FIELD NOTES

SPRING 2020 EDITION

SaskBarley
DEVELOPMENT COMMISSION

It's Going to be a Great Barley Year

I am beginning this new year on an optimistic note, for a number of reasons.

First of all, things continue to look good for Canadian barley. Despite last year's very challenging conditions, we managed to produce a barley crop that was bigger and higher quality than average. Our check-off revenue at SaskBarley is up over last year and that means more opportunity to invest in research that will help us continue our strong production and marketing trends into the long-term future. Early estimates from Statistics Canada also show that we are expected to seed more barley this year than last year.

Second, we have a new season ahead of us and we are optimistic that conditions this year will be better than the last.

To help you with your seeding plans in 2020, flip to pages 4-5, where you'll find information about the newest barley varieties and the Canadian Malting Barley Technical Centre's (CMBTC) recommended list for barley in 2020. This list is a resource for growers to help them choose the best malting barley varieties for production and marketing purposes and each variety on the list has been pilot scale tested at the CMBTC, exhibits good malting and brewing characteristics and is registered with the Canadian Food Inspection Agency.

Another reason we are looking forward to 2020 – we have some exciting events planned for you! We have partnered with SaskCanola to bring you barley plots at the Ag in Motion show (July 21-23 near Langham) and will have some agronomy specialists on-hand to chat with you about best management practices. We also are partnering with CMBTC again this year to bring you Malt Academy, a program designed to help growers learn more about the malting barley and brewing industry. We piloted this program last November with approximately 20 attendees and industry members and had great feedback. Flip to page 3 to learn more.

We are once again offering two scholarships to undergraduate and graduate students who are carrying out research that will contribute to our organizational goals. We offered these last year for the first time and were extremely impressed with the quality of applications we received. We are confident our 2019 recipients are going to be strong contributors to our industry long term. Flip to page 2 to learn more about our program.

Last month we bid farewell to two of our original Board members, Zenneth Faye and Cam Goff. Both Zenneth and Cam brought great passion and expertise to our Board. Change is a good thing and we are happy to welcome Glenn Wright and Matt Enns to our team. Both Glenn and Matt bring diverse interests, perspectives and experience and we look forward to their contributions.

Once again, we thank you for your support over the years and I hope you are all feeling as optimistic as I am about the new year.

Jason Skotheim

NEWS

SASKBARLEY CHAIR, VICE-CHAIR POSITIONS TO REMAIN UNCHANGED

SaskBarley announced in January that its Chair and Vice-Chair will remain unchanged for another year. Jason Skotheim will remain on as the Chair of the Board, and Brent Johnson will remain as the Vice-Chair.

Skotheim farms with his brother on a 4,500-acre farm north of Prince Albert growing barley, wheat and canola. He is also a founding owner of Horizon Manufacturing Inc., Saskatchewan's only premium dry pet food manufacturer.

Johnson and his wife Jenna reside are the 4th generation to reside on the family farm started over 100 years ago near Strasbourg. The farm consists of 5,000 acres of grain land, and a 180 head commercial cow/calf operation

2020 SCHOLARSHIPS

Again this year, SaskBarley will be offering two scholarships for promising university students who are carrying out university-level research that can help us achieve our organizational goals.

- PHD/Graduate level scholarship — $5,000/yr
- Undergraduate level — $2,000/yr

ELIGIBILITY

These scholarships are open to any post-secondary students enrolled in part- or full-time studies focused specifically on barley research.

APPLY

Students that meet the eligibility criteria mentioned above are invited to apply for either the undergraduate or graduate-level scholarship by submitting the following:

- A one-page summary of their research project(s), outlining how the research will: help ensure barley is a long term, profitable and internationally competitive crop choice for Saskatchewan producers; increase the production and value of barley for both the producer and consumer; and support either the food, feed, malt or industrial uses of barley.
- An accompanying letter from an academic supervisor, confirming the research
- A current CV

Please note: Funding is for one year, but can be renewed.

TIMELINES

Applications open: April 31, 2020

Application deadline: June 30, 2020

Successful recipients will be notified by August 30, 2020 and payments will be made in September 2020.

To apply, or for more information, please contact:

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SaskBarley
DEVELOPMENT COMMISSION

UPCOMING EVENTS

Ag in motion

July 21 to 23, 2020

Booth #646

This year we have teamed up with SaskCanola to help you learn about the benefits of crop rotation at Ag in Motion! Stop by our booth to see our plots demonstrating a three-year crop rotation, speak to a barley agronomist about best management practices for your area and barley variety options. You can also learn more about clubroot findings in Saskatchewan canola to date and sign up for the provincial clubroot survey to test a field on your farm ($100 value).

We hope to see you there!

2020 Field Days

July 8 – Western Applied Research Corp, Scott

WARC Field Day

July 9 – Canada-Saskatchewan and Irrigation Crop Diversification, Outlook

CSICD Field Day

July 15 – Northeast Agriculture Research Foundation, Melfort

NARF and Agriculture & Agri-Food Canada joint field day

July 15 – South East Research Farm, Redvers

SERF intercropping field day

July 16 – Wheatland Conservation Area Research Farm, Swift Current

WCA field day

July 16 – East Central Research Farm, Yorkton

ECRF Field Day

July 21 – Indian Head Research Farm, Indian Head

Crop management field day

July 28 – Conservation Learning Centre, Prince Albert

CLC Field Day

Malt Academy 2020

Once again this year, we are teaming up with the Canadian Malting Barley Technical Centre (CMBTC) to bring you Malt Academy 2020! This two-day course will provide Saskatchewan barley producers with a complete overview of the malting industry, domestically and globally, helping them to make informed decisions around growing and marketing their crops.

EVENT DETAILS

November 4&5, 2020

Saskatoon

Course is free for registered Saskatchewan barley producers.

Watch for more details on registration and agenda later this summer.

BARLEY COMMISSIONS ANNOUNCE FORMATION OF THE CANADIAN BARLEY RESEARCH COALITION

In January, SaskBarley announced the launch of the Canadian Barley Research Coalition (CBRC), a national not-for-profit organization that will facilitate long-term investments aimed at improving profitability and competitiveness for Western Canadian barley farmers. The organization was formed in parternship with Alberta Barley and Manitoba Wheat and Barley Growers Association (MWBGA).

CBRC will facilitate a collaborative approach to funding regional and national research projects in variety development and agronomy, including core barley breeding agreements with Agriculture and Agri-Food Canada (AAFC) and the University of Saskatchewan's Crop Development Centre (CDC). CBRC will also provide funding for qualifying regional projects that align with variety development and agronomic priorities.

"SaskBarley began working to create CBRC over the last year, as the Board saw the need for such an organization within the barley world," says SaskBarley Chair Jason Skotheim.

"The coalition was founded by Western Canadian barley organizations interested in pursuing research-led breakthroughs in science and agronomics that will expand the relative economic competitiveness of barley. As CBRC evolves we will be looking for other members to join CBRC for a true national value chain approach to research"

What's new in barley varieties

An overview of the best choices of malting barley for Western Canadian growers this year

There hasn't been a lot of turnover in barley varieties for Western Canadian growers in the past 40 years.

Harrington barley, released in 1981, dominated malting barley production on the prairies for more than 20 years before it was gradually replaced by AC Metcalfe, registered in 1994, and CDC Copeland, registered in 2001.

However, our Canadian barley breeders have been hard at work to develop new varieties with superior yields, stronger disease resistance and improved malting and brewing characteristics, including versatile quality attributes to satisfy both all-malt (craft) and adjunct (traditional) brewers.

And each year, the Canadian Malting Barley Technical Centre (CMBTC) aims to help Western Canadian barley farmers navigate their options for new varieties available to them, as well as those soon to be available, by releasing its annual Recommended List for Barley Malting Varieties.

Each variety on the recommended list has been pilot scale tested at the CMBTC, exhibits good malting and brewing characteristics and is registered with the Canadian Food Inspection Agency (CFIA).

This year's recommended varieties included still include CDC Copeland and AC Metcalfe, along with newer varieties AAC Synergy (2012), AAC Connect (2015) and CDC Bow (2016).

Below are some of the results of the CMBCT's testing around these varieties:

An update on demand for AAC Synergy

You may have heard recently that Canada Malting is not currently contracting AAC Synergy for 2020. SaskBarley is currently looking into this issue and has requested greater transparency around long-term acceptance of the variety. We will keep our growers posted on the issue as we learn more.

In the meantime, Rahr Malting and Boort Malt (PML) are some of the companies still contracting AAC Synergy. We remind growers to ensure they talk to their malt barley buyers for best variety options in their area or have a contract in place before growing malt barley in 2020.

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AGRONOMIC DATA

VARIETY	Year of Release	Yield Index (% of AC Metcalfe grain yield)	Date to Maturity (+/- AC Metcalfe	Test Weight lb/bu (+/- AC Metcalfe)	Plant Height ca (+/- AC Metcalfe)	Lodging Rate	FHB Resistance*
AC Metcalfe	1997	100	0	0	0	G	I
CDC Copeland	2003	108	1	0	1	g	I
CDC Meredith	2012	113	2	0	-2	F	I
NEW VARIETIES							
CDC Kindersley	2014	106	-1	0.5	-2	G	I
AAC Synergy	2015	113	0	-0.6	-1	G	MS
CDC Bow	2017	109	-1	0.7	2	E	MS
AAC Connect	2017	111	0	-0.7	-3	E	MS
CDC Fraser	2019	114	1	-0.7	-1	E	I
Lowe	2019	112	3	-1	5	G	MR

* MS + Moderately Susceptible; MR = Moderately Resistant; I = Intermediate

CMBTC™
CANADIAN MALTING BARLEY TECHNICAL CENTRE

2020-2021 RECOMMENDED MALTING BARLEY VARIETIES

The Canadian Malting Barley Technical Centre (CMBTC) recommended list is designed to provide 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).

RECOMMENDED VARIETIES

VARIETY	TYPE	MARKET COMMENTS	SEED DISTRIBUTOR
CDC Copeland	2 Row	Established Demand	SeCan
AC Metcalfe	2 Row	Established Demand	SeCan
AAC Synergy	2 Row	Established Demand	Syngenta
AAC Connect	2 Row	Growing Demand	CANTERRA SEEDS
CDC Bow	2 Row	Growing Demand	SeCan

The CMBTC recommends that producers have a contract for all barley varieties being grown for malt. In addition to the varieties listed above, there are also contracting opportunities for the following:

- For **Newdale** (FP Genetics) and **Bentley** (CANTERRA SEEDS) contracting, contact Canada Malting in Calgary, AB.
- For **CDC PlatinumStar** (CANTERRA SEEDS) contracting, contact Prairie Malt in Biggar, SK.
- For **Legacy** (FP Genetics) contracting, contact Viterra in Regina, SK.
- For **Tradition** (FP Genetics) and **Celebration** (CANTERRA SEEDS) contracting, contact Malteurop in Winnipeg, MB.

VARIETIES IN DEVELOPMENT

VARIETY	TYPE	SEED DISTRIBUTOR
CDC Fraser	2 Row	SeCan
Lowe	2 Row	SeCan
CDC Copper	2 Row	FP Genetics
CDC Churchill	2 Row	SeCan

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

The CMBTC and its members recommend:

- Talk with your grain company representative, local elevator operators, malting companies, or the representative seed company about opportunities in your area to grow and market two-row and six-row malting barley varieties.
- Use certified seed to ensure varietal purity, reduce disease incidence and increase the likelihood of selection for malt.

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

@MaltAcademy @MaltAcademy

Keep it Clean!

It may seem to you that there have been many international market barriers for Canadian agriculture exports these days.

Our industry has faced a variety of market access concerns with respect to China, Peru, Vietnam, Italy and India in the past year.

This is why it is critical the entire value chain, including Canadian farmers, works together to keep up with the newest information on what impacts markets.

To best share information in a simple and coordinated way, SaskBarley has joined with other commodity groups including the Barley Council of Canada, the Canola Council of Canada, Cereals Canada, the Prairie Oat Growers Association and Pulse Canada on an important cross-commodity initiative called Keep it Clean!

Through the program, partner groups communicate a clear and consistent message to farmers about on-farm practices that will help reduce market risk. As certain market access issues relate directly to on-farm pesticide usage and residues, it is critical farmers are aware of the vital role they play to preserve markets.

FACING SCRUTINY

Despite the fact that Canadian agricultural products are known globally for their consistent high quality, we still face scrutiny. For example, one grain safety aspect of growing concern is pesticide residues. As a result, grain shipments are being scrutinized at ever-increasing levels of rigour in the parts-per-billion or even parts-per-trillion range.

Agricultural exports must meet the standards set by importing countries, including tolerances for pesticide residues. In export-dependent nations such as Canada, all parts of the industry must pay close attention to these standards as crop protection technology evolves. This includes addressing market access issues and other potential problems before a new product is introduced or a new use is added to a label.

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Farmers are encouraged to follow these five simple tips to ensure harvested crops meet the requirements of domestic and international customers.

1. Use acceptable pesticides only

Apply pesticides registered for use in Canada and that won't create trade concerns. Talk to your grain buyer to ensure the products used are acceptable to both domestic and export customers.

2. Always read and follow the label

Follow the label for rate, timing and pre-harvest interval. Applying pesticides or desiccants without following label directions, or at the wrong time, may result in unacceptable residues. For example, applying pre-harvest glyphosate too early, such as when seed moisture content is 30 per cent or above, can result in higher than acceptable residue levels.

3. Grow disease-resistant varieties and use practices that reduce infection.

Crop diseases such as blackleg in canola and Fusarium head blight in cereals can cause yield and quality losses, impact profitability and may create market risk. Follow best practices and choose disease-resistant varieties, rotate crops and actively scout for signs of disease.

4. Properly store your crop

Proper storage helps maintain crop quality and keeps it free of harmful cross contaminants. For example, canola must never be stored in malathion-treated bins as residue can linger for months and transfer to the seed. Clean bins thoroughly with approved bin treatments when necessary and prior to storing your crop. Also condition crops to moisture and temperature levels safe for long-term storage.

5. Deliver what you declare

Signing the declaration of eligibility affidavit at the elevator is a legal assertion your crop is the variety and/or class you have designated. If your grain could contain residues of any crop input product specified in the declaration, this must be noted. It is a legally binding document and incorrect information can be traced to the farm.

Feed Research Update

SaskBarley-funded research finds proven benefits of barley as feed

Barley holds great potential for the cattle feed industry, as it can be a healthy and cost-effective alternative to corn.

However, there are still some questions that need to be answered about how to best include barley in feed rations.

For example, currently the most common processing method for barley grain feed is dry-rolling but this method can be inconsistent and can affect the starch availability of the final product.

One potential alternative for processing is steam-flaking but there isn't much information available on how processing conditions affect starch availability for barley.

This is why University of Saskatchewan (U of S) researcher Dr. Greg Penner recently set out to determine exactly how steam-conditioning duration and flake density impact the starch availability of steam-flaked barley grain.

Dr. Penner, an Associate Professor in the Department of Animal and Poultry Science at the U of S, led a team of researchers including technician Jordan Johnson and undergrad students Kasia Burakowska and Leslie Radke, which gathered independent sources of barley grain and then steam-flaked them at the Canadian Feed Research Center in North Battleford.

After processing, the team tested each sample (including a processed and unprocessed version of each) for dry matter, organic matter, crude protein, neutral detergent fibre, and starch concentrations.

Overall, the results were positive for barley.

The data showed that, compared to unprocessed barley, steam-flaking was successful at increasing starch reactivity.

It also showed that steam-conditioning durations longer than five minutes did not result in further improvements in starch reactivity. (By comparison, it generally takes 20 -30 minutes to steam-flake corn).

The research team also found that increasing the severity of barley processing by decreasing flaking density resulted in increased starch reactivity.

These findings suggest that when steam-flaking barley grain, targeting lower-flake density is more likely to impact starch digestibility than increasing steam-conditioning duration.

Although the research is ongoing – Dr. Penner is currently evaluating the economics of steam-flaking barley -- the results to date are promising for the Saskatchewan barley industry, says Brent Johnson, Vice-Chair of the SaskBarley Board (which provided partial funding for this project, along with the Saskatchewan Cattlemen's Association).

"Feed is the backbone of the barley industry and it needs to be prioritized as such," says Johnson, who also heads the Board's feed barley committee.

Part of SaskBarley's long-term strategy is to explore and showcase new opportunities for barley in the feed sector.

"We know our crop has more to offer and greater potential than has been utilized as of yet," Johnson says. "Now we need to continue to put good research toward getting the data to be able to develop new markets. Dr. Penner's research is a great first step to getting us there."

Barley grain samples representing: A) Barley processed to achieve 0.43 kg/L flaking density B) Barley processed to achieve 0.34 kg/L flaking density; and C) Barley processed to achieve 25 kg/L flaking density

THE SASKATCHEWAN BARLEY DEVELOPMENT COMMISSION:

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

SASKATCHEWAN BARLEY DEVELOPMENT COMMISSION (SASKBARLEY)

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What's new in barley varieties?

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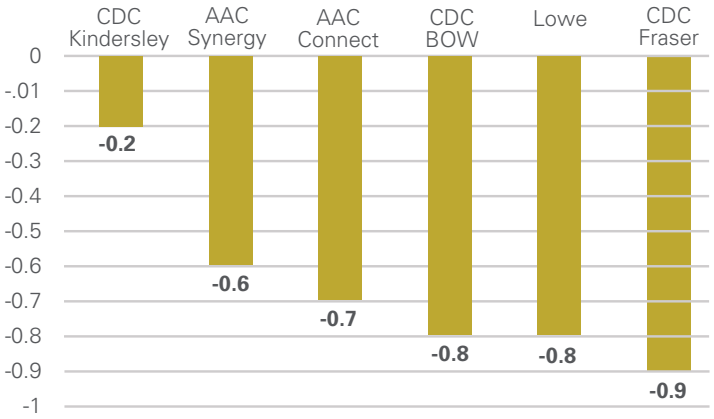
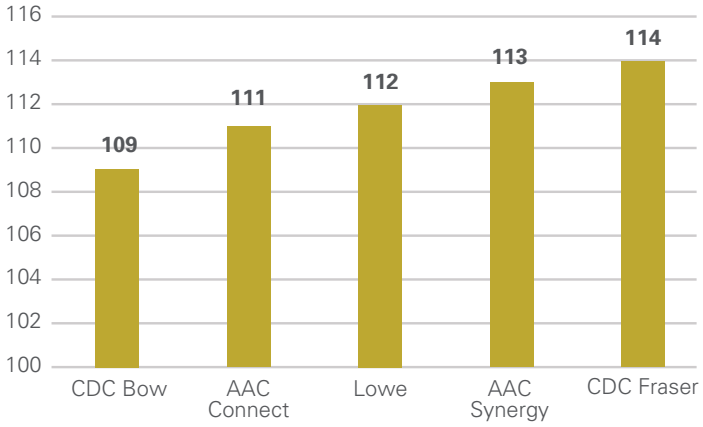
PROTEIN AS % OF METCALFE*



YIELD AS A % OF METCALFE*



Keep it clean

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PROTECTING CANADA'S BRAND

Canada has a strong reputation for consistently delivering safe, high-quality grain to our customers. Our farmers have developed this brand over many years and the Canadian grain industry depends on it to access world markets. From crop developers to exporters and processors, it's the responsibility of every member of the value chain to preserve this hard-won recognition. Working together, we can grow the Canadian brand, preserve high-value markets and open new doors for Canadian production.

For more information on the Keep it Clean! program, including timely farmer advisories and useful resources for canola, cereal and pulse growers, visit keepingitclean.ca.

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