the BarleyBin

SPRING 2025 · VOL 8

Barley, Beer & Betting on the Future

INSIDE: PLANT GROWTH REGULATORS + NEW VARIETIES + FEEDING BARLEY... *and more*

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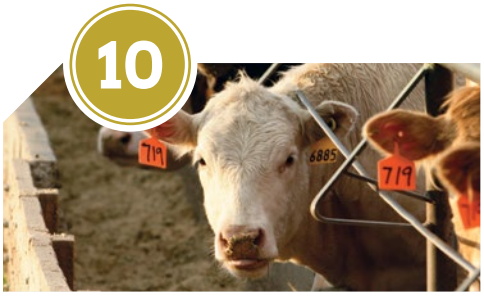

theBarleyBin

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As we head into another growing season, barley producers across Saskatchewan are facing both challenges and opportunities.

While shifting market dynamics and rising costs are reshaping the industry, innovative research, strong market connections, and producer-driven insights continue to move us forward.

In this issue, we take a closer look at the future of the malt barley sector. Our cover story explores how some producers are adapting to changing beer markets and the opportunities in the rising craft brewing and non-alcoholic segments (pg. 3). Additionally, promising new feed barley varieties, such as CDC Durango and AAC Lariat, offer livestock producers better agronomic packages and higher yields (pg. 16).

Research and agronomy also play a vital role in producer profitability. SaskBarley has made some exciting investments into barley research this past year by renewing Core Breeding Agreements to ensure new variety development continues (page 15). Based on SaskBarley funded research conducted at the Livestock & Forage Centre of Excellence, we've put together some tips to optimize cattle performance on barley rations (pg. 10). Highlights from Chris Holzapfel's Plant Growth Regulators study at IHARF provide valuable insights for growers looking to improve barley standability and yield (pg. 8).

Finally, we need your input. The Barley Benchmark Survey is one of the best ways for you to share your experiences in barley production. Your responses will directly help to promote and protect the value of your crop. Visit barleybenchmark.com to participate.

As 2025 is an election year, please consider putting forward your nominations to the three positions opening on our Board of Directors (see right). I encourage you to take part in the survey and stay engaged with us and the industry. Together, we can continue building a strong, competitive, and profitable future for barley farmers in Saskatchewan.

SaskBarley has made some exciting investments into barley research this past year by renewing Core Breeding Agreements to ensure new variety development continues.

Cody Glenn,
Chair

SaskBarley

Call for Nominations

Three positions up for election on the Board of Directors in 2025

SaskBarley is seeking nominations for its Board of Directors. There are three, four-year term positions up for election. If you are passionate about the future of barley and want to play a role in shaping its direction, consider putting your name forward.

Nominations open:
June 2, 2025.

Eligible nominees are registered barley producers who have paid a check-off to SaskBarley since August 1, 2023, and not requested a refund in the last fiscal year. Nominations require signatures from two registered barley producers.

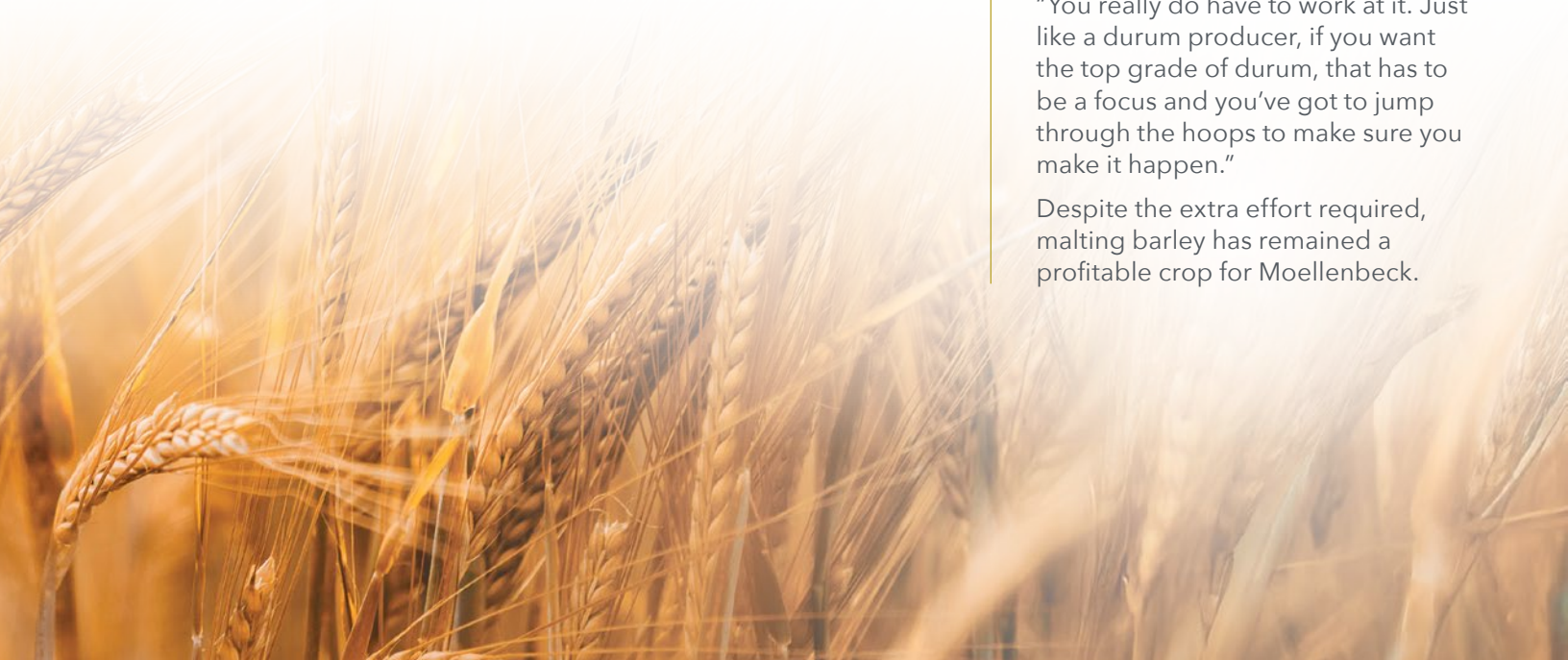
Submission deadline: September 5, 2025, at 12 p.m.

If an election is required, voting will take place from **October 15 to November 28, 2025.**

Stay tuned to saskbarley.com and follow us @SaskBarley on Facebook and X for more details.

Barley, Beer & Betting on the Future

By Delaney Seiferling | *Freelance Writer*



Despite market headwinds, malting barley farmers see opportunities in craft brewing and non-alcoholic beer.

As we continue to see significant shifts in global and domestic beer markets, Saskatchewan barley producers are making changes to weather the storm.

Some are shifting away from growing the crop, as exemplified by the fact that only 57% of the barley acres seeded in Saskatchewan last year were malting barley, compared to 65% in 2020.

But Gordon Moellenbeck isn't one of them.

As a long-time malting barley producer, consistently seeding about 1,700-2,000 acres a year on his family's farm near Englefeld, SK, he says he has learned how to consistently produce a high-quality crop and has built a strong relationship with his buyer.

"We've been able to hit the grades and their specs for a long time so we're really comfortable being malt producers," he says, adding it took him a lot of time and energy to get to this point.

"You really do have to work at it. Just like a durum producer, if you want the top grade of durum, that has to be a focus and you've got to jump through the hoops to make sure you make it happen."

Despite the extra effort required, malting barley has remained a profitable crop for Moellenbeck.

Gordon Moellenbeck

Inflation and taxation strain the brewing industry

Several factors have caused fluctuations in beer markets in recent years.

Globally, beer consumption has been declining over the last decade, due largely to inflation and rising production costs, increasing health concerns related to alcohol consumption, and growing demand for low- and non-alcoholic drinks.

The same trends are true within the domestic beer industry as well. Beer sales and consumption in Canada have been on a slow decline in recent decades, but decreased by 2.8% in 2022/2023, marking the largest per capita decline in history.

This has had a significant impact on producers, says Luke Chapman of Beer Canada.

"One of the unique aspects of the Canadian brewery industry is just how domestic it is. Last year, about 90% of all the beer purchased and consumed in Canada was made here. So, the industry does play quite an important role in the Canadian economy."

Because of this, declining beer sales have a ripple effect across the value chain, he says.

"In a typical year, if beer sales are doing relatively as expected, Canadian brewers purchase about 350,000 tonnes of Canadian grown barley. So, any sales decline does have a direct impact on farmers."

He says another unique factor affecting beer sales in Canada is the fact that federal beer taxes have

"Barley farmers may be surprised to learn that, just using a single pint of beer as an example, the federal government collects about four times more in beer excise tax than the amount that's paid to the farmer for the barley that's needed to brew that pint of beer."

Luke Chapman
Beer Canada

Ryan Moncrieff with his wife Teresa own and operate Rafter R Brewing Company

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increased about 16% under the current government, making our tax rate more than double that of the United States.

"Barley farmers may be surprised to learn that, just using a single pint of beer as an example, the federal government collects about four times more in beer excise tax than the amount that's paid to the farmer for the barley that's needed to brew that pint of beer."

Also relevant is the fact that tax levels vary by the amount of alcohol in the beer. Beer containing alcohol levels of 0.5% - 1.2% are taxed at a rate of $3.07 per hectolitre, while those containing levels of 1.2 to 2.5% are taxed at a rate of $18.48 per hectolitre. When alcohol levels are higher than that, tax rates jump to $36.95 per hectolitre.

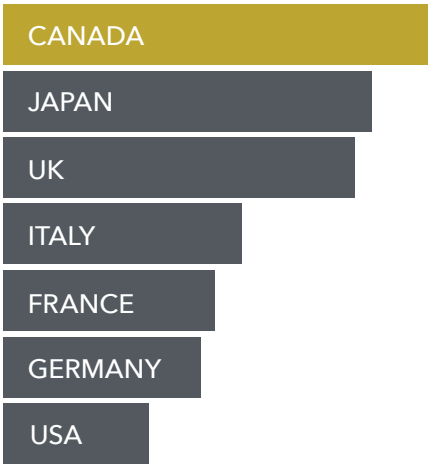
"I think those numbers were kind of determined somewhat arbitrarily. I'm not sure if there was a lot of analysis to reach those different rates," Chapman says.

For craft brewer Ryan Moncrieff, the biggest challenge in recent years has been inflation.

"It just drives the price of everything up," says Moncrieff, who owns and operates Rafter R Brewing Company in Maple Creek, SK, with his wife Teresa.

"The cost of production, across the board, is going up. Freight costs are ridiculous. And for a brewery, everything you need to make beer, except for water – even sometimes water, needs to be freighted in."

Canada has the **highest beer taxes** in the G7



"The cost of production, across the board, is going up. Freight costs are ridiculous. And for a brewery, everything you need to make beer, except for water – even sometimes water, needs to be freighted in."

Ryan Moncrieff | Rafter R Brewing Company

For example, he says a couple years ago it would have cost a couple hundred dollars to get a pallet of malt shipped to his brewery. Now, it costs $500-600. The same is true for shipping in parts needed for his brewery.

"You used to get a Purolator or Canada Post package, depending on the size of it, for maybe ten bucks. Well, now it's $30 for this little crinkly envelope with a couple of seals or something. And the seals were two dollars."

He says when you factor in increased costs of utilities and other regular costs, it adds up quickly – especially at a time when many small businesses are still struggling with post-pandemic recovery.

"Everything like that is causing major issues. Everybody's feeling the pinch."

Craft and niche markets provide new opportunities

However, despite the current challenges, many within the industry remain optimistic about the future of the sector.

Some projections show that the global beer market is set to grow at a rate of 4.28% a year over the next decade, due in large part to rising incomes, urbanization and demand for new and novel products.

Globally and domestically, there's also a lot of growth potential in the low-to-non-alcoholic beer sector, says Chapman.

"That is really the only segment of the Canadian brewing market that has seen growth in recent years," he says, adding that the current government eliminated taxes on non-alcoholic (below 0.5% ABV) beer a few years ago.

"There's growing interest among consumers to experiment and try lower, non-alcoholic beverages, and we think there's an opportunity for government to play a role in promoting the production of more of those types of products by providing a favourable tax rate."

Luke Chapman
Beer Canada

"There's growing interest among consumers to experiment and try lower, non-alcoholic beverages, and we think there's an opportunity for government to play a role in promoting the production of more of those types of products by providing a favourable tax rate."

Moncrieff also believes that there's still lots of room for growth in the craft beer sector, in terms of new products and converting traditional beer drinkers. One of his favourite parts of the job is when people come into his taproom to try craft beer for the first time, and he sees the moment they are converted.

"People are super apprehensive about trying different things and beer drinkers are so fiercely loyal to the products that they've been drinking for who knows how long that it's almost like they feel like they shouldn't try something else," he says.

"But we have some really great experiences with people and getting them to try their very first Saskatchewan made craft beer."

He believes that, going forward, the industry needs to do a better job of making these experiences happen.

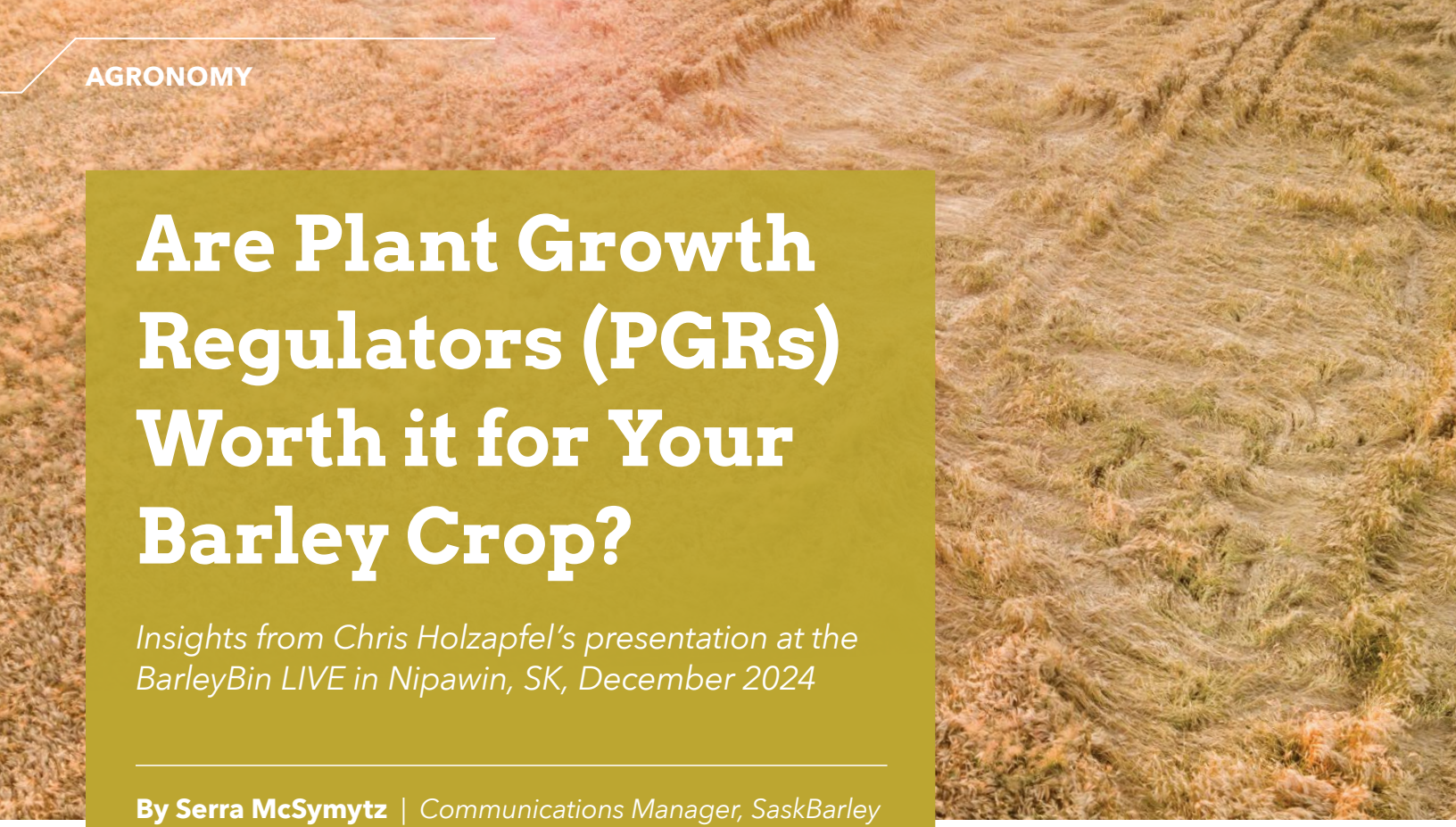
"There are lots of beer drinkers in Saskatchewan. We need to switch over some of those big beer box drinkers -- somebody that's been drinking the same thing for ten, twenty, thirty, forty years."

Moellenbeck, who follows global beer markets closely and has developed a strong interest in the craft beer sector, agrees that the future is still bright, despite ongoing challenges.

"There is a big trend in non-alcoholic beer, which still uses malt. I think that will probably … not make the drop in malt quite as drastic."

He also thinks there's still lots of room for growth in the craft beer segment, in terms of new products and innovation.

"A lot of guys really brought out the different styles of beer and how they can be used," he says. "I think a lot of people still haven't even begun to tap into that."



Are Plant Growth Regulators (PGRs) Worth it for Your Barley Crop?

Insights from Chris Holzapfel's presentation at the BarleyBin LIVE in Nipawin, SK, December 2024

By Serra McSymytz | *Communications Manager, SaskBarley*

Plant growth regulators (PGRs) have been gaining attention in barley production, particularly with the registration of chlormequat chloride (Manipulator) in 2020 and trinexapac-ethyl (Moddus) in 2021.

While PGRs have been used regularly in wheat over the last 10 years or so, many barley growers are still unsure if they provide a clear return on investment. Research trials in Saskatchewan over the past few years provide some valuable insights. Here's what you need to know before deciding whether to apply PGRs to your barley crop this year.

Understanding PGRs in barley

PGRs are used to reduce plant height and improve lodging resistance in cereal crops, helping maintain harvest efficiency and protect yield potential. However, barley's response to PGRs has been less consistent than wheat, making it crucial to assess your farm's conditions before application.

What research shows: When do PGRs work best?

Recent field trials conducted at Indian Head Agricultural Research Foundation (IHARF) and across Saskatchewan, funded by SaskBarley and ADOPT, have tested PGRs on multiple barley varieties under different environmental conditions. Key findings include:

1. **Moisture matters:** PGRs show the most benefit in high-rainfall areas where lodging risk is high. In dry years, they provide minimal value and can be detrimental.
2. **Lodging prevention:** Moddus was more effective than Manipulator at reducing lodging, particularly in varieties like CDC Churchill and AB Wrangler.
3. **Yield impact:** In previous dry years, PGRs had little to no impact on yield. However, in 2024, Moddus increased yield by 10% in higher-moisture conditions that increased lodging pressure.
4. **Variety differences:** Not all barley varieties respond the same way. Oreana, for example – a short, strong-strawed variety, showed minimal response to PGRs, while others benefitted.
5. **Fertility balance:** Higher nitrogen rates increased lodging risk, reinforcing the need to balance fertility with PGR application.

SaskBarley's Plant Growth Regulators Products and Mixes to Improve Crop Safety and Efficacy in Barleys project is co-funded by ADOPT. Follow us @SaskBarley on Facebook, X and YouTube for results of this research.

The marketability factor: Moddus vs. Manipulator

One important consideration is market acceptance. Manipulator is flagged on the "Keep It Clean" list for malting, as well as feed and food barley, which means using it could affect your ability to sell. Moddus does not have this restriction, making it the safer choice for growers targeting the malt market.

Should you apply PGRs this year?

The decision to use PGRs depends on your farm's moisture levels, barley variety, and lodging risk. Here are some key takeaways:

Use PGRs if:

- You farm in a high-rainfall area where lodging is a concern.
- You grow a variety known to be less resistant to lodging.
- You're applying higher nitrogen rates and need to manage lodging risk.

Skip PGRs if:

- You farm in a dry area.
- You grow a variety with adequate lodging resistance for your environment and agronomic program.

PGRs are a situational tool for barley growers. While Moddus has shown strong results in reducing lodging and, in some cases, increasing yield, PGRs are not always necessary—especially in drier conditions. If you're considering applying a PGR this year, take a close look at your moisture levels, variety selection, and marketability requirements before making your decision.

PGR application can be an effective tool to help reduce lodging pressure in barley.

PHOTO TAKEN AT INDIAN HEAD, SK, AUGUST 2024

Have questions about PGRs for barley?

Reach out to Chris Holzapfel, Research Manager at IHARF (cholzapfel@iharf.ca) or Mitchell Japp, Research & Extension Manager at SaskBarley (mjapp@saskbarley.com) directly for more research insights and best practices!

Maximizing Cattle Performance with Barley

Discover why barley is a superior feed grain for beef cattle, with research-backed tips on processing, feeding, and maximizing performance.

Reviewed by Gregory Penner | *PhD, Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan*

Barley has been a cornerstone of Canadian beef production for decades, offering a high-energy feed source that promotes efficient weight gain and overall cattle health.

SaskBarley has invested in multiple research projects to determine the optimal processing methods and feeding ratios for barley grain in backgrounding and finishing diets. This article breaks down the latest research on barley's performance compared to other grains, explores processing methods, and provides practical tips for optimizing its use in feedlots.

Why barley? Key benefits for feedlot operators

Barley is a cost-effective, high-energy feed grain with greater crude protein than corn and supports efficient weight gain. Research shows that cattle fed rolled barley outperform those fed corn in many cases, offering better digestibility, energy utilization, and nitrogen retention. For feedlot operators, this means improved feed conversion rates and lower costs.

The importance of proper processing

Nixdorff et al. (2020) found that steam-flaking improved gain-to-feed ratios and starch digestibility but required careful control for flaking density to avoid negative effects on carcass weight. The potential benefits of steam-flaking may justify infrastructure investments for larger feedlots, particularly due to its ability to enhance starch digestibility and feed efficiency. The research also highlighted that flaking conditions for barley are quite different for corn as less steam conditioning is required prior to flaking. This helps reduce the capital cost and increase throughput. However, tempering and dry-rolling remain viable alternatives for barley processing. Tempering improves grain moisture content, reducing dust and breakage, while dry-rolling is a cost-effective method that maintains ruminal health when properly managed. Feedlot operators should weigh these factors based on their specific operational needs and economic considerations.

How you process barley significantly impacts its digestibility and energy availability. Proper processing ensures maximum feed efficiency and cost savings. Here's what you need to know:

1. Rolling high-moisture barley

What the research says: Lynch et al. (2024) found that the severity of rolling affects starch digestibility and fermentation. Over-rolling can lead to excessive fermentation, increasing the risk of digestive issues like acidosis. Under-rolling, on the other hand, reduces starch availability. If feeding high-moisture barley, it is important to recognize that starch digestibility will increase with duration of storage.

Practical tip: Adjust roller gap widths and grain inflow rate to affect the severity of processing and consider the amount of time the grain has been ensiled to balance starch availability and maintain rumen health. Aim for a consistent, medium roll size to optimize digestion.

2. Steam-flaking barley

What the research says: Nixdorff et al. (2020) found that steam-flaking improves starch digestibility and gain to feed ratios but requires careful management of the flaking density. Over-processing (flaking densities that are too low) can lead to rapid fermentation, increasing the risk of acidosis and reducing feed intake.

Practical tip: If you invest in steam-flaking equipment, monitor flake density closely. Properly steamed barley should have a flake density of 360–400 grams per liter to maximize performance without compromising rumen health. Barley only requires up to 5 min of steam conditioning at atmospheric pressure prior to flaking.

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3. Tempering

What the research says: Tempering increases grain moisture, reducing dust and kernel breakage during processing.

Practical tip: Use tempering to improve feed handling and reduce waste, especially in dry conditions. For optimal starch utilization, current studies suggest that tempered barley should be processed to a processing index value of 65-70%.

4. Dry-rolling

What the research says: Dry-rolling is a cost-effective method that maintains rumen health when done correctly.

Practical tip: Ensure consistent roller gap width and barley inflow rate to maximize starch availability without over-processing. Current data suggest processing index values between 70 and 75% while ensuring fine particles are <5%.

Evaluating adequacy of processing

Processing index values and flake density are useful measures to determine if the barley grain is processed sufficiently to maximize digestibility while maintaining rumen health. However, cattle provide the true test. To evaluate what the cattle tell us, producers can take samples of fresh fecal pats in the pen and measure the starch concentration. Starch concentrations <3% indicate very effective starch utilization. It should be cautioned that increasing the severity of cereal grain processing may not always lead to reductions in fecal starch concentration. Cattle fed over-processed grain can also have elevated fecal starch concentrations and silages harvested too mature may also contain starch that contributes to fecal starch.

Tailoring your rations

Backgrounding phase

What the research says: During backgrounding, barley and corn-fed cattle perform similarly. However, a mix of barley grain and corn silage can optimize nitrogen retention and rumen function.

Practical tip: Combine barley grain with corn silage to balance fermentable starch and digestible fiber. This supports steady weight gain without increasing acidosis risk.

Finishing diets

What the research says: Dry-rolled barley consistently outperforms dry-rolled corn in finishing diets. Johnson et al. (2020) found that dry-rolled barley has higher total tract digestibility, improves nitrogen retention, and has greater digestible energy content than corn. This translates to improved feed conversion rates and cost savings.

Practical tip: If steam flaking is not an option, stick with barley for finishing rations. Incorporating corn is likely to reduce performance proportionally to the amount included (Johnson et al., 2020).

Key takeaways

Extensive research confirms that barley is a highly efficient, economical feed grain for cattle, offering benefits in starch and protein digestibility, nutrient retention, and overall performance when processed appropriately. Key takeaways for livestock producers and feedlot managers include:

1. **Invest in the right processing method:** Choose processing methods (e.g., dry-rolling, tempering, steam-flaking, or high-moisture) based on your operation's size, budget, and goals.
2. **Optimize processing:** Proper rolling, tempering, steam-flaking, or high moisture barley can significantly improve barley's digestibility and energy availability. Avoid over-processing to prevent digestive issues.
3. **Evaluate diets:** A mix of barley grain and corn silage works well in backgrounding diets. For finishing diets, barley offers higher digestibility, better energy utilization, and improved nitrogen retention compared to dry-rolled corn.

Barley remains a reliable, cost-effective feed grain for beef cattle, offering consistent performance benefits when processed correctly. By optimizing processing methods and balancing rations, feedlot operators can maximize feed efficiency, reduce costs, and improve cattle performance. Whether you're finishing or backgrounding cattle, barley is a proven choice for western Canadian beef production.

Steam flaked barley.

PHOTO COURTESY OF CATHERINE SEIDLE - LIVESTOCK AND FEED EXTENSION SPECIALIST, SASKATCHEWAN MINISTRY OF AGRICULTURE.

Sampling a ration that is made of up dry-rolled barley grain, barley silage, and a vitamin and mineral premix.

PHOTO COURTESY OF CATHERINE SEIDLE - LIVESTOCK AND FEED EXTENSION SPECIALIST, SASKATCHEWAN MINISTRY OF AGRICULTURE.

Tackling Disease Resistance - One Gene at a Time

Dr. Gurcharn Singh Brar's research focuses on genetic solutions to tackle key barley diseases, paving the way for future-resistant varieties in western Canada.

By Delaney Seiferling | *Freelance Writer*

It may be a slow journey, but we are making progress in the fight against some of the most notorious diseases for western Canadian barley, says one researcher.

"Even though these types of research projects have a medium to long term application, they're still so important to fund," says Dr. Gurcharn Singh Brar, head of the Cereal Breeding Lab and an assistant professor at the University of Alberta (U of A).

"It just takes time."

Although Brar leads the wheat breeding program at the U of A, about 5-10% of his research is consistently focused on barley, he says, as the two crops face similar disease and agronomy risks.

As such, he recently wrapped up two research projects focused on better managing disease in barley through genetic resistance.

Through this work, research teams identified and tested genes for potential resistance to common diseases, such as Fusarium head blight, stripe rust, and scald.

One of the main takeaways of the research was that Brar's

> *"Even though these types of research projects have a medium to long term application, they're still so important to fund,"*
>
> **Dr. Gurcharn Singh Brar**
> University of Alberta

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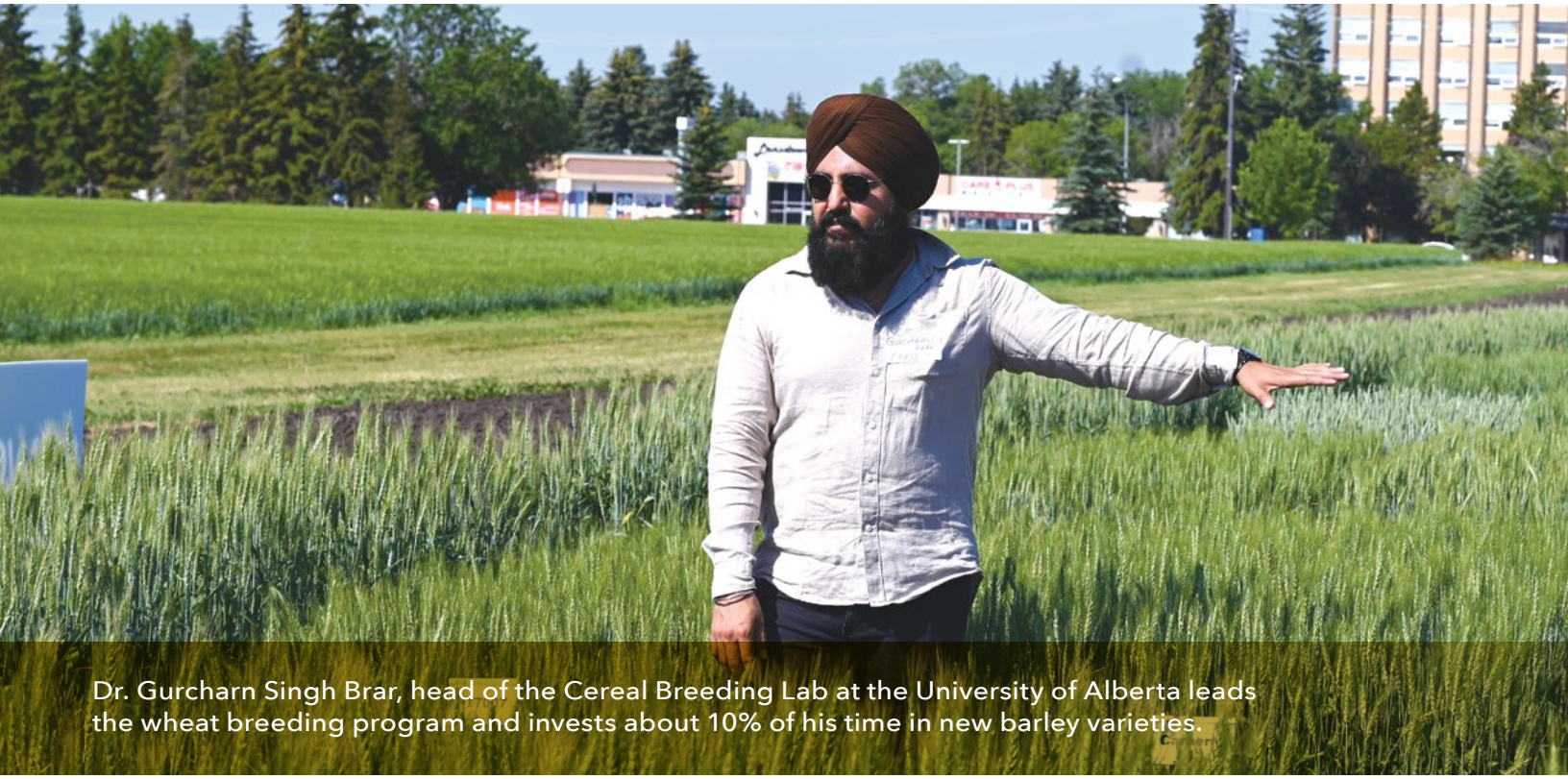

Dr. Gurcharn Singh Brar, head of the Cereal Breeding Lab at the University of Alberta leads the wheat breeding program and invests about 10% of his time in new barley varieties.

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team was able to sequence barley varieties from Dr. Aaron Beattie's barley breeding program at the University of Saskatchewan's Crop Development Centre, which led to further characterization of an important gene for scald resistance.

They also developed some crosses with lines derived from wild barley, from which two breeding populations were developed. The researchers believe that these populations could potentially yield genes and associated molecular markers with resistance to multiple diseases, Brar says.

"We have phenotypic data on multiple diseases for these two populations, and we are going to use it with the marker data sequence data we have generated to try to identify novel sources of resistance for diseases which are economically important to our barley breeders in western Canada."

Although it will likely be at least a decade before this translates into new resistant barley varieties available to producers, Brar says these are critical pre-breeding steps required to manage disease threats.

"It's still very important to start that work now, because time just flies and pathogens evolve, so we need to bring the new sources of resistance."

Brar is also currently carrying out research aiming to develop management tools for net blotch in barley, an expanding and increasingly threatening disease for western Canada.

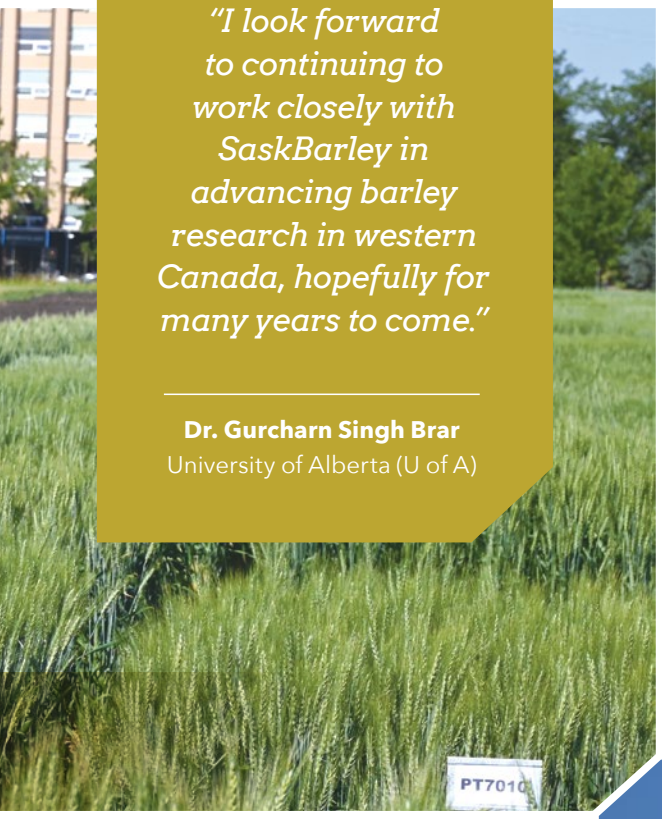
About halfway through the research, he says they are making progress, having established a faster way to detect disease pathogen races/lineages.

"The traditional way of identifying barley net blotch races takes a very long time and is very tedious," he says, adding the research team has already sequenced many pathogen races causing net blotch and is now using that data to develop a molecular assay to identify races or genetic lineages of the pathogen in field samples.

"These assays can probably detect the race from a new sample collector, directly from the field, quite rapidly. Even if that SAS is 95% accurate, that's pretty good, because you save time."

He expects there will be more exciting takeaways from this research soon, and after the pathogen study is complete, he is excited to explore the plant genetics options for disease management.

And while these developments may seem small and slow, in a world that thrives on instant gratification, he says they are critical to making larger gains



"I look forward to continuing to work closely with SaskBarley in advancing barley research in western Canada, hopefully for many years to come."

Dr. Gurcharn Singh Brar
University of Alberta (U of A)

in terms of disease management for cereal crops in western Canada. This is why he plans to stay focused on genetics and genomics work for barley going forward.

"I will continue to try to develop some genetic resources, or genomic resources that barley breeders could use in their programs."

He also says he's grateful for the support for these projects from groups like SaskBarley, who understand the critical importance of his work, not only carrying out the research itself but training the next generation of crop researchers.

"I personally appreciate the investment from SaskBarley. They see the value of my research and I'm really thankful," he says.

"I look forward to continuing to work closely with SaskBarley in advancing barley research in western Canada, hopefully for many years to come."

Beyond Austenson: Game Changing New Feed Barley Varieties

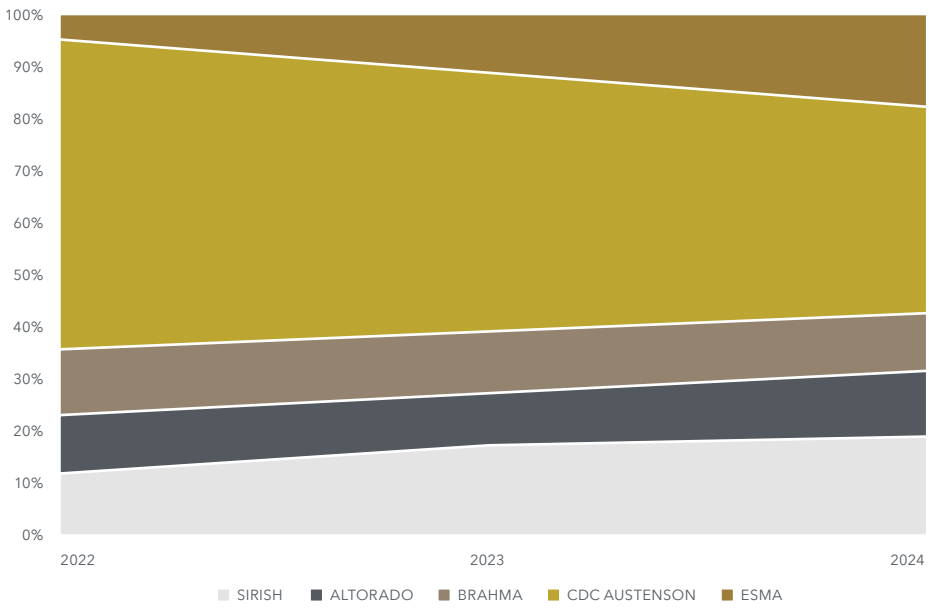
With multiple breeding programs raising the bar for feed barley yields, growers now have more choices than ever to maximize performance and profitability.

Mitchell Japp | *Research and Extension Manager, SaskBarley*

The reign of CDC Austenson as the top feed barley variety is nearing its end. Since surpassing Xena in 2015, it has been the leading choice for feed barley growers across Western Canada.

CDC Austenson was named Seed of the Year by SeedWorld for 2025 because of its popularity as the top barley variety planted for three years in a row. Recently, new varieties have eclipsed CDC Austenson as the top yielding feed variety and will likely take the acreage title soon.

Share of Barley in Western Canada (Top 5 feed varieties shown)



Registered in 2009, CDC Austenson quickly gained popularity with barley growers. It had already surpassed 100,000 acres by 2012 when the high yielding malt variety, AAC Synergy was registered. After AAC Synergy, malt varieties became very competitive with top yielding feed varieties. Despite high yielding malt varieties like AAC Synergy, CDC Fraser (2016) and CDC Churchill (2019), CDC Austenson has remained a popular choice for farmers.

With malt varieties increasingly rivaling feed barley in yield potential, choosing a new feed variety has been challenging. However, recent releases from multiple breeding programs signal another shift—one that firmly reestablishes the role of dedicated feed barley varieties. The latest options deliver significantly higher yield potential, surpassing both CDC Austenson and the top malt varieties.

Crop Development Centre (CDC): After a long gap in dedicated feed barley development, Dr. Aaron Beattie's grower-focused breeding program introduced **CDC Durango (2022)** as its next-generation replacement for CDC Austenson.

Agriculture and Agri-Food Canada (AAFC): While primarily focused on malt, Dr. Ana Badea's program has also released **AAC Lariat (2022)** and **AAC Stockton (2023)** as competitive feed options.

Western Crop Innovations (formerly Field Crop Development Centre): This breeding program specializes in feed and forage barley, with notable releases from Dr. Yadeta Kabeta's program like **AB Tofield (2020), AB Prime (2021)**, and **AB Hague (2021)** offering impressive yield potential.

Nutrien (Highland Specialty Grains): New varieties like **Cantu (2022)** provide additional options for growers seeking high-performance feed barley.

All of these varieties offer notable advantages over previous high yield feed and malt varieties. Most have in the range of 5% or greater yield advantage, while others have improved agronomic advantages including improved straw strength, and some excellent disease packages.

The tables in the Varieties of Grain Crops have the most recent data on these varieties. Take a close look and you'll find the right combination of disease resistance, straw strength and yield potential for your operation.

The game has changed. There is a high-performing feed barley variety to suit your needs.

Follow us on Facebook and X or subscribe to our YouTube channel @SaskBarley to learn more about the latest barley varieties.

SaskBarley supports variety development through breeding agreements and the SCAP Barley Cluster, in partnership with Alberta and Manitoba. It also funds regional variety testing through the Saskatchewan Variety Performance Group and agronomy research like the Enhanced Barley Agronomy project.

New Barley Breakthroughs Offer Food for Thought

From high beta-glucan content to antioxidant-rich purple barley, researchers and breeders are opening doors for farmers and food manufacturers alike.

Geoff Geddes | *Freelance Writer*

You might not see a "new and improved" sign in food barley fields, but an exceptional grain is about to get even better.

Thanks to its many health benefits and rising consumer demand, food barley is garnering more interest than ever from farmers. In response, researchers and breeders are working to expand opportunities for growers and food manufacturers.

As part of this effort to feed a growing appetite for food barley, SaskBarley has launched the Novel and Niche Barley Project. Co-funded by SaskBarley and ADOPT*, this initiative is testing innovative new food varieties and their end uses.

"Our food barley use is limited in Canada, so we'd like to see it improve," says Mitchell Japp, research and extension manager at SaskBarley. "We felt that connecting producers with a range of food barleys, and developing new products from some varieties, would be a good first step."

Blending the old with the new, this project includes both current and classic varieties, sharing yield information with producers and exploring different end uses. Some of the selections have shown to perform well as food barley even when food products were not their intended use.

"The only drawback of using non-food barley varieties this way is that they lack the high beta-glucan levels needed to include that element on the health label," says Japp. "That said, we're seeing some really novel looking lines and generating food like barley crackers that are both healthy and delicious."

One of the notable high beta-glucan varieties is CDC Henrick.

"We have known for some time that beta-glucan offers many health benefits," says Dr.

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Aaron Beattie, associate professor in the College of Agriculture and Bioresources at the University of Saskatchewan.

Beta-glucans have been shown to reduce cholesterol levels, boost heart health and possibly help with diabetes.

"Two decades ago, CDC Fibar set the bar for beta-glucan content, but it was low yielding and had poor standability," says Beattie. "CDC Henrick has slightly higher beta-glucan levels than CDC Fibar and its yield is about 10% better. It is also shorter with very good lodging resistance and less straw, so it's easier to manage in the field."

CDC Fibar is well adapted to the challenging weather of western Canada. While farmers ultimately judge how best to grow a variety, management and rotation of this line should be similar to CDC Henrick.

On the food side, CDC Fibar has an appealing flavor. It can be mixed with wheat flour and enjoyed in cookies, flatbread and cereals.

"Right now, CDC Fibar is only being grown by a handful of farmers in Saskatchewan," says Beattie.

There are some international customers, especially in South Korea, who have shown interest in high beta-glucan food barley.

"In the past, we've had trouble getting bigger companies to take on this type of barley in a serious way," says Beattie. "It's a bit of a 'chicken and egg' dilemma, as companies want to see there is a good supply of the barley before they commit, and growers need to see some commitment before they decide to grow it."

> *"We felt that connecting producers with a range of food barleys, and developing new products from some varieties, would be a good first step."*
>
> **Mitchell Japp**
> SaskBarley

Another intriguing, newly released hulless barley cultivar that is part of the Novel and Niche Barley Project is AAC Magenta, a purple coloured barley (pictured left). Among other benefits, it contains high levels of anthocyanins, the antioxidants found in blueberries and red wine.

"Anthocyanins are one of the main groups of natural pigments responsible for the colours of many flowers, vegetables, fruits and cereal grains," says Dr. Ana Badea, research scientist - barley breeding and genetics with Agriculture and Agri-Food Canada (AAFC). "Barley grains are usually yellow to amber in colour, but they can also have different colours such as white, purple, blue and black."

Among barleys, purple barley boasts the highest average content of anthocyanin. AAC Magenta displayed four to six times more total anthocyanin content compared to the hulless check cultivars: CDC McGwire and CDC Rattan.

"While AAC Magenta has not yet been used in clinical studies, anthocyanins are recognized for their powerful antioxidant properties, which can help decrease high blood pressure, cholesterol and blood sugar levels," says Badea. "They also aid in preventing inflammation, cancer, type 2 diabetes, and reducing the risk of heart disease."

AAC Magenta can be used in any food sector where barley is currently deployed, and whole grain functional foods made with coloured grains are promising new products.

This barley also thrives in the field.

"During testing, it demonstrated good agronomic performance for a specialty barley," says Badea. "For example, yield was significantly higher than the specialty hulless check cultivar CDC Fibar."

As with CDC Henrick, AAC Magenta should warrant similar management practices to other Canadian hulless barley.

Given the high profile of food barley today, these varieties should feed that interest for years to come.

Sustainable Canadian Agricultural Partnership

* Agriculture Demonstration of Practices and Technologies (ADOPT) funding is provided by the Saskatchewan Ministry of Agriculture and supported by the Sustainable Canadian Agriculture Partnership

Something for Everyone

Liz Allen | *Freelance Writer*

High Key Brewing Co. raises a glass to creativity and fun

"We don't take ourselves too seriously and having an open mind is important. We like to bring different flavours to Saskatchewan and have fun with it. There are so many combinations of hops and grains that can be used to create beer and, by adding berries and other ingredients, the options are limitless." You could say that sums up the philosophy and approach of Maddy Conn and Daniel Rommens, co-founders of High Key Brewing Co., located in Saskatoon.

Born and raised in Saskatoon, Maddy attended the University of Saskatchewan before moving to Dallas in 2013 to work for a software company. She quickly fell in love with the city's microbrewery scene. "It spoke to everything I love – grassroots, community, local. I worked in bars and restaurants my entire life and love to eat and drink when I travel. I thought about Saskatchewan being a big barley producer and how opening a microbrewery would be amazing."

A decade ago, microbreweries were scarce in Saskatchewan. When the Saskatchewan Liquor and Gaming Authority began adjusting its rules to support craft brewing, Maddy saw an opportunity. "This is my chance."

After developing a business plan, Maddy cast about for a brewer to review it and give her pointers. In true Saskatchewan three degrees of separation, Maddy met Daniel Rommens through her brother-in-law. "Daniel studied biology at university and got into craft brewing after his wife gifted him a home brewing kit. As an assistant brewer at a local microbrewery, he saw the potential in Maddy's plan and was eager to create his own beers, leading them to partner on the venture."

High Key Brewing Co. began modestly in 2017 with some contract brewing and weekends at farmers' markets. A year later, Maddy and Daniel opened a taproom on Quebec Avenue. In 2022, they relocated to a former Harley-Davidson dealership in downtown Saskatoon and transformed it into a bright, airy, cheerful taproom and restaurant. The taproom is a spot for brewing enthusiasts to geek out with the bartender, the patio is a welcome respite on summer days, and the private room is great for special events. The serving staff enhance the friendly community vibe and you almost expect a chorus of "Norm!" when a regular walks through the door.

Since its inception, High Key Brewing Co. has invited people to enjoy fun, experimental brews such as London Fog Porter, Lemon Lime Ginger Beer with an optional shot of haskap liqueur, Triple Citrus Wheat Ale and beer-tails (beer cocktails) to name just a few of the many seasonal and year-round options. There's something for everyone and every mood. Don't drink? This past year was their foray into non-alcoholic beer with the 0.5% Next Best Thing Non-Alcoholic Dry Hopped Pale Ale. On the success of this seasonal pale ale, they're exploring the development of new non-alcoholic flavours year-round.

Just as much intention is put into crafting delicious appetizers, handhelds, and handmade pizzas to enjoy with your beverage of choice. Beer is incorporated into their food whenever possible. Their veggie burger is a blend of mushrooms and spent grain that will satisfy even the most sceptical carnivore. The rest of their spent grain is donated to local ranchers.

Inspiration comes from a collage of sources and High Key Brewing Co. strives to weave in local Saskatchewan ingredients whenever possible. "Our Sour Cherry Sour contains juice and sour cherries from a variety developed at the U of S and grown at Bruno. We've also done a farmhouse series that features sour cherries, Saskatoon berries, haskap, and sea buckthorn which are local to prairies," explains Maddy.

A collaborative spirit runs through High Key Brewing Co. and their business approach is an ongoing conversation. "We brainstorm as a team to come up with new brews and products. Not only do we have our craft beer that we make in-house, but we also feature other local producers and local spirits."

"We also love working with other breweries. We want to raise the industry as a whole. To this end, High Key Brewing Co. hosts Sour Fest each November to showcase a mix of sours from each brewer in the province.

As barley producers begin gearing up for seeding, they may want to pencil in a few trips to Saskatoon for parts or pleasure and a lunch, supper or snack and brew at a soon-to-be favourite watering hole. And when harvest is in the bin, be sure to check out Sour Fest and the latest flavours on tap at High Key Brewing Co.

What's on tap at **High Key**

High Key's rotating tap switches periodically throughout the year.
We encourage you to check out their website hkbrew.ca for the current lineup or stop by their taproom at 102-23rd St E in Saskatoon, SK.

High Key BREWING

The Saskatchewan Barley Development Commission (SaskBarley)

The Saskatchewan Barley Development Commission was established in 2013 under the Agri-Food Act, 2004

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