is the length of dormancy period or resistance to sprouting measured?

Specialized field trials are grown at the Swift Current Research and Development Centre. All newly registered varieties and checks with known levels of sprouting response are grown in replicated trials for a minimum of three years. All varieties are given the same time-period between the seed reaching 18 per cent moisture and an initial sampling time. When seed of a variety reaches 18 per cent moisture, a sample of 10 heads from primary tillers are collected and stored at -20°C which stops the after-ripening process. Ten days later another set of 10 heads is collected from the field and stored at -20°C.

The heads of all varieties from the first sampling time are placed upright in a specialized rain-simulator. An initial wetting treatment of about 135mm (5.3 inches) over 5 hours is followed by 30 minutes of misting every 12 hours. Temperature is maintained at 18°C and relative humidity greater than 95 per cent.

After five to six days, the sprouting susceptible checks will have roots visible and coleoptiles visible on multiple kernels while the sprouting resistant checks will have none or very limited visible evidence of sprouting. This difference in sprouting of the checks is used to establish a range in expected sprouting response of the varieties being characterized. Each head is assayed for visible sprouting of a root or coleoptile. The number of heads with visible evidence of sprouting of the 10 heads is recorded.

Following the artificial rain simulation treatment and scoring for number of heads with visible sprouting, the samples are dried down, threshed and percentage of kernels sprouted measured. The same procedure is repeated for the heads collected at the second sampling date.

Thus, four variables are measured, namely, time-one heads sprouted, time-two heads sprouted, time-one kernels sprouted and time-two kernels sprouted. The data is analyzed using a statistical procedure called Least Squares Means. Five categories of resistance to sprouting have been established based on a set of checks that have been tested for many years and have expressed sprouting response consistently regardless of growing season. The more resistant a variety is to these artificial sprouting conditions, the more robust the dormancy is under wet field conditions (dormancy is a measure of pre-harvest sprouting resistance in the field) The reported resistance to sprouting for some varieties has changed between the 2023 Seed Guide and the 2024 Seed Guide which resulted from some issues arising from Covid 19 and staff changes. The January 2024 ratings have been thoroughly reviewed.

How does the ratings for sprouting resistance reported in the Sask Seed Guide relate to Hagberg Falling Number?

Hagberg Falling Number (HFN) measures the changes in the pasting properties of the starch component of the grain caused by alpha-amylase activity. To conduct a HFN test, grain is ground into meal, water is added, mixed with a stirrer, and heated for 60 seconds. The falling number is the number of seconds it takes for the stirrer or plunger to fall to the bottom of the test tube. Alpha amylase is an enzyme that is produced during the germination of grain. Therefore, sprouted kernels and severely sprouted kernels are grain grading factors. HFN can be used as an indicator of the soundness of the grain. Typically, varieties with a high level of resistance to sprouting maintain a relatively high falling number under wet harvest conditions better than varieties with poor sprouting tolerance.

Sprouting resistance measures the level of dormancy of ripened grain under conditions favorable for germination. Hagberg Falling Number measures the breakdown of starch to sugar by the alpha amylase enzyme and the resulting changes to the structural integrity of the starch protein matrix of grain.

Because the amount of alpha amylase in the kernel can negatively affect grain quality, grain millers and manufactures might specify minimum HFN values. HFN measures the pasting properties of starch and the resulting changes to the structural integrity of the starch/protein matrix of grain caused by alpha amylase activity. In summary, a good sprouting resistance rating can be used as an indication/predictor that a variety will remain dormant and maintain a high falling number (and usually better grade) under wet harvest conditions.

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Malting Barley

Main Characteristics of Varieties

Category[1] and Variety	Years Tested[2]	2 or 6 Row	Awns[3]	Yield (% AAC Synergy) Area 1 & 2	Yield (% AAC Synergy) Area 3 & 4	Relative Maturity[4]	Resistance To: Lodging	Netted Net Blotch[5]	Spotted Net Blotch[5]	Spot Blotch	Scald	Loose Smut	Other Smuts	Root Rot	Stem Rust	FHB
Malting Acceptance: Recommended																
AAC Synergy	7	2	R	100	100	M	F	MR	R	R	S	S	I	I	MR	I
CDC Churchill	7	2	R	105	104	M	G	MR	MR	I	S	MS	MR	---	MR	MS
AAC Connect	7	2	R	99	95	M	G	I	MR	MR	S	S	R	MS	MR	MR
CDC Copeland	7	2	R	92	93	M	F	I	I	S	MS	MS	I	I	MR	I
CDC Fraser	7	2	R	100	98	M	G	MR	R	R	MS	R	R	MS	MR	I
Malting Acceptance: In Development or Limited Demand																
CDC Bow	7	2	R	94	93	M	VG	S	MR	I	MS	S	I	MS	MR	I
AB BrewNet	7	2	R	96	100	L	G	MS	I	MS	I	MS	MR	---	MR	MR
CDC Copper	7	2	R	104	100	M	G	MR	MR	I	MR	I	MR	---	I	MS
CDC Goldstar[6]	7	2	R	99	95	M	G	I	MR	I	S	I	R	S	MR	MS
Legacy	6	6	S	90	85	M	G	S	MR	MR	MS	I	MR	MR	MR	MS
AC Metcalfe	7	2	R	87	86	M	F	S	I	I	MS	R	I	I	MR	I
CDC PlatinumStar[6] §	7	2	R	94	88	M	F	I	MR	S	S	S	R	S	I	MR
AAC Prairie	5	2	R	96	97	M	F	MR	I	I	MS	S	MR	---	MR	I
Other[7]																
Torbellino §	4	2	R	97	93	M	G	MS	MS	MS	I	MS	R	---	MS	S

[1] These categories are established annually by the Canadian Malting Barley Technical Centre (Call 204-984-4399 for more information).
[2] Registration and regional trials in Saskatchewan.
[3] R = Rough; S = Smooth.
[4] Relative maturity of the check **AAC Synergy** is M (on average, 94 days from seeding to swathing ripeness).
[5] There are two forms of net blotch, netted (*Pyrenophora teres f. teres*) and spotted (*Pyrenophora teres f. maculata*). Generally, in Saskatchewan, the netted form is more prevalent.
[6] **CDC PlatinumStar** and **CDC Goldstar** are available only through a closed loop Identity Preserved program offered by Prairie Malt Limited/Sapporo Breweries and their agents.
[7] Although not on the CMBTC list, a malting barley market may exist for these varieties.

ADDITIONAL INFORMATION

Growers are reminded that the malting and brewing industry is cautious about using new varieties. The Canadian Malting Barley Technical Centre prepares a list of recommended varieties annually. The recommended list is available on page VR20.

Varietal purity is critical to producing high-quality malt. Malting and grain companies require a minimum 95 per cent varietal purity specification on malting barley deliveries.

Growers are cautioned that most malting varieties, especially two-row barley, are more susceptible to sprouting.

Harvesting grain over 16 per cent moisture and then using aeration bins for drying can lead to sprouting and embryo death. Seed with reduced germination is undesirable for seed or malting.

For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc.*

Lines Tested for Malting and Brewing Quality

Small-scale tests are a good measure of malting potential, but are not sufficient to determine the commercial acceptability of malting varieties. Final acceptance is given only after two years of successful plant scale evaluation. Several carload lots of barley are malted and brewed. The beer is then given the ultimate test—a taste panel. This process normally takes a minimum of three years, since a crop grown in one year will be malted in January-February, brewed in May-June and aged and tasted in October-November of the following year.

Feed and Food Barley

Main Characteristics of Varieties

Category and Variety	Years Tested[1]	2 or 6 Row	Awns[2]	Yield (% AAC Synergy) Area 1 & 2	Yield (% AAC Synergy) Area 3 & 4	Relative Maturity[3]	Resistance To: Lodging	Netted Net Blotch[4]	Spotted Net Blotch[4]	Spot Blotch	Scald	Loose Smut	Other Smuts	Root Rot	Stem Rust	FHB
Hulled																
Altorado	7	2	R	104	99	M	G	S	MR	S	S	MR	MR	MR	MR	I
CDC Austenson	7	2	R	102	103	M	G	MS	R	MR	S	S	R	I	I	I
Bighorn ✪	6	2	R	113	106	M	F	I	I	I	S	I	R	---	I	I
Brahma	7	2	R	100	99	M	G	S	I	S	MS	MS	R	MR	MR	I
Canmore	7	2	R	96	99	L	G	MS	MR	I	MR	R	R	I	MS	I
Cantu ✪	6	2	R	108	104	L	G	I	I	I	S	I	R	---	R	I
Claymore	7	2	R	103	98	L	VG	S	I	I	S	S	R	I	MR	MR
CDC Cowboy	6	2	R	85	89	L	F	I	MR	I	MS	MS	MR	I	MR	MR
CDC Durango ✪	5	2	R	107	107	M	VG	MR	MS	I	MS	S	R	---	I	I
Ferguson ✪	5	2	R	109	105	M	G	MS	MS	S	S	S	R	---	I	I
AB Hague	6	2	R	100	100	L	G	I	I	I	I	MR	R	---	MR	MR
Ibex ✪	6	2	R	105	103	M	G	I	I	I	S	S	R	---	R	I
AAC Lariat ✪	4	2	R	107	103	M	G	R	MR	I	S	R	R	---	R	MS
CDC Maverick	6	2	S	79	83	M	F	I	MR	I	MS	S	R	I	MR	MR
Oreana	7	2	R	98	93	L	VG	S	MR	I	S	S	R	I	I	S
AB Prime ✪	5	2	R	107	103	M	G	MR	I	I	I	S	R	---	R	I
CDC Renegade	4	2	S	107	97	M	F	I	MR	MS	S	MS	MR	---	MR	MR
Sirish	7	2	R	95	91	M	VG	MS	MS	MS	MR	S	R	---	S	MS
AAC Stockton ✪	3	2	R	101	103	M	F	I	I	I	S	R	R	---	R	MR
AB Wrangler	7	2	R	103	101	M	F	I	I	MR	MS	MS	MR	---	R	MR
AB Advantage	7	6	S	103	100	VL	VG	MS	I	I	I	MR	I	---	I	S
AB Cattlelac	7	6	SS	100	100	L	VG	MS	MR	R	I	I	R	---	I	S
AC Rosser	11	6	S	101	99	M	G	I	MR	MR	S	MS	MR	MR	MR	S
AB Tofield	6	6	S	106	105	L	G	MS	I	I	I	---	MR	---	R	S
Hulless																
CDC Clear	7	2	R	78	89	L	G	MS	R	I	MS	R	R	I	MR	MR
CDC McGwire	8	2	R	84	83	M	G	I	MR	I	I	MS	MR	MR	I	MR
Hulled varieties being tested for adaptability in Western Canada																
RGT Asteroid ✪ VUA	2	2	R	95	88	L	VG	---	---	---	---	---	---	---	---	---
Esma ✪ VUA	4	2	R	106	100	M	G	---	---	---	---	---	---	---	---	---
KWS Kellie ✪ VUA	4	2	R	107	98	L	G	---	---	---	---	---	---	---	---	---
RGT Planet ✪ VUA	3	2	R	102	98	M	G	---	---	---	---	---	---	---	---	---

[1] Registration and regional trials in Saskatchewan.
[2] R = Rough; S = Smooth; SS = Semi-Smooth.
[3] Relative maturity of the check, **AAC Synergy**, is M (on average, 94 days from seeding to swathing ripeness).
[4] There are two forms of net blotch: netted (*Pyrenophora teres f. teres*) and spotted (*Pyrenophora teres f. maculata*). Generally, in Saskatchewan, the netted form is more prevalent.

ADDITIONAL INFORMATION

Most available varieties are susceptible to one or more types of smut. Therefore, seed of susceptible varieties should be treated with a registered fungicide on a regular basis.

Two-row barley varieties are generally more resistant to shattering than six-row varieties.

Forage Barley

AB Advantage, **AB Cattlelac**, **AB Tofield** and **AC Ranger** are six-row forage varieties. **AB Hague**, **CDC Cowboy**, **CDC Maverick** and **CDC Renegade** are two-row forage varieties.

Hulless

In hulless varieties the hull is left in the field; therefore, comparable yields are nine to 12 per cent lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized.

CDC Ascent, **CDC Fibar**, **CDC Marlina**, **CDC Rattan** and **CDC Valdres** are two-row, high beta-glucan, waxy starch varieties. **CDC Hilose** is a two-row, high beta-glucan, high amylose starch variety. **CDC Carter**, **CDC McGwire** and **Roseland** are two-row, normal starch varieties.

Irrigation

Disease resistance, straw strength and maturity are more critical when barley is grown under irrigation. Growers should select early, strong-strawed, disease-resistant varieties. For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc.*

2024-2025 RECOMMENDED MALTING BARLEY VARIETIES

CMBTC™ CANADIAN MALTING BARLEY TECHNICAL CENTRE

THE CANADIAN MALTING BARLEY TECHNICAL CENTRE (CMBTC) RECOMMENDED LIST provides producers with an indication of which malting barley varieties have the greatest potential for selection and marketing. Each variety on the recommended list has been tested at the CMBTC and all exhibit good malting characteristics. All varieties on the list are registered with the Canadian Food Inspection Agency (CFIA).[1]

RECOMMENDED VARIETIES[2]

VARIETY	AAC CONNECT	CDC FRASER	CDC CHURCHILL	AAC SYNERGY	CDC COPELAND
EXPORT DEMAND	Growing ↑	Growing ↑	Developing	Peaked ▲	Peaked ▲
DOMESTIC DEMAND	Growing ↑	Growing ↑	Growing ↑	Declining ↓	Declining ↓
PRODUCTION	Increasing ↑	Increasing ↑	Increasing ↑	Stable →	Decreasing ↓
SEED DISTRIBUTOR	CANTERRA SEEDS	SeCan	SeCan	FP Genetics	SeCan

VARIETIES IN DEVELOPMENT

These newly registered varieties are undergoing seed propagation and commercial market development. Contact the seed distributor for opportunities to trial these promising new varieties.

VARIETY	AB BREWNET	AAC PRAIRIE	AB DRAM
SEED DISTRIBUTOR	SeedNet	CANTERRA SEEDS	SeedNet

ADDITIONAL MALTING VARIETIES

Check with your malting barley buyer prior to seeding for additional contracting opportunities including the following varieties:

- **AC Metcalfe** (SeCan)
- **CDC Bow** (SeCan)
- **Legacy** (FP Genetics)
- **CDC Copper** (FP Genetics)
- **Bill Coors 100** (Stamp Seeds)
- **CDC GoldStar** (CANTERRA SEEDS)[3]

A list of all Canadian Grain Commission *designated malting barley varieties* can be seen on the CGC website under "Variety Designation Lists".[4]

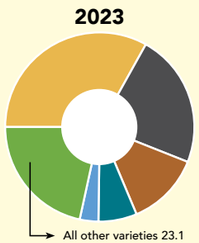
THE CMBTC AND ITS MEMBERS RECOMMEND:

Talk with your malting or grain company representative, local elevator operators, or representative seed company about **opportunities to grow and market malting barley in your area.**

Use certified seed and additional management practices to help ensure high quality malting barley and varietal purity. Malt buyers specify varietal purity >95%.

Explore opportunities to **contract production** of malting barley varieties.

SEEDED AREA BY MAJOR MALTING VARIETY PERCENTAGE (%) - WESTERN CANADA



VARIETY	2021	2022	2023
AAC SYNERGY	28.2	28.5	32.2
CDC COPELAND	34.8	31.2	22.3
AAC CONNECT	8.7	9.7	12.3
CDC FRASER	3.3	3.8	6.4
CDC CHURCHILL	0.3	0.9	3.1

Distribution of malting barley varieties as a percentage (%) of area seeded with malting barley in western Canada in 2023. Source: CGC (based on data from provincial crop insurance agencies).

[1] The varieties on this recommended list are targeted primarily at western Canada and may not reflect malting barley varieties with the greatest potential for selection and marketing in eastern Canada.
[2] "Peaked" indicates maximum demand for this variety has been reached, with future demand expected to decline.
[3] Contact Boortmalt for contracting opportunities.
[4] https://www.grainscanada.gc.ca/en/grain-quality/variety-lists/

CMBTC VOTING MEMBERS

Alberta Grains · BOORTMALT · Cargill · Malteurop · Manitoba Crop Alliance · Prairie Public Breeders · RICHARDSON · SaskBarley · VITERRA

For inquiries please contact the CMBTC by email at cmbtc@cmbtc.com or call 204-984-4399.

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Oat

Main Characteristics of Varieties

Variety	Years Tested[1]	Yield (% CS Camden) Area 1 & 2	Yield (% CS Camden) Area 3 & 4	Test Weight (g/0.5L)	% Hull	Hull Colour	% Plump	Relative Maturity[2]	Height (cm)	Resistance To: Lodging	Stem Rust	Crown Rust	Smut
CS Camden	7	100	100	242	24.3	White	82	L	94	VG	S	MS	I
AAC Anthony ✪	4	103	102	241	25.5	White	95	L	99	G	MS	S	R
CDC Anson ✪	4	100	101	243	20.7	White	90	M	85	VG	S	MR	R
CDC Arborg	7	105	106	250	20.1	White	85	M	108	VG	S	I	R
CDC Boyer	7	88	90	232	23.3	White	85	M	105	G	I	I	MS
CDC Byer ✪	3	101	102	245	22.6	White	86	L	92	VG	S	MR	R
CDC Dancer §	7	88	88	253	19.8	White	86	M	103	G	I	I	R
Derby	7	87	92	247	22.9	White	79	M	107	G	S	S	MS
AAC Douglas	7	102	99	245	20.7	White	81	M	98	G	I	MR	R
CDC Endure	7	106	105	245	21.2	White	89	M	102	VG	S	MR	R
CDC Haymaker	5	82	85	225	24.9	White	87	VL	111	G	S	S	MR
Kalio	3	96	97	249	21.8	White	---	M	91	G	S	MR	R
Kyron	4	105	101	244	23.7	White	---	M	98	G	S	MR	R
CDC Minstrel	7	95	97	245	21.0	White	92	L	98	VG	I	MS	R
AC Morgan	7	100	102	236	25.1	White	82	L	101	VG	S	S	I
CDC Morrison	7	91	86	248	24.4	Yellow	83	L	95	VG	I	MS	R
CDC Nasser	7	98	97	233	21.8	White	79	VL	106	G	MS	S	R
AAC Neville ✪	3	98	100	248	25.3	Yellow	85	L	87	VG	I	S	R
CDC Norseman	7	95	95	241	20.0	White	81	M	102	G	S	MR	MS
ORe3542M	7	97	92	247	22.5	White	95	L	93	VG	S	R	R
ORe Level48	5	91	88	250	20.5	White	89	L	95	VG	I	MR	R
ORe Level50	5	89	87	248	21.5	White	93	L	98	VG	S	R	R
CDC Ruffian	7	101	97	247	20.4	White	88	L	95	G	S	I	R
Souris	7	97	93	253	21.5	White	72	M	98	VG	MR	MS	R
Summit	7	93	95	256	21.6	White	81	M	94	G	I	I	R
Triactor	7	103	108	240	22.8	White	80	L	99	G	S	MR	I
AAC Wesley	5	97	99	246	20.9	White	85	M	91	G	I	MS	R

[1] Registration and regional trials in Saskatchewan.
[2] Maturity rating L = 98 days.

ADDITIONAL INFORMATION

Although disease pressure is lower in Saskatchewan than in Manitoba, crown rust races capable of attacking most varieties, except those with an MR or R rating, are increasing in Saskatchewan. Early seeding will reduce the likelihood of severe infection.

Producers growing oats for the milling market are advised to check the "approved" varieties list available from the various oat millers.

For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.

Feed Oat

CDC SO-I and **CDC Nasser** are specialty feed oat varieties with higher digestible energy for cattle.

Forage Oat

CDC Baler, **CDC Haymaker** and **Murphy** are forage oat varieties available for annual forage production in Saskatchewan.

Hulless Oat

AC Gwen is a hulless variety available for production in Saskatchewan. The hull is part of normal oat yield, thus hulless types yield less. They are difficult to handle and store and should be stored at less than 12 per cent moisture.

False Oats or Fatuoids

False wild oats, or fatuoids, are off-types within common oat fields that have an appearance similar to wild oat, most notably a prominent, dark awn and increased hairiness at the base of each floret. They are thought to result from the infrequent cross-pollination between common oat (*Avena sativa*) and true wild oat (*Avena fatua*). As such, their presence will likely be observed more often in fields planted from farm-saved seed. They have been reported within fields of common oat at rates up to one per cent and occur within all oat varieties.

Canary Seed

Main Characteristics of Varieties

Variety	Type	Years Tested	Yield[1] (%)	Days to Heading	Days to Maturity	Height (cm)	Test Weight (kg/hL)[2]	Seed Weight (g/1000)
			Relative to CDC Bastia					
CDC Bastia	glabrous	16	100	55	98	99	70.7	8.0
CDC Calvi	glabrous	12	106	+1	+3	+4	+0.6	+0.3
CDC Cibo	glabrous	12	107	0	0	-9	-0.5	+0.2
CDC Lumio ✪	glabrous	8	117	+2	+1	+2	-0.5	+0.4
Cantate	hairy	16	115	0	+3	-3	-7.3	+0.6
Keet	hairy	16	127	+3	+3	+4	-6.1	-0.3

[1] Yield data not collected by Area, 2007-2022.
[2] Multiply by 0.8 = lbs./bu.

ADDITIONAL INFORMATION

The seed of annual canary grass, more commonly called Canary seed, is used as food for caged and wild birds. **Keet** pedigreed seed has not been produced in recent years.

Seed hulls of **CDC Bastia**, **CDC Calvi**, **CDC Cibo** and **CDC Lumio** do not have the small sharp hairs that cause irritation when Canary seed is threshed and handled and are called glabrous. **CDC Cibo** is yellow-seeded while the other varieties produce brown seed.

Glabrous varieties that have been dehulled are approved for human consumption in Canada and the United States, but markets are currently limited.

Canary seed plants have a dense, shallow root system and growing the crop on sandy soils is not recommended. Canary seed may be grown successfully on stubble, providing adequate moisture is available for rapid germination and emergence. The recommended seeding rate is 34 kg/ha (30 lb./ac.) with germination greater than 85 per cent. Reduced emergence might be expected if Canary seed is seeded below five cm depth.

Canary seed is subject to damage by English grain aphid and bird cherry oat aphid. Aphid populations build up rapidly on leaves and stems, inside the boot and panicles of the plant in July and August and may require an insecticide application to prevent yield loss. Information from the United States indicates that infestations of 10 to 20 aphids on 50 per cent of the stems prior to soft dough stage may cause enough damage to warrant insecticide application. The aphids often hide in the dense head of the Canary seed plant. Damage may occur at populations below these levels.

Canary seed leaf mottle is a foliar disease that can cause yield losses. Leaf mottle is caused by a fungus, *Septoria triseti*, that only affects Canary seed. The disease is inconspicuous at early stages because there is little visual contrast between healthy and diseased leaf area. Stubble-borne inoculum is the source of infection, thus crop rotation is key in limiting the severity of leaf mottle.

In recent years *Fusarium spp*., particularly *F. graminearum*, were commonly found in a majority of the Saskatchewan Canary seed fields surveyed. The average incidence within fields was generally low (three to four per cent). In most instances there were no obvious infection symptoms and seed plating was required to detect the fungus. In some cases an orange discoloration arising from fusarium infection is visible on the infected panicles in the field.

Canary seed is resistant to shattering. It may be straight-combined or swathed when fully mature. For more information on Canary seed, consult the Ministry of Agriculture publication *Canaryseed*.

OTHER CROPS

BUCKWHEAT

Buckwheat is sensitive to high temperatures and dry weather conditions in the blossom stage, which can reduce seed set and yields. New self-pollinated varieties are being released. Buckwheat is very susceptible to frost at all stages of growth. Delayed seeding is advisable to avoid spring frost.

CARAWAY

Caraway is a biennial spice crop, producing seed in the second year and sometimes in the third year. Seedlings are small, slow in developing and compete poorly with weeds. The crop is usually swathed because of its indeterminate growth habit and seed shattering.

SAFFLOWER

Safflower is an annual oilseed or birdseed crop that can be grown successfully in the Brown Soil Zone. Safflower must be sown early (late-April).

Saffire matures in about 120 days. Seed should be planted shallow but into a firm, moist seedbed at about 30 kg/ha (27 lb./ac.). **Saffire** has moderate resistance to sclerotinia head rot and alternaria leaf spot. Contract production is advised.

CORIANDER

Coriander is an annual spice crop. Seedlings are small, slow to develop and compete poorly with weeds. The large seeded type is earlier maturing than the small seeded type. **CDC Major** is a large-seeded variety and **CDC Minor** is a small-seeded variety. The crop is usually straight-cut to avoid wind damage in swaths. For more information, consult the Ministry of Agriculture publication *Coriander*.

FENUGREEK

Fenugreek is a leguminous spice crop adapted to dryland conditions in the Dark Brown and Brown Soil Zones. The crop should be seeded early to avoid yield and quality loss from fall frost. Contract production is advisable, as markets are limited.

Quinoa

Quinoa (*Chenopodium quinoa*) is a long season (95 to 120 days to maturity) broadleaf pseudocereal that can be grown on a wide range of soil types. Early in the growing season, it is sensitive to excessive moisture. Though quinoa can tolerate and grow in dry areas, it yields higher in higher moisture areas and under irrigation. Quinoa is frost-tolerant both as a seedling and at maturity. Seeding mid-May, around May 15th, into a well-prepared seedbed is considered best practice due to the long growing season required by the crop. Quinoa can be direct seeded at a 1.5 cm (0.5 in.), though at least one tillage pass prior to planting is preferred for even emergence.

With sufficient moisture, quinoa is tolerant to high temperatures and is resistant to lodging. Quinoa has an indeterminant growth habit. Heights will vary depending on fertility and environmental conditions, but average about 100 cm tall. Quinoa should be straight cut at maturity.

Quinoa is grown exclusively under total production contract, with the seed marketed as whole seed, as ingredients and in value-added markets.

NQ94PT is a golden seeded variety with high seed yield and uniform, medium/late maturity. **NQ Red**✪ is a red-seeded quinoa variety with high seed yield and medium maturity. **NQ20W**✪ is a white seed quinoa variety with high yields and early maturity. **NQ20BL**✪ is a black seeded variety with late maturity and high yield.

For more information on quinoa, contact NorQuin at 1-855-778-4662 or *www.quinoa.com.*

PULSE CROPS

Lentil

Main Characteristics of Varieties

Variety	Herbicide Tolerance[1]	Years Tested[2]	Yield (% CDC Maxim) Area 1 & 2	Yield (% CDC Maxim) Area 3 & 4	Height (cm)	Days to Flower	Maturity Rating[3]	Resistance To: Ascochyta Blight	Resistance To: Anthracnose Race 1	Seed Coat Colour	Cotyledon Colour	Seed Weight (g/1000)
Small Red												
CDC Maxim	CL	18	100	100	34	51	E/M	MR	MR	gray	red	40
CDC Dazil	CL	13	97	92	33	53	E/M	MR	I	gray	red	35
CDC Impulse	CL	14	109	103	37	52	E/M	MR	MR	gray	red	44
CDC Nimble	CL	10	108	109	35	52	E/M	MR	MR	gray	red	38
CDC Proclaim	CL	13	106	104	34	51	E/M	MR	MR	gray	red	40
CDC Redmoon		13	113	107	33	52	E/M	MR	MR	gray	red	41
CDC Simmie ✪	CL	9	107	104	34	53	E/M	MR	MR	gray	red	39
Extra Small Red												
CDC Impala	CL	13	84	82	30	51	E	MR	MR	gray	red	31
Large Red												
CDC KR-2	CL	11	104	90	37	52	M	MR	MR	gray	red	55
CDC Monarch ✪	CL	7	120	119	37	52	E/M	MR	MR	gray	red	51
CDC Sublime ✪	CL	8	118	107	38	54	E/M	MR	MR	green	red	53
Small Green												
CDC Imvincible	CL	14	94	81	33	49	E	MR	MR	green	yellow	34
CDC Jimini ✪	CL	8	108	99	36	50	E/M	---	---	green	yellow	38
CDC Kermit		14	106	97	36	49	E/M	MR	MR	green	yellow	34
CDC Viceroy		6	97	98	34	49	E	MR	MR	green	yellow	33
Medium Green												
CDC Imigreen	CL	11	78	71	44	50	M	MR	S	green	yellow	57
CDC Impress	CL	7	87	71	34	50	M	MR	MS	green	yellow	52
Large Green												
CDC Greenland		19	89	70	38	52	M/L	MR	S	green	yellow	64
CDC Greenstar		15	99	86	40	52	M/L	MR	I	green	yellow	73
CDC Grimm ✪	CL	8	94	84	40	55	M/L	MR	MR	green	yellow	75
CDC Impower	CL	12	82	68	41	52	M/L	MR	S	green	yellow	64
CDC Lima	CL	11	93	92	35	51	M/L	MR	S	green	yellow	74
French Green												
CDC Marble		14	103	96	36	49	E	MR	I	green marble	yellow	34
CDC Peridot	CL	8	84	94	37	48	E	I	MS	green marble	yellow	38
CDC Pilgrim ✪	CL	6	98	93	35	52	E/M	---	---	green marble	green	33
Green Cotyledon												
CDC QG-3	CL	7	92	66	38	53	E/M	I	MR	green	green	46
CDC QG-4	CL	9	93	91	36	53	E/M	I	MR	green marble	green	33
Spanish Brown												
CDC SB-3	CL	8	90	87	35	51	E	I	MR	gray dotted	yellow	38
CDC SB-4	CL	8	103	101	34	53	E/M	I	MR	gray dotted	yellow	41

[1] CL indicates Clearfield® tolerant variety.
[2] Co-op and Regional Trials in Saskatchewan since 2006. Comparisons to the check variety, small red lentil **CDC Maxim**.
[3] Normal maturity range in days based on May 1 seeding is E = 100, VL = 110 but maturity can be much earlier in dry years, much later in cool wet years. See page VR10 for more information on maturity range in lentil.

ADDITIONAL INFORMATION

Seed supplies may be limited for recently released varieties such as **CDC Simmie**, **CDC Sublime**, **CDC Jimini**.

Types of Lentils

Small red lentils are the most popular class grown in Saskatchewan. Large red lentils have red cotyledons with a much larger seed size than small red lentils.

Green lentils are classified by seed size, with the small greens sometimes referred to as Eston-type and the large greens referred to as Laird-type. They have green seed coats with a yellow cotyledon. The large green types represent the highest share of green lentil acres.

French green lentils have a green-marbled seed coat with yellow cotyledons. Seed size is small, most similar to small red lentils. French green lentils retain their shape better than small reds or greens upon cooking. **CDC Marble** has a slightly lighter colour pattern than other French green varieties. Green cotyledon lentils have a green or mar-bled seed coat with green cotyledons and a small-to-medium seed size.

Spanish brown lentils have a grey-dotted seed coat with yellow cotyledons. This market class is sold primarily into Spain. Seed size is small, most similar to small reds.

Chickpea

Variety	Years Tested	Yield (% CDC Lancer) Area 1	Yield (% CDC Lancer) Area 2	Ascochyta Blight[1]	Height (cm)	Days to Flower	Maturity	Seed Weight (g/1000)	Seed Shape[2]	Seed or Seed Coat Colour[3]	Tolerance to Solo ADV (imazamox) herbicide
Kabuli											
CDC Lancer ✪	5	100	100	4.4	40	52	M	353	RH	B	yes
Amit (B-90) §	4	89	95	4.4	46	56	L	257	Ro	B	no
CDC Frontier	3	97	103	4.5	44	55	L	349	RH	B	no
CDC Leader	5	94	89	4.6	41	53	M	385	RH	B	no
CDC Orion	4	85	89	5.1	43	51	L	426	RH	B	no
CDC Orkney ✪	5	99	103	4.7	43	53	ML	359	RH	B	yes
CDC Palmer §	3	96	92	4.9	41	52	ML	413	RH	B	no
CDC Pasqua	5	86	92	4.6	42	52	L	417	RH	B	yes
CDC Pearl	5	98	101	4.4	43	52	ML	291	RH	B	yes
Desi											
CDC Consul	3	96	95	4.0	45	53	M	299	P	LT	no
CDC Cory §	3	99	101	4.3	46	56	M	269	A/P	T	yes
CDC Kala	5	89	87	4.3	40	52	E	237	A	BD	yes
CDC Sunset ✪	4	93	98	4.3	43	53	M	284	A/P	LT	yes

[1] Ascochyta Blight at pod filling period: 0-9 scale; 0 = no symptom; 9 = plants are completely blighted. Scores 4-6 are considered intermediate resistance.
[2] Seed shape: A = angular; P = plump; RH = Ram-head; Ro = Round.
[3] Seed or seed coat colour: B = beige; BL = black; LT = light tan; T = tan.

ADDITIONAL INFORMATION

Please refer to the *2024 SaskSeed® Guide* for pedigreed seed availability. For more details on production, consult the *Growing Pulses* section of the Saskatchewan Pulse Growers webpage (*www.saskpulse.com*).

Field Pea

Main Characteristics of Varieties

Variety	Years Tested[1]	Yield (%)			Protein (%)	Relative Maturity	Lodging[3]	Vine Length (cm)	Resistance To							Seed Weight (g/1000)
		1, 2 & South 3	North 3 & 4	Irrigation[2]					MB[4]	Powdery Mildew	Fusarium Root Rot	SCB[5]	Bleaching	SCD[6]	Greeness[7]	
Yellow	---- Relative to CDC Amarillo -----															
CDC Amarillo	14	100	100	100	23.0	M	3.5	85	4.5	R	MR	F	na	F	G	230
Abarth	7	93	90	92	-0.1	E	3.5	75	5.0	R	I	F	na	G	G	280
AAC Aberdeen	5	108	107	---	-1.1	M	3.5	85	4.5	R	I	F	na	F	G	250
AAC Ardill	10	102	99	91	-1.5	M	3.5	85	4.5	R	MR	G	na	G	G	230
AAC Beyond	5	107	108	---	+0.3	E	4.5	80	5.0	R	MR	F	na	F	G	220
Boost ✪	4	101	101	---	+1.2	M	4.5	90	4.5	R	MR	G	na	G	G	230
CDC Boundless ✪	4	109	105	---	+0.8	M	3.0	90	4.5	R	MR	G	na	G	G	230
CDC Canary	10	99	100	---	+0.1	E	3.5	85	4.5	R	I	G	na	F	F	230
Caphorn	4	99	98	---	+1.7	M	4.0	80	5.0	R	MR	F	na	G	G	260
AAC Carver	7	102	100	---	-1.3	E	4.0	85	5.0	R	I	G	na	F	G	240
AAC Chrome	7	106	104	---	-1.0	M	4.5	75	4.5	R	I	G	na	G	G	240
CDC Citrine ✪	6	108	110	---	+0.3	M	4.0	85	4.0	R	MR	G	na	G	G	220
CDC Engage ✪	4	107	107	---	+0.7	M	3.5	85	4.5	R	I	G	na	G	G	240
CDC Golden	10	92	83	90	+0.7	E	4.5	75	5.0	R	I	G	na	G	G	230
CDC Hickie	7	107	106	---	+0.5	M	3.5	85	4.5	R	MR	G	na	G	G	230
CDC Inca	12	104	102	105	-0.6	M	4.0	85	4.5	R	I	G	na	G	F	230
AAC Julius	5	110	105	---	+0.4	E	4.0	85	4.5	R	MR	G	na	G	G	210
CDC Lewochko	10	104	104	---	+0.9	M	3.5	90	4.5	R	I	G	na	G	G	230
AAC McMurphy ✪	3	102	101	---	+0.6	M	3.5	85	4.5	R	MR	G	na	F	G	250
CDC Meadow	12	93	90	91	-0.5	E	4.0	85	5.0	R	I	G	na	G	G	220
AAC Planet ✪	3	107	102	---	+1.2	M	3.5	90	4.5	R	MR	G	na	F	G	220
AAC Profit	6	103	109	---	+0.8	M	4.5	90	4.5	R	I	F	na	G	G	230
Prostar ✪ **VUA**	4	101	101	---	+1.2	M	4.0	80	4.5	R	MR	G	na	G	G	250
CDC Saffron	12	98	92	93	-0.3	E	4.0	80	4.5	R	I	G	na	F	G	250
CDC Spectrum	12	105	103	94	+0.7	M	3.5	85	4.5	R	I	G	na	G	F	240
CDC Tollefson	7	108	108	---	-0.3	M	3.0	90	4.0	R	MR	G	na	G	G	240
CDC 5791	4	107	103	---	+0.6	M	4.0	90	4.5	R	MR	G	na	G	G	250
CDC 5845 ✪ **VUA**	4	107	107	---	+0.6	M	3.5	90	4.0	R	MR	G	na	G	G	240
Green																
CDC Forest	11	102	103	---	0.0	M	4.0	85	4.5	R	I	G	F	G	na	230
CDC Greenwater	11	99	93	89	-0.9	M	3.5	90	4.0	R	MR	F	G	F	na	230
CDC Huskie ✪	6	110	108	---	-0.8	M	3.5	85	4.0	R	MR	G	G	G	na	220
CDC Limerick	14	95	91	91	+2.9	M	4.0	85	4.5	R	I	G	G	G	na	210
CDC Raezer	12	82	80	95	-0.1	E	3.5	80	5.0	R	MR	G	G	G	na	220
CDC Rider	7	101	99	---	-0.3	M	3.0	85	4.5	R	MR	G	G	G	na	230
CDC Spruce	13	97	98	---	+0.3	M	4.0	85	4.5	R	I	F	G	F	na	240
CDC Striker	12	82	81	84	1.9	M	3.5	80	4.5	S	MR	VG	G	G	na	240
Maple																
CDC Blazer	7	101	101	---	+1.9	M	5.0	80	5.0	R	---	G	na	VG	na	190
AAC Lorlie	3	96	94	---	-0.6	M	4.0	85	4.5	R	na	G	na	VG	na	240
CDC Mosaic	4	81	74	58	na	M	4.0	85	4.5	R	---	G	na	VG	na	180
Dun																
CDC Dakota	11	100	98	95	+1.7	M	3.5	85	4.5	R	---	G	na	VG	na	205
Forage[8]																
DL Delicious ✪ **VUA**	3	68	66	---	+1.4	L	7.5	110	5.0	S	---	G	na	F	na	200
CDC Horizon	4	88	78	63	+2.2	M	4.0	100	4.5	R	---	G	na	G	G	170
DL Goldeye ✪ **VUA**	2	72	66	---	+1.8	L	8.0	115	5.0	S	---	G	na	F	G	145
CDC Jasper	5	85	85	---	+2.0	M	4.5	105	4.5	R	---	G	na	G	G	180
DL Lacross	3	89	93	---	+0.4	M	7.0	110	5.0	S	---	G	na	F	F	170

[1] Co-op and regional trials in Saskatchewan.
[2] For further information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.
[3] Lodging score (1-9) where 1 = completely upright, 9 = completely lodged.
[4] Mycosphaerella blight score (1-9) 1 = no disease, 9 = completely blighted.
[5] Seed Coat Breakage.
[6] Seed Coat Dimpling: VG = 0-5 per cent; G = 6-20 per cent; F = 21-50 per cent.
[7] Greenness: Good = 0-15 per cent; Fair = 16-40 per cent.
[8] Forage dry matter biomass, as per cent of check, **CDC Jasper** (111), **CDC Horizon** (108).

Field Pea (cont'd)

Main Characteristics of Varieties

ADDITIONAL INFORMATION

For detailed production information, consult *www.saskpulse.com/growing-pulses*. The relative maturity of the check variety **CDC Amarillo** is M (Medium), which is on average, 95 days from seeding to swathing ripeness.

Types of Peas Grown in Saskatchewan

Yellow peas are the most widely grown peas in Saskatchewan, followed by green peas and then specialty types such as dun, maple, marrowfat and forage peas. Most varieties have white flowers and are suitable for human consumption or livestock feed markets. Nearly all varieties have a semi-leafless leaf type with tendrils instead of leaflets, which help provide better standability. Marrowfat varieties have large, blocky, green seeds and are used in specialty snack food markets in Asia. They have white flowers and non-pigmented seed coats. Forage peas are grown for biomass, typically in mixture with barley, oat or triticale, which on average produce four to five tonnes per acre of forage dry matter, similar to that of forage barley, but with greater protein concentration. Red peas have red cotyledons. Market development is still underway. Maple peas have purple flowers, pigmented seed coats with mottled pattern and yellow cotyledons. They are sold as whole seeds mixed with millets and other seeds into domestic bird seed markets internationally. The pigmented seed coats provide natural protection to various root rot diseases and so are typically quick to emerge with good stand establishment. Dun peas have purple flowers, pigmented seed coats (without a mottled pattern) and yellow cotyledons. They are dehulled and sold in human consumption markets similar to yellow pea varieties.

Dry Bean

Main Characteristics of Varieties

Variety	Years Tested[1]	Yield (% CDC Blackstrap)		Days to Flower	Maturity Rating[3]	% Pod Clearance[4]	Seed Weight (g/1000)	Growth Habit[5]
		Irrigation[2]	Dryland					
Black								
CDC Blackstrap	14	100	100	53	M	85	195	II
CDC Jet	8	94	87	58	L	85	170	II
CDC Superjet	7	98	92	58	L	85	170	II
Pinto								
Island	7	101	98	55	M	79	355	II
Medicine Hat	5	107	99	58	M	72	360	II
CDC WM-2	7	93	87	52	M	79	365	II
CDC WM-3	4	91	83	52	M	78	360	II
Navy								
Bolt	6	88	88	58	L	82	190	II
Portage	7	84	81	52	M	85	175	II
AAC Shock	4	80	95	51	M	89	186	II
CDC Whitetrack ✪	4	90	85	56	M	77	174	II
Small Red								
AC Redbond	3	98	82	51	M	65	290	II
flor de junio								
CDC Ray	5	113	107	56	L	70	300	III
Yellow								
CDC Sunburst	5	100	91	54	M	78	427	I

[1] Co-op and regional trials grown in narrow rows. Since 2002 **CDC Pintium** had been the check variety. In 2019 **CDC Blackstrap** became the new check. Lines that did not have sufficient direct comparison data to **CDC Blackstrap** were adjusted based on relative performance to **CDC Pintium**.
[2] For further information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.
[3] Maturity ratings based on E = 100 days; L = 110 days for May 20 planting to swathing maturity. See page VR10 for more information.
[4] Pod clearance: percentage of pods that completely clear the cutterbar at time of swathing (~four cm).
[5] Growth habit: I = Determinate bush; II = Indeterminate bush; III = Indeterminate vine.

ADDITIONAL INFORMATION

Please refer to the *2024 SaskSeed® Guide* for pedigreed seed availability. For more details on production, consult the *Growing Pulses* section of the Saskatchewan Pulse Growers webpage (*www.saskpulse.com*).

Soybean (Herbicide-Tolerant)

Main Characteristics of Varieties

Variety	Canadian Marketing Agent	Company Maturity Grouping[1]	Type[2]	Hilum Colour[3]	Years Tested	Yield[4] (%) South	Yield[4] (%) North	Days to Maturity[5]
						---- Relative to NSC Watson RR2Y ----		
NSC Watson RR2Y	NorthStar Genetics	000.8	RR2Y	IY	8	100	100	0
Amirani R2 ⍟	Elite BrettYoung	000.5	RR2	IY	4	87	96	-1
Akras R2	Elite BrettYoung	00.3	RR2	BL	8	110	110	+8
Briggs R2X	SeCan	000.7	RR2X	BL	2	---	103	+4
CP000621WPX	Winfield United	000.6	RR2X	Y/BL	2	103	101	+3
DKB001-07	Bayer CropScience	00.1	RR2X	BL	2	99	104	+6
DKB002-32	Bayer CropScience	00.2	RR2X	BR	4	102	---	+6
DKB0005-03	Bayer CropScience	000.5	RR2X	BR	2	---	110	+2
DKB0008-87	Bayer CropScience	000.8	RR2X	BL	3	---	111	+4
Hart R2X	SeCan	00.4	R2X	BL	3	105	---	+8
Mahony R2	SeCan	00.3	RR2	BL	8	109	106	+7
Major R2X	SeCan	00.2	R2X	BR	3	---	103	+2
Mynarski R2X	SeCan	000.5	R2X	BR	3	---	98	-1
NSC Arden RR2X	NorthStar Genetics	00.1	RR2X	BL	3	106	---	+3
NSC Dauphin RR2X	NorthStar Genetics	000.8	RR2X	IY	2	---	90	0
P001A48X	Corteva (Pioneer)	00.1	RR2X	TN	3	---	111	+4
P003A97X	Corteva (Pioneer)	00.3	RR2X	GR	3	103	---	+6
P006A37X	Corteva (Pioneer)	00.6	RR2X	BR	2	112	---	+8
PV 16s004 R2X	Nutrien (Proven Seeds)	00.4	RR2X	BL	3	97	---	+9
PV 28s001 R2X	Nutrien (Proven Seeds)	00.1	RR2X	BL	3	104	107	+3
S001-D8X	Syngenta	0.01	RR2X	IY	4	106	113	+1
S003-R5X	Syngenta	0.03	RR2X	IY	3	114	---	+2
S005-C9X	Syngenta	0.05	RR2X	BL	2	113	---	+4
S0007-S1X	Syngenta	000.7	RR2X	IY	2	---	96	-2
S0009-F2X	Syngenta	000.9	RR2X	BR	4	---	106	0
SI 001XTN	Sevita International	00.1	RR2X	BL	3	101	---	+6
Sunna R2X	Elite BrettYoung	00.3	RR2X	GR	5	109	---	+7
TH 33003R2Y[6]	Thunder Seeds	00.3	RR2	BR	9	104	104	+6
TH 87003 R2X	Thunder Seeds	00.3	RR2X	BL	3	102	100	+7
TH 89004 R2X	Thunder Seeds	00.2	RR2X	BR	2	98	---	+3
Wolf R2X ⍟	Maizex Seeds	000.7	R2X	BL	2	105	111	+1
Young R2X	SeCan	000.9	R2X	BL	4	---	107	+4

[1] Maturity Groups are assigned by individual companies to assist growers select varieties suitable for their area; growers should not rely on only one source of information for judging maturity.

[2] All varieties in this table are Roundup Ready or Roundup Ready Xtend type. RR2/RR2Y indicates Genuity® Roundup Ready 2 Yield® soybean variety; R2X/RR2X indicates Roundup Ready 2 Xtend® soybean variety. RR1 indicates Roundup Ready 1 technology. Other varieties are commercially available. For complete list of commercial varieties see Seed Manitoba 2024 (*www.seedmb.ca*).

[3] Hilum is the point where seed attaches to the pod. BF = Buff; BL = Black; BR = Brown; GR = Grey; Y=Yellow; IY = Imperfect Yellow; TN = Tan.

[4] Eight year mean yield of the check variety **NSC Watson RR2Y** was 39 bu./ac.: 35 bu/ac in 2023; 43 bu./ac. in 2022; 36 bu./ac. in 2021; 26 bu./ac. in 2020; 28 bu./ac. in 2019; 35 bu./ac. in 2018; 42 bu./ac. in 2017; 45 bu./ac. in 2016 and 48 bu./ac. in 2015. Typical on-farm yields are 25-38 bu./ac.

[5] Days to maturity indicates days from seeding to 95 per cent mature pods. Only sites which reached maturity prior to a killing frost were used for calculating days to maturity. Moist growing seasons result in delayed maturity. Data is from Saskatchewan sites from 2016 - 2023 (Note: not all varieties entered into trial each year). Average days to maturity for **NSC Watson RR2Y** is +/- 110 days.

[6] **TH 33003R2Y** is included as a historical check. It is no longer commercially available.

Soybean (Conventional)

Main Characteristics of Varieties

Variety	Canadian Marketing Agent	Company Maturity Grouping[1]	Type[2]	Hilum Colour[3]	Years Tested	Yield[4] (%)	Days to Maturity[5]
						------- Relative to OAC Prudence -------	
OAC Prudence	SeCan	00.3	Con	Y	6	100	0
AAC Edward ⍟	SeCan	00.4	Con	Y	4	106	-5
AAC Halli ⍟	Interlake.org Inc.	000.9	Con	Y	4	101	-1
Liska ⍟	Prograin	00.6	Con	IY	3	97	+1
Maya ⍟	Prograin	00.8	Con	IY	2	89	+2
NSC Watson RR2Y	NorthStar Genetics	00.3	HT check	---	5	105	-6
Siberia	Prograin	00.2	Con	IY	4	113	-2

[1] Maturity Groups are assigned by individual companies to assist growers select varieties suitable for their area; growers should not rely on only one source of information for judging maturity.

[2] Varieties tested in this trial are conventional (con) soybean varieties and do not have tolerance to glyphosate. One glyphosate tolerant variety, **NSC Watson RR2Y**, is included as reference only.

[3] Hilum is the point where seed attaches to the pod. IY = Imperfect Yellow; Y = Yellow.

[4] Mean yield of the check variety **OAC Prudence** in 2023 was 35 bu./ac. Typical dryland on-farm yields are 25-38 bu./ac.

[5] Average days to maturity for **OAC Prudence** in 2023 was 113 days.

ADDITIONAL INFORMATION

The soybean variety trial is coordinated by Saskatchewan Pulse Growers. Typical on-farm yields are 25 to 38 bu./ac. Soybean is not native to the Canadian Prairies and must be inoculated with soybean inoculant that contains *Bradyrhizobium japonicum* bacteria.

For information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.

Soybean Seeding Tips

Calculate soybean seeding rates based on number of seeds per acre. Soybeans are sold by units of 140,000 seeds.

To obtain the desired plant stand, be aware that increased seed coat damage can occur with soybeans when seeded with drills versus planters.

Higher seeding rates with drills can assist with reaching target plant populations. Soybeans require warm soils (10 C) for optimum germination and emergence. Trash management to encourage some blackening of the soil can be advantageous to speed soil warming.

Soybeans are sensitive to late spring frosts once the growing point is above ground. Delay seeding until at least May 10 or later if conditions remain cool. Soybeans are sensitive to cold water at the time of germination. Seed when there is a warming trend in the forecast and a low risk of cold rainwater until after soybeans have germinated.

Soybeans are susceptible to several seed and seedling diseases, so seed treatments should be considered.

Soybeans are prone to iron chlorosis, particularly when grown on saturated soils, soils high in calcium carbonates or on soils with salinity problems. Choose your fields and soybean varieties accordingly.

The maximum amount of phosphate plus potassium fertilizer that can be safely placed with the seed is 20 lbs./ac. Amounts higher than 20 lbs./ac. should be banded.

Pre-emergence herbicides should be considered as part of the weed control program. Soybeans are poor competitors with weeds, so keeping soybean fields free of weeds from emergence through early growth may enhance yield.

Inoculants and Nitrogen Fixation with Pulses and Soybeans

Inoculants contain the nitrogen-fixing *Rhizobium* species necessary to ensure nodulation and nitrogen fixation. *Rhizobium* species are specific to each pulse crop. Pea, lentil and faba bean inoculants contain the same *Rhizobium* species, but the individual strain of that species (similar to varieties of crops) may be more effective on one crop or another. Make sure to use the right inoculant for each crop.

Handling Inoculants

Inoculants are products that contain living organisms and should be handled accordingly. Avoid exposure to direct sunlight, heat or freeze-thaw conditions. Consider application method when using in combination with seed treatments, as fungicides can impact *Rhizobia* survival. For best results, apply seed treatments first, allow the seed to dry, then apply the inoculant if using seed-applied products (sequential application). Read inoculant and seed treatment labels for more information on seed compatibility.

Inoculant formulations consist of seed-applied technologies such as liquids, peats and powders, as well as granular formulations. Single inoculant applications are effective for peas, lentils, chickpeas and faba beans. For soybeans, it is recommended to use a double inoculation strategy such as a seed-applied product in combination with a granular formation, on land where soybeans are being grown for the first time. To date, no benefit of double inoculation on other pulse crops has been identified.

Rhizobium Species Required for Effective Nodulation of Pulse Crops	
Peas, Lentils, Faba Beans	*Rhizobium leguminosarum*
Chickpeas	*Rhizobium ciceri*
Dry Beans	*Rhizobium phaseoli*
Soybeans	*Bradyrhizobium japonicum*

Source: Inoculant Options for Pulse Crops, Saskatchewan Pulse Growers

Faba Bean

Main Characteristics of Varieties

Variety	Years Tested	Low Vicine / Convicine	Yield	Height (cm)	Lodging[3]	Maturity (days)	Seed Weight (g/1000)
Coloured Flower (normal tannin)[4]			(% Fabelle[1])				
Fabelle	11	Yes	100	104	2.4	105	533
Allison ✪	4	Yes	103	104	---	106	507
Dosis ✪	3	Yes	101	106	3.1	103	521
Futura	3	Yes	109	107	2.4	106	530
Victus ✪	7	Yes	96	101	2.8	105	444
White Flower (low tannin)[4]			(% Navi[2])				
Navi ✪	6	Yes	100	94	3.2	111	401
DL Nevado ✪	5	Yes	94	98	1.0	109	425
CDC 1089 ✪	5	Yes	104	96	3.9	106	375
CDC 1142 ✪	5	Yes	98	90	3.7	107	341
CDC 1310 ✪	4	Yes	98	99	4.2	106	341

[1] Long-term average yield of 4609 kg/ha or 69 bu./ac.
[2] Long term average yield of 3930 kg/ha or 58 bu./ac.
[3] Lodging score (1-9) where 1 = completely upright, 9 = completely lodged.
[4] Faba are classified into Tannin and Zero Tannin (ZT) types. For the purpose of this table comparisons for Tannin types are made to Fabelle and ZT types to Navi.

ADDITIONAL INFORMATION

Faba bean regional trials began in 2006 to accommodate growing interest in this crop as a nitrogen-fixing high protein food and feed grain in moist areas. White-flowered types are zero tannin. All coloured flower types have seed coats that contain tannins and may be suitable for export food markets if seed size and quality match customer demand. Maturity ratings are based on days until swathing maturity but will vary depending on seeding date . Low vicine white flower types have expanding demand in the plant-based protein extraction industry.

Plant breeders in the faba bean industry are moving rapidly to eliminate the antinutritional compounds vicine and convicine (vc) through the introduction of a gene in new varieties that reduces vc by 99 per cent. Vicine-convicine causes rapid onset of anemia in a small percentage of the human population. Low vc status may become mandatory as soon as possible for faba beans that enter food and feed systems.

Faba bean is a partly outcrossing (four to 84 per cent under local conditions) through insect pollination (various bee species). Isolation from other varieties is necessary to maintain varietal purity, especially for flower colour and most importantly, for maintaining low vc status in future. For seed production, isolations of two km or more are recommended at this time to maintain variety purity for low vc status and flower colour. Commercial producers who intend to save their seed should follow similar isolation practices.

Seeding Tips for Faba Bean

Calculate seeding rates based on actual thousand kernel weight of your seed as seed size of faba beans can vary tremendously from lot to lot.

Tannin and zero-tannin faba bean types should be separated by up to 500 m to prevent cross pollination.

Faba beans have a high requirement for phosphorus (P) and can tolerate up to 40 lbs./ac. of seed-placed phosphorus (P_2O_5).

Seed as early as possible as faba beans have good tolerance to spring frosts and are later maturing. Seed into moisture, as the large seeds require adequate moisture to germinate.

Use seed treatment with low tannin types of faba beans.

Seeding large-seeded faba beans can be difficult due to plugging and growers may experience difficulty reaching the targeted seeding rates. A study conducted by the Prairie Agricultural Machinery Institute has identified the following tips and tricks for seeding large-seed faba beans:

- To reach high seeding rates, consider metering from multiple tanks or changing augers/rollers.
- To minimize plugging:
  - Slow down.
  - Increase clearance from metering rollers or augers to the metering housings.
- Ensure there are no tight radiuses or sags in the distribution hoses.
- Eliminate flow obstructions, such as screws, in the distribution hoses.
- Ensure hose clamps are not overtightened, resulting in hose restrictions.
- Use openers with large-diameter seed openings and minimal change in seed flow direction or seed tube shape.
- Avoid sharp turns with the drill.

Please refer to the *2024 SaskSeed® Guide* for pedigreed seed availability. For more details on production, consult the *Growing Pulses* section of the Saskatchewan Pulse Growers webpage (*www.saskpulse.com*).

Varieties of all crop types included in the tables of the *Varieties of Grain Crops* in the *2024 SaskSeed® Guide* are reflective of current varieties in the marketplace that have been tested in our trials. A comprehensive database of all registered varieties for each crop kind requiring variety registration can be found at *www.inspection.gc.ca.*

OILSEED CROPS

Flax

Main Characteristics of Varieties

Variety	Years Tested	Yield[1] (% CDC Glas) Areas 1 & 2	Yield[1] (% CDC Glas) Area 3 South	Yield[1] (% CDC Glas) Area 3 North & 4	Yield[1] (% CDC Glas) Irrigation[2]	Relative Maturity[3]	Seed Size[4]	Resistance To Lodging	Resistance To Powdery Mildew	Resistance To Fusarium Wilt
Brown Seed										
CDC Glas	12	100	100	100	100	0	M	VG	MR	MR
CDC Bethune	15	95	94	99	103	-1	M	G	MR	MR
AAC Bravo	5	98	98	97	98	+1	L	G	MR	MR
CDC Buryu	5	92	99	96	91	0	M	G	MR	MR
CDC Esme ✪	5	102	103	99	---	+3	L	G	---	MR
CDC Kernen	6	100	103	102	102	+1	L	G	MR	MR
AAC Marvelous	5	101	103	104	103	+1	M	G	MR	MR
CDC Neela	5	100	93	97	97	0	M	G	MR	MR
CDC Plava	5	93	97	96	94	-3	M	G	---	MR
Prairie Grande	3	86	89	91	98	-3	M	VG	MR	MR
Prairie Sapphire	6	98	88	95	97	0	M	G	MR	MR
AAC Prairie Sunshine	5	97	96	104	99	+2	M	G	---	MR
Prairie Thunder	3	89	94	95	103	-3	M	VG	MR	R
CDC Rowland	7	101	107	102	103	+3	L	G	MR	MR
CDC Sanctuary	5	98	87	92	100	+1	M	F	MR	MR
CDC Sorrel	4	91	87	94	99	0	L	G	MR	MR
Topaz	5	93	102	99	96	-1	M	G	MR	MR
WestLin 60	5	89	89	91	93	-2	M	G	---	MR
WestLin 71	5	93	95	94	98	-1	S	VG	MR	MR
WestLin 72	5	96	99	100	100	+2	S	VG	MR	MR
Yellow Seed										
AAC Bright	6	93	95	95	96	+1	M	G	MR	MR
CDC Dorado	5	87	89	89	90	-2	M	G	MR	MR
VT50 (NuLin 50)	5	94	96	96	98	+1	S	VG	---	MR

[1] Data from Regional and Co-op yield trials.
[2] For further information on irrigated performance please refer to the publication entitled Crop Varieties for Irrigation at *www.irrigationsaskatchewan.com/icdc*.
[3] The relative maturity of the check **CDC Glas** is L (on average 101 days from seeding to swathing ripeness).
[4] Seed size: S = Small; M = Medium; L = Large.

ADDITIONAL INFORMATION

Flax was last tested in 2023. All cultivar descriptions other than yield are based on data from the Linseed Co-operative Tests. All cultivars are immune to rust. Frozen flax should be analyzed by a feed-testing laboratory to determine if it is free of prussic acid before using it as a livestock feed.

Camelina

Camelina, also known as false flax, is a short-season crucifer oilseed that can be grown on a wide range of soil types. It is well adapted to dryland conditions and does not tolerate excessive soil moisture. Camelina seed is fairly small (1.0 – 1.8 g/1000 seed) and requires shallow seeding. Reduced emergence may be expected when camelina is seeded deeper than ½ inch. Camelina plants are resistant to blackleg disease and flea beetles and possess good shatter resistance. Camelina may be straight-combined at full maturity or swathed when pods have turned color from green to yellow. Camelina is grown almost exclusively under contract; both camelina oil and meal are marketed for food, feed and industrial applications. Crop insurance is available for camelina crops grown in Saskatchewan. For more information on camelina, consult the Saskatchewan Agriculture publication, *Camelina*.

SES0787LS (**Cypress™**) is a spring-type camelina cultivar that combines high seed yield, high seed oil content, resistance to downy mildew, improved shatter resistance as well as improved seed size (on average 30 per cent and up to 50 per cent larger than seed of **AAC 10CS0048**). Its natural height is medium to tall or on average, 85 cm; it flowers after about 46 days and generally reaches maturity, depending on weather conditions, in 85 to 105 days after seeding. In trials conducted from 2015 to 2020 in western Canada, **SES0787LS** yielded, on average, 42 bu/ac.

SES1154HR (**NewGold™**) is the first spring-type camelina cultivar with resistance to thifensulfuron-methyl, a Group 2 herbicide. **SES1154HR** is agronomically similar to **SES0787LS** and therefore is high yielding, has high seed oil content and is resistant to downy mildew disease. On average, its seed size is 30 per cent to 50 per cent larger than that of **AAC 10CS0048** camelina.

Under Saskatchewan growing conditions, these two cultivars would yield from 35 to 40 bu./ac. on fallow and 25 to 35 bu./ac. on stubble.

The winter cultivar **Joelle** is characterized as very winter hardy. **Joelle** grows well across a wide variety of environmental conditions. Expected yields are 28 to 32 bu/acre on fallow and 20 to 28 bu/acre on stubble.

Mustard

Main Characteristics of Varieties

Type and Variety	Site Years	Yield[1] (%)	Plant Height (cm)	Hydroxylbenzyl Glucosinolate (µmol/g seed)	Allyl Glucosinolate (mg/g seed)	Mucilage[2] (cS*ml/g seed)	Fixed Oil (%)	Protein (%)	Seed Weight (g/1000)	Maturity (days)	Resistance to White Rust[3] 2a	2v
Open-Pollinated Yellow		---------- Relative to Andante ----------										
Andante	5	100	112	148	na	81.9	28.3	35.6	5.7	84	R	R
AAC Adagio	4	102	-9	-7	na	+14.8	+1.8	-2.6	-0.7	+10	R	R
AC Pennant	3	99	-16	0	na	-37.7	+1.2	-1.3	-0.1	+8	R	R
AAC Yellow 80	5	109	+1	-4	na	+3.0	+0.8	-0.6	-0.1	0	R	R
Open-Pollinated Brown		---------- Relative to Centennial Brown ----------										
Centennial Brown	6	100	121	na	11.2	na	35.8	30.3	3.0	85	S	S
Amigo	3	93	-12	na	+2.7	na	-3.1	+0.4	-0.3	+13	R	S
AAC Brown 120	3	112	+4	na	+0.8	na	+1.5	-0.5	+0.7	+9	R	R
Hybrid Brown		---------- Relative to Centennial Brown ----------										
AAC Brown Elite	2	115	+17	na	+1.4	na	+1.6	-0.3	0	+3	S	S
AAC Brown 18	6	119	+3	na	-0.4	na	+1.6	-1.3	0	0	R	S
Open-Pollinated Oriental		---------- Relative to Cutlass ----------										
Cutlass	15	100	115	na	11.6	na	41.0	29.1	2.8	91	R	S
Forge	14	97	+10	na	+0.6	na	-2.1	+0.5	-0.2	+1	S	S
AAC Oriental 200	3	106	+9	na	+0.1	na	-4.0	+0.9	-0.1	+1	R	S
AC Vulcan	14	98	+1	na	+0.8	na	-0.4	+0.4	+0.1	0	R	S

[1] Yield data not collected by area.
[2] Mucilage in yellow mustard is a measurement of viscosity of aqueous extracts from seed.
[3] Varieties are rated S (Susceptible) or R (Resistant) to White Rust strains.

ADDITIONAL INFORMATION

Three types of mustard are grown in Western Canada: yellow (*Sinapis alba*) and brown and oriental (*Brassica juncea*). Mustard is typically grown under contract, where the contractor specifies the variety to be grown to meet industry specifications for product quality. All mustard varieties have good resistance to blackleg disease and mature, on average, in 91 to 98 days.

A unique feature of yellow mustard is high mucilage content. Mucilage is valued by the mustard industry as a stabilizer in prepared food products.

Brown mustard is grown primarily for the Dijon mustard market. **AAC Brown 120** was registered in September 2017 and is not available commercially. **AAC Brown 18** and **AAC Brown Elite** were registered in August 2018 and November 2023, respectively. **AAC Brown 18** and **AAC Brown Elite** are hybrid varieties. Growers are re¬quired to buy new seed for the hybrid varieties **AAC Brown 18** and **AAC Brown Elite** every year.

Sunflower

Main Characteristics of Hybrids

Hybrid	Herbicide Tolerance	Years Tested	Yield (% 63A21)	Average Maturity (days)	Harvest Moisture (%)
Oilseed (Early Maturing)					
63A21 §		10	100	109	18.6
AC Sierra[1]		9	67	105	15.7
Oilseed (Late Maturing)					
Cobalt II	Clearfield®	3	76	115	30.4
Talon	ExpressSun®	2	92	113	30.1

[1] AC Sierra is open pollinated and not a hybrid.

Varieties not appearing in this table will require more than 125 days to reach maturity.

ADDITIONAL INFORMATION

Sunflower requires 105-125 days to mature, depending on the cultivar and the growing season. Oilseed sunflower has been grown in the Dark Brown and Black Soil Zones in southeastern Saskatchewan. Harvest moisture is a good indication of how quickly these hybrids will be ready to combine in the field. The EM varieties are adapted to production in most areas of Saskatchewan. **AC Sierra** is open pollinated and not a hybrid.

The Saskatchewan Sunflower Committee has been conducting trials in Saskatchewan for the purpose of registration and demonstration since 1983. Sunflowers no longer require three years of yield testing to be sold in Saskatchewan. Saskatchewan Sunflower Committee will publish results from each year. For the complete data set, please contact Sherri Roberts with Saskatchewan Agriculture at *sherri.roberts@gov.sk.ca* or 306-848-2856.

Key Factors for Selecting a Canola Variety

By SaskCanola, Saskatchewan Ministry of Agriculture and Canola Council of Canada

Canola Variety Registration Process in Canada

The Western Canada Canola/Rapeseed Recommending Committee (WCC/RRC) is responsible for determining which new canola varieties are recommended to the CFIA for registration. This recommendation is based on a several parameters and quality standards such as oil, protein, chlorophyll, saturated fatty acid content, disease tolerance, yield and more. The WCC/RRC has influence on current industry standards and oversees the testing procedures that are agreed upon by members to evaluate new varieties for merit. They select the check varieties which are used, ensure they meet the standards and then recommend the varieties for registration to the Canadian Food Inspection Agency Variety Registration Office (CFIA-VRO). As the Committee makes these decisions, it also considers the breeding possibilities for future varieties.

Members of this Committee represent all sectors of the value chain including growers, breeders, pathologists, exporters, processors and crushers, the Canadian Grain Commission, seed growers, CFIA and the CFIA-VRO (non-voting observer).

On behalf of the WCC/RRC, Canola Council of Canada staff coordinate the testing of pre-registration varieties and research trials at many locations across the Prairies. This provides the board with adequate information to make decisions about each potential variety.

Public co-op trials are designed to evaluate the agronomic, quality and disease resistance attributes of canola cultivars. The data collected is combined with previous years' private co-op trial data. Evaluation comparisons are derived from data based on glucosinolates, erucic acid, oil content, saturates, protein and blackleg testing for information purposes. There is a two-step process for a variety to become registered. The first step is the interim recommendation for registration based on one year of private co-op data. A minimum of 12 site years of valid data, collected over one year of private co-op testing is normally required for consideration of candidates for interim registration. The second step is the recommendation for full registration based on one year of private and one year of public co-op trial data. A minimum of 10 additional site years of data, collected over three or more years, is normally required. In the past few years, the WCC/RRC has recommended up to 28 interim and 85 full registrations each year.

The WCC/RRC has sub-committees for various topics including the Specialty and Contract Registration Subcommittee (reviews and recommends rapeseed cultivars such as varieties for industrial use or specialty oil profiles), the Plant Pathology, and Canola Quality.

For more information on the canola variety registration process visit *www.canolacouncil.org*.

Understanding Clubroot Resistance and the Classification System

The Western Canada Canola/Rapeseed Recommending Committee (WCC/RRC) is responsible for determining which new canola varieties are recommended to the CFIA for registration. This recommendation is based on a several parameters and quality standards such as oil, protein, chlorophyll, saturated fatty acid content, disease tolerance, yield and more. The WCC/RRC has influence on current industry standards and oversees the testing procedures that are agreed upon by members to evaluate new varieties for merit. They select the check varieties which are used, ensure they meet the standards and then recommend the varieties for registration to the Canadian Food Inspection Agency Variety Registration Office (CFIA-VRO). As the Committee makes these decisions, it also considers the breeding possibilities for future varieties.

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For more information on the canola variety registration process visit www.canolacouncil.org.

Key Factors for Selecting a Canola Variety

By SaskCanola, Saskatchewan Ministry of Agriculture and Canola Council of Canada

Testing for Blackleg and Applying the Results On-Farm

Blackleg is not new to canola however the disease is on the rise in recent years and can pose a threat to both yield and trade. Management strategies include extending crop rotations, using a seed treatment, scouting, and using a resistant variety.

Several years ago, a field resistance rating scale was established to help describe the level of resistance based on the average severity ratings compared to Westar, which is an older variety highly susceptible to blackleg. Some varieties are still labeled this way.

R (resistant)- up to 30% of the severity of Westar
MR (moderately resistant)- 30-49% the severity of Westar
MS (moderately susceptible)- 50-69% the severity of Westar
S (susceptible)- 70-100% the severity of Westar

However, sometimes blackleg is still seen within fields where a resistant or moderately resistant variety is grown. Scouting and sending in samples to a lab can provide information required to make an informed decision on choosing a variety that offers the best resistance against the blackleg pathogen races within a field. Blackleg race identification can help to determine if there is a better variety with major gene resistance to the blackleg races within that field. Blackleg race ID results from the lab (Figure 1) will report both the genotype and phenotype of the infected samples. The phenotype will be the important result to look at, which will show the avirulence genes that were detected in the pathogen population.

Genotype:	Phenotype:
#1 AvrLm 1-3-4-5-6-7-9-11	A1-4-5-6-7-11

Figure 1. *Results from the lab showing the genotype and phenotype of the blackleg races within the submitted plant samples.*

When one of the phenotypes (A1, 4, 5, etc.) matches with a major resistance gene (for example- A4 in Figure 1 matches with Rlm4, Figure 2), the corresponding resistance group (E1) should be on your selected seed variety to have the best chance at providing protection. Only one match is needed for that canola seed variety to be effective against the race within the field; however, the sample taken is representative of the area of the field it was taken in, not the entire field. Not all canola seed is labeled with the resistance group, so contact the seed manufacturer for specific questions.

RESISTANCE GROUP	MAJOR RESISTANCE GENE*
A	Rlm1 or LepR3
B	Rlm2
C	Rlm3
D	LepR1
E1	Rlm4
E2	Rlm7
F	Rlm9
G	RlmS or LepR2
X	unknown

* Major resistance gene groups are subject to change.

Figure 2. *Resistance groups and major resistance genes.*

An in-depth and step by step explanation of how to use the lab results when selecting a variety, and more information about blackleg can be found at *www.blackleg.ca*.

What do we know so far about Verticillium Stripe?

A relatively new disease to Saskatchewan, verticillium stripe (caused by the fungus Verticillium longisporum) was first officially confirmed with typical symptoms and pathogen signs in the province in 2021 but was confirmed to be in western Canada in 2014. This disease prefers hot, dry conditions, which has helped contribute to its spread over the last few years. Symptoms include leaf chlorosis, early ripening, stunting, necrosis and shredding of the stem tissue. Once the plant is fully mature, the stem peels back to reveal tiny microsclerotia, which will be released back into the soil. These microsclerotia may survive up to 10-15 years in the soil and are spread by soil movement but also through wind and combine dispersal of crop debris. This makes it easier to infect neighboring fields at harvest or seeding.

Symptoms may be seen on pods and leaves of infected canola plants; however, they are most noticeable later in the growing season on stems and roots. This disease can be easily confused with other canola diseases such as sclerotinia stem rot and blackleg. When checking for verticillium stripe, the outer stem will peel back to reveal microsclerotia, but there will not be large sclerotia bodies or hollowing of the stem as there is with sclerotinia stem rot. Clipping the base of the stem near the root may help determine if the disease is blackleg or verticillium stripe. Blackleg shows up as blackening in the cross section of the stem, whereas verticillium stripe shows up as a grey starburst pattern. Stem samples can be sent away to disease testing labs for confirmation.

Significant funding has gone towards research for this disease, and there is still much to learn about verticillium stripe. At this point, management practices for verticillium stripe look very similar to clubroot- extending crop rotations, minimizing soil movement, sanitizing equipment, controlling weeds, scouting and testing. Right now, there are no foliar or seed treatment fungicides registered for control of verticillium stripe in canola. Currently there aren't any canola varieties registered with verticillium stripe resistance but there have been differences in susceptibility reported in some germplasm.

For more information on verticillium stripe and identification, visit Canola Encyclopedia.

Key Factors for Selecting a Canola Variety

By SaskCanola, Saskatchewan Ministry of Agriculture and Canola Council of Canada

Pod Shatter vs Pod Drop

In response to recent difficult harvests, provincial canola grower groups brought forward a motion to WCC/RRC to develop a rating scale for pod shatter in canola. A subcommittee within WCC/RRC was formed with the intent to a) consider in-field issues and grower needs in relation to minimizing harvest losses, and b) identify canola harvest loss details that need to be shared and misunderstandings that need clarification. It was decided that canola shatter ratings be created to help address harvest loss expectations.

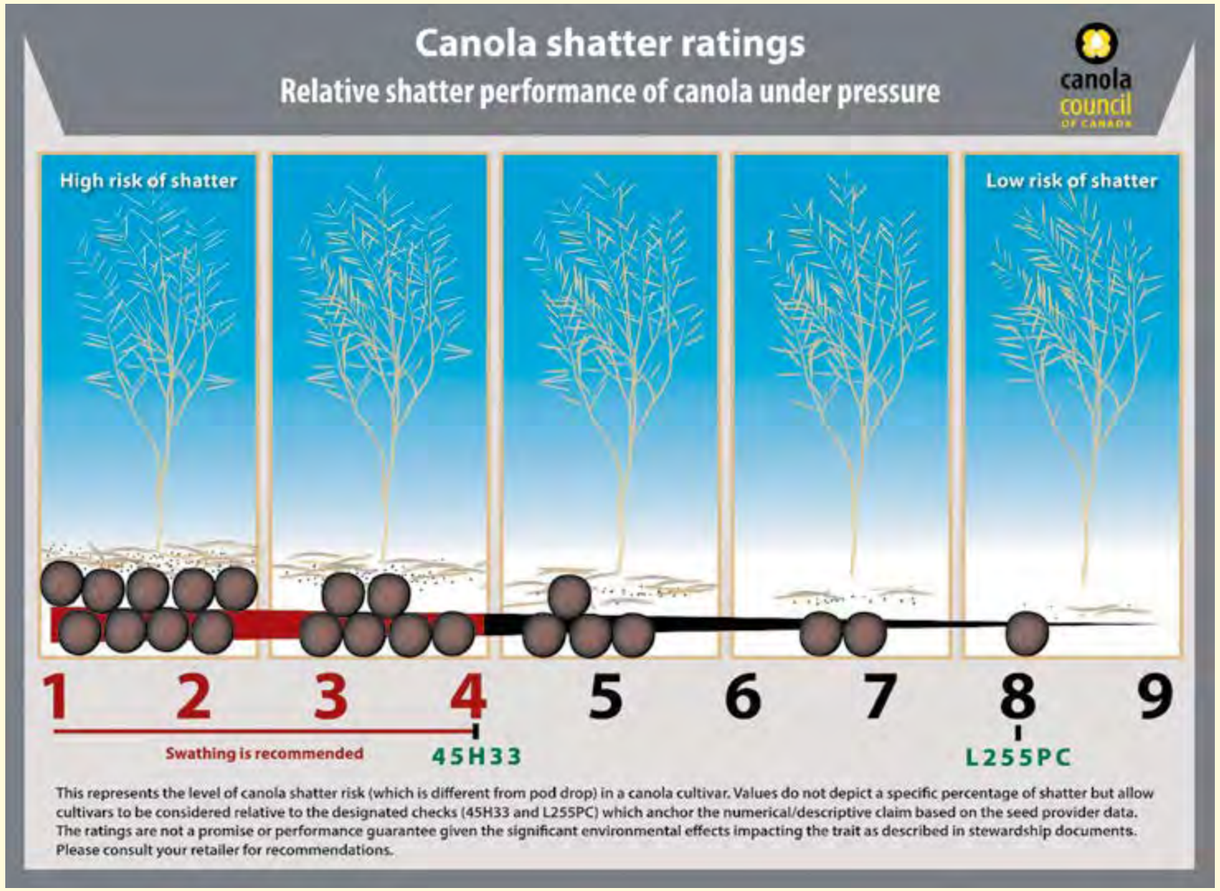
Canola harvest losses can be the result of pod drop or pod shatter, which are not the same thing. Pod shatter is highly related to genetic background where one or both sides of the pod will open leaving the replum in the field (which is seen as "white" all over the field). Pod drop is influenced by the environment, and the entire pod will drop off the raceme along with the pedicel. Pod drop occurs more frequently in the lower pods that tend to be heavier and more mature than younger pods higher up the main stem. Varieties with resistance to pod shatter may still have issues with pod drop.

Shatter risk varies between varieties and should be assessed separately when choosing harvest practices. Keep in mind that any variety left out after recommended harvest timing may have issues.

A 1-9 rating scale was established where 1 has the highest risk and 9 has the lowest risk (though some shattering may still occur under different environmental conditions). Two designated checks were chosen, 45H33 and L255PC, and each variety is considered relative to these varieties. These ratings do not depict a certain percentage of shatter and are not a promise or performance guarantee.

The ratings are a voluntary initiative, and each seed company will establish their own ratings for each of their varieties following this scale.

For more information visit Canola Encyclopedia.



FORAGE CROPS

Annual Forages

Main Characteristics of Varieties

Variety[1]	Site Years	Days to Heading	Lodging Score[2]	Forage DM Yield (kg/ha)	Nutritional Data[3] CP (%)	ADF (%)	NDF (%)	TDN (%)	NEG (Mcal/kg)	NEL (Mcal/kg)	Ca (%)	Mg (%)	P (%)	K (%)
Barley														
AAC Lariat ✪	4	58	1	7993	9.7	27.1	46.1	69.7	1.04	1.59	0.33	0.15	0.18	1.65
AB Advantage ♕	12	59	2	7941	9.7	30.4	49.3	66.2	0.94	1.51	0.29	0.18	0.19	1.72
AB Cattelac ♕	16	57	1	7201	10.1	27.8	48.0	69.0	1.02	1.57	0.31	0.19	0.18	1.63
AB Hague ♕	4	58	1	8009	10.0	27.2	46.6	69.5	1.03	1.59	0.22	0.15	0.18	1.63
AB Maximizer ✪	4	58	1	8351	10.4	27.0	45.8	69.8	1.04	1.59	0.21	0.14	0.19	1.61
AB Prime ✪	12	56	1	8006	10.1	27.1	46.8	69.6	1.04	1.59	0.24	0.16	0.19	1.57
AB Wrangler ♕	16	58	1	7556	9.9	25.9	45.9	71.0	1.07	1.62	0.26	0.16	0.18	1.48
Altorado ♕	12	57	1	7971	9.4	26.0	45.5	70.9	1.07	1.62	0.23	0.15	0.18	1.42
Bighorn ✪	4	57	1	8567	9.8	23.3	41.8	73.7	1.15	1.69	0.27	0.14	0.18	1.40
Cantu ✪	4	58	1	8680	9.6	25.4	43.7	71.5	1.09	1.64	0.24	0.14	0.17	1.50
CDC Austenson ⛰	16	59	1	7433	10.6	28.6	48.6	68.0	0.99	1.55	0.23	0.16	0.19	1.59
CDC Churchill ♕	4	58	1	8310	9.4	26.5	45.6	70.4	1.06	1.61	0.32	0.17	0.18	1.48
CDC Copeland	16	60	1	7493	9.9	29.3	49.2	67.3	0.97	1.53	0.29	0.17	0.18	1.51
CDC Durango ✪	4	58	1	8242	10.3	24.0	43.8	73.0	1.13	1.67	0.18	0.14	0.20	1.55
CDC Fraser ♕	4	54	1	7953	9.4	28.7	49.8	67.9	0.99	1.55	0.24	0.15	0.17	1.65
CDC Renegade ♕	12	59	2	7841	9.7	27.7	45.3	69.0	1.02	1.57	0.21	0.16	0.19	1.56
Claymore ♕	16	57	1	7839	9.7	28.0	47.6	68.8	1.01	1.57	0.29	0.16	0.19	1.54
Stockford	16	57	1	7245	9.6	28.3	47.5	68.4	1.00	1.56	0.33	0.20	0.19	1.56
Oat														
CDC Arborg ♕	12	56	1	7767	10.0	32.8	52.8	63.6	0.86	1.44	0.22	0.17	0.19	1.94
CDC Baler	12	59	2	8085	9.5	35.7	58.1	60.5	0.77	1.37	0.23	0.15	0.18	2.06
CDC Haymaker ♕	12	61	1	8044	9.6	35.2	58.5	61.0	0.79	1.38	0.24	0.17	0.18	2.16
OT6036	4	50	1	5908	9.4	31.4	55.3	65.1	0.91	1.48	0.26	0.22	0.18	1.66
OT6037	4	51	1	6379	9.3	32.6	57.1	63.9	0.87	1.45	0.24	0.22	0.19	1.81

[1] Early spring seeding at recommended rates for cereal crops. Barley harvested at soft dough stage, oats harvested at late milk stage, wheat harvested at early dough stage and triticale harvested at soft dough stage.
[2] Lodging Score: 1 = upright to 9 = flat
[3] CP = crude protein; ADF = acid detergent fiber; NDF = neutral detergent fiber; TDN = total digestible nutrient; NEG = net energy gain; NEL = net energy for lactation; Ca = calcium; Mg = magnesium; P = phosphorus; K = potassium. The values are based on dry matter basis.

ADDITIONAL INFORMATION

For information on more annual forage varieties please refer to the table and interim report on the Wheatlands Conservation Inc. website at *www.wheatlandconservation.ca/research*. This project is funded through the Saskatchewan Ministry of Agriculture Strategic Field Program and includes some of the more common annual forage types and a few forage mixtures. The three-year project was completed in 2022 and a final report will be available in 2023.

Perennial Forages

Variety trials for select forage perennials varieties were initiated in 2017. The project compared new varieties of economically important grass and legume species against check varieties. The goal was to provide reliable and independent regional performance information for Saskatchewan producers, seed companies and plant breeders. Plots were seeded at Swift Current (Brown Soil Zone), Saskatoon (Dark Brown Soil Zone), Melfort (Black Soil Zone) and Scott (Dark Brown Soil Zone) in the spring of 2017 and data was collected from 2018 to 2020. Forty-eight forage entries of grasses and legumes (including check varieties) were assessed for hay yield and nutritive value. A full report is available within the Completed Projects section of the Saskatchewan Forage Council website.

Breeding Institutions and Seed Distributors of Varieties Listed in this Publication

Crop Kind, Class & Variety	Breeding Institution	Distributor
WHEAT		
Canada Western Red Spring		
CDC Adamant VB ♕	U of S - CDC	FP Genetics
AAC Alida VB ♕	AAFC (Swift Current)	SeCan Members
Bolles ♕	U of Minnesota	Seed Depot
AAC Brandon ⛰	AAFC (Swift Current)	SeCan Members
SY Brawn VB ♕	Syngenta Seeds Canada Inc.	Proven Seed/Nutrien Ag Solutions
AAC Broadacres VB ♕	AAFC (Swift Current)	Proven Seed/Nutrien Ag Solutions
AAC Cameron VB ♕	AAFC (Brandon)	CANTERRA SEEDS
Carberry ⛰ §	AAFC (Swift Current)	SeCan Members
Cardale ⛰ §	AAFC (Winnipeg)	Seed Depot
SY Cast ♕	Syngenta Seeds Canada Inc.	Proven Seed/Nutrien Ag Solutions
AAC Connery ♕ §	AAFC (Swift Current)	CANTERRA SEEDS
SY Crossite ♕	Syngenta Seeds Canada Inc.	FP Genetics
AAC Darby VB ✪	AAFC (Brandon)	FP Genetics
Daybreak ✪ **VUA**	LCRC - Limagrain Canada	CANTERRA SEEDS
AAC Dutton VB ✪	AAFC (Brandon)	SeCan Members
AAC Elie ⛰	AAFC (Swift Current)	Alliance Seed
Ellerslie ♕ §	U of Alberta	SeCan Members
CDC Envy ✪	U of S - CDC	Alliance Seed
AAC Hassler ✪	AAFC (Brandon)	FP Genetics
AAC Hockley ✪	AAFC (Swift Current)	FP Genetics
AAC Hodge VB ♕	AAFC (Brandon)	FP Genetics
CDC Hughes VB ♕	U of S - CDC	Proven Seed/Nutrien Ag Solutions
Jake ♕ §	U of Alberta	CANTERRA SEEDS
CDC Landmark VB ♕	U of S - CDC	FP Genetics
AAC LeRoy VB ♕	AAFC (Brandon)	Alliance Seed
AAC Magnet ♕ §	AAFC (Brandon)	FP Genetics
SY Manness ♕	Syngenta Seeds Canada Inc.	FP Genetics
SY Obsidian ♕	Syngenta Seeds Canada Inc.	Richardson Intl
CDC Ortona ♕ §	U of S - CDC	Proven Seed/Nutrien Ag Solutions
CDC Pilar CLPlus ✪	U of S - CDC	Proven Seed/Nutrien Ag Solutions
AAC Redberry ♕	AAFC (Swift Current)	Alliance Seed
Rednet ♕ §	U of Alberta	SeedNet Inc.
AAC Redstar ♕	AAFC (Brandon)	SeCan Members
AAC Russell VB ♕	AAFC (Swift Current)	FP Genetics / Proven Seed
Sheba ♕	U of Alberta	Penwest Seeds
CDC Silas ✪	U of S - CDC	FP Genetics
CDC SKRush ✪	U of S - CDC	SeCan Members
CDC Stanley ⛰	U of S - CDC	Proven Seed/Nutrien Ag Solutions
AAC Starbuck VB ♕	AAFC (Swift Current)	SeCan Members
Stettler ⛰	AAFC (Swift Current)	SeCan Members
CDC Succession CLPlus VB ✪	U of S - CDC	Proven Seed/Nutrien Ag Solutions
CDC Titanium VB ♕ §	U of S - CDC	Proven Seed/Nutrien Ag Solutions
Tracker ♕	U of Alberta	CANTERRA SEEDS
CDC Utmost VB ⛰ §	U of S - CDC	FP Genetics
AAC Viewfield ♕	AAFC (Swift Current)	FP Genetics
AAC Wheatland VB ♕	AAFC (Swift Current)	SeCan Members
Canada Western Special Purpose		
Alderon §	KWS-UK	SeCan Members
AAC Awesome VB ♕	AAFC (Lethbridge)	SeCan Members
Pasteur	Wiersum Plant Breeding	SeCan Members
Sparrow VB	KWS-UK	SeCan Members
WPB Whistler ✪	Wiersum Plant Breeding	SeCan Members
WPB Whistler ✪	Wiersum Plant Breeding	SeCan Members
Canada Prairie Spring Red		
Accelerate ✪ **VUA**	LCRC - Limagrain Canada	CANTERRA SEEDS
AAC Foray VB ♕	AAFC (Winnipeg)	SeCan Members
UA Forefront ✪	U of Alberta	Penwest Seeds
AAC Penhold ♕	AAFC (Swift Current)	SeCan Members
AAC Perform ♕	AAFC (Lethbridge)	Alliance Seed
CDC Reign ♕ §	U of S - CDC	FP Genetics
AAC Rimbey VB ✪	AAFC (Swift Current)	SeCan Members
SY Rorke ♕ §	Syngenta Seeds Canada Inc.	Proven Seed/Nutrien Ag Solutions
SY Rowyn ♕ §	Syngenta Seeds Canada Inc.	Alliance Seed
AAC Westlock ✪	AAFC (Lethbridge)	SeCan Members
Canada Western Hard White Spring		
AAC Tomkins ✪	AAFC (Swift Current)	FP Genetics
AAC Whitehead VB ♕	AAFC (Lethbridge)	FP Genetics
Canada Western Soft White Spring		
AC Andrew	AAFC (Lethbridge)	SeCan Members
AAC Chiffon VB ♕	AAFC (Lethbridge)	SeedNet Inc.
AAC Paramount VB ♕	AAFC (Lethbridge)	SeCan Members
Sadash VB ⛰	AAFC (Lethbridge)	SeCan Members
TBA		
Alotta ✪	U of Alberta (CIMMYT)	SeCan Members
AAC Spike ✪	AAFC (Brandon)	SeCan Members
AAC Walker VB ✪	AAFC (Brandon)	FP Genetics
AAC Westking ✪	AAFC (Swift Current)	SeCan Members

Crop Kind, Class & Variety	Breeding Institution	Distributor
WHEAT (CONT'D)		
Canada Western Amber Durum		
CDC Alloy ♕	U of S - CDC	FP Genetics
AAC Antler ✪	AAFC (Swift Current)	SeCan Members
Brigade ⛰	AAFC (Swift Current)	Proven Seed/Nutrien Ag Solutions
AAC Congress ♕	AAFC (Swift Current)	CANTERRA SEEDS
CDC Covert ♕ §	U of S - CDC	Proven Seed/Nutrien Ag Solutions
CDC Credence ♕ §	U of S - CDC	CANTERRA SEEDS
CDC Defy ♕	U of S - CDC	SeCan Members
AAC Donlow ♕	AAFC (Swift Current)	CANTERRA SEEDS
CDC Dynamic ♕ §	U of S - CDC	Proven Seed/Nutrien Ag Solutions
CDC Evident ✪	U of S - CDC	Alliance Seed
CDC Flare	U of S - CDC	Proven Seed/Nutrien Ag Solutions
CDC Fortitude ♕	U of S - CDC	Proven Seed/Nutrien Ag Solutions
AAC GoldNet ♕ §	AAFC (Swift Current)	SeedNet Inc.
AAC Grainland ♕	AAFC (Swift Current)	SeCan Members
CDC Precision ♕	U of S - CDC	Alliance Seed
AAC Schrader ✪	AAFC (Swift Current)	FP Genetics
AAC Spitfire ♕	AAFC (Swift Current)	SeCan Members
AAC Stronghold ♕	AAFC (Swift Current)	SeCan Members
Strongfield ⛰	AAFC (Swift Current)	SeCan Members
AAC Succeed VB ♕ §	AAFC (Swift Current)	FP Genetics
Transcend ⛰	AAFC (Swift Current)	FP Genetics
CDC Vantta ✪	U of S - CDC	SeCan Members
CDC Verona ⛰ §	U of S - CDC	Alliance Seed
AAC Weyburn VB ✪	AAFC (Swift Current)	Alliance Seed
WINTER WHEAT		
Canada Western Red Winter		
CDC Buteo	U of S - CDC	SeCan Members
AAC Coldfront ♕	AAFC (Lethbridge)	SeCan Members
AAC Elevate ♕	AAFC (Lethbridge)	SeCan Members
Emerson ⛰	AAFC (Lethbridge)	CANTERRA SEEDS
AAC Gateway ⛰	AAFC (Lethbridge)	Seed Depot
AAC Goldrush ♕	AAFC (Lethbridge)	FP Genetics
Moats ⛰	U of S - CDC	SeCan Members
AAC Network ♕	AAFC (Lethbridge)	SeedNet Inc.
Radiant ⛰	AAFC (Lethbridge)	CANTERRA SEEDS
AAC Vortex ♕	AAFC (Lethbridge)	Alliance Seed
AAC Wildfire ♕	AAFC (Lethbridge)	SeCan Members
Canada Western Special Purpose		
AAC Icefield ♕	AAFC (Lethbridge)	FP Genetics
Pintail	FCDC (Lacombe)	Mastin Seeds
TRITICALE		
Spring Habit		
Brevis	AAFC (Swift Current)	Wagon Wheel Seed Corp
Bunker ⛰	FCDC (Lacombe)	FP Genetics
AAC Delight ♕	AAFC (Lethbridge)	Fabian Seed Farms
Pronghorn	FCDC (Lacombe)	Progressive Seeds
Sunray	AAFC (Lethbridge)	SeedNet Inc.
Taza ⛰	FCDC (Lacombe)	Solick Seeds
Tyndal ⛰	FCDC (Lacombe)	SeCan Members
AC Ultima	AAFC (Swift Current)	FP Genetics
Winter Habit		
Luoma ⛰	FCDC (Lacombe)	Corns Brothers Farms
Metzger	FCDC (Lacombe)	Corns Seeds
Pika	FCDC (Lacombe)	Corns Seeds
RYE		
Open-Pollinated		
Hazlet	AAFC (Swift Current)	SeCan Members
Danko	Danko Plant Breeders Ltd	FP Genetics
Prima	AAFC (Swift Current)	SeCan Members
Hybrid Varieties		
KWS Bono	KWS Lochow GMBH	KWS Cereals Canada
Brasetto	KWS Lochow GMBH	KWS Cereals Canada
KWS Daniello	KWS Lochow GMBH	SeedNet Inc.
KWS Receptor ✪	KWS Lochow GMBH	KWS Cereals Canada
KWS Sandor ✪	KWS Lochow GMBH	KWS Cereals Canada
KWS Serafino ✪	KWS Lochow GMBH	SeedNet Inc.
KWS Trebiano ✪	KWS Lochow GMBH	KWS Cereals Canada
Forage		
KWS Propower ✪	KWS Lochow GMBH	SeedNet Inc.
CANARY SEED		
CDC Bastia	U of S - CDC	Public release U of S - CDC
CDC Calvi ♕	U of S - CDC	CANTERRA SEEDS
Cantate	J. Joordans Zaadhandel BV	Hansen Seeds
CDC Cibo ♕	U of S - CDC	CANTERRA SEEDS
Keet	U of Minnesota; U of S - CDC	Public release U of S - CDC
CDC Lumio ✪	U of S - CDC	CANTERRA SEEDS

Crop Kind, Class & Variety	Breeding Institution	Distributor
BARLEY		
Malting Two-Row		
CDC Bow ♕	U of S - CDC	SeCan Members
AB BrewNet ♕	FCDC (Lacombe)	SeedNet Inc.
CDC Churchill ♕	U of S - CDC	SeCan Members
AAC Connect ♕	AAFC (Brandon)	CANTERRA SEEDS
CDC Copeland ⛰	U of S - CDC	SeCan Members
CDC Copper ♕	U of S - CDC	FP Genetics
CDC Fraser ♕	U of S - CDC	SeCan Members
CDC Goldstar ♕	U of S - CDC/Sapporo/PML	CANTERRA SEEDS
AC Metcalfe	AAFC (Brandon)	SeCan Members
CDC PlatinumStar ♕ §	U of S - CDC/Sapporo/PML	CANTERRA SEEDS
AAC Prairie ♕	AAFC (Brandon)	CANTERRA SEEDS
AAC Synergy ⛰	AAFC (Brandon)	FP Genetics
Torbellino §	Syngenta Seeds Canada Inc.	FP Genetics
Malting Six-Row		
Legacy	Busch Ag Res. Inc.	Proven Seed/FP Genetics
Hulled - Feed Two-Row		
Altorado ♕	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
RGT Asteroid ✪ **VUA**	RAGT	SeCan Members
CDC Austenson ⛰	U of S - CDC	SeCan Members
Bighorn ✪	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
Brahma ⛰	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
Canmore ♕	FCDC (Lacombe)	CANTERRA SEEDS
Cantu ✪	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
Claymore ♕	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
CDC Durango ✪	U of S - CDC	SeCan Members
Esma ✪ **VUA**	Ackermann Saatzucht	SeCan Members
Ferguson ✪	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
Ibex ✪	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
KWS Kellie ✪ **VUA**	KWS-GMBH	SeCan Members
AAC Lariat ✪	AAFC (Brandon)	CANTERRA SEEDS
Oreana ♕	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions
RGT Planet ✪ **VUA**	RAGT	SeCan Members
AB Prime ✪	FCDC (Lacombe)	SeedNet Inc.
Sirish ♕	Syngenta Seeds Canada Inc.	FP Genetics
AAC Stockton ✪	AAFC (Brandon)	SeCan Members
AB Wrangler ♕	FCDC (Lacombe)	CANTERRA SEEDS
Hulled - Feed Six-Row		
AC Rosser §	AAFC (Brandon)	SeCan Members
Hulless - Food, Malting, Feed		
CDC Ascent ♕	U of S - CDC	SeCan Members
CDC Carter	U of S - CDC	SeCan Members
CDC Clear ⛰	U of S - CDC	SeCan Members
CDC Fibar ⛰	U of S - CDC	Tomtene Seeds
CDC Hilose ⛰	U of S - CDC	Tomtene Seeds
CDC Marlina ♕	U of S - CDC	Tomtene Seeds
CDC McGwire ⛰	U of S - CDC	SeCan Members
CDC Rattan ⛰	U of S - CDC	Tomtene Seeds
Roseland	AAFC (Brandon)	Wayfinder Farms
CDC Valdres ✪	U of S - CDC	Tomtene Seeds
Forage		
AB Advantage ♕	FCDC (Lacombe)	SeCan Members
AB Cattlelac ♕	FCDC (Lacombe)	Alliance Seed
CDC Cowboy ⛰	U of S - CDC	SeCan Members
AB Hague ♕	FCDC (Lacombe)	FP Genetics
AAC Lariat ✪	AAFC (Brandon)	Canterra Seeds
CDC Maverick ⛰	U of S - CDC	SeCan Members
AB Maximizer ✪	FCDC (Lacombe)	Canterra Seeds
AC Ranger	AAFC (Brandon)	FP Genetics
CDC Renegade ♕	U of S - CDC	SeCan Members
Stockford	Westbred LLC	Proven Seed/Nutrien Ag Solutions
AB Tofield ♕	FCDC (Lacombe)	SeCan Members
CAMELINA		
SES0787LS ♕ (Cypress)	Smart Earth Camelina Corp.	Smart Earth Camelina Corp.
SES1154HR ♕ (NewGold)	Smart Earth Camelina Corp.	Smart Earth Camelina Corp.
SUNFLOWER		
Cobalt II	Nuseed Americas	Nuseed Americas
AC Sierra	AAFC (Saskatoon)	AAFC (Indian Head)
Talon	Nuseed Americas	Nuseed Americas
63A21 §	Pioneer Hi-Bred	Pioneer Hi-Bred
QUINOA		
NQ Red ✪	NorQuin	NorQuin
NQ94PT ⛰	NorQuin	NorQuin
NQ20W ✪	NorQuin	NorQuin
NQ20BL ✪	NorQuin	NorQuin
SAFFLOWER		
Saffire	AAFC (Lethbridge)	Jerry Kubic (AB)

Crop Kind, Class & Variety	Breeding Institution	Distributor
OAT		
Hulled		
CDC Anson ✪	U of S - CDC	FP Genetics
AAC Anthony ✪	AAFC (Ottawa)	SeCan Members
CDC Arborg ♕	U of S - CDC	FP Genetics
CDC Boyer	U of S - CDC	SeCan Members
CDC Byer ✪	U of S - CDC	FP Genetics
CS Camden ♕	Lantmannen SW Seed	CANTERRA SEEDS
CDC Dancer §	U of S - CDC	FP Genetics
Derby	U of S - CDC	Mastin Seeds
AAC Douglas ♕	AAFC (Brandon)	SeCan Members
CDC Endure ♕	U of S - CDC	Alliance Seed
Kalio ♕	Lantmannen SW Seed	CANTERRA SEEDS
Kyron ♕	Lantmannen SW Seed	CANTERRA SEEDS
CDC Minstrel ⛰	U of S - CDC	FP Genetics
AC Morgan	AAFC (Lacombe)	SeCan Members
CDC Morrison ⛰	U of S - CDC	CANTERRA SEEDS
CDC Nasser	U of S - CDC	T & L Seeds
AAC Neville ✪	AAFC (Brandon)	SeCan Members
CDC Norseman ♕	U of S - CDC	SeCan Members
ORe3542M ♕	Oat Advantage	SeCan Members
ORe Level48 ♕	Oat Advantage	Seed Depot
ORe Level50 ♕	Oat Advantage	Seed Depot
CDC Ruffian ⛰	U of S - CDC	FP Genetics
Souris ⛰	NDSU	Seed Depot
Summit ⛰	AAFC (Winnipeg)	FP Genetics
Triactor ⛰	Lantmannen SW Seed	CANTERRA SEEDS
AAC Wesley ♕	AAFC (Brandon)	FP Genetics
Forage		
CDC Arborg ♕	U of S - CDC	FP Genetics
CDC Baler	U of S - CDC	FP Genetics
CDC Haymaker ♕	U of S - CDC	SeCan Members
OT6036	Oat Advantage	Alliance Seed
OT6037		
FLAX		
Brown Seed		
CDC Bethune	U of S - CDC	SeCan Members
AAC Bravo ⛰	AAFC (Morden)	FP Genetics
CDC Buryu	U of S - CDC	SeCan Members
CDC Esme ✪	U of S - CDC	SeCan Members
CDC Glas ⛰	U of S - CDC	SeCan Members
CDC Kernen ♕	U of S - CDC	SeCan Members
AAC Marvelous ♕	AAFC (Morden)	FP Genetics
CDC Neela ♕	U of S - CDC	CANTERRA SEEDS
CDC Plava ♕	U of S - CDC	SeCan Members
Prairie Grande	AAFC (Morden)	SeCan Members
Prairie Sapphire ⛰	AAFC (Morden)	Alliance Seed
AAC Prairie Sunshine	AAFC (Morden)	SeCan Members
Prairie Thunder ⛰	AAFC (Morden)	CANTERRA SEEDS
CDC Rowland ♕	U of S - CDC	SeCan Members
CDC Sanctuary	U of S - CDC	SeCan Members
CDC Sorrel ⛰	U of S - CDC	SeCan Members
Topaz ♕	Nutrien Ag Solutions	Alliance Seed
WestLin 60 ♕	Nutrien Ag Solutions	Proven Seed/Nutrien Ag Solutions
WestLin 71 ♕	Nutrien Ag Solutions	Proven Seed/Nutrien Ag Solutions
WestLin 72 ♕	Nutrien Ag Solutions	Proven Seed/Nutrien Ag Solutions
Yellow Seed		
AAC Bright ♕	AAFC (Morden)	SeCan Members
CDC Dorado ♕	U of S - CDC	SeedNet Inc.
VT50 (NuLin 50) ⛰	Nutrien Ag Solutions	Proven Seed/Nutrien Ag Solutions
MUSTARD		
Brown		
Amigo	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AAC Brown 18 ♕	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AAC Brown 120 ♕	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AAC Brown Elite	AAFC (Saskatoon)	Mustard 21 Canada Inc.
Centennial Brown	AAFC (Saskatoon)	Mustard 21 Canada Inc.
Oriental		
Cutlass	AAFC (Saskatoon)	Mustard 21 Canada Inc.
Forge	Colman's of Norwich	Proven Seed/Nutrien Ag Solutions
AAC Oriental 200 ♕	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AC Vulcan	AAFC (Saskatoon)	Mustard 21 Canada Inc.
Yellow		
AAC Adagio ♕	AAFC (Saskatoon)	Mustard 21 Canada Inc.
Andante	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AC Pennant	AAFC (Saskatoon)	Mustard 21 Canada Inc.
AAC Yellow 80	AAFC (Saskatoon)	Mustard 21 Canada Inc.

Crop Kind, Class & Variety	Breeding Institution	Distributor
LENTIL		
Small Red		
CDC Dazil	U of S - CDC	Sask. Pulse Growers
CDC Impulse ♕	U of S - CDC	Sask. Pulse Growers
CDC Maxim	U of S - CDC	Sask. Pulse Growers
CDC Nimble ♕	U of S - CDC	Sask. Pulse Growers
CDC Proclaim ♕	U of S - CDC	Sask. Pulse Growers
CDC Redmoon ♕	U of S - CDC	Sask. Pulse Growers
CDC Simmie ✪	U of S - CDC	Sask. Pulse Growers
Extra Small Red		
CDC Impala	U of S - CDC	Sask. Pulse Growers
Large Red		
CDC KR-2 ♕	U of S - CDC	Sask. Pulse Growers
CDC Monarch ✪	U of S - CDC	Sask. Pulse Growers
CDC Sublime ✪	U of S - CDC	Sask. Pulse Growers
Small Green		
CDC Imvincible	U of S - CDC	Sask. Pulse Growers
CDC Jimini ✪	U of S - CDC	Sask. Pulse Growers
CDC Kermit ♕	U of S - CDC	Sask. Pulse Growers
CDC Viceroy	U of S - CDC	Sask. Pulse Growers
Medium Green		
CDC Imigreen	U of S - CDC	Sask. Pulse Growers
CDC Impress	U of S - CDC	Sask. Pulse Growers
Large Green		
CDC Greenland	U of S - CDC	Sask. Pulse Growers
CDC Greenstar	U of S - CDC	Sask. Pulse Growers
CDC Grimm ✪	U of S - CDC	Sask. Pulse Growers
CDC Impower	U of S - CDC	Sask. Pulse Growers
CDC Lima ♕	U of S - CDC	Sask. Pulse Growers
French Green		
CDC Marble	U of S - CDC	Sask. Pulse Growers
CDC Peridot	U of S - CDC	Sask. Pulse Growers
CDC Pilgrim ✪	U of S - CDC	Sask. Pulse Growers
Green Cotyledon		
CDC QG-3 ♕	U of S - CDC	Sask. Pulse Growers
CDC QG-4 ♕	U of S - CDC	Sask. Pulse Growers
Spanish Brown		
CDC SB-3 ♕	U of S - CDC	Sask. Pulse Growers
CDC SB-4 ♕	U of S - CDC	Sask. Pulse Growers
DRY BEAN		
Black		
CDC Blackstrap ♕	U of S - CDC	Sask. Pulse Growers
CDC Jet	U of S - CDC	Sask. Pulse Growers
CDC Superjet	U of S - CDC	Sask. Pulse Growers
Pinto		
Island	AAFC(Lethbridge)	Viterra Inc.
Medicine Hat ⛰	Seminis Vegetable Seeds	Canterra Seeds
CDC WM-2	U of S - CDC	Sask. Pulse Growers
CDC WM-3 ♕	U of S - CDC	Sask. Pulse Growers
Navy		
Bolt	U of Guelph	Hensell District Co-op
Portage	AAFC (Morden)	Canterra Seeds
AAC Shock	AAFC/U of Guelph	Hensell District Co-op
CDC Whitetrack ✪	U of S - CDC	McDougall Acres
Small Red		
AC Redbond	AAFC (Lethbridge)	Viterra Inc.
flor de junio		
CDC Ray ♕	U of S - CDC	Rudy Agro
Yellow		
CDC Sunburst ♕	U of S - CDC	Rudy Agro
SOYBEAN		

see tables on page VR28 - VR29

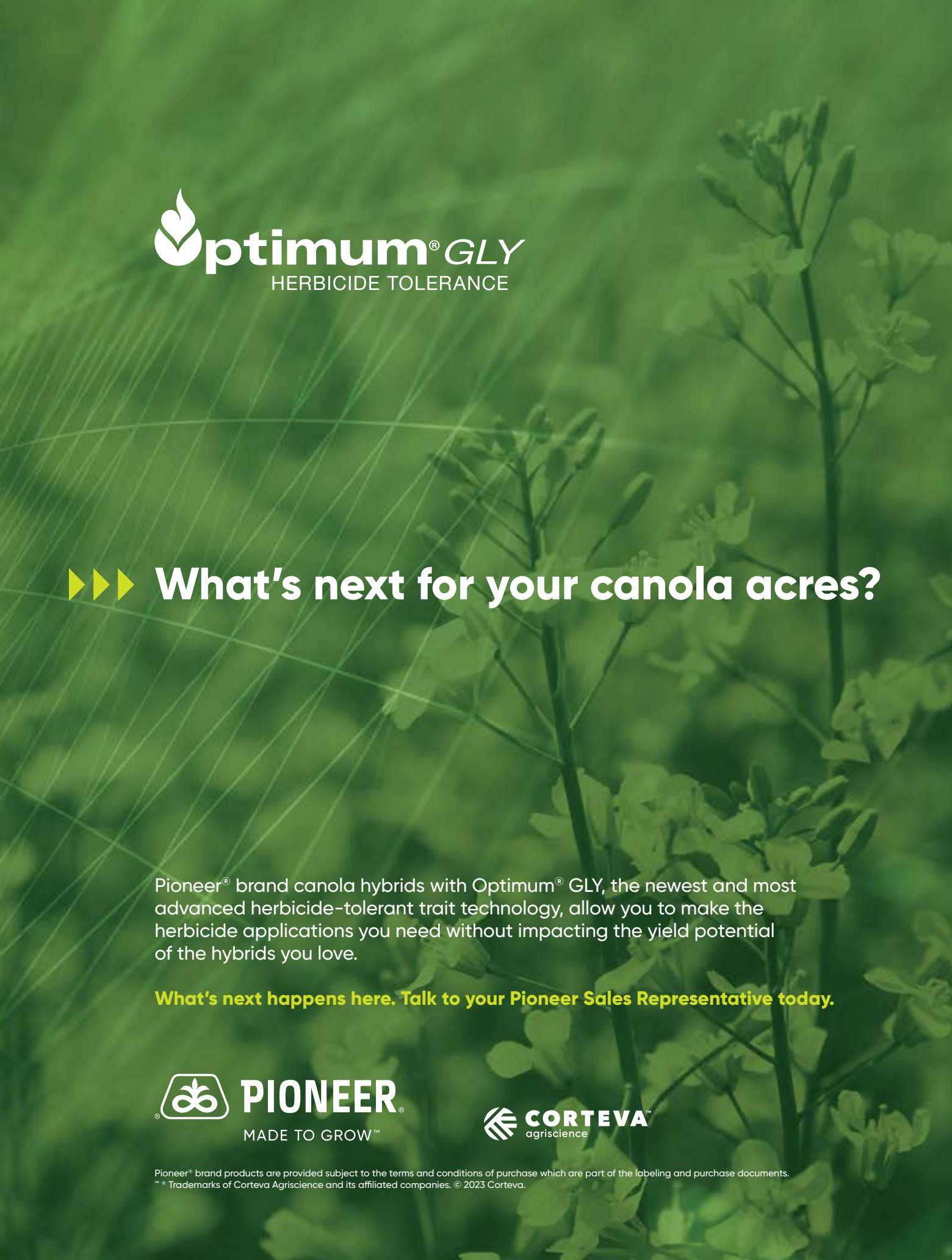
Abbreviations Used in this List

AC	Agriculture Canada (Agriculture and Agri-Food Canada)
AAC	Agriculture Canada (Agriculture and Agri-Food Canada)
AAFC	Agriculture and Agri-Food Canada
CDC	Crop Development Centre
CPS	Crop Production Services
FCDC	Field Crop Development Centre
NDSU	North Dakota State University
NPZ	Norddeutsche Pflanzenzücht
OAC	Ontario Agricultural College
RAGT	Rouergue Auvergne Gévaudan Tarnais
SY	Syngenta Seeds Canada Inc.
U	University
U of S	University of Saskatchewan
USDA	United States Department of Agriculture

The distributors listed in this table have distribution rights for the variety within Saskatchewan. Those distribution rights may be different outside of Saskatchewan and/or Western Canada.

Crop Kind, Class & Variety	Breeding Institution	Distributor
FIELD PEA		
Yellow		
Abarth ♕	Limagrain Netherlands	FP Genetics
AAC Aberdeen ♕	AAFC	Wagon Wheel Seed Corp.
CDC Amarillo	U of S - CDC	Sask. Pulse Growers
AAC Ardill	AAFC	Canterra Seeds
AAC Beyond ♕	AAFC	Canterra Seeds
Boost ✪	DL Seeds	Pitura Seeds
CDC Boundless ✪	U of S - CDC	SeCan
CDC Canary ♕	U of S - CDC	Sask. Pulse Growers
Caphorn ♕	DL Seeds	Valesco Genetics
AAC Carver ♕	AAFC	FP Genetics
AAC Chrome ♕	AAFC	FP Genetics
CDC Citrine ✪	U of S - CDC	Sask. Pulse Growers
CDC Engage ✪	U of S - CDC	Alliance Seeds
CDC Golden	U of S – CDC	Sask. Pulse Growers
CDC Hickie ♕	U of S – CDC	Sask. Pulse Growers
CDC Inca ♕	U of S - CDC	Sask. Pulse Growers
AAC Julius ✪	AAFC	FP Genetics
CDC Lewochko ♕	U of S - CDC	Sask. Pulse Growers
AAC McMurphy ♕	AAFC	FP Genetics
CDC Meadow	U of S - CDC	Sask. Pulse Growers
AAC Planet ✪	AAFC	SeedNet Inc
AAC Profit ♕	AAFC	FP Genetics
Prostar ✪ **VUA**	DL Seeds	Canterra Seeds
CDC Saffron	U of S - CDC	Sask. Pulse Growers
CDC Spectrum ♕	U of S - CDC	Sask. Pulse Growers
CDC Tollefson ♕	U of S – CDC	Sask. Pulse Growers
CDC 5791	U of S – CDC	Canterra Seeds
CDC 5845 ✪ **VUA**	U of S – CDC	Alliance Seed
Green		
Blueman §	DL Seeds Inc.	SeedNet Inc.
CDC Forest ♕	U of S - CDC	Sask. Pulse Growers
CDC Greenwater	U of S - CDC	Sask. Pulse Growers
CDC Huskie ✪	U of S - CDC	Sask. Pulse Growers
CDC Limerick	U of S - CDC	Sask. Pulse Growers
CDC Raezer	U of S - CDC	Sask. Pulse Growers
CDC Rider ✪	U of S - CDC	Sask. Pulse Growers
CDC Spruce ♕	U of S - CDC	Sask. Pulse Growers
CDC Striker	U of S - CDC	Sask. Pulse Growers
Maple		
CDC Blazer ♕	U of S - CDC	Sask. Pulse Growers
AAC Lorlie	AAFC	Wagon Wheel Seed Corp.
CDC Mosaic	U of S - CDC	Sask. Pulse Growers
Dun		
CDC Dakota §	U of S - CDC	Sask. Pulse Growers
Forage		
DL Delicious ✪ **VUA**	DL Seeds	FP Genetics
DL Goldeye ✪ **VUA**	DL Seeds	Riddell Seed Co.
CDC Horizon §	U of S - CDC	Sask. Pulse Growers
CDC Jasper ♕	U of S - CDC	Sask. Pulse Growers
DL Lacross	DL Seeds	SeedNet Inc
CHICKPEA		
Kabuli		
Amit (B-90) ⛰ §	ARO Volcani Centre	AGT Foods Canada
CDC Frontier	U of S - CDC	SPG
CDC Lancer ✪	U of S - CDC	SPG
CDC Leader	U of S - CDC	SPG
CDC Orion	U of S - CDC	SPG
CDC Orkney ✪	U of S - CDC	SPG
CDC Palmer ♕ §	U of S - CDC	SPG
CDC Pasqua ♕	U of S - CDC	SPG
CDC Pearl ♕	U of S - CDC	SPG
Desi		
CDC Consul	U of S - CDC	SPG
CDC Cory §	U of S - CDC	SPG
CDC Kala ♕	U of S - CDC	SPG
CDC Sunset ✪	U of S - CDC	SPG
FABA BEAN		
Coloured Flower (normal tannin)		
Allison ✪	DL Seeds Inc.	Prairie Fava
Dosis ✪	NPZ	SeedNet Inc.
Fabelle ♕	DL Seeds Inc.	SeedNet Inc.
Futura	NPZ	DL Seeds
Victus ♕	DL Seeds Inc.	Valesco Genetics
Victus ✪	DL Seeds Inc.	Valesco Genetics
White Flower (low tannin)		
Navi ✪	AGri Obtentions	KGB Meier Farms
DL Nevado ✪	DL Seeds Inc.	Stamp Seeds
CDC 1089 ✪	U of S - CDC	Sask. Pulse Growers
CDC 1310 ✪	U of S - CDC	Sask. Pulse Growers
CDC 1142 ✪	U of S - CDC	Sask. Pulse Growers

Notes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