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Barley Country

Alberta's Barley Information Source

APRIL 2011

Established 1991

INNOVATION

Beer without malt? New enzymes make it possible

BY TERRY BULLICK

Great-tasting beer with up to 100 per cent *unmalted* barley. Once unheard of, a new generation of enzymes is making it possible to bypass (or greatly reduce) one of beer's fundamental ingredients: malt.

The Alberta Barley Commission, with a number of partners including the Western Barley Growers Association and Syngenta, successfully used these new generation enzymes to produce ethanol from whole grain barley. This research was part of the Barley Bioproducts Opportunities Program and was funded by the Government of Canada's Bioproducts Opportunities for Producers Initiative.

Then, at the 2010 Brau Beviiale in Nuremberg, Germany this past fall, DSM Food Specialists of the Netherlands introduced a new enzyme solution called Brewers Compass that gives brewers the option of using 30 per cent to 100 per cent unmalted barley in their beers.

Enzymes are a natural part of malting, mashing and fermentation. They are chemical agents that allow for the breakdown and processing (or digestion) of raw materials. Since the 1960s, brewers have often used 25 to 35 per cent unmalted cereals in beers in tandem with the enzymes produced during malting. The difference today is the new enzymes are exogenous (produced outside) and allow for faster, cheaper and better control of production processes.

In an interview with FoodNavigator.com, DSM's beer product manager, Jereon van Roon, said beer made with his company's Brewers Compass enzymes and barley results in "a high-quality product with savings on the raw materials, which, of course, is very important in a consolidating and globalizing industry where all brewers are under pressure on a cost basis."

Novozymes is a Denmark-based company, with a Canadian subsidiary, that produces industrial enzymes, micro-organisms and bio-



Barley malt, feed and food. It all begins every year with spring seeding.

Photo by Michael Interisano from the *Barley Country* archives; taken at the Richard, Marion, Greg and Sarah Stamp family farm in Enchant.

pharmaceutical ingredients. It has also developed new brewing enzymes (called Ondea Pro) to reduce or replace malt in beer, which it rolled out in Europe in 2009 and in China in 2010.

Novozymes' media release for Ondea Pro's Chinese launch said brewers "could reduce costs through saving up to 12 per cent of the amount of barley required to produce a hectolitre of beer, while enjoying new-found freedom and flexibility in raw materials."

Using less malt, both enzyme makers say, not only produces a beer many consumers like but reduces the carbon footprint of beer, as germinating, soaking, heating and drying malt barley are energy and water intensive.

Novozymes describes the new enzymes as a "game changer" for the brewing industry.

Rob McCaig, at the Canadian Malting Barley Technical Centre in Winnipeg, agrees—to a point.

"They're a paradigm shift if you're making a new product, but there's no way in the world

you will flavour match with malted barley in full-bodied beer," he says.

The new enzymes are, McCaig says, well suited for light beers (which already have lower malt content and often contain additional flavour and colour) and what he calls "malternatives," flavoured beers and coolers. Brewers and other beverage-makers are attracted to malternatives and malt-based coolers not only because of their consumer appeal, but because these drinks are taxed (and thus sold) at a lower rate than their spirit-based counterparts.

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MESSAGE

Thoughts of barley on a cold winter's night

BY MATT SAWYER

“
Our decision-making power is gained through being involved in our industry”

As I'm writing this message, the wind chill is -36 °C and we're in for another cold winter storm. This year's harsh weather has me really thinking about the ups and downs of farming—and how we're dependent on so many factors beyond our control. These include everything from transportation issues and delivery dates to the conflict in the Middle East and how that will affect our operations.

The good news is, I thought last night while looking at my bank statements: “Thank goodness we have barley.” Even though a lot of growers consider barley a secondary crop, I've always found it to be a reliable crop that equals money in the bank. And—in a year like this—a contract to deliver barley to a feedlot

goes a long way toward keeping my farm out of the red.

While I was hauling canola to Trochu today, I thought how ironic it is that some good news (like hauling canola) is always balanced by bad news (like delivering to a location twice as far away as my preferred drop-off). Some say this is typical of farming. I say that we have the power to affect change in certain areas—through market development, for example—but not all (such as shipping dates and locations).

Our decision-making power is gained through being involved in our industry. Your Board of Directors at the Alberta Barley Commission is made up of barley growers from across the province. These elected representatives serve the Commission best by representing



Matt Sawyer

your interests. If you have thoughts and ideas about how to make the barley industry better—and how we should be spending your check-off dollars—contact your regional director and make sure your voice is heard.

This April, your Board will meet to determine our strategic vision for the upcoming year. While we're having conversations about the big issues affecting the barley industry, we'll also be thinking of the day-to-day work that goes into a successful farming operation. By doing our best to plan for the future, we'll continue to meet the challenges faced by an ever-changing world.

Matt Sawyer is chairman of the Alberta Barley Commission and a farmer near Acme.



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Alberta is Barley Country.

This province grows more barley than any other province, and Alberta's output typically accounts for half of Canada's annual crop. Barley production for feed, malt and food is an important economic activity in Alberta.

See past issues of *Barley Country* at www.albertabarley.com

Barley Country is published quarterly by the Alberta Barley Commission to inform producers of new technology and developments affecting barley production and to promote new markets for Alberta barley growers.

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Beer without malt

continued from page 1

In comparison, in Japan beer is taxed by its malt content—the lower the malt, the lower the tax and shelf price.

Although sometimes scoffed at by purist brewers and drinkers, light beers are nonetheless popular—Bud Light, Coors Light and Miller Lite are among the top-selling brews in the world. In North America, light beer typically accounts for about half of market sales annually. And less than a generation ago, coolers were something people put beer into to chill, not a sugary or tart concoction they drank. Today, liquor stores carry dozens of brands of malt-, wine- and spirit-based coolers and pre-mixed beverages.

That said, full-bodied beers (lagers, ales, porters and stouts) still have their place, both with brewers and consumers.

A spokesperson with Alberta's Big Rock Brewery said neither their brewmaster nor company would ever consider making beer with these enzymes as they are a traditional brew house.

"Almost all brewers keep their brewery capacity going with cheaper, lighter beers and make their profits from premium, fuller-bodied beers, which have higher margins," says Doug Munro, the Malting Barley Program manager at the Canadian Wheat Board.

The centuries-old traditions and rich, full taste of premium and craft beers mean malt houses are not expected to disappear. (And let's not forget North American brewers have, since the time of the colonies, used corn, rice and other ingredients as adjuncts in their beer.) But many malt houses will face increased competition from these new enzymes.

Much of that competition will be on cost. Malting barley is a premium crop and turning it into a premium

ingredient takes time and energy.

In a project currently underway at the CMBTC, McCaig and other staff will examine the pros and cons of using Novozymes' Ondea Pro enzymes.

This spring the CMBTC will use one tonne of AC Metcalfe to produce and compare traditionally brewed beer and enzyme-brewed beer. The project will include malting trials, various blends of malted and unmalted beers and a series of all-important taste tests.

The CMBTC's facilities simulate bigger brew house conditions and help brewers from around the world who use Canadian malting barley perfect their brewing processes by producing batches of up to 1,200 bottle (300 litres) of beer. The centre also houses two small malt houses.

"One of the reasons we're looking at this is to look at the risk for maltsters if brewers bypass malt," McCaig says.

The project will also provide insight into how the new enzymes could be used when malt barley is in tight supply, such as this year, following a disastrous crop worldwide. In Western Canada, malting barley exports are expected to plummet to 300,000 tonnes, compared to the average 1.1 million tonnes. As well, the project will look at the potential cost savings (materials and energy) of using the new enzymes.

So how will the new enzymes affect producers? The answer is still in the making, but McCaig says brewers using enzymes are still likely going to look for many of the same qualities in their barley as brewers using malt. Plump, protein, colour, moisture, husk and other characteristics will be similar, although not necessarily exact.

For their part, producers can expect their barley to sell to enzyme brewers



This spring the Canadian Malting Barley Technical Centre will compare traditionally brewed beer and enzyme-brewed beer. The project will include malting trials, various blends of malted and unmalted beers and a series of all-important taste tests.

Photo courtesy CMBTC

for less than malting barley but more than feed.

Munro says the CWB is still determining exactly how barley will be sold to enzyme brewers. Most likely, it will be through the CWB Food Select category (the same category as malting and pearling barley).

"Right now if malting barley doesn't meet maltsters specs, it would go into feed," Munro says. "But with these enzymes, it could go into new products for a bit of a premium."

He says the CWB would continue to promote Canadian barley as the brewers best choice, whichever brewing methods (or combination of methods) they use.

"If enzyme barley brewing is going to become commonplace we want Canadian barley to be the barley of choice," Munro says.

Terry Bullick is the editor of *Barley Country*

“Munro says the CWB is still determining exactly how barley will be sold to enzyme brewers. Most likely, it will be through the CWB Food Select category (the same category as malting and pearling barley)”

GIVING

Reaching out to Japan

BY LISA SKIERKA

The Alberta Barley Commission has been reaching out to Japan to develop trade relationships over the last 20 years. Following the massive earthquake and resulting tsunami that devastated the country on March 11, the Commission is encouraging Alberta barley producers to reach out to Japan as friends and neighbours.

"The recent disasters in Japan have affected more than just the region nearest the epicentre, they've challenged the entire country's infra-

structure and economy," says Darcy Kirtzinger, the Commission's Policy & Research coordinator.

Kirtzinger has been working closely with the Japanese on a project to develop premium barley for shochu, a distilled liquor popular in the country. He was a natural fit for the project, having lived in Japan for three years.

"The rebuilding process in the affected region will certainly take a long time," says Kirtzinger, "nevertheless, I'm confident that the people of Japan have the resolve and determination to overcome this crisis."

In 2009/2010, Japan imported more than 235,000 tonnes of barley, making it the world's fourth-largest importer of Canadian barley. In 2010/2011, the numbers are even more significant. To date, Japan has imported 400,000 tonnes of bulk barley with another 75,000 tonnes expected before the year-end. Other barley imports include 23,000 tonnes of barley tea, 17,000 tonnes of malting barley (sent as barley, then malted in Japan), and 100,000 tonnes of barley malt (malted in Canada and shipped as malt).

Reaching out to Japan, page 13 »

UPDATES

Price spikes, tears in beer and other barley market news

BY TERRY BULLICK

“**Barley seldom sweeps headlines across the country, that is until it affects the price of beer”**

Markets in a minute

Signals are expected to be mixed and fleeting this year as markets respond to numerous influences with considerable volatility.

Recent political unrest in the Middle East triggered a widespread sell-off of North American grain and pushed prices down at the end of February. The sell-off continued into the first week of March, although the Western Canadian barley market showed more stability, with feedlots paying \$195 to \$198/tonne.

In an interview on Feb. 25 on Call of the Land, Errol Anderson of Pro-Market Communications in Calgary said the price could rise above \$200/tonne for spring delivery feed barley.

Agrimoney.com predicts malting barley prices could “spike significantly” due to a shortage of supply, but few Canadian producers will likely be able to take advantage of them, due to the overall poor quality

of the 2010/2011 crop. Given the prairies’ limited crop, the Canadian Wheat Board’s PRO for Select two-row malting barley is 22 per cent higher than 2009/2010.

Agriculture and Agri-Food Canada forecasts barley’s total carryout stock will decrease 61 per cent to a historical low of one million tonnes for 2010/11.

Market volatility is expected to continue, Anderson says, as markets decide if global recovery goes forward or not.

Maltsters brace for higher prices

Barley seldom sweeps headlines across the country, that is until it affects the price of beer.

During the week of March 7, media outlets across Canada carried stories forecasting tight malting barley supplies would drive up the price of suds.

“Flooding lowered the quality of the latest barley crops in Canada and Australia, leaving some unsuitable to turn into malt, the germinated barley product used in beer,” wrote Rod

Nickel of Reuters Winnipeg.

The Edmonton Sun warned: “Prices are already set to spike, and given another poor growing season for barley, and a crop that’s already in shortage now could end up being a very rare commodity for those who brew beer.”

“The ultimate message is to drink up now—I don’t want to send consumers into a spiral, but I do think 2011 could be the perfect storm,” said Dwayne Dubois, chief financial officer at Calgary’s Big Rock Brewery. “One year it’s a terrible crop and the next year it’s a bumper crop and it’s hard to predict which way it will go with any measure of success,” he said. “We’ll have to wait until harvest until we see what it’s like.”

The Toronto Star reported that many North American “maltsters and brewers have a 2011 cost buffer because of forward pricing contracts with the Wheat Board, the monopoly seller of Western Canada’s malt barley.

Price spikes, page 8 »

MESSAGE

Farming is filled with hope—and uncertainty

BY MIKE LESLIE

Winter is finally loosening its grip on Alberta. As snow and ice melt, and air and soil warm, farmers across the province head into the fields wondering how this year will compare to past years.

No other business is as hopeful as farming. At the same time, farming is filled with uncertainties: bad years inevitably follow good. And “bad” years can lead to “good” prices. As our story *Price spikes, tears in beer and other barley market news* on this page points out, barley prices could “spike significantly” due to low supply. Elsewhere in the story, Agriculture and Agri-Food Canada predicts a 61 per cent decrease in carryout stock for the year to a historical low of one million tonnes.

It used to be all farmers worried about in the spring was the weather. This year, so far, we’ve seen commodity prices taking a beating from politic upheavals in the Middle East and an earthquake/tsunami/

nuclear crisis in Japan. What happens on the other side of the world matters.

Here in Alberta, however, we know what’s most important right now with our producers is this year’s crop. Throughout this issue of *Barley Country*, we feature a number of production-related stories. In her feature *Local producer-run associations offer research you can use on your crop* on page 5, writer Carolyn King talks with seven managers and agronomists from applied agricultural research associations across the province about tips for growing barley in Alberta’s six growing regions. This story is packed with information we think you’ll want to know about.

A first-time contributor to *Barley Country*, writer Lee Hart brings us two stories. In the first, *Experts see narrow fit for split fertilizer applications* on page 16, three ag experts weigh in on the topic. As the story headline implies, the practice usually has limited benefits, except in “two exceptional circumstances:” very dry conditions at planting and very wet conditions two or four weeks after seed-



Mike Leslie

ing. Lee’s second story, *Consecutive soil testing will establish a nutrient trend* on page 17, reinforces the benefits of annual, or at least regular, soil testing. As farming becomes more precise, soil testing is

a key to achieving the ideal balance of input costs and yield.

Finally, those of you who read the fine print in our publication may notice a few changes with our staff. Nikki Jeffrey, our manager of Office and Projects for more than five years, is taking a leave to have her first child, due in May. Lisa Skierka, who has coordinated a number of special projects for the Alberta Barley Commission during the past year-and-a-half, has stepped into Nikki’s role. We wish Nikki and her new arrival well and we look forward to working more closely with Lisa.

Mike Leslie is the CEO of the Alberta Barley Commission.

PRODUCTION

Local producer-run associations offer research you can use on your crop

CAROLYN KING

Comparing variety performance, evaluating fertilizer practices, assessing the value of fungicide applications—those are just a few examples of the work by Alberta's applied research associations (ARAs). These producer-driven, not-for-profit agricultural research organizations conduct projects specific to the needs of their respective regions and take part in broader initiatives under their provincial association, the Agricultural Research and Extension Council of Alberta (ARECA).

Barley Country asked seven ARA managers and agronomists for down-to-earth production tips for barley growers in each of the Alberta Barley Commission's six regions.

Choose the best barley variety for your needs

Perhaps the most important way ARAs promote barley production is by annual regional variety trials and regional silage variety trials. These trials for barley and other crops are carried out across Alberta, with data and funding from many agencies, such as the ARAs, ARECA, government, the Commission and seed companies. The results are available from your ARA or at www.seed.ab.ca.

"These trials are a good place to compare the varieties that growers know with new ones that may be a little better, and take the risk out of trying a new variety," explains Keith Kornelsen, manager for the Lakeland Agricultural Research Association (LARA), based in Bonnyville, which is in Region 4.

"Most barley varieties are bred in Lacombe or Saskatchewan or Manitoba, but our growers need to know which ones do well in our area," notes Andrea Fox-Robinson, the general manager and crop research agronomist for the Gateway Research Organization (GRO), based in Westlock (Region 5). Fox-Robinson keeps an eye out for promising varieties; for instance, two new 2-row barley varieties—CDC Austenson and Gadsby—have done quite well at the GRO sites in the past two years.

Test barley seed for germination and vigour this year

If you don't normally test your barley seed for germination, this is definitely the year to do it, says Kornelsen. "At our local seed plant, the germination percentages they are getting for barley are really low this year. Depending on how much frost damage there was, some of the



"(Annual regional variety) trials are a good place to compare the varieties that growers know with new ones that may be a little better, and take the risk out of trying a new variety," says Keith Kornelsen (above), manager for the Lakeland Agricultural Research Association, based in Bonnyville.

Photo courtesy Keith Kornelsen

samples are as low as 50 per cent or under. And at a seminar recently, a representative from 20/20 Seed Labs was talking about even lower percentages—lots of them were under 25 per cent."

Proper seeding leads to good starts

Fox-Robinson's seeding tips are based on work by GRO and others.

"One of the main ones is to use proper seeding rates, like using 1,000-kernel weights and bushel weights to figure out your seeding rates, because different varieties are sized differently. If you ignore that, you can wind up with a poor stand. Seed treatment is important too because often guys here are seeding into really cool soils. It's like a bit of insurance; for a few dollars an acre you can hopefully decrease the amount of seed-borne disease."

Variety selection key to managing disease

"We have some farmers who grow barley year after year after year, and of course they are seeing more disease than producers who rotate their barley crop," says crop agronomist Audrey Bamber of the Chinook Applied Research Association (CARA) in Oyen (Region 2).

"To prevent and control disease in barley, I recommend crop rotation, variety rotation, choosing varieties

with a good disease resistance package, and treating the seed." She notes that most of CARA's work on barley is through regional variety trials. That work contributes to the annual guide on Alberta varieties, which includes the disease package for each variety.

Try to seed barley before mid-May

"People know barley will yield less when it's seeded too late in this area. They aren't going to seed it as early as their peas, but especially if they are trying to get malt, they need to seed before the middle of May to have a better chance of getting it in without being rained on too much," says Alvin Eyolfson, manager and agrologist for the Battle River Research Group (BRRG) in Forestburg (Region 3).

A 2001 BRRG project funded by Alberta Agriculture compared several seeding dates in May at two locations. Eyolfson notes: "At Stettler, with a Thin Black soil, there wasn't much difference in barley yields. But at Castor, with a Dark Brown soil, the yields went from 1.2 tonne/hectare (26 bushel/acre) seeded on May 2, which isn't great, to .57 tonne/hectare (12 bushel/acre) seeded on May 23—the barley came up and then burnt up in the heat."

“We are huge proponents of growers developing their own on-farm research using precision agriculture tools—doing their own strip trials with things like seeding rates, varieties and fertility rates, and using yield monitors and such”

Research you can use

continued from page 5

Balance fungicide yields increases with costs

“Of the people who grow malt, maybe a third or more use a fungicide to help get plumpness. We did a project on that in 2006 at Camrose and Stettler [in Region 3], using CDC Copeland,” explains Eyolfson. The project was funded by the Agriculture Opportunity Fund and the local counties.

“That year, we didn’t have a whole lot of disease, but there was some. By using Headline, we got about a 190-



Photo: Barley Country archives

kilogram/hectare [four-bushel/acre] increase at both sites. The 1,000-kernel weights also increased at both sites. At the prices at that time, you would have made money with the fungicide application if it enabled the crop to make malt. But the barley prices were under \$140/tonne [\$3/bushel], and if the crop didn’t make malt, you would have lost a little bit of money.”

He adds: “This year we’re expecting better barley prices, so people might be more likely to consider a fungicide because the payoff could be there.”

Irrigation and fungicide help control fusarium

“In southern Alberta in the irrigated zone, fusarium head blight is becoming more of a problem,” explains Ken Coles, general manager/agronomist with the Southern Applied Research

Association (SARA), based in Lethbridge (Region 1). With funding from the Pest Management Centre of Agriculture and Agri-Food Canada (AAFC), SARA is working with AAFC and Alberta Agriculture and Rural Development to assess irrigation scheduling and fungicide strategies to control fusarium; although this project involves wheat, the findings also apply to barley.

Coles recommends: “Try to avoid irrigating while the crop is flowering, which is when the crop is susceptible to fusarium. Schedule irrigation to top up the profile right as the crop is coming into flower, and then avoid irrigating for as long as you can without compromising yield too much. That lets the canopy dry out so you don’t encourage disease onset.”

For fungicide treatments, he advises: “Good coverage of the heads is essential for controlling fusarium, so things like double nozzles and high water volumes are very important.”

Follow proper agronomic practices

The Mackenzie Applied Research Association (MARA), based at AAFC’s Experimental Farm in Fort Vermilion, works in Mackenzie County (Region 6). It has assessed barley production practices through regional variety trials.

MARA’s research coordinator Nasar Iqbal outlines the key practices: “The first thing is to get the soil tested, select the variety best suited to local conditions, and apply fertilizer as per the soil test analysis. The second is to use a pre-seeding burnoff with glyphosate. Third, during seeding, consider the ultimate plant density; we recommend about 210 plants/metre². To achieve this density, growers need to consider factors like seed germination percentage and soil moisture conditions. Seed rating should be adjusted accordingly.”

Next, he adds, growers need to know which weeds they have and carefully select and apply the herbicide. The final factor is proper harvesting. In Mackenzie County, some varieties are prone to lodging under optimal growing conditions. If the variety you’re growing does this, Iqbal recommends reducing yield losses by swathing first, then combining when the crop has dried.

Extra potassium helps make malting grade

“For malting barley, applying some extra potassium will keep your protein level low, which is one of the requirements for malting barley. There’s information on that in the literature, we recommended it to a couple of people here and they were pretty successful in keeping their protein level low,” says Kabal Gill, research coordinator with the Smoky Applied Research and Demonstration Association (SARDA) in Falher (Region 6).

Seed treatment can improve barley seed yields

In 2009 and 2010, SARDA conducted a seed treatment trial in Region 6 that compared Rancona Apex, Vitaflo-280, Dividend XL RTA and a check.

Gill says, “All the seed treatments significantly reduced the number of heads with smut in both years, and increased the barley seed yield in 2009, with relatively better performance in the Rancona Apex and Vitaflo-280 treatments. In 2010, the yield was much lower and was not significantly influenced by the seed treatments, probably due to severe drought.”

This trial was funded by Chemtura, Alberta Agriculture and local municipalities.

Yield mapping can be great anywhere

Six ARAs are working on a province-wide ARECA project about precision agriculture tools, like yield mapping. Project funding is from the Alberta Crop Industry Development Fund, Alberta Canola Producers Commission, Alberta Pulse Growers Commission and Novozymes.

SARA’s Coles says: “We are huge proponents of growers developing their own on-farm research using precision agriculture tools—doing their own strip trials with things like seeding rates, varieties and fertility rates, and using yield monitors and such. We are trying to promote and develop the methodology for this, keeping it simple while having as much science to it as we can.”

Carolyn King is an Ontario-based agricultural writer.

“
For malting barley, applying some extra potassium will keep your protein level low”



July

Lacombe Field Day

ADVANCES

New technology is changing the way farmers work the land

BY ABBY MILLER

In his article "Future Farm Technology," W.D. Shoup introduces readers to the functionoid, a two-metre, 168-kilogram (six-foot-six-inch, 370-pound) electro-mechanical robot that could soon make farm machines, including tractors and cultivators, obsolete.

"We put a man on the moon more than 15 years ago!" he wrote. "So, why not robots in the field within five to 10 years?" If the timeline seems off, it could be because Shoup's article appeared in *Implement & Tractor* in February 1984.

Technology may not have moved as quickly as Shoup envisioned, or in quite the same direction, but advances in farm technology have forever altered the way we work the land. The next generation of advances will continue to refine farming processes, bringing higher levels of accuracy and profitability.

Offered by companies including Farmers Edge and Dynagra, variable rate technology (VRT) uses satellite imagery to improve the way farmers fertilize their fields to increase crop yield potential. By looking at a number of factors, including satellite imagery, the field is broken down into management zones. Yield targets are established for each zone and optimal fertilizer rates are then set and programmed.

The better the initial information, the more effective VRT can be in maximizing yields. Satellites orbiting the earth take multiple measurements, although until recently it was hard to get precise readings. A new software algorithm called real time kinematic (RTK) is able to resolve many previous errors and give more accurate readings.

This technology is also being used by companies like Prairie Precision Network to minimize overlap and misses in seeding and spraying.

Sometimes it is less about new technology and more about new ways to look at familiar technology. Growing Forward, a government program promoting energy efficient



This map overlay shows the zones of a field as they are seeded using global positioning systems.

Photo courtesy Farmers Edge Precision Consulting Ltd.

farm practices, is working on two case studies that will change the way farmers use well known and well-used technology: ventilation and lighting. The studies will determine the savings of switching to LED lighting systems and energy-efficient ventilation motors.

"[Growing Forward] is looking for new ways to use the technology that either farmers don't know about or are worried could interrupt their business," explains Darryl Slingerland, a research and project engineer for the Agricultural Technology Centre. "We want to encourage people to look into changing their practices by showing the real amount of financial and energy savings available."

New technology is going beyond the practice of farming to aid in the business of farming as well. DynAgra's Know-Risk software program is designed to help farmers increase profitability and minimize risk in the marketplace. Features include market analytics and commodity case scenarios, which lets farmers establish projected profit margins.

Similar market technology has also made its way to smartphones. Currently only available for Android phones, Farmer's Partner is an appli-

cation that lets producers create a complete overview of their own farm production and get commodity pricing and news updates for in-the-moment decisions on grain market trading.

Another useful Android phone application is GPS Measure, which uses the global positioning system in your phone and Google Maps to measure distances. Distance, a GPS application for iPhones, also uses Google Maps and lets you export information to a file on your computer. SMap for the BlackBerry does the same.

The Weather Bug widget is an instant weather update that notes temperature, dew point, humidity and wind speed and direction on Androids, BlackBerries and iPhones.

An all-around BlackBerry application, AgReader features customizable news feeds, commodity price alerts, instant weather updates and other critical information, all managed by one application.

With all that technology being developed and redeveloped, you have to wonder if the functionoid is really that far away.

Abby Miller is a Calgary-based writer.

“**Sometimes it is less about new technology and more about new ways to look at familiar technology”**

28, 2011

Join the staff of the Alberta Field Crop Development Centre and the Agriculture and Agri-Food Canada Research Centre in Lacombe for the latest information on barley research. Sponsored in part by the Alberta Barley Commission.

Registration \$20, includes a great lunch. To book your spot, call (403) 782-8049.

Price spikes

continued from page 4



“Barley is the second-biggest cost, after labour, for some brewers.”

What almost virtually none of the coverage mentioned was, given the poor quality of crops in 2010, most Canadian barley growers are unlikely to benefit from this spike in prices.

“In the big picture, beer prices are more likely to go up based on packaging materials, taxation and transportation costs,” says Alberta Barley Commission CEO Mike Leslie. “We’re all feeling the crunch due to high gas and oil prices, and those costs also factor into the cost of the end product.

“To suggest farmers are getting rich off an increase in the price of beer is not accurate. If one accepts the 51 per cent taxation figure, as noted on the Brewers Association of Canada’s website, the one making the most profit from a beer price hike is the government.”

Commission seeks fee changes

The Canadian Grain Commission (CGC) wrapped up its second round of consultations on proposed changes to its user fees at the end of March. The CGC wants to recover 100 per cent of the costs of its user fees and services starting in the 2012/2013 crop year.

Currently the government agency’s cost recovery is less than 50 per cent, with the Government of Canada making up the shortfall.

The CGC is also proposing to increase those fees 1.6 per cent a year through to 2016/2017. The changes will have to be approved by the fed-

eral government. If passed, services such as seed analysis for non-designated crops would increase to \$42 in 2012/2013, up from the current \$36.50; the outward inspection of cars/trucks/containers would be \$107.50, compared to current fees ranging from \$29 to \$45.90.

“If this cost-recovery takes place as suggested, then an average prairie farm of 1,500 acres (600 hectares) would have an additional CGC fee of about \$2,300 a year,” says Richard Phillips, executive director of the Grain Growers of Canada. “If phased in over 10 years, this would be an increase annually of \$230 per year. In the meantime, the CGC needs to lay out a business case for all Canadians on the value they provide.”

“The CGC provides a number of invaluable services such as unbiased third-party grading, quality certification, and quality research,” says Mike Leslie, CEO of the Commission. “While we recognize the importance of these services to farmers, there are a number of ‘public good’ issues at play as well. All Canadians benefit from the safety assurances and reputation for consistent quality guaranteed by the CGC. Therefore, it is realistic that all Canadian taxpayers continue to partially pay for the services provided by the CGC—not farmers alone.”

Morocco and Canada Free Trade Talks

This winter, formal negotiations began between Canada and Morocco for a free trade agreement (FTA).

Prime Minister Stephen Harper and Agriculture and Agri-Food Canada Minister Gerry Ritz made a one-day trip to the northern African country to meet with Morocco’s Prime Minister Abbas El Fassi in January as the talks began.

Harper views the country as a “gateway” to Africa and an important trading partner, particularly for farm production, steel and iron. Two-thirds of Canada’s exports to Morocco in 2009 were for agricultural products, including wheat (durum) and, increasingly, chick peas.

“Having our prime minister and our minister of agriculture in Morocco [sent] a clear message that Canada is open for business,” says

Richard Phillips, executive director of the Grain Growers of Canada, who also travelled to Morocco for the talks. “Their import and export interests are ready and eager to do business with us, as we are with them.”

The Grain Growers believes that a free trade agreement with Morocco, a country that is rapidly modernizing, will be an important entry into the North African marketplace. As well, a free trade agreement could help counter a recent deal by the United States that could put Canadian producers at a substantial tariff disadvantage in a few short years.

Foreign Affairs and International Trade Canada says a free trade agreement with Morocco would be Canada’s first such agreement with an African country, and would establish a new Canadian commercial presence in the Mediterranean region and in North Africa. The agreement could also better position Canadian business vis-à-vis competitors in this market, particularly with those who benefit from a preferential trading arrangement with Morocco.

Phillips observed the local economy on the ground. “In a local market, we met several merchants who were proudly selling Canadian lentils and were excited to meet us when we told them we were from Canada,” says Phillips. “Because they are happy with our agriculture products, they are promoting our goods directly to Moroccan consumers.”

In an interview with the Toronto Sun, Michael Hart, the Simon Reisman Chair in Trade Policy at Carleton University’s Norman Paterson School of International Affairs, said a Canada/Morocco agreement would be unlikely to significantly increase trade between the two nations.

“Do we trade with Morocco? Yeah. Do we have a trade agreement with Morocco? Yes. That’s what they always forget to put in the press release, we already have a free trade agreement with Morocco, it’s called the World Trade Organization,” he said.

“If they conclude such an (bilateral free trade) agreement, it might have a marginal impact on a few companies that do business in Morocco, but that’s about it,” Hart added.



Watch for the next issue of *Barley Country* in the first week of September

MILESTONES

Looking back at 20 years of barley research



Photos: Barley Country Archives

As part of its 20th anniversary, the Alberta Barley Commission continues its look back at key activities and accomplishments in the past two decades. In this issue of *Barley Country*, research is highlighted.

BY TERRY BULLICK

Research has always been one of the pillars of the Alberta Barley Commission. Each year, the largest share of producers' check-off dollars are directed to activities aimed at finding barley producers greater value through new knowledge.

"Farmers are always looking for ways to improve their production and they want trusted and proven sources of information," said Mike Leslie, then general manager of the Commission, in December 2006. "One of the important things we do for our members is provide them with reliable scientific information."

The Commission has been highly successful in attracting additional investment to its research projects. In 2007/2008, every \$1 the Commission invested in research projects attracted an additional \$7.35 in partner funding. During 2010, the Commission saw the rate climb to \$12:1 thanks in large part to multi-year federal programs.

This investment has helped the Commission:

- Develop new varieties that give Alberta producers more seeding and production options as well as better disease and drought resistance.
- Improve quality and introduce healthy new food products.
- Expand markets beyond traditional feed and malt sectors through the discovery of new and innovative barley uses.

In short, research benefits barley producers, processors, users and consumers alike.

The beginnings

One of the Commission's first research projects was a joint review with National Research Council of existing research into value-added barley products and processing. While the \$15,000 project was small, it was a "useful first step in the process of identifying potential opportunities."

Comparing zero and conventional tilling

In 1992, the Commission funded a project by the Battle River Research Group to compare the yield potential of nine different barley varieties under zero and conventional tillage systems. Varieties were: Manley and Harrington (two-row malt), Bridge (two-row feed), Duel (six-row malt) and Brier and Leduc (six-row feed). Yields were high (rainfall in the area

was higher than normal), with seven of the nine varieties yielding more than 4.86 tonnes/hectare (90 bushels per acre).

Direct seeding demonstration

A direct seeding demonstration sponsored in 1993 by the Commission at Barons on Grey Wooded soil found a significant difference in favour of the air-seeder treatment: 4.5 tonne/hectare (89 bushels/acre). The main economic difference of direct air seeding was an increased return to the producer of \$12.35/hectare (\$5/acre).

Barley Development Council

Following months of discussions, the Commission, Alberta Agriculture and several research institutions formed the Barley Development Council in 1993.

"The purpose," said Clifton Foster, the Commission's general manager in 1993, "is to coordinate research projects to better utilize the scarce resources available and to maximize returns to barley growers from this investment."

The council, which still exists, integrates various institutions and organizations involved in barley research with end users and farmers to reduce duplication and bring a market orientation to barley development. Mike Leslie, current CEO of the Commission, was recently elected chairman of the Council.

Barley bread and Type II diabetes

One of several research projects that have looked at barley for human consumption, a study in 1994 by University of Alberta researchers examined the effect of bread made with barley on non-insulin dependent diabetics. Researchers Margaret Gee, Tapan Basu and E. Toth found positive results: blood glucose levels improved, compared to when participants ate their usual barley-free diet.

Optimizing Barley Silage Production

A 1994 project by the Commission and the Alberta Agricultural Research Institute on optimizing barley silage studied which barley varieties have the best yield potential and agronomic characteristics. Results showed significant differences among varieties in dry matter production and that nitrogen and phosphate fertilizer can dramatically increase matter yield potential.

“One of the Commission's first research projects was a joint review with National Research Council of existing research into value-added barley products and processing”

Looking back

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The Commission and Alberta Agriculture, Food and Rural Development announced in 1997 construction of a plant growth facility at the Field Crop Development Centre in Lacombe, which was later named for Dr. James Helm”



Processing barley components

The Commission awarded \$51,000 in 1995 to the Food Processing Development Centre in Leduc to identify specific processes which will allow barley to be broken down into its three major natural products: starch, beta-glucan and protein. Potential uses of the components included the paper, food, textile and fermentation industries (starch); as a food ingredient (beta-glucans); and cosmetic, hair-care and skin products (proteins).

Investing in Field Crop Development Centre

The Commission and Alberta Agriculture, Food and Rural Development (AAFRD) announced in 1997 construction of a plant growth facility at the Field Crop Development Centre in Lacombe, which was later named for Dr. James Helm. Under a unique cost-sharing agreement, the Commission committed \$500,000 for the \$1.6 million facility.

“These facilities make use of new genetic technologies, reducing the length of time it takes to develop new varieties of plants,” said Ed Stelmach, then Minister of Agriculture, Food and Rural Development.

Development centre nets significant ROI

In 2002, AAFRD commissioned a study to examine the economic returns to feed barley breeding and disease resistance research at the Field Crop Development Centre in Lacombe. Agricultural economist Dr. Joseph Nagy assessed the period from 1974 to 2001 and found the total investment in research during this period was approximately \$8.6 million. The overall monetary benefit from that investment was \$109.4 million from 1983 to 2001 alone. Soon after, the centre added significant staff and biotechnology resources to bolster the speed, power, efficiency and pay-off of the research.

Taking the sting out of scald

One of the main leaf diseases of barley in Alberta, scald’s average yield losses may be as high as \$30 million annually. As more virulent scald races appeared, a research project was launched at AAFC’s Lacombe Research Centre to coordinate scald screening for barley breeding programs in western Canada.

From 1995 to 1997, more than 37,000 hill plots from the Alberta Regional Variety Trial entries and various candidate barley cultivars were “scored” for the disease. Scores were then tabulated and assessed for further crosses in new barley lines.

Barley components

The Commission and AAFRD sponsored a pre-feasibility study

in 1998 on the potential of developing a barley fractionation operation in Alberta.

Novel pulp

After the Alberta Research Council explored the viability of making pulp from wheat straw, the Commission funded a 1998 study to see how barley pulp compared to wheat and aspen pulp. The study concluded barley straw could be mechanically processed to give a mechanical pulp with physical properties comparable to peroxide-bleached aspen. But, overall, barley pulp was inferior to wheat pulp.

Fighting fusarium

A persistent problem in eastern Canada, Saskatchewan and Manitoba, fusarium head blight (FHB) is a major fungal disease that has been threatening to work its way west into Alberta crops since the mid-1990s. The Commission has supported a number of research projects to control the disease. These included examining genetic controls of fusarium and rapid assessment of the disease using infrared light. Another study funded by the Alberta Crop Industry Development Fund (ACIDF)—which is partially funded by the Commission—found feedlot manure is not a source of fusarium inoculum.

Wild oat control

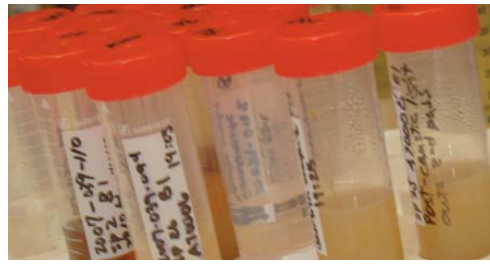
In a three-year project at AAFC’s Lacombe Research Centre and Lethbridge Research Centre, low application rates were used to determine if leaf growth rate can be an adequate predictor of herbicide activity. It appeared that weed growth rate was one component for predicting herbicide activity on wild oats.

Barley and its beta-glucan carbohydrates

In her Commission-funded research project on soluble beta-glucans in barley, Dr. Marta Izdorczyk of the University of Manitoba studied barley’s beta-glucan beneficial effect on serum cholesterol and glucose levels and suitability as a carbohydrate. The research found the soluble fibre in barley varies greatly between varieties, and that processing the barley in particular ways can enhance or destroy the quantity of these healthy components in the grain.

Agri-Food Discovery Place

In June 2004, the Commission committed \$200,000 to the University of Alberta for its Crop Utilization and Enhanced Materials Research Centre in Agri-Food Discovery Place. The Commission’s support of the crop centre saw the food-processing lab there named the Alberta Barley Commission Food Processing



Laboratory. The lab's focus was on developing products that integrate the nutritional components of barley and other crops into products.

Research efficiency

Since 2005, the Commission has been part of the Agriculture Funding Consortium. Now made up of 15 member groups, the consortium allows researchers to file a single project proposal application that is reviewed by all members. The resulting streamlined process has proven helpful to applicants and reduced duplication by research applicants and among the member groups.

Bioproducts research

The Commission spearheaded the Barley Bioproducts Opportunities Project (BBOP), which was jointly managed with the Western Barley Growers Association. In May 2007, the project received \$262,500 from the Biofuels Opportunities for Producers Initiative (BOPI) through the Agriculture and Food Council of Alberta.

BBOP examined barley's feasibility in a number of emerging applications. Specifically, researchers studied the opportunities and challenges growers would face to establish regional, barley-based ethanol production facilities.

Technical findings from the \$380,000 project indicated that as a competitive crop platform (or feedstock) in biorefining, barley has several abilities and advantages. Researchers David Bressler and Ruurd Zijlstra of the University of Alberta found that barley processed using new modified, low-temperature methods in starch-to-ethanol conversion produced ratios similar to the corn tested.

Regional varietal evaluation trials

When the Province of Alberta ended \$100,000 of funding and in-kind support for regional varietal evaluation trials (known as RVTs), the Commission began working with the Alberta Pulse Growers Commission, the Alberta branch of the Canadian Seed Growers Association and the Agricultural Research and Extension Council of Alberta to create a prairie-wide RVT program. Farmers depend on RVT results to select the seed variety that best suits their soil zone, climate and management style.

Barley field day

Each year, Alberta Agriculture and Food's Field Crop Development Centre and AAFC's Lacombe Research Centre welcome people from throughout the province's grain

industry to their annual field day, which the Commission funds in part.

"This event is one of the many ways we work to put lab and field research into the hands and practices of our producers," said Commission CEO Mike Leslie in 2006. "When producers, researchers and other industry stakeholders gather at these kinds of events, they gain a better understanding of each others' needs and challenges."

Test 42's almost unbelievable results

Rotation, rotation, rotation—that's one of the key messages behind Test 42, a simple but dramatic research project by AAFC. In 2007, researchers convincingly demonstrated that creating and then closing a healthy canopy could effectively manage wild oat populations managed with less herbicide.

Through a combination of three straightforward agronomic practices—diverse crop rotation (of barley, canola and peas), higher-than-normal seeding rates and competitive varieties—producers can significantly reduce wild oat populations and input costs. Test 42 produced such impressive results that findings were released in the sixth year of the eight-year project.

Test 42 showed that doubling the seeding rate reduced the wild oat biomass by almost 300 per cent; tall barley varieties had half the rate of wild oats compared to short varieties. This increased 70-fold when crop rotation, tall barley variety and double seeding rate were combined.

More protein, please

To satisfy the world's growing appetite for protein, the Commission funded a new cereals research scientist at the University of Alberta in 2008.

Dr. Lingyun Chen said that market analysis predicts the demand for plant protein will grow eight per cent annually over the next five years. She explained that barley could capture some of that market and could possibly be used to produce a tofu-like food and as an ingredient in formulated meat, other foods and cosmetics. It could also be used in microcapsules (nanoparticles containing nutrients), edible (or completely biodegradable) food packaging and biomedical products.

Tripartite agreement

One of the Commission cornerstone partnerships was renewed in 2008. AAFC, Alberta Agriculture and Rural Development and the Alberta Agricultural Research Institute jointly formed the

Alberta/Canada Barley Development Agreement in 1991. The Commission joined in 1996 and has since supported its work to develop new malting, feed, food and other barley varieties for Alberta producers.

Through the multi-year agreement, the Alberta Barley Commission provides \$250,000 a year in core funding to the Lacombe Field Crop Development Centre and the Lacombe Research Centre. AAFC and Alberta Agriculture and Rural Development provide additional funds, which collectively support long-term projects on barley agronomy, breeding, disease and germplasm development by a number of scientists, among them: Drs. Jim Helm, Patricia Juskiw, Joseph Nyachiro, Kelly Turkington and John O'Donovan.

The centre has developed 17 barley varieties (and counting) ideally suited to Alberta's growing conditions and end-user requirements since 1991.

Bentley: A winner

The first registered malting barley variety from the Alberta/Canada Barley Agreement, Bentley was a decade in the making. This new two-rowed, rough-awned variety (previously known as TR05669) was, by all accounts, worth the wait. "This line is yielding about 10 per cent higher than AC Metcalfe—it's a tremendous jump forward and an incredible step up from Harrington," Dr. Patricia Juskiw, a plant breeder at the Alberta Field Crop Development Centre in Lacombe, said in 2008. She estimated Bentley could net producers an extra six to 10 bushels an acre. As a malting variety it's well suited to non-scall areas across western Canada: low protein, high extract and good protein modification and friability.

Bentley seed is now being marketed by Canterra Seeds, which describes the variety as "a winner with good malting quality and excellent grain and biomass yields."

Baking with barley

The Commission and the Canadian Wheat Board (CWB) put their support behind a project to develop new food products containing barley. The Canadian International Grains Institute (CIGI) Development and Commercialization of Barley Foods project will develop barley flours with enhanced nutritional profiles (whole grain, beta-glucan rich) for use in baked goods, pasta and noodle prototypes. Also as part of the project, the Leduc Food Processing and Development Centre developed cookie, cracker, snack food,

“ Researchers David Bressler and Ruurd Zijlstra of the University of Alberta found that barley processed using new modified, low-temperature methods in starch-to-ethanol conversion produced ratios similar to the corn tested”

Looking back

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When the Province of Alberta ended funding and in-kind support for regional varietal evaluation trials, the Commission began working with other groups to create a prairie-wide program”



nutrition bar and meat emulsion prototypes. Additional funding came from the Agriculture & Food Council of Alberta and the federal government's Advancing Canadian Agriculture and Agri-Food program.

Fibre in feed

A 2009 research project on forage barley focused on finding the relationship between fibre content and fibre digestibility. “High fibre content doesn't necessarily mean a variety has lower digestibility,” said Mary Lou Swift, a feed quality research scientist at the Alberta Field Crop Development Centre. “That's a misnomer.”

The digestibility of dry matter intake, or feed, has significant implications for feedlots. Their number one concern boils down to getting as much energy as possible into the front end of an animal—and having as little as possible come out the back end. Small grain cereal silages such as barley, triticale, winter wheat or oat silage are not a large part of a feedlot animal's diet as they are considered low in energy.

The power of N

“Nitrogen is one of the major essential elements for crop growth and development and it is heavily used in modern agriculture to maximize yields,” research scientist Yadeta Kabeta of the Field Crop Development Centre wrote in his paper *Genetic variability in nitrogen use efficiency of spring barley*, published in the July/August 2009 edition of *Crop Science*.

Kabeta worked with Patricia Juskiw at the centre and Allen Good at the University of Alberta to find which varieties take up nitrogen the most effectively.

“We're really looking to find a variety that takes up 10 or 20 per cent more nitrogen, so we could save barley producers about 10 to 20 per cent on their nitrogen costs,” Kabeta said. Preliminary study results in 2009 confirmed that Vivar, Xena and two other numbered varieties (H96014002 and H97097001001) are “superior in NUE” across high and low nitrogen applications.

A check in the right direction

The Commission estimated new research funds of between \$500,000 to \$625,000 would be generated by an increase in check-off dollars. Effective Aug. 1, 2009, barley producers began paying \$1.00 for every tonne of barley (or about two cents a bushel) they sell, up from \$0.50/tonne (about one cent a bushel).

Improving malting barley through agronomics

A project supported by the Commission, the CWB and other industry partners such as Rahr Malting,

found agronomic practices have a major influence on malting barley yield and quality. The first of its kind in North America, the three-year study revolved around seeding rates, seeding dates, nitrogen rates, stubble type and fungicide applications for AC Metcalfe and CDC Copeland. The varieties react differently during malt processing but the study found that malt extract did not differ. Research scientist John O'Donovan of the Lacombe Research Centre worked with 13 other researchers and barley experts on the project.

Among the projects findings:

- At most sites, early seeding (late April to early May) is better.
- Late seeding (mid-May to early June) often reduced malting quality.
- Seeding rates have variable effects on yields: in some cases, increasing the seeding rate did increase yields, but increasing beyond a certain threshold sometimes decreased yield.
- In most cases, optimal yield and quality resulted from a seeding rate of 300 seeds/m², leading to about 200 to 250 plants/m².

Big picture research

AAFC invested \$2.8 million into barley research in Western Canada through its Developing Innovative Agri-Products program. Several industry partners joined forces to apply for the new funds, including the Western Grains Research Foundation (WGRF), the Canadian Wheat Board, the Brewing and Malting Barley Research Institute and Rahr Malting Canada Ltd.

The Commission will also invest \$300,000 (\$100,000 a year for three years) in the research projects; total funding will be \$3.8 million. Most of the research will be related to barley breeding and focus on developing new barley varieties that are resistant to existing and emerging threats, while continuing to offer optimal yields. The balance of the research will seek further agronomic improvements and methods to control disease in barley production.

Searching for solutions

In April 2010, some 75 people from throughout the international barley industry gathered in Banff to discuss the opportunities and challenges facing barley production. The guest speakers brought insights from Canada, the United States, the European Union and Australia. During the two-day gathering, participants and speakers shared diverse knowledge and views. The event's purpose was not to solve the problems facing barley production in North America, but to better understand where solutions may be found and to determine where we are in order to move forward more effectively.

QUALITY

Producers recognized for excellence in malting barley

BY LISA SKIERKA

Three Alberta farms are among Canada's 10 best malting barley producers for 2010/2011.

Bork Farms of Chipman, the Sunshine Hutterite Brethren of Hussar and Verdant Hutterite Colony of Drumheller were nominated by malt industry experts to the Elite Barley program, originally called the Canadian Malting Barley Grower Recognition Program.

"The goal of Elite Barley is to celebrate and promote the best management techniques in malt barley production," says program co-chair Michael Brophy, president and CEO of the Brewing and Malting Barley Research Institute (BMBRI). "Canadian malt is recognized around the world for its quality in producing beer and spirits."

In 2009, malting barley was valued at \$740 million in farm gate receipts. That value grows significantly with

brewing and malting activity.

Brophy says much of Canadian malt's success depends on growers able to achieve consistent malting barley quality year after year.

"We usually grow 2,500 to 3,000 acres [800 to 1,200 hectares] of malt barley each year and we've been doing that for 30 years," says John Wipf, Jr., farm manager at Verdant Hutterite Colony for the past five years. "It works for our area and it has produced the best returns for the years that I have been involved. I think the same was true when my dad grew it before me."

Program co-chair Michael Edney of the Canadian Grain Commission says several consistent management techniques emerged during the nomination process.

The majority of producers used certified seed, which they indicated helps reduce disease pressures, Edney explains. Growers also said planning and evaluation are important and usually include soil



tests. In addition, field selection for malting barley planting is a high priority, with canola stubble the preferred choice (cereal stubble was never considered).

"If you grow malting barley, you have to treat it right," Wipf says. "We seed it first and take extra care of it. We grow it right after canola and it's the first thing we seed and the first thing we harvest. As soon as you have enough samples, head to the maltster's to be the first to be tested."

Others growers nominated for the 2010/2011 Elite Barley program are: Roger Begrand of St. Louis, Sask.; Ryan and Lauren Maurer of Grenfell, Sask.; Hewson Farm Corp of Langbank, Sask.; Bob Copeland of Rosetown, Sask.; Jeffery Wheaton of Biggar, Sask.; Ironwheel Farms Inc. of Shaunavon, Sask.; and Howard Linnell of Hafford, Sask.

Elite Barley nominators were: BARI Canada Inc., Richardson Pioneer, Viterra, Rahr Malting Canada Ltd. and Prairie Malt Limited.

For more program information, visit www.elitebarley.com.

“If you grow malting barley, you have to treat it right.... We grow it right after canola and it's the first thing we seed and the first thing we harvest”

TIPS FOR GROWING MALTING BARLEY

- Top growers seed their malting barley as early as possible, and most show a willingness to consider new varieties
- Straight cutting is preferred at harvest but the decision typically depends on weather and uneven maturity problems.
- When swathing is required, growers tend to leave barley standing as long as possible and only swath when the window available to allow combining is within a few days. The goal is fewer than four days.
- Most growers use production contracts as a method to know more precisely the specifications required, and to guarantee a market when specifications are met.
- Sampling is important and must represent the barley in the bin.
- Storage with aeration is essential for malting barley.
- Use small bins to segregate varying quality.

Reaching out to Japan

continued from page 3

"Building international trade relationships with countries like Japan has been an important part of the Commission's work," says CEO Mike Leslie. "When I lived in Japan and while I was working as a trade consultant for Alberta companies in the 1990s, we worked closely with the Barley Commission even then."

The Commission's investment in shochu research included a trip to Japan in 2005 that was attended by then-director (and current delegate) Doug Miller of Region 2.

"Everywhere we went, we were treated very, very well," says Miller. "I thought it was a very neat, clean, well-organized country and was very impressed at how respectful the

people were." Despite Tokyo being 13 times bigger than Calgary, Miller says he never felt as crowded there. "It was just a totally different experience."

To make a donation to the relief effort, the Commission recommends giving to the organizations listed below, or checking the Department of Foreign Affairs and International Trade website at www.international.gc.ca.

Humanitarian Coalition

The Humanitarian Coalition is made up of CARE Canada, Oxfam Canada, Oxfam-Quebec and Save the Children Canada.

Phone: 1-800-464-9154
Website: www.together.ca

Canadian Red Cross

The Canadian Red Cross can accept donations via cell phone for their Japan Earthquake/Asia-Pacific Tsunami fund. Wireless users can text ASIA to 30333 to donate \$5 to relief efforts.

Phone: 1-800-418-1111
Website: www.redcross.ca

Doctors Without Borders

Doctors Without Borders sends medical and logistics teams to emergencies around the world.

Phone: 1-800-982-7903
Website: www.msf.ca

Lisa Skierka is manager, Office and Projects for the Alberta Barley Commission.

VALUE

Check-off campaign continues to promote value to producers



"By talking about what we do as producer organizations, and how check-off dollars benefit producers in the long run, we are able to reach out to those who are not necessarily aware of the activities the various groups are involved in," says Alberta Barley Commission manager of Office and Projects Nikki Jeffrey. "The numbers often speak for themselves. For example, we often leverage check-off dollars to between three and 12 times their original value."

Photographer: Michael Interisano

BY LISA SKIERKA

When it comes to check-off dollars, producers typically have one question: What's in it for me?

Exactly how those dollars pay off—in areas such as research, education, communications, trade and market development—is what the Real Value for You campaign is all about. The ongoing campaign highlights what the producers of four different Alberta crops (pulses, winter wheat, barley and canola) get for their check-off dollars.

"Our goal is to leverage check-off

dollars as an investment in the future of our industry," says Matt Sawyer, chairman of the Alberta Barley Commission. "Working on behalf of its members, the Commission uses those funds—which are just pennies a bushel—to partner with government and industry to make significant investments in projects that benefit producers in the long run."

The campaign is a partnership between the Alberta Barley Commission, the Alberta Canola Producers Commission, the Alberta Pulse Growers and the Alberta Winter Wheat Producers Commission. Most recently, the groups took the Real Value for You message to FarmTech, one of the province's largest agricultural events. The four crop groups also work together on a number of projects that benefit producers throughout the industry.

"By talking about what we do as producer organizations, and how check-off dollars benefit producers in the long run, we are able to reach out to those who are not necessarily aware of the activities the various groups are involved in," says Alberta Barley Commission manager of Office and Projects Nikki Jeffrey. "The numbers often speak for themselves. For example, we often leverage check-off dollars to between three and 12 times their original value."

Jeffrey says research projects, in particular, benefit when investment comes from producers, government and industry.

"Projects that focus on develop-

ment of new varieties, disease resistance, trade initiatives and the like are a key part of our investment strategy," she says. "These projects have a direct impact on the future of barley growers in Alberta and across Western Canada."

The check-off campaign was originally launched in 2009 to reinforce the value of check-off dollars to producers and improve the remittance rate of check-off dollars from dealers. Where both the pulse and canola commissions have an above-average remittance of up to 90 per cent, the winter wheat and barley commissions' collection rates are traditionally much lower.

"Part of our strategy has been to work with dealers directly," says Jeffrey. "Many of our projects benefit the entire value chain, from feedlots and livestock producers to maltsters, seed growers, food processors, researchers and ag suppliers."

Similarly, a recent partnership with the Alberta Livestock and Meat Agency (ALMA) showcases the benefits of crop and meat producers working together. In 2010, ALMA committed \$8 million to projects that will further develop livestock feed, identify better links between feed and animal nutrition, and make better use of feed grain.

"Barley's connection to the feed industry is well known," says Sawyer. "As farmers, our check-off dollars will strengthen that connection through investment in research, while also ensuring that research results reach industry. This is just one area where we see a substantial benefit for our members."

VALUE

Portion of check-off dollars eligible for tax credit

BY NIKKI JEFFREY

If you're an Alberta Barley Commission member, you're eligible to claim an investment tax credit (ITC) on the 27 per cent of your check-off dollars the Commission uses for research and development.

You may also be eligible for ITC

credit on the check-off dollars you pay to other producer groups; the allowable percentage varies by group.

If you're an individual farmer, you're eligible to claim an ITC of 20 per cent on the 27 per cent of your check-off dollars used for research and development.

For example, if your Commission check-off dollars were \$1,000, \$270

would be eligible to earn a tax credit (of \$54).

If your farm operation is incorporated, you can claim an ITC of 35 per cent. If your Commission check-off dollars were \$1,000, \$270 would be eligible to earn a tax credit (of \$94.50).

Portion of check-off dollars, page 17 »

check-off dollars



REAL VALUE FOR YOU

Want the best value from the crops you produce?

Dollar for dollar, year in and year out, no other production cost is more affordable or generates more value than your check-off dollars. So for just pennies a bushel, your check-off dollars leverage government and industry funding, which together help breed new varieties, fine-tune agronomic practices, improve disease & pest resistance, develop new markets and much, much more.

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A joint message from:



PRODUCTION

Experts see narrow fit for split fertilizer applications

BY LEE HART

“If a producer does try a split application with any product, moisture is needed to carry it to the roots”

Unless you're expecting exceptional moisture conditions—extremely dry or extremely wet—this seeding season, soil scientists and agronomists see little value in a split application of fertilizer on barley, preferring instead to band all nutrients when the crop is planted.

While split applications are sometimes promoted by equipment manufacturers and fertilizer companies as a risk management tool, three Alberta experts say if producers have reasonable, or at least so-called average moisture conditions at seeding, a single nutrient application is best.

“Depending on the year and where you farm we've seen some extreme highs and lows in moisture in the last couple years,” says Bill Chapman, a crop business development specialist with Alberta Agriculture and Rural Development, based in Barrhead. “And there has been some interest in split applications, particularly as farmers look at making greater use of precision farming technology. We've also seen some newer products come along that are intended as top dressings.”

Chapman recommends applying all fertilizer at seeding to reduce risk, provided soil conditions are reasonable. If a producer does try a split application with any product, moisture is needed to carry it to the roots.”

For a nitrogen boost in-crop, Chapman favours pulse crops in rotation. Barley that follows pulse, for example, can get a late July kick from the later-release nitrogen provided by the pulse crop.

Chapman also points out malt barley growers have to be careful about any added nitrogen as the season progresses, as it could increase protein and adversely affect malting barley quality.

“If the protein in malt barley gets up to 12 to 12.5 per cent then it is too high to make malt quality,” says Chapman. “So you have to be careful about how much nitrogen the crop receives as the season progresses.”

Ross McKenzie, an Alberta Agriculture and Rural Development soil scientist in Lethbridge, also advocates placing all fertilizer, preferably in a banding operation, at seeding as the most practical treatment, under average moisture conditions.

Two exceptional circumstances may warrant split application or top dressing.

If conditions are very dry at planting, producers may want to cut their normal fertilizer rate, says McKenzie. “And then, if two to three weeks later, you get two or three inches of rain that changes the yield potential for the crop, you can look at going

back and top dressing with the rest of the fertilizer rate.

“In the other situation, if you seed your crop, and then over the next two to four weeks you have exceptional rainfall, there is a risk some of the nutrients applied at seeding could have been leached from the soil or lost through de-nitrification, and again a top dressing may be warranted.”

For in-crop applications of fertilizer, or top-dressing, McKenzie says producers need to pay attention to the type of product, the rate and the timing of the application.

“Regardless of what product is used for top dressing, you need to apply at least 30 to 40 pounds of nitrogen,” says McKenzie. “Top dressing with 10 pounds simply isn't enough to be of any value to the crop.”

With granular nitrogen fertilizers, his first choice is ammonium nitrate, 34-0-0, as it is very stable when surface-applied during a top-dressing treatment. However, the formulation is seldom available to producers in Canada due to recent security concerns with non-agricultural use. Urea, 46-0-0, can be broadcast applied as a top-dressing, but unless it rains shortly after application and the soil is warm and moist, some nitrogen can be lost through volatilization into the air.

To reduce nitrogen losses, he recommends using urea treated with a urease inhibitor, such as Agrotain, which provides 10 to 12 days of protection against volatilization.

McKenzie says liquid nitrogen fertilizers such as 28-0-0 are effective for top dressing, but recommends it be applied with a jet stream-type nozzle directly onto the soil surface. Since 28-0-0 is half urea, it also is at risk of being lost to volatilization. Again, a urease inhibitor is recommended.

Another top dressing granular option is 21-0-0-24, ammonium sulphate. It's a very stable source of nitrogen with low-risk loss if it stays on the soil surface for a few days before it rains. With it, however, producers are also applying sulphate,



Urea, 46-0-0, can be broadcast applied as a top-dressing, but unless it rains shortly after application and the soil is warm and moist, some nitrogen can be lost through volatilization into the air.

which the crop may not need.

McKenzie doesn't recommend foliar nitrogen top dressings, simply because he doesn't feel they are effective. At most, only 20 pounds of nitrogen can be applied as a foliar application; higher rates can damage crop leaves. Even though liquid products are applied as foliar, he says only one to five per cent of the nitrogen is actually taken up by the leaves, and the rest has to be washed from the leaves by rain and eventually taken up by the roots. If it doesn't rain, nitrogen can be lost to the air.

Any top dressing, he says, can take three to four weeks for a crop to take up nutrients.

Steven Larocque, who runs an agronomy consulting service, Beyond Agronomy, at Three Hills, also recommends that if soil moisture is reasonable all nutrients be applied at seeding.

As part of a three-year research project supported by the Alberta Crop Industry Development Fund (ACIDF), starting this year he will look at how a number of treatment options affect barley yield and quality.

“The objective is to maximize yields and hopefully hit a 180 bushel yield on feed barley,” says Larocque.

PRODUCTION

Consecutive soil testing will establish a nutrient trend

BY LEE HART

Soil testing is often recommended as a valuable practice to reveal the nutrients in your fields and determine if your fertilizer program is working. To get that value, say two Alberta agriculture consultants, it's important to test soil properly and consistently.

"If a person casually takes soil samples, randomly on a few fields once in a while, and if they are not experienced at doing it, the information may help but the value is compromised," says Doug Penney, a former provincial soil specialist who's now a consulting senior coach with Agri-Trend Agrology.

Ideally, it's best to test every field every year, but, Penney says, there can be good value in sampling the most representative area of a field with enough frequency to establish a trend line.

Penny says one method to avoid is taking random samples from all parts of the field and come up with one soil test recommendation. "It is better to go to that field, pick the area that is the most representative of the majority of the field, collect perhaps 20 core samples from that area, and combine those into a sample to be analyzed."

To really give the process weight, sample the same spots for the next two or three years. Global positioning systems (GPS) are often used to help mark sampling sites for future reference. Three or four years of data collected from those sites will start to show a trend in fertility changes.

Penney says it takes three years of soil analysis to begin to see a trend, that's why three or four years of consecutive sampling are recommended. If a producer only samples every two years, it will take six years to get



"If a person casually takes soil samples, randomly on a few fields once in a while, and if they are not experienced at doing it, the information may help but the value is compromised," says Doug Penney, a former provincial soil specialist who's now a consulting senior coach with Agri-Trend Agrology.

three reference points, and if soil is sampled once every five years, it will take 15 years.

On a consistent land base, you can collect a representative sample from one field and apply a similar fertilizer rate to other fields with similar topography and soil type, but he cautions about making too many assumptions, especially with variable growing conditions.

"In areas where it was wet in 2010, for example, some fields didn't get seeded and were chem-fallowed or summer-fallowed," says Penney. "And normally when a field is fallow for a season, there will be improved or higher soil fertility the next year. But, on many of those wet fields we are finding some nutrients, particularly nitrogen and sulphur which are quite mobile in the soil, are quite deficient—not in all cases but often enough."

South-central Alberta consulting agronomist Kelly Boles of Three Hills also uses GPS to mark soil sampling sites. GPS mapping allows him to return to the same location each year to collect core samples, and

establish a benchmark soil test for a site or field.

He works with producers using both variable rate technology (VRT) and conventional fertilizer application methods. Under VRT zones are established in each field identifying differences in soil types, yield potential and other characteristics.

"If I'm working with a zone, I go to that area and collect anywhere from 15 to 25 core samples from that zone to make up a sample for analysis," says Boles. "And if the farmer isn't using VRT prescriptions, I go to a field and I select an area that is most representative of that field and collect 15 to 25 core samples from that area. All sample sites are recorded on the GPS."

By identifying collection points, Boles can return to the same location each year, collect and analyze samples, and determine a trend line for soil nutrients, which show if fertilizer recommendations are sufficient or need fine tuning.

Lee Hart is an agricultural writer based in Calgary.

“It takes three years of soil analysis to begin to see a trend, that's why experts recommend three or four years of annual sampling”

Portion of check-off dollars

continued from page 14

To qualify for the ITC, you'll need a receipt showing you've paid check-off dollars to the Commission or other producer groups. ITCs can be used:

- To offset federal tax owing in the current year
- As a refund, if you do not owe in the current year. Individuals can receive a refund of up to 40 per cent; corporations can receive a 100 per cent refund

- Or carried forward up to 20 years to offset federal tax
- Or carried back up to three years to reduce federal tax paid in those years.

You have up to 12 months after the filing due date to apply for the credit. The Canada Revenue Agency does ask that you apply for the ITC only after learning the eligible percentage of the member groups to which you belong. For the

investment tax credit forms, visit albertabarley.com or go to the CRA website:

Corporations:
cra-arc.gc.ca/E/pbg/tf/t2sch31/README.html

Individuals:
cra-arc.gc.ca/E/pbg/tf/t2038_ind/README.html

Nikki Jeffrey is the manager of Office and Projects for the Alberta Barley Commission. She is currently on maternity leave.

PROFILE

Lomond producer finds work/life balance on family farm



Cameron, Avery, Kent, Patti and Mason Sande of Lomond. "I enjoy quite a bit about farming," says Kent. "I like the different things you get to do on the farm, the different seasons, and the rewards you get in your crop at harvest time. If I decide I want to take time off to do something with my family, I can."

Photographer: Mason Dodds

BY ABBY MILLER

“I enjoy spending time with my kids and so I make sure whatever my plans are for the farm, I’m not risking losing that time”

For Kent Sande, a fourth generation farmer in Lomond, farming is as much about family as working the land. "I enjoy quite a bit about farming. I like the different things you get to do on the farm, the different seasons, and the rewards you get in your crop at harvest time," he says. "If I decide I want to take time off to do something with my family, I can."

Sande makes balancing work and family a priority. "I enjoy spending time with my kids and so I make sure whatever my plans are for the farm, I'm not risking losing that time."

One way he maintains this balance is by embracing new farming techniques and new technologies.

Through his association with

Lethbridge's Southern Applied Research Association (SARA), Sande has learned about new agricultural technology, practices and research. "What SARA does is try to get farmers involved in the new technology, to try new things," he says.

"In the 80s, my grandpa and dad were pretty traditional farmers. Until I started farming with them, all they grew were wheat and durum," he says.

Sande is more diversified, growing oil seeds (flax and canola), mustard, pulses and barley under irrigation. Barley, he's found, is a good all-purpose crop, which he'll grow under contract for seed, sell to nearby feedlots when seed quality isn't quite there, use in his rotation and turn to when cool, wet weather increases the risk of growing other cereal crops.

"Barley stands up when it's a little

wet and cool and it has better disease resistance," Sande says.

Since he can remember, the family farm has been committed to adopting new technology: in 1982, his grandfather and father bought one of the area's first air seeders. "That was pretty innovative around here. So essentially, we've been direct seeding since then. It was a shovel we used," Sande laughs, "but it was direct seeding."

Technology now advances at a quicker pace, he says.

"I may be fairly young for a farmer but technology is advancing so fast it's hard for even me to keep up," the 38-year-old admits.

Today he relies on GPS, a BlackBerry and a computer to manage field- and paperwork.

"This time of year I get a little spring fever and I want to get out there. It's a good combination, though. I like the management side of farming and when I get tired of that, I can get out and do something physical," he says.

Sande is finalizing the purchase of his parents' company, Midway Farms LPD, and consolidating it with his own operations. Increase in acreage aside, he says he has no immediate plans to expand his company.

"It seems like any farms that stay the same size forever, they're the ones that eventually sell out," he says. "The ones that expand slowly seem to be a little more successful. I have no real plans but there is always potential. If there is something out there that fits our operation, I'll do it."

And Sande is already thinking about his own succession planning and the family's next generation: his daughters, 12-year-old Cameron and six-year-old Avery, and his nine-year-old son, Mason. "I'm the fourth generation and I've got a son and two daughters, so hopefully one of them will carry on and be the fifth."

Split fertilizer applications

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"So in this first year we are planning to throw everything at the crop and see what happens."

"Throwing everything at the crop" means high rates of fertilizer including a starter blend, two top dressings during the growing season, along with treatments with growth regulators and three in-crop fungicide applications.

That treatment will be applied at

different sites and be compared with more conventional barley production practices.

"The first year we will apply everything to see how the crop performs, the second year we will cut back on the program to see what happens, and the third year we will cut back again, to see what happens," says Larocque. "We're trying to maximize yield, but also

hope to see which of these treatments really makes a difference, if any, in achieving a high yield."

The three-year research treatments will be applied to both feed and malt barley. The eventual outcome is to achieve the maximum yield regardless of cost and then to work backward to the maximum yield at a profit for the producer.

REPORT

Trains, tankers, transportation and trade

BY RICHARD PHILLIPS

In the first three months of 2011, the Grain Growers of Canada dealt with numerous issues important to our member groups. Some of our efforts are noted in the article on page 8. Other efforts included:

Demand for release of rail service review

We are extremely disappointed and concerned about declining rail service, especially when grain prices are high and producers are missing the opportunity for higher returns.

In early March, the Grain Growers called for the immediate release of the Rail Freight Service Review. The Review has supposedly been in translation for more than two months. Meanwhile, Canadian Pacific Railway's service, in particular, had declined drastically.

This isn't the first time we've criticized the Review panel. When it released interim recommendations, we responded by asking for: regulated service levels and an immediate start to the regulatory process; repercussions for railway non-performance; and setting up an independent monitoring and evaluation body to measure performance against expectations.

On March 18, the government announced its response to the Review, saying it intends to implement the following steps to improve the performance of the entire rail supply chain:

- Initiate a six-month facilitation process with shippers, railways and other stakeholders to negotiate a template service agreement and streamlined commercial dispute resolution process
- Table a bill to give shippers the right to a service agreement to support the commercial measures
- Establish a Commodity Supply Chain Table, involving supply chain partners that ship commodities by rail, to address logistical concerns and develop performance metrics to improve competitiveness
- In collaboration with Agriculture and Agri-Food Canada, Transport Canada will lead an in-depth analysis of the grain supply

chain to focus on issues that affect that sector and help identify potential solutions.

"Railways, farmers and all shippers depend on one another for their survival and profitability, and we're making sure they have the tools they need to capture efficiencies and strengthen that partnership," said Agriculture and Agri-Food Canada Minister Gerry Ritz. "Today's announcement is further evidence of our government's consistent commitment to put farmers first and make sure the agriculture industry remains strong."

"The Rail Freight Service Review has been a very important undertaking for Canada's rail system, involving close consultation with key stakeholders," said Minister of State (transport) Rob Merrifield. "I would like to thank the panel for its diligent and thorough work. At the same time, I urge every stakeholder in the supply chain—including the railways and shippers—to work cooperatively to implement the commercial approach."

Free trade with Japan

We are firmly behind a joint study on a future free trade deal between Canada and Japan.

Japan's willingness to look at liberalizing trade to stimulate its economy could be a real opportunity for Canadian farmers. The country is an important export market for Canadian farmers and its \$5-trillion economy is among the world's three largest, plus Japanese consumers willingly pay premiums for agricultural imports that meet their exacting specifications. While they are currently dealing with the devastating earthquake and tsunami, we expect markets to return to near-normal soon.

Japan is already a key market for Canadian malt, oilseeds, wheat, beef and pork and we see many other opportunities ahead.

The CWB's vessel purchases

When the Canadian Wheat Board (CWB) announced in February it was diverting money intended for Canadian farmers to buy two new lake freight vessels, we saw several ramifications.

In our view, buying ships is



Richard Phillips

probably outside the CWB's marketing mandate, and we doubt laker freight is actually the weakest link in Canada's transportation system, given the huge problems with rail service.

The Grain Growers also feels the CWB's complete lack of farmer consultation about the purchases smacks of "Big Brother knows best."

One positive result that could come out of this is a frank and fruitful dialogue about the future role and structure of the CWB. If the CWB is going to accumulate assets, then it is definitely time to discuss who actually owns the organization: government, taxpayers or Canadian farmers.

Research disappointment

The Grain Growers and Farmers for Investment in Agriculture, to which we belong, were extremely disappointed in the Natural Sciences and Engineering Research Council's recent decision in January to drop food and agriculture as a strategic target area.

While the United Nations warns of a potential food crisis, countries like Canada have a responsibility to increase their commitment to food production, said William Van Tassel, vice-chair of the Fédération des producteurs de culture commerciales du Québec. "By cutting agriculture from its priorities, the Council seems to be disconnected from the current global reality."

NSERC's decision coincides with a number of contributing factors holding back Canadian agriculture research and innovation. At a time when most countries are making huge investments in farming to capitalize on growing world food demand, Canada's level of funding for public research is still below 1994 levels.

The Grain Growers will continue to push research and innovation funding as one of our key priorities.

Richard Phillips is the executive director of the Grain Growers of Canada, which is based in Ottawa. The Alberta Barley Commission is a founding member of the organization.

“If the CWB is going to accumulate assets, then it is definitely time to sit down and also discuss who actually owns the organization: government, taxpayers or Canadian farmers”

Alberta Seed Guide: Spring 2011 Correction Notice

Unfortunately, an error was discovered in the original information reported for the malt barley varieties listed on page 36 of the 2011 Seed Guide. The data for test weight (lb/bu) and height (cm) was transposed. Please visit www.seed.ab.ca to view the corrected information online. The Association of Alberta Co-op Seed Cleaning Plants and the Alberta Seed Growers' Association apologize for any inconvenience that may have occurred.

News & events

Alberta Farm Animal Care Livestock Care Conference April 6-7, 2011

The Livestock Care Conference in Red Deer is an opportunity for producers, researchers, industry, students, government and others to examine challenges and progress in the livestock industry. This year's theme is Embracing Changes in Animal Welfare. For more information, visit www.afac.ab.ca or email lcc@afac.ab.ca.

Ag Innovation Showcase May 23-24, 2011

The 2011 Ag Innovation Showcase in St. Louis, Missouri is a distinguished world-class gathering of key players in the agriculture sector including emerging innovators, investors, and ag leaders. The showcase is also a platform for dialogue, discussion, and deal-making in ag-bio, food production, biofuels, sustainable materials, bio-based products, farming technologies and animal health. For more information, visit www.agshowcase.com.

Western Canada Farm Progress Show June 15-17, 2011

The Western Canada Farm Progress Show at Evraz Place in Regina is the largest dryland farm technology show in Canada, attracting more than 700 exhibitors and 40,000 visitors from 30 countries. Over its 30-plus year history, the event has earned the title of Canada's National Farm Show and continues to remain relevant to the industry. This year's show includes a country concert series with some of the best country singers around. For more information, visit www.myfarmshow.com.

Canadian Seed Trade Association's 88th Annual Meeting July 17-20, 2011

The Canadian Seed Trade Association's annual meeting is in Niagara Falls this year. For details and registration information, visit www.cdnseed.org/convention-summer/introduction.asp.

12th International Symposium on Pre-harvest Sprouting in Cereals July 24-27, 2011

The International Symposium on Pre-Harvest Sprouting in Cereals is held around the world every three to four years. This year, it takes place in Red Deer, AB.

The symposium includes the latest research on pre-harvest sprouting and seed science, and is a unique opportunity for researchers, industry partners, academia and students involved in cereal crops and seed sciences to meet and collaborate. The symposium is also a forum for exchanging ideas and information on cereals crops, including all wheats, barley, rice, corn, triticale, sorghum, millet and other cereals.

Primary producers, researchers, policy makers and industry allies (including those in seed businesses such as baking, malting, seed testing and analysis) are invited to attend. Submissions for papers and posters are welcome.

For more information and registration, contact Fran Teitge at (403) 782-8049 or email frances.teitge@gov.ab.ca.

Lacombe Field Day July 28, 2011

See your check-off dollars in action at the annual Lacombe Field Day at the Alberta Field Crop Development Centre and the Agriculture and Agri-Food Canada Research Centre in Lacombe. Sponsored in part by the Alberta Barley Commission, this day-long event features coffee, displays, morning and afternoon field tours and a generous lunch.

This event is also a great way to learn about the latest research projects and findings. Registration is \$20. For information and registration, call Fran Teitge at (403) 782-8049.

Ag census gives farmers a chance to tell their story

During the first two weeks in May, every farm in Canada will receive a Census of Agriculture questionnaire. On May 10, farmers across the country will help create an up-to-date picture of agriculture in Canada by completing and returning their census questionnaire.

The 21st century farmer works in an increasingly complex industry. Farmers wear many hats to operate a successful business: accountant, mechanic, carpenter, heavy equipment operator and environmentalist. They may also work off the farm. In short, farmers are busy people working in a dynamic and challenging industry.

The profile of Canada's farmers is different than the general working population. Census information

from 2006 show that farm operators have a higher median age than the comparable labour force population of self-employed workers-52 and 44, respectively. Moreover, farmers under 35 years old, who represent just nine per cent of all farmers, are poised to move the industry into the future.

The Census of Agriculture provides information on the many sides of this vital industry-from crop area and manure management to access and high speed internet. The data "snapshot" captured by the census every five years highlights trends and new developments in agriculture.

Statistics Canada is legally required to conduct the census. By the same law, it must also protect the information provided on census forms.

On May 10, 2011, tell your story by counting yourself in as part of Canada's farm community. Fill out your questionnaire on paper and mail it back in the prepaid envelope or take advantage of the internet application which automatically adds totals and skips you through the parts of the questionnaire that don't apply to your operation.

For more information on the 2011 Census of Agriculture, visit www.statcan.gc.ca/ca-ra2011/index-eng.htm.

Source: Agriculture and Agri-Food Canada

Barley extraction research update

In the fall of 2010, members of the Cereals Protein and Cellulose Program, known as (CP)2, extracted about 150 kilograms (330 pounds) of proteins from barley at the Leduc Food Processing and Development Centre. Alberta-grown Sundre and Metcalfe barley was used in the pilot project, with each variety yielding different amounts and qualities of protein. Sundre produced low-protein (60 per cent) and high-fibre concentrations suitable for use in nutrition bars, functional foods and processed meats. Metcalfe produced higher-protein (80 per cent) and lower fibre and nutrition levels well suited for use in emulsions, micro/nano-encapsulations, films and non-woven fibres.

At the same time, researchers, led by Dr. Lingyun Chen of the University of Alberta's Department of Agricultural, Food and Nutritional Science, completed a research project on the feasibility of using the antioxidant peptides in barley in the food industry. Potentially, the peptides could be used as a natural food additive to increase product shelf-life and in new functional foods and beverages to reduce cardiac and age-related diseases. The research is expanding the knowledge on the full nutritional value of barley and the research team is working to secure and protect the intellectual property of this innovation.

Commission supports Senate's interest in ag research

The Alberta Barley Commission welcomed news in February that the Canadian Senate's Standing Committee on Agriculture and Forestry will examine and report on research and innovation in the ag sector.

"This is a real win for agriculture," says Commission CEO Mike Leslie. "Investment in research and innovation is a key element of our commitment to making decisions based on sound science. The Senate's efforts to understand our priorities speak strongly about our Senators' commitment to agriculture."

The Standing Committee will specifically examine research and development efforts in developing new markets, enhancing agricultural sustainability and improving food diversity and security.

"These areas are all priorities for Alberta's barley growers," says Matt Sawyer, the Commission's chairman. "Our goal is to be innovative while also meeting the needs of the world's growing population for a sustainable food supply."

Commission applauds defeat of Bill C-474

The Alberta Barley Commission heralded February's defeat of Bill C-474 as good news. Bill C-474 proposed to amend the federal Seed Regulations, requiring that an "analysis of potential harm to export markets" be conducted before new genetically modified seeds could be sold. Most farmers saw this change as a step backward.

"This decision really speaks to the government's understanding of the importance of sound science when making decisions about the future of agriculture, as well as the ability of the various parties to collaborate for the benefit of all," says Matt Sawyer, the Commission's chairman.

Mike Leslie, the Commission's CEO, said: "In agriculture, we invest in research projects to create new traits with resistance to disease, drought, harmful insects and other threats. This research includes biotechnology. In order to maintain our competitive advantage-and an internationally recognized high-quality breeding program-we need to be able to use sound science as our guide."

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