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TABLE OF CONTENTS

FEATURES

20 King Corn
Is the yellow grain set to gain big acres across the Prairies? At least one company thinks so.

23 The Grain Game
You need to move grain—now what? Scott Rollans explains the many ways to “play the game.”

26 Young Guns
The Found Generation has arrived, and they’re not going anywhere.

36 Plant Growth Regulators
They’re common in Europe, but new to Canada. Find out why plant growth regulators are increasing in popularity.

42 Ug99
This nasty rust disease originated in Africa, and may be headed our way.

GrainsWest • SPRING 2014
Rolling Forward
Jeff Jackson finds out if we’ve hit the bottom of the market.

Tall Wishes
Lisa Skierka wants you to speak up for agriculture.

Market Monitor
Jon Driedger gives you the inside scoop on what to do with all that grain kicking around. Hint: Sell it already!

Head of the Class
Get used to it: From crop monitoring to classroom modules, agriculture’s education is high-tech.

Person, Place & Thing
Lorelle Selinger of Prairie Malt Ltd. sits down with GrainsWest.

Tech@Work
Expert Peter Gredig gives us the goods on all things portable to give us mobile peace of mind.

From Lab to Field
Genetically modified organisms—Dr. Stan Blade, PhD, takes on biotechnology.

Sustainability
Plan your work, work your plan. Alberta’s Environmental Farm Plans are giving producers cause to farm smarter, not harder.

Hunting Cereal Killers
Dr. Kelly Turkington is constantly chasing leaf disease in barley with a multi-pronged approach.

Perennial Wheat
Come back for more with this variety that will keep popping up.

Curtis Comeau
Curtis Comeau is a professional photographer hailing from Edmonton. His photographs have been featured in Reader’s Digest, Popular Science and Western Living magazines. He’s proud to be from Western Canada and loves contributing to Alberta’s agricultural dialogue through photography.

Jeff Davis
Jeff Davis is a freelance journalist and entrepreneur whose work has appeared in the National Post, the Toronto Star, Canadian Business and many other Canadian and international publications. He lives in Saskatoon, SK, where he grows a vegetable garden.

John Dietz
Hailing from Manitoba’s Crocus Capital, Arden, John Dietz is a seasoned reporter and photographer. Almost 40 years ago, Dietz publicly introduced zero tillage in a news release through Manitoba’s ag ministry. Raised in Wisconsin, Dietz studied journalism in Nebraska before coming to Canada in 1969.

Geoff Geddes
Geoff Geddes is a freelance writer and communications specialist for Alberta Pork in Edmonton. He has experience in writing and editing for a variety of communication mediums including websites, blogs, newspapers, magazines and newsletters.

Scott Goodwill
Scott Goodwill is a commercial photographer and production assistant in Regina, SK. He started shooting on old film cameras seven years ago and transitioned into more technical gear over time. He still likes to head back to his roots and capture the texture and emotion that cannot be reproduced with digital photography.

Scott Rollans
Longtime freelance writer Scott Rollans has contributed articles to dozens of magazines. In 2013, he was named Best Writer by the Canadian Council for the Advancement of Education. Music fans of a certain age might also remember him as bass singer for the acclaimed vocal group Juba.
Show me the Money

FARMERS SEEK SOLUTIONS ON TRANSPORTATION

“SHOW ME THE MONEY! SHOW ME THE MONEY!”

When Tom Cruise portrayed sports agent Jerry Maguire in 1996 and had this infamous conversation with his persnickety wide receiver Rod Tidwell, played by Cuba Gooding, Jr., one thing was clear: a desperate Maguire needed Tidwell’s business, perhaps as much as the all-star needed his agent’s. Today, things don’t seem that far off from the comedic exchange, except we’re farmers, not football players.

Growers are being pushed to the limit as far as on-farm storage goes, which puts them in conversation with the elevators and, as anyone who’s tried to make a call in the last few months knows, negotiations are tough. Trains haven’t run at full capacity for months due to wicked weather and navigating through tricky mountain passes en route to Vancouver. In addition, crude cut into track traffic. To nobody’s surprise, grain companies have sat paying costly demurrage at the ports—and we all know that ultimately it’s the producer who pays.

Although last year’s harvest was fantastic and Guinness-worthy, we must not treat this as an anomaly. Instead, everyone in the process—from growers to government—needs to continue to come together to participate in the logistical liturgy that is necessary to solve this agricultural debacle. As many are touting privately and publicly, “this is the new normal” when talking about grain volumes in Canada. Our country’s value chain must be ready for continuous highs come harvest. Stronger, better-yielding varieties will only hit the market faster, and cereals are showing stronger results than ever before.

Full marks go to the federal government, which will now be receiving more regular public reporting, instead of quarterly, on the grain backlog and other important data to monitor rail service. Industry-led collaboration spearheaded by Pulse Canada will help to measure rail service supply chain efficiency by providing good data to help communicate long-standing rail service issues. This data is the push we need to get the federal government to initiate change.

Collaboration between government and other interest groups may just be the spark that sets the forest of change on fire. Things certainly feel warmer knowing many groups are toiling away to ensure competitiveness for Canadian growers and their great grain.

As far as growers playing their power cards when negotiating, it’s important to remember that face time is important—and so is involvement beyond our own operations. There’s a reason commissions and marketing boards get things done—they bring farmers together to act in unity. It’s a simple solution, but one that requires a true test of both stamina and resolve. We have to want to make the change. It’s too easy to be an armchair pundit, especially if the only one listening is the dog.

Let’s collectively push for continued resolutions from our government, railways, elevators and ports. Perhaps by year’s growing season we can say with confidence, like Tidwell to Maguire at the end of their phone call: “Congratulations, you’re still my agent.” Click.

It’s too easy to be an armchair pundit, especially if the only one listening is the dog.
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What Goes Up

HOW MUCH FURTHER WILL THE MARKETS CONTINUE TO TUMBLE

OVER THE PAST SEVERAL YEARS, high cereal and canola prices have brought growers a good return on their investment. The prices have been better than what growers could have even imagined a decade ago. As a result, net farm incomes have been higher and growers have enjoyed the benefits.

However, as the saying goes, what goes up must come down. On the heels of a massive crop in nearly every production region of the world, crop prices have been falling, lowering revenue for growers.

This is nothing new for producers. Agricultural returns tend to be cyclical—a few years of good returns are followed by a few years of lower returns. This is the inherent nature of agriculture. It is a competitive industry and it has become globally competitive in almost every major crop.

So the big question is, “When will the cycle start to move upwards again?” Certain analysts talk about seven-year cycles, while others favour a different number. There are even cycles within a crop year. Regardless of each grower’s theory on the length of these cycles, the market can only go up when it has hit the bottom.

I think we are at, or very near, the bottom right now. The good news is that prices will go up, but it is unlikely that this will happen on a steep curve. There are more than issues of supply and demand to look at this time around. In the past, the markets saw a mild rally in futures prices. The driver for this is demand from Bangladesh and China, negative weather stories in parts of Ukraine and the United States, and a lower-than-expected stocks report from Statistics Canada. All together, this should have resulted in higher prices for commodities, and more profit for growers.

Unfortunately, the effects of that rally never really reached us in Western Canada. Basis levels generally consumed the futures increase. This kind of market activity could be the trend for a while, because stocks have the potential to linger in Canada while the industry struggles with transportation issues. Even if rail service begins to improve, the backlog in the shipping supply chain will still take months to move. By then, growers will be looking to sell and ship a new crop. Even an increase in demand may not be enough to significantly boost growers’ profits. And this spells a market that may be at the bottom of the cycle for a while.

So what strategy should growers follow in the meantime?

First, having just come from a period of good farm revenues during which marketing decisions were almost error-free, growers must now refocus on profitable prices as opposed to price alone. It may be difficult, but try to leave emotion out of the picture, or you may second-guess your marketing decisions and miss an opportunity to maximize your revenue.

Next, know in detail your cost of production. This will help you make wise marketing decisions when prices rally.

Finally, try incremental marketing. Make a plan to market production in increments throughout the year. How and when you will do this will largely depend on your cash flow needs, but make a plan that works and stick to it.

The downslope of marketing cycles are never fun, nor are they easy from a crop marketing perspective—especially as the good times of recent years are fresh in our memory. But with good planning, growers with a sound strategy can find the most effective path through the lows. Eventually the markets will climb again—growers just have to be patient!

Jeff Jackson is the interim operations manager and markets manager of the Alberta Wheat Commission.
EVERY COUPLE OF YEARS, MY DAD asks if I’m serious about spending the rest of my life in “the city.” I’m always surprised by the question because I never actually thought I would last in Calgary for 10 years, let alone 20.

Although living in Calgary can feel like putting in time, it has allowed me to pursue a career that puts my love of agriculture to good use. Through my job, I’m able to advocate for agriculture, farmers and farming in a way that I didn’t know was possible 20 years ago.

From growing up on a ranch in the Crowsnest Pass to attending university on a science scholarship and graduating with a degree in political science, I feel like I’ve done a bit of everything. Although my parents thought I would never get a job with that political science degree, I’ve experienced everything from tourism to government relations to book and magazine publishing. When I look back at where I started, it seems like I moved from ranching to ag politics almost overnight.

But that’s just the short version of the story.

As an advocate for agriculture, if I could go back in time 20 or 30 years—say, as a teacher in a K-to-12 school in my hometown of Lundbreck, Alberta—I would be an educator who challenged students to talk about agriculture. If I worked in a classroom today, I would encourage farm kids to tell their own stories—to talk to their classmates and friends about what life is really like on a farm.

Agriculture is exciting and dynamic—and without it, we would not have food. Unfortunately, no one outside of our industry knows what it takes to get food on grocery store shelves.

This information gap is obvious when we do presentations on behalf of the Classroom Agriculture Program when even the students in small, rural communities have never been on a farm.

We also know this from consumer questions at agriculture events like Aggie Days and the Calgary Stampede, where kids think that eggs come from the grocery store—and are seriously grossed out when they find out that eggs actually come from chickens. We hear about it on social media when our close friends and family members are sharing posts and updates about modern agriculture—and the updates don’t fit the facts. We see it at the political level when agriculture is challenged for everything it does wrong, but never commended for all the things it does right.

If we are not advocating for our own industry, we should not be surprised every time we see agriculture getting beat up on TV, in social media and in the newspapers.

Drawing these connections between food and agriculture—between farmers and farming—is a key part of a story that only those who work in agriculture can tell. Yet regular people don’t want to hear about it from just anyone—they want to hear about farming from “real life” farmers.

One of my favourite quotes (and not just because I grew up with four brothers) is from Mike Tyson: “Everybody has a plan until they get punched in the face.”

Years ago, I gave a presentation to a group of egg farmers that showed some of the video clips that come up when you do a Google search for “egg farming.” Of all the videos that were easily accessible, not one was positive. Just knowing that the videos were out there inspired these farmers to start telling their own stories and speaking up for their own industry—countering the negative messages with their own stories about life on the farm.

This presentation ended up being a wake-up call to the farmers in the audience—a punch in the face.

In agriculture, our plan is often to simply keep on working—to do what we do, and to do it well. Yet if we are not advocating for smart agriculture using modern science, then no one will do it for us. Let’s be advocates for agriculture at home, as well as in coffee shops, on TV and via social media. Let’s tell people around us what we do and inspire new generations to get involved.

Lisa Skierka is the General Manager of Alberta Barley.
CN STRIKE AVERTED

ALREADY BACKLOGGED AND bogged down by frigid temperatures and the biggest grain harvest in history, CN Rail has avoided a strike by 3,000 of its workers, averting a full-blown disaster.

The February threat was avoided following an agreement with Teamsters Canada, the union representing the conductors and yard workers who were prepared to walk off the job. The deal was reached with no stoppage in service while a federal government back-to-work legislation order was waiting in the wings.

The strike’s prospect drew sharp and immediate criticism from western Canadian agriculture groups and politicians alike.

Levi Wood, president of the Western Canadian Wheat Growers Association, said that even one day of striking would “slow things down further and compound the problem.” Meanwhile, Saskatchewan’s Premier Brad Wall sent federal Transport Minister Lisa Raitt an open letter, referring to the potential strike as “unacceptable,” and calling the union’s timing “extremely disappointing.”

Elevators across the Prairies are full, making on-farm grain storage a necessity for many farmers unable to move crops.

IT WASN’T JUST A SIGHTSEEING trip—Premier Alison Redford was on a mission. Her January journey to South Asia included putting pen to paper on a new Memorandum of Understanding with India’s state of Meghalaya.

“This region of India has more than 40 million [people]—that’s more than Canada’s population—and it holds huge opportunities for Alberta agriculture producers,” said Redford.

The signing will give Alberta farmers more opportunities to sell products abroad, as well as see the creation of an agricultural working group to develop and further trade on machinery, canola and pulses—the last of which India is the world’s largest consumer and importer.

JAPAN TIRES OF WAITING, TURNS STATESIDE

AMID THE CANADIAN GRAIN backlog, Japanese buyers recently began snapping up grain from the United States. Canada’s last two grain shipments to Japan have been late and, not wanting to risk a third, the Japanese Ministry of Agriculture, Forestry and Fisheries snatched up nearly 50,000 metric tonnes of hard wheat from the U.S.

With less than an estimated three months’ worth of wheat for millers and deliveries in the Asian nation, it’s clear the Japanese aren’t waiting around.

“Japan will have to depend more on U.S. wheat as the supply bottlenecks in Canada won’t be resolved anytime soon,” said Nobuyuki Chino, president of Continental Rice Corp. in Tokyo.
CALL FOR THE HALL

NOMINATIONS ARE OPEN FOR Alberta’s Agriculture Hall of Fame. With more than 100 inductees over the years, there are many familiar names who have contributed to Alberta’s agriculture sector. There is an open nomination until April 30 to put forward a name of someone who has demonstrated leadership in farm, rural or community organizations, or in the food industry. Alberta Agriculture and Rural Development requires three different people outside his or her immediate family to put a nominee’s name forward.

For more information on nominations or to obtain forms, visit www.agric.gov.ab.ca.

SWINE SICKNESS IN CANADA

WHILE A DEADLY VIRUS HAS already wreaked havoc on U.S. piglets, the Canadian swine industry is standing by and being ever-vigilant to avoid Porcine Epidemic Diarrhea virus (PEDv). A quick-moving virus, it kills the average piglet in five days and has claimed more than one million American piglets across 20-plus states since it first appeared last spring.

By mid-February there were 15 cases in Canada, including 13 in Ontario. Alberta is not currently affected, but hog producers are being warned to keep animal welfare top of mind.

“The biggest thing we are trying to do is get people to become aware of the potential problem,” said Darcy Fitzgerald, executive director of Alberta Pork. “That starts with your own biosecurity at home.”

Livestock trucks and trailers need to be continuously disinfected and drivers’ boots must remain clean, since the disease can survive in manure and dirty wash water.

However, producers have science on their side. Harrisvaccines in Ames, Iowa, recently introduced an updated version of its original PEDv vaccine. The drug, iPED+, is an improvement on the company’s initial vaccine created last spring. The new drug has higher and more consistent levels of antibodies than the first drug, and Canadian veterinarians can order it on an emergency basis.

“The goal of the vaccine is that we vaccinate the sows one to two weeks before giving birth,” said Joel Harris, head of sales and marketing with Harrisvaccines. “They’ll have high enough antibody levels to then protect the piglets in the early stages of life.”

In Alberta, all cases must be reported within 24 hours to the Office of the Chief Provincial Veterinarian at (780) 427-3448 or anytime at (800) 524-0051.

Alberta has approximately 350 hog producers who generate an estimated $400 million for the province’s economy.

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BEEFED UP RELATIONS

CANADA WILL SOON BEGIN exporting bone-in beef to Taiwan after a new deal was recently struck. The deal allows beef products under 30 months into the island and it’s good news for Canada, which has slowly but steadily been climbing out from the 2003 BSE crisis.

“Our government welcomes Taiwan’s science-based decision to expand market access for Canadian beef. Advancing agricultural trade in growing Asian markets like Taiwan is just one way our government is helping our agriculture exporters boost their competitiveness around the world,” said Gerry Ritz, minister of Agriculture and Agri-Food Canada.

In 2002, Canada exported $17.8 million worth of beef to Taiwan. Ten years later, exports to Taiwan totalled $1.4 million, a fraction of our country’s overall beef exports of $1.2 billion.
What's in Your Glovebox?

As farmers, we all have our “can’t-live-withouts,” and—no surprise—they’re often found in the glovebox. For this issue, we asked Jay Schultz, a grain farmer from Standard, AB, to open up his glovebox. Here’s what we found:

1. Sprayer fitting (in plastic bag)  
2. Gum  
3. Tape measure  
4. Glasses case  
5. Four-year-old’s Tractor Mac hat  
6. Glasses cleaner and microfibre wipe  
7. Pen with canola profile chart  
8. AWC name tag  
9. Buckley’s cough, cold and flu  
10. Nice gloves (farm gloves under the seat)  
11. Combine keys  
12. Notepad  
13. iPhone car charger  
14. Toque  
15. Change  
16. GoPro™ camera mount  
17. Lock and key

What is it?

Each issue, GrainsWest will show you a close-up view of an ag-related image and it’s up to you to correctly identify it. Email your winning answer to contests@grainswest.com for your chance to win a prize, awarded to one randomly selected contest entrant who answered correctly. Then, watch for the next issue, where we will reveal the full image and have a new one to keep you guessing.

Do you have a glovebox that you would like GrainsWest to peek inside? Or a farm image that would make readers say “What is it?” If so, send us the picture and drop us a line: info@grainswest.com

This Month’s Image

SHE SAID, THREE SAID

With more than a handful of classes to choose from, deciding what wheat to put into the ground can be a tough decision. Farmers need to constantly look at their growing conditions, soil and climate type, market potential, and if it’s needed as a crop rotation to break up pest and disease cycles.

Three Hills-area farmer and writer Sarah Weigum asked three Alberta farmers: How do you decide what type of wheat to plant?

I’m growing Hard Red Spring (HRS) wheat because it’s the best combination of marketing and agronomy for our farm. I took a December futures contract early on—wishing I’d locked in my basis as well. Due to price and movement concerns I have cut close to half my cereal acres, allowing a good portion to be priced.

Essentially, my focus has been on HRS for the past 10 years. Increased yields of Canadian Prairie Spring (CPS) and soft wheat don’t make up for the incurred price discounts. As well, with durum I have issues with getting a good grade.

CDC Go is a popular variety on irrigation and that’s what I grow; consistent high yield and grades of No. 1 or No. 2 are my main reasons.

We’re going to grow some soft white spring (SWS) wheat this year because of the higher yield and to get some diversification in wheat. It seems like everybody grows CPS now, so I’m going to try and grow something different. I talked to a guy at Permolex [ethanol plant in Red Deer] and he thought the price for SWS wheat would be around $5 per bushel. He wasn’t concerned with quality issues, as long as the starch levels were good. If we reach our yield goal of 100 bushels per acre, it should be fairly profitable.

SWS wheat is supposed to stand up a lot better so we can give it a lot more fertilizer. As for Hard Red Spring, we’re going to go with AC Stettler again this year. It seems to hold its grade well. You always get No. 1 or No. 2 with it, whereas our other wheat usually grades a No. 2 or No. 3 in this area.

Many of my neighbours have switched to CPS, but so far I’m sticking with Hard Red Spring. My biggest issue, as a small farmer, is not having a lot of storage, so I’d rather have a lower-volume and higher-value crop.

Feed grains are a tough way to try to make a living up here: we’re too far from feeders and ethanol plants. Volume doesn’t have as much of an advantage when you take freight off it. This year, I am questioning that decision.

My protein is all at 11 per cent and, because there’s not much high-protein wheat in this area, it’s hard to move. I’m seeing that some of the CPS wheat is moving faster than the low-protein HRS.

I have to max my production per acre. I hoped to do it on quality, but I may have to go the other way and do it on quantity.
Crop Marketing in 2014

THERE ARE TOUGH TIMES AHEAD, BUT IT WON’T BE ALL BAD

IN 2012, DROUGHTS, STORMS and other weather events combined to make grain, cereal and pulse production particularly challenging for farmers around the world. There was an upshot, though: those with a crop to sell had a relatively easy time doing so throughout late 2012 and much of 2013. Forward sales were easy to find, basis levels were wonderfully narrow or even, imagine, slightly positive, and profit margins were healthy for most of the major and minor crops. Many farmers were able to pick up the phone to make a sale and deliver it a week later.

Now? Not so much. Many analysts and farmers have used the word “unprecedented” to describe the yields and size of 2013’s harvest. This wasn’t just the case in Canada, either. Growing conditions last year were stellar the world over—such that Canadian farmers face a crop marketing environment that is the polar opposite of a year ago. In short: It has been very difficult to move crops, and it’s likely to remain this way for months.

Some farmers who booked contracts find their buyers asking them to delay delivery by one or even two months (read your fine print), and many of those who didn’t forward sell find themselves with very little control over the timing of their sales.

If there is a culprit we can point our fingers at, it’s a Canadian rail system that is insufficient for dealing with this year’s bumper crop. Demand is lagging behind supply, to be sure, and it’s also true that farmers complain about rail at the best of times. But the system really is bottlenecked. How badly? As of mid-February, feed mills that supply B.C.’s poultry and dairy industries are continuing to ration their supplies because they aren’t receiving the rail cars they need each week to keep up with demand. Those cars are passing them by en route to Vancouver’s port, where grain exporters and terminals are paying millions in penalties for the extra days that bulk carriers are delayed.

So, where does this leave an Alberta farmer with lots of crop left to sell? Prices are low and logistical headaches abound, but we can still find a number of silver linings to the current sales cloud.

Above-average yields mean “free” bushels to sell, which could go a long way towards retaining a profit margin on your crop. Don’t obsess over a low price per bushel, rather than overall revenue and profit margin. Don’t be stubborn about low prices—be aggressive with your sales strategy.

Demand recovery has also given Alberta’s pork and beef industries a shot in the arm after prohibitively high feed prices in 2011 and 2012.

It’s also helpful to remember that, for some Alberta mainstays including peas, wheat and canola, export demand is relatively strong; the main problems lay in transportation bottlenecks. Those who can afford to ride out the worst of Canada’s logistical challenges shouldn’t have too much trouble finding buyers on the other side. This will be of little comfort to those with cash flow issues, but even they might find some solace in the fact that some lending institutions are sympathetic to this situation and are demonstrating flexibility with regards to crop input payments.

The combination of a lower dollar, clogged rail lines, and higher prices offered in South Dakota and Montana is prompting some growers in southern Alberta to move their crop by truck south of the border, despite added complications of a different system.

One last point: Just because many grain merchants have pulled their bids until the fall doesn’t mean they won’t be buying significant quantities between now and then. As rail capacity becomes available, they will make purchases to fill it. They just don’t have any incentive to commit to purchases ahead of time.

These thoughts may help farmers make the best of a bad situation. As for the future—there’s no better case to make for doing so than our current sales environment. These are the pillars of a good marketing plan, which can greatly increase the likelihood you’ll stay in the black during a year when supply abounds and rail lines struggle.

Jonathon Driedger is a senior market analyst with Farmlink Marketing Solutions.

Prices are low and logistical headaches abound, but we can still find a number of silver linings to the current sales cloud.
Field Learning Goes Digital

AG EDUCATION CONTINUES TO BRIDGE THE DIVIDE BETWEEN OLD AND NEW SCHOOL

When you picture life on the farm, what do you see? You might think of hayfields or cattle grazing in a pasture. Perhaps images of combines and tractors with seeding implements come to mind. But what about digital field maps, robots milking cattle or farmers using tablets in the field?

Prairie farms have come a long way from the acres of land once hand-tilled and planted by settlers—agriculture today is a high-tech, multi-billion-dollar global industry. Agricultural education has changed exponentially since the early days of farming, and it’s not just the latest innovations in farm machinery that farmers need to know about. To be successful, today’s farmer must be an entrepreneur with the savvy to understand commodity markets, manage employees and negotiate relationships with financial institutions. In short, farming education needs to cover a lot more than the traditional basics.

As technology advances, so does the demand for farmers who know how to use it. Industry is increasingly asking educators to produce a more highly specialized labour force, and graduating students are finding themselves a hot commodity in the job market.

Perhaps the only thing that hasn’t changed in agriculture is the importance of keeping informed—after all, it’s the latest industry innovations that allow Prairie producers to maintain a strong foothold in the world market. In Highlights of the Alberta Economy 2012, the provincial government acknowledges agricultural and agri-food production as key to the provincial economy. And initiatives such as Campus Alberta span the province, promoting lifelong learning, research and innovation opportunities, as well as a strong emphasis on entrepreneurial skills.

As a result, education has become a blend of old and new: students still learn the basic principles of agronomy, but they also learn how new technology plays a leading role in the application of these principles. And as technology advances, so does the demand for farmers who know how to use it. Industry is increasingly asking educators to produce a more highly specialized labour force, and graduating students are finding themselves a hot commodity in the job market.

That’s not to say that modern agricultural education is only relevant to ambitious young graduates seeking a career in big-business farming. The family farm may be a century-old business model, but it is still a risky venture, requiring not only capital, but also business management skills and tech savvy. With technology advancing so rapidly, partnerships between industry and educational institutions that provide the knowledge and skills development will become more common.

Jack Payne is an agronomy instructor in the School of Agriculture at Olds College.
Person: Lorelle Selinger, Canadian barley supply chain manager, Prairie Malt Limited/Cargill Malt
Place: Prairie Malt Limited, Biggar, SK
Thing: Rolling with the punches in a wide open market
LORELLE SELINGER IS THE CANADIAN BARLEY SUPPLY CHAIN MANAGER FOR PRAIRIE MALT LIMITED (PML) AND Cargill Malt. A farm girl from Holdfast, SK, she studied agricultural economics at the University of Saskatchewan prior to working in the Biggar and Loreburn elevators for the Saskatchewan Wheat Pool. Switching gears in the late 1990s, Selinger moved to Winnipeg, MB, and traded grain for the Canadian Wheat Board. In 2012, she started her current role at PML, commuting between Winnipeg, Biggar, SK and Spiritwood, North Dakota.

Selinger is secretary of the Canadian Malting Barley Technical Centre board of directors and president of the Manitoba Master Brewers Association. She represents the Canadian malting industry on the Canadian Grain Commission’s Western Standards Committee, and was a member of the working group that established the Barley Council of Canada. She is a strong believer that a co-operative value chain is necessary for the success and advancement of the malt industry. At PML, a mid-size facility capable of processing more than 100,000 tonnes of malt annually, Selinger ensures the plant has enough quality malt for the entire year, as well as oversees the origins of Canadian barley for the Cargill plant in Spiritwood, ND. A true people person, Selinger makes certain growers are on programs that work for them and the maltster, giving brewing customers a top-notch product for their brewing needs.

GrainsWest: What got you interested in a career in agriculture?
Selinger: I grew up on a mixed farm—grain and cattle—and my dad worked for John Deere. When I first got to university, I thought I would be into animal nutrition and veterinary medicine, but quickly learned my interest was on the business side of agriculture. I ended up in barley because an opportunity came up to be the Canadian Wheat Board barley trader, and I worked there until this job at Cargill Malt came up. I liked trading and the excitement of negotiation, but at the same time I’m a country girl and always enjoyed working with farmers.

GW: How are the Canadian and American malt markets different?
Selinger: Overall, they are very similar. They are driven by the same kind of demand, though the U.S. has always been an open market environment. More production is contract-grown in the U.S., though Canada is moving that way, and nearly half of the barley acres in the U.S. are under irrigation so variability is much lower.

GW: What is the malting business like right now?
Selinger: Overall demand for malt has been steady over the past few years. Demand in North America for mainstream beers has remained consistent or slightly declined, but demand for craft beers has grown, so it’s kind of balanced out for us. Barley acres have gone down, which is a concern, but we have a lot of very good growers who continue to produce year after year. There is still enough barley grown, but it’s more difficult in years with quality concerns. We are struggling a bit right now with capacity and the handling system, but so is the rest of the industry.

GW: You mentioned the craft brewing industry has grown in recent years. Has this had an impact on PML?
Selinger: It definitely has. Typically, craft beers use higher malt content, so it’s positive in that sense and it provides another market option. Craft brewers are looking for smaller volumes, so they may be more flexible, but they still have certain types of beer they want to make so they have certain needs. A balanced portfolio of big and small customers that want certain specs is beneficial for us as it helps balance risk.

GW: What’s the biggest challenge you face?
Selinger: Personally, it’s the ever-changing nature of the industry. Barley prices used to be established and provided to us as buyers by the Canadian Wheat Board. Now we have to set the price for growers, and without an established futures market it has been a learning curve in how to establish those prices. There has been
consolidation of a lot of the major grain players, and changes in the agronomy and crops that are produced in the growing region. Ten years ago we didn’t have soybeans to compete with, now we do. You have to evolve to what’s current.

For the malt houses, it’s getting consistent-quality barley because every year there is something different and you have to change your whole process to adjust to that. Malting uses lots of water and power, so fluctuations in those costs also have an effect on us.

**GW:** Your job focuses on the supply chain, interacting with both growers and brewers—how do you see your role in the industry now and in the future?

**Selinger:** The big thing we’ll see for my role is that it’s going to become more common. There is no longer segregation between the barley people and the malt people—it’s become a team effort. My job has evolved into exactly that: I work not just with barley producers but with customers to produce the malt they need. We’ve gone back to a grassroots type of thing where it’s really important to have full traceability across the production system.

It’s fair to say PML has a true belief that barley isn’t a commodity. It’s a speciality product and needs to be treated as such. There is a need to be involved in the whole industry to understand that and move it in that direction.

**GW:** What is it like developing and maintaining relationships with local malt growers?

**Selinger:** I have a barley supply-chain team whose objective is to get out and introduce companies to growers. We meet with growers to ensure all their needs are met, and provide agronomic and varietal information on what to grow. Personally, I provide information on price and the look of markets, and work with growers to ensure their contracts meet their needs and our needs. We attend farm shows across the Prairies to meet new farmers.

**GW:** What sets PML apart from other maltsters?

**Selinger:** Our attention to detail. We are a very quality-conscious malt house; we have always promoted good practices on the farm and full traceability of where products come from. We have the ability to have end-use customers meet directly with growers, to visit the farms and see the equipment. The key to our success is strong relationships with both growers and end-use customers. Obviously we have a lot of competition, but we work very hard to have personal relationships and understand client needs beyond just a commodity.

**GW:** What do you enjoy most about working in the industry?

**Selinger:** The people. I’ve had the opportunity to travel all over the world, meeting different people and experiencing different cultures, and I realize we all have something in common—we all need agricultural commodities.
Mobile Peace of Mind

TECHNOLOGICAL EQUALITY IS DAWNING AND THERE’S NO SUCH THING AS BAD SMARTPHONES OR TABLETS

There was a time when your smartphone said something about the type of person you are. The stereotypes labelled BlackBerry people as serious business types who valued email security over frivolous entertainment. iPhone users just wanted to have fun with music, videos and web surfing. The Android owner was a rebel who rebuffed the “Big Two” and sought to support an upstart and more open mobile operating system.

These classifications now seem silly, since all smartphones now offer comparable features, including processing speeds, cameras, communication tools and GPS functionality. The hyper-competitive smartphone industry creates enormous pressure to match the other guys’ features and take them a notch higher. Android sets the bar because there are multiple manufacturers competing with each other—new phones and tablets are launched constantly, and they are pushing each other by improving existing features and adding new ones. Apple, BlackBerry and Microsoft are keeping pace—they have no choice.

When farmers ask me what they should buy, I tell them it depends on their work and personal life, and how mobile they are. I do almost anything to avoid office time and I travel a fair amount during winter months. For me, the right hardware mix is an up-to-date smartphone (BlackBerry Q10), a 4G-enabled tablet (iPad) and a two-in-one PC laptop/tablet hybrid (Lenovo IdeaPad Yoga). It works in standard mode with a classic keyboard and screen, but the screen folds 180 degrees and it looks and performs like a tablet with a touch screen. Never say never, but I think I’ve bought my last desktop computer.

App availability is a consideration. The dominance of Apple and Android assures that most apps will be built for both platforms. An increasing number of Android apps can be used on newer BlackBerry 10s, but there are fewer apps built specifically for BlackBerry. Until Windows devices garner more market share, it is difficult for app developers to justify developing versions for Windows phones.

If, however, you rely heavily on Microsoft Windows desktop software, there is an advantage to having a Windows smartphone, tablet (Surface Pro) and laptop that are fully compatible with record-keeping and accounting software.

For me, smartphone selection is more about battery life, keyboard (real or virtual), screen size, durability and ease of use. I stayed with BlackBerry because I wanted the real keyboard, and the Q10 has a beauty. It also offers impressive battery life—I can go almost two days between charges. It’s a great phone, but I’m looking at Android for my next purchase due to a larger app selection and lower price.

Among tablets, the iPad is a proven performer. I have both a standard size iPad and an iPad mini, and, for my purposes, I prefer the compact mini as it is easier to carry when moving between tractor, truck and shop. It will fit in some pockets, and I can hold it in two hands and type with my thumbs—which is harder to do with the big iPad.

There are numerous makes, models and sizes for Android-compatible tablets. Do your homework and find the one that makes the most sense. There are dozens of Android tablets available today that did not exist a year ago. The Google Nexus and Samsung Galaxy tablets have been leaders in this market.

I’m seeing more and more ag equipment companies building apps that take advantage of the tablet’s screen size, wireless ability and processing power. Many of the monitors you currently have cluttering up your tractor cab might be replaced by a tablet.

It makes sense to buy 4G-enabled tablets that can use your cellular network to access the Internet when you’re on the go. If you are comfortable with using a wireless network or tethering your tablet to your cellphone, that’s fine, you don’t have to buy a separate data plan for the tablet. But if you decide an independent and fully mobile tablet is necessary, you have the option.

Don’t agonize over these decisions. It is unlikely that you will use the device for more than two or three years at most. It’s more about how you use the tool than its brand name.

Peter Gredig is a corn, soybean and wheat producer near St. Thomas, ON. He is also a partner in AgNition Inc., a Guelph-based mobile development company focused on building agriculture apps and solutions.
OWN IN FEEDLOT ALLEY, CORN IS SOLID. It produces well and it feeds a lot of cattle. Inevitably, the question comes up, “Could there be another opportunity—the opportunity to grow far more acres using new grain corn varieties developed for the western Prairies?”

“We are definitely dabbling in the bottom of the corn maturity heat units just to make grain. If we get a real good year, like last year, that will help out,” said Adrian Moens, seed supplier and owner of AJM Seeds in Coalhurst.

Moens has been selling corn for almost 18 years. Today, he’s the Pioneer Hi-Bred sales representative for an area along Highway 3 between Picture Butte and Coaldale. His roots in the industry stretch north to Edmonton.

In Alberta’s fodder business, barley is still No. 1, but corn has become a challenger as a silage source. Some of Moens’ customers “grow 100 per cent corn because they get more tonnes per acre,” he explained. “Today, there are more and more feedlots going to corn. It’s been proven in this area.”

According to Moens, corn companies started carving a niche into the feed cereals market in Alberta about 20 years ago when Roundup Ready lines were introduced. At first, it had to do with rotation, providing an alternative to barley. Growers could clean up their fields and get rid of diseases by moving to silage corn.

Today, silage corn is grown at Red Deer and Lacombe as an alternative to barley or feed wheat. It’s very popular with dairies.

“Barley traditionally produces 10 to 11 tonnes per acre, where corn averages 16 to 18 tonnes per acre, and it’s a better feed,” Moens said.

Silage, however, is only the tip of the iceberg when it comes to corn’s potential. In the warmer and wetter Corn Belt of southwestern Ontario and the American Midwest, corn is king. Millions of acres of corn are planted annually for feed grain, for ethanol and for human consumption.

According to Statistics Canada, the four western provinces planted 635,000 acres of grain and fodder corn in 2013, in total. That was equivalent to about 1.3 percent of the wheat and canola acres.

That’s admittedly small in the big picture, and even smaller if the fodder corn numbers are removed. Only two Western
provinces reported grain corn seeded acres in 2013: Manitoba at 380,000 and Alberta at 25,000.

However, while fodder corn planting was mostly level from 2008 through 2013 with levels ranging between 45,000 and 90,000, the planted acres of grain corn in Manitoba doubled in that time from 190,000 to 380,000, and experimentation with new lines was definitely underway in Saskatchewan and Alberta.

Always, grain corn has been heat-challenged in Western Canada. That began to change about 15 years ago thanks to earlier-maturing varieties with consistent yields.

Today, the grain corn blip is widely manifest and growing in southern Manitoba. Grain corn became a 200,000-acre crop in Manitoba several years ago. Moens, and others, believe it has potential for much more than a half-million acres if the market value is attractive.

Similarly, in perhaps the past five years, the earliest hybrids have been appearing in the balmier areas of Saskatchewan and Alberta.

“My counterpart at Taber is definitely growing big time in grain corn acres, but it’s less of a risk at Taber and north or east of there,” explained Moens. “You’re looking at a difference of 200 to 250 heat units between silage and grain.”

Moens said, given time, things could shift toward a significant number of corn acres in the Alberta crop spectrum.

“If we can get a crop that matures earlier and yields more consistently, that will help with the expansion to grain corn in our area,” he said. “They are coming out with lower-heat-unit corn. As the corn gets to be earlier, you’ll see grain corn acres replacing cereal acres in southeast Alberta, and even in my area.”

COMPANY SUPPORT
Monsanto and DuPont Pioneer, two of the world’s most influential seed companies, are investing in the potential of corn. Looking 10 to 15 years ahead, the seed companies see a potential shift on the Prairies into eight to 10 million acres of corn and a new “sister crop”—soybeans.

The industry giants already support canola and soybean production. Most of the crop shift, in their view, will come out of wheat or barley production as nearby yields of corn and soybeans become consistently profitable.

“About a year ago, we started asking ourselves a new question: If you invest in corn in this region, how big could the acres be?” said Monsanto’s Canadian trait launch lead Dan Wright. “By April 1, 2013, we committed to a $100-million investment in corn in Western Canada over 10 years.”

Corn genetics and the growers are both targeted in Monsanto’s Canada Corn Expansion Project.

“For us, there are two big things—one investment in breeding, and another in working with dealers and growers,” said Wright. “We want to provide them with technical knowledge so there’s less risk when they want to introduce corn to their rotations.”

On the research end, Monsanto has recently added a corn testing station near Regina. It plans to start a third site “around or south of Calgary” in 2015, said Wright.

The corn trend is already growing in North Dakota.

“Corn and soybeans displaced wheat and barley and other cereals in North Dakota,” Wright said. “Ultimately, it’s up to the growers. We’ll provide a new choice. They will choose what they think is most profitable. We think our investment in corn and soybeans will provide these growers with a very competitive new crop.”

Pioneer Hi-Bred, a DuPont business and supplier of Moens’ seed, has been at work with research to support early-maturing corn and soybeans for many years. Now, it is ramping up corn investment, especially in Alberta. The company opened a 6,600-square-foot office in Saskatoon in May 2013. In October, it finished a $2-million greenhouse expansion in Carman, Manitoba, where it now has a corn breeder.

Greg Stokke, DuPont Pioneer business director for Western Canada, said a third
facility opened in Edmonton in 2012, and research in the Lethbridge region is expected to begin this spring.

“We’re starting to produce corn hybrids for the Alberta market,” Stokke said. “It’s an early-maturity program at both locations and, in an area like Lethbridge, you’re naturally selecting for drought resistance. In the last two years, we have made investments in all our facilities in Western Canada. We’re getting ready to put corn and soybean programs in all these facilities.”

Stokke’s opinion is that corn acres will first start replacing feed barley and feed wheat acres on the western Prairies. Several ethanol plants, in addition to ranches, feedlots and dairy livestock, will provide a ready market for Alberta and Saskatchewan grain corn.

“The opportunity for feed corn is really good. As new, higher-yielding hybrids come along, and as we put more Pioneer people on the ground helping people to grow more corn, I see the adoption leading to more acres,” Stokke said.

A time will come, he suggested, when “I see us growing grain corn for human consumption just like we do wheat or barley, mainly for export. In time, we will be a net exporter of corn.”

MARKET ANALYSIS
The commodity market has a slightly different perspective, according to Chris Ferris, Canada senior grains analyst for Informa Economics in Winnipeg.

Informa provides advisory letters to governments, companies, organizations and individual investors, covering corn, soybeans and anything to do with the grains and oilseed complex. It recently did a study for the Manitoba Corn Growers Association.

“I really see soybeans as the crop that will take off quicker,” Ferris said. “It’s a cheap crop to put in. It can handle moisture shocks that some other crops can’t. And, soybeans have already made substantial inroads against canola in southeastern Manitoba.”

Soybeans are a newer crop, but they are already shooting past corn.

Manitoba soybean acres are rapidly increasing—the 2013 planting exceeded one million acres. Soybean insurance was introduced for Saskatchewan in 2012, and Saskatchewan soybean crops were in the range of 150,000 to 200,000 acres in 2013. Now, a few growers in southeastern Alberta are venturing into trial crops of soybeans for the first time.

Corn has great long-term potential, but there’s a reason that soybeans are leading the way into new acres right now.

“Once you’ve got good and consistent yields for corn, and a reasonable price, you can make good money and acres will expand,” said Ferris. “That applies to soybeans, too, but the cost of production per acre is lower for soybeans.”

So, could it do more? Yes, corn will eventually become a serious alternative crop widely grown in Western Canada—but for now it is a king-in-waiting, and it isn’t waiting alone.

Developing the earlier corn hybrids will make a big difference in market and farm attitudes to corn’s potential, Ferris said.

“If seed companies can bump up yields to about 120-plus bushels per acre, you’ll see that growth rate starting to climb pretty darn quick. In Manitoba, we’re starting to see 120-plus bushels per acre of corn consistently. Alberta is not growing a whole lot yet.”
If you were asked to picture a Canadian farmer selling grain, you might imagine a truck, loaded up at the farm, headed for the local elevator.

That mental image remained more or less accurate until a couple of years ago—specifically, until Aug. 1, 2012, when the Canadian Wheat Board lost its role as the sole buyer of wheat and barley in Canada.

Now, Canadian farmers have to decide not only to whom they’ll sell their grain, but also when they’ll sell it, said independent agricultural consultant Russ Crawford.

“A farmer has multiple choices to make at harvest,” said Crawford. “Do I store the grain in a bin on the farm? Do I take it to the elevator? Is there a better deal going directly to a processor, such as a malting company or a canola crusher? Do I go to a domestic end-user, somebody who’s going to consume the grain—which, in the case of barley, would be a feedlot?”

If grain marketing were a board game, the players could push their pieces along any number of different paths. They could even go down one path now, and a different one later.

In 2012, the first harvest year under the new rules, all the players seemed to come out ahead, no matter which paths they chose. Grain prices held high, and the transportation system had plenty of capacity to handle the harvest.

“It was like the sun, moon and stars all lined up to make for a perfect introduction to the new marketing system,” said Mark Hemmes, whose Quorum Corporation monitors Canada’s grain handling and transportation system on behalf of the federal government.

Hemmes said most farmers did well—even those who made a few mistakes along the way.

“At the end of the year, we had a 4.9-million-tonne carryout, which is very low. That says we moved a lot of grain, and it was all at really good prices.”

In year two, however, the game became much trickier—largely because of 2013’s record-breaking harvest. Farmers produced more grain than the railways could handle, said Hemmes.

“The capacity the railways offered was sufficient to move what was there last year. This year, it’s not even close, because it’s such a big crop.”

In addition to the size of the crop, weather issues made it nearly impossible for the railways to gear up grain transportation.

“In mid-September to the end of November, CN performed very well,” said Mark Hallman, CN’s director of communications and public affairs. “Then the extreme cold set in during early December and that has been a major factor for us since that time.”

Hallman said this winter is the second coldest on record, the chilliest since 1949, affecting major Prairie routes. Cold air forces CN to run shorter trains while more cars sit in yards, reducing overall capacity for grain and other commodities.

“When the cold abates, we should be able to push through 5,300 hopper cars, which we were achieving during October and November of both 2012 and 2013,” said Hallman. “When the weather breaks, we’ll be aggressively back there.”

The situation left many producers holding tonnes of grain in on-farm storage, watching helplessly as market prices spiralled downward.

“Last year, we had this really strong market, where prices held high,” Hemmes said. “This year, we started high, back in the spring, and it’s just been falling ever since.”

Farmers who haven’t already contracted buyers for that grain now find themselves in a bind.

“They’re worried because they don’t have cash flow, and they can’t deliver because the capacity isn’t there in the system.”

In short, many farmers find themselves struggling to play a game they never signed up for.

“Guys are wandering around Saskatoon at the Crop Production Week, trying to figure out the smart thing to plant,” explained Crawford. “Where are the premiums going to be, and where are the shipping opportunities going to be? They didn’t have to ask those questions a year or more ago.”

Increasingly, those farmers are seeking outside advice, said Crawford.

“You see a surge in marketing advisory services now—companies saying, ‘I’ll help you market your grain. I’ll provide you with market insights.’ Farmers are signing up for these because they need help.”

A boost in railway capacity would solve some of the challenges facing grain farmers. But that’s no easy fix, said Hemmes.

“It’s not as simple as saying, ‘Well, let’s go and get a bunch of rail cars and put them in place.’ You need the resources to move them—locomotives and crews.”

Crawford remains optimistic that farmers will develop the skills they need as the system continues to evolve.

“They need to understand how they can capture opportunity,” he said. “How can I make this an opportunity for me rather than a negative influence?”
Grain transportation in Canada is a whole new game thanks to marketing freedom. Farmers looking to move their grain currently face more decisions (and, some say, more opportunities) than ever before. So—pick a path and roll your dice!

**ON-FARM STORAGE**

**STORE IT NOW, SELL IT LATER**

On-farm storage plays a huge role in the current grain market. By selling grain for deferred delivery or on the futures market, farmers can often capture a significant premium over the harvest delivery price. It can be possible that the price difference is enough to compensate farmers for the cost of building storage plus the cost of inventory financing.

**TIME IN THE SYSTEM**

45 DAYS

Average days spent in the transport system, 2012–13 Q1 (26 in elevator storage + 5 in railway transit + 14 in terminal storage).

**BUMPER CROP**

23,000  
Estimated number of grain farmers in Western Canada.

56,900,000 metric tonnes  
Western Canada’s crop production, 2012 crop year.

75,800,000 metric tonnes  
Western Canada’s crop production, 2013 crop year.

33 per cent  
Crop increase in 2013 compared to 2012.

**FOOD FOR THOUGHT**

With more than 3.5 million people living in Alberta, consumers can purchase food in one of our province’s 1,100-plus grocery stores. Add in Saskatchewan and Manitoba for another 1,450.
CONTRACTS AND DELIVERY

Long gone are the days when a farmer simply arrived at the elevator with a load, without the manager knowing in advance what type or quality to expect. Today, virtually all grain is contracted by the elevator and delivered on call. When a manager is unable to ship grain out because of a shortage of rail capacity, the elevator may stop contracting for delivery.

MAKING THE GRADE

Generally, the farmer provides a crop sample to the elevator manager prior to delivery so they both know what quality to expect. At delivery, a sample is taken by an automated system, transported to an on-site lab and graded for quality—moisture, protein, contaminants, etc. Once the basic quality is determined, the load is accepted and moved to general storage.

FROM TINY TO MASSIVE

Today, a typical inland terminal’s capacity is 25,000–40,000 tonnes.

VANISHING SENTINELS

5,226 Grain elevators in 1962
1,004 Grain elevators in 1999
386 Grain elevators in 2012

VALUE ADDED

We have all types of processors in Canada. Wheat, barley, pulses, canola, rye, flax, sunflowers and hemp are processed to be crushed for flours, oils and other end uses.

SHIPPING OUT

Most of Alberta’s grain is exported from Canada’s west coast. It generally takes eight to 10 hours to unload a train full of grain at a port terminal.

Vancouver’s port has nine berths at seven terminals. Prince Rupert has one berth at one terminal.

Vancouver has 14 anchorages in English Bay. When vessel traffic exceeds that number, some vessels are sent to anchorages along Vancouver Island.

Demurrage costs (fee paid to a vessel’s owner when a contracted cargo is not loaded at the agreed time) can range from $12,000–$18,000 per day.

WEB OF STEEL

1885
Canada’s railway was completed on Nov. 7, when the last spike was driven.

2,263,200 km²
The approximate area served by Canada’s railway system.

28,694 km
Total railway network length in Western Canada.

CN transports a variety of crops, including oilseeds, which represents the biggest portion of its storage at 32 per cent.
THE FOUND GENERATION
MEET THE YOUNG GUNS OF CANADIAN AGRICULTURE

BY IAN DOIG • PHOTOGRAPHY BY CURTIS COMEAU & SCOTT GOODWILL

Here’s a new sense of optimism in farming. Following decades of attrition, in which coming of age often meant abandoning the family farm, young farmers are leading much-needed industry renewal.

In recent decades, the ag community discouraged farm kids from taking up the business. Accepted wisdom held that farming was a dying proposition. Negative reinforcement sent the industry’s lost generation off to careers in the city and Alberta’s oilpatch.

At first glance, the numbers support the ingrained pessimism. The Statistics Canada 2011 Census of Agriculture found that the number of Canadian farms decreased, while the average age of farmers increased between 1991 and 2011. Just 8.2 per cent of the country’s farm operators were under 35, compared to nearly 17 per cent in the balance of the self-employed labour force.

However, closer examination hints at industry renewal rather than implosion. Both the average age of farmers and farm size may skew high, as older farmers shrink their operations rather than retire. As well, the age breakdown of the farm families surveyed in 2011 was surprisingly similar to that of the country’s total population.

The total number of Canadian farms fell by a whopping 10 per cent from 2006 to 2011, but this likely reflects practical changes to the industry. The predominant trend among those surveyed was to utilize the economies of scale that come with expansion, or to shrink holdings and produce more lucrative specialty crops. So despite the improving viability of farm operations, the StatsCan numbers may give the impression the sector is somehow worse off than it really is.

The generational drain certainly appears to be reversing as farm youth defy agriculture’s pervasive negativity. Many of today’s active producers in their 20s, 30s and 40s are cultivating a new attitude, and their involvement in industry policy groups is changing the face of agriculture.

While today’s young guns acknowledge the hard-earned wisdom of their elders, they’re distinctly more positive. The young farmers who are the subjects of this story are educated and ambitious problem solvers and organizers. Leaders such as Cherilyn Nagel of Mossbank, SK, past-president of the Western Canadian Wheat Growers Association, are eager communicators, knowledge sharers and adopters of new technology. They’ve seen what research and producer-led associations can do to renew the industry’s confidence and financial bottom line. They are actively renewing a belief in close family ties, strong work ethic and agriculture as a fulfilling and rewarding career. They’ve struggled with the practical and spiritual pressures of taking up the mantle of the family farm on their own terms, working to reshape the farm economy in their favour.

Energized by the opportunities and challenges of the post-Canadian Wheat Board monopoly era, they echo their predecessors’ cautions. But in raising their own kids, they’re passing on their determination, celebrating the positive in agriculture and encouraging the next generation to engage in farm life.

“Our generation is much more likely to share with our neighbour what our goals are, what our financial statements look like, and we’re seeking out other people who are excited about the industry,” said Nagel. “We just don’t seem to have time for the doom and gloom.”

A new generation of tough and informed ag leaders has arrived. The destiny of the industry has been placed in their hands, and they’re up for the challenge.
Farming is in 33-year-old Kent Erickson’s blood. Like many rural kids he felt obliged to take up the family business, but he wasn’t sure it was for him. Ironically, he made his commitment to agriculture in the city.

Deciding against pursuing crop science, he enrolled in the University of Alberta’s economics program. “I’m a numbers guy,” he said. He did, however, take agriculture electives and ensconce himself in FarmHouse, an agricultural fraternity. Maintaining communal living quarters with fellow students, he served two years as its president. The frat’s fellowship and incubator-like atmosphere made a lasting impact on Erickson and many other farm professionals now reshaping the industry.

“It’s a breeding ground,” he said, pointing out that a large number of FarmTech conference attendees are Farm House alumni.

While in school, Erickson married Tausha Holt, his high school sweetheart. The couple now has four children and lives on the Erickson family’s 1908 farmstead near the town of Irma.

“I realized, talking to my parents and seeing how I grew up on the farm, I wanted to have a large family, and farming is an excellent way to raise kids and have time with them,” he said.

He credits his father’s passion for farming and willingness to learn as the anchors that kept him in agriculture. But his commitment to farm life was the exception among his peers.

“Farmers have a tendency to express all the negatives in farming and agriculture, not the positives,” he said. “In my age group, a lot of families were really discouraging their kids from going to the farm.”

Erickson notes the generational tide has turned farm-positive.

“In the 10 years I’ve been involved in FarmTech, I’ve noticed the change in demographics. I see a lot of young people coming to the farms, young couples coming to these conferences. People are realizing farming is a good way of life. It’s hard work, but there are a lot of rewards.”

Erickson jumped at the chance to direct the Alberta Winter Wheat Commission in 2006, determined to counter the complaining he heard in rural coffee shops.

“I thought, ‘Maybe I can be a part of making small changes.’ At the time, I didn’t realize how much these boards could do. I’ve found these commissions have the ability to mould policy and make changes in the ag community. They have a lot of clout.”

Rick Istead, the Alberta Wheat Commission’s former general manager, calls Erickson a visionary, big-picture thinker.

“We’ve got a lot of young people starting to make their mark in the industry,” he said. “Kent is one of those people, but we need more of him.”

Erickson cites Istead’s positive mentorship in helping him develop the leadership skills necessary to take on the next challenging step in his agricultural career. Erickson was elected chair of the Alberta Wheat Commission in 2012 when the province’s soft and winter wheat commissions merged.

“We have set up an organizational structure that’s going to work well for producers,” he said. “I want to help make sure the commission is one of the leading organizations to mould change.”

For example, he cites financial support for long-term variety development as critical.

“Government, consumers and farmers are going to miss out if we don’t get sustained funding in cereal breeding,” Erickson said.

Also, though public perception of what constitutes good food isn’t always accurate, with his characteristic positivity, he said farmers should embrace the public attention agriculture is receiving.

“Consumers can dictate the food they want, whether it’s right or wrong. Everybody wants organic food and gluten-free. Consumers are looking at where their food is coming from for both good and bad reasons, but agriculture has been given the spotlight.”

Here, he sees an opportunity for education.

“Farming practices in the last 15 years have hugely benefited consumers and the environment—GPS efficiencies and reduced use of chemicals. We need to be able to tell people that.”
THE FOUNDATION GENERATION
One of agriculture’s most visible young faces, Cherilyn Nagel has taken farming public, narrating CropLife Canada videos promoting farm technology. Nagel, her husband David, and their two young daughters have also appeared with celebrity chef Michael Smith in a video love letter to lentils, and Nagel promotes positive ag stories as a participant in Farm Credit Canada’s Agriculture More Than Ever campaign.

Though an active industry spokesperson, much of her work has been behind the scenes. Just 34, Nagel has served on ag boards for over a decade. Past interim chair of the Saskatchewan Wheat Development Commission (SWDC), she has also served as director and past president of the Western Canadian Wheat Growers Association (WCWGA) and is an Agriculture Development Fund director.

“It’s her enthusiasm that impresses people,” said Blair Rutter, executive director of the WCWGA. She, in turn, credits him with helping her navigate the industry, encouraging her to develop strong principles upon which to build policy positions. For example, she is a firm advocate of transparency and accountability in the check-off process.

Nagel has just handed the reins of the SWDC to its newly elected board. The new producer-led body administers grain check-offs for Saskatchewan’s wheat farmers. As interim chair, Nagel was the natural public face of the fledgling body, fielding media and producer inquiries. She delivered a strong sales pitch for the application of producer check-off dollars to variety registration, agronomic research and market development.

“Producers know that money is coming back to us tenfold, fortyfold, a hundredfold in some studies,” she said.

She admits to having been a research skeptic.

“I went in thinking I was going to shut some of these things down. It took being on these boards to appreciate what basic research was doing.”

One might say that Nagel’s life is characterized by a 180-degree transformation. Now an industry leader, her re-entry into farming came about in an unlikely manner.

“I’m a first-generation farmer, but I had absolutely no interest in farming through high school,” she said.

Born in Mossbank, SK, where she now lives, she left the family farm to study hospitality and tourism marketing. After college, she got her dream job as a dance instructor in the Turks and Caicos Islands.

“It was on the beaches of Turks and Caicos that I started to appreciate where I’d grown up and the lifestyle that I had,” she said. In teaching country line dancing to tourists, she would tell them about her rural upbringing. “Telling that story, I realized what it was I had back home.”

Returning to Saskatchewan, she was disappointed by the gloominess of the ag sector. Shocked by her return, her parents nonetheless encouraged her to enter farm life, and her friend Alanna Koch, now Saskatchewan’s deputy minister of agriculture, suggested she attend Olds College.

Reuniting with her high school sweetheart and future husband, she embarked on a diploma in agriculture business with a finance major, determined to find a place for herself in farming. She thrived in the college’s open-minded environment.

“I took a lot of cool welding classes, and it was [in school] that I started to get involved in ag policy.”

Headstrong, with a love of argument, she gravitated toward strong, policy-minded peers.

“They showed me I could really take a position,” she explained. “My husband was back home farming, making the best decisions he could make, but I could see the government was making decisions for him that weren’t in his best interest. I got a bit angry about that, and decided that was how I could contribute to farming.”

A decade of policy work later, she remains a tireless advocate of all that’s positive in farming, and the constructive optimism she exudes has taken root in the industry.

“It’s actually come true,” she said. “Agriculture’s made such strong strides. This is a great industry to be in.”

The Nagels are now raising their children on the farm. The kids happily help their mother deliver meals to the field and ride along on the tractor with dad.

“The kids are just as involved in farming as they could be,” she said. “That makes me feel really good.”
THE FOUNDATION
GENERATION
The towering work ethic of former Prairie farm boys is legendary in the country’s corporate boardrooms, but the brain drain of agriculture’s best and brightest emerging leaders has slowed in recent years. Times are changing, and western Canadian agriculture is increasingly harnessing the power and ambition of its young minds.

Matt Sawyer, 42, exemplifies the powerful motivation of this generation. A grain and oilseed producer who raises Black Angus cattle, he works the family farm near the town of Acme. He is also Alberta Barley chairman, a WCWGA director and vice-president of Grain Growers of Canada.

He reminisces about backbreaking farm labour as fondly as if it were a European backpacking trip. While studying agricultural production at Olds College, Sawyer packed live chickens into semi-trailers at facilities across Alberta and into the United States. “We’d pack upwards of 35,000 birds a night,” he recalls. His philosophy on the subject is simple: “I’ve always enjoyed hard work. You know, if you’re not working, you might as well work, right? That job taught me about work ethic.” It also paid for his education and his first herd of cows.

Graduating in 1993, Sawyer took on feedlot work as he searched for direction in his farm career. He found a mentor in Doug Miller.

Just a few years older, Miller farms grain and cattle a few kilometres from Sawyer. “My grandpa always said, you pick somebody that’s doing a good job and you kinda go with it,” explained Sawyer. “And this guy was always doing a good job. He was a good farmer, a good family man, and I respected that.” The two became great friends, and when Miller became an Alberta Barley director, Sawyer paid close attention.

“I was interested in learning, and it was exciting,” he said. “I certainly learned you do need to have farmers’ voices in there to help shape your industry and help move things in the right direction. Politicians and policy makers, whether it’s provincial or federal, they look to accredited agriculture groups to help them make decisions.”

“Matt’s pretty sharp,” said Miller. Soaking up ag policy like a sponge, Sawyer stepped up when Miller’s term ended.

“He had a knack for it,” said Miller, who ascribes much of his friend’s success in the ag-sphere to charisma. “Matt is very influential because of his personality. He’s very well respected. People like being around him. When he steps down as chairman of Alberta Barley next year, he’s going to be missed.”

Under Sawyer’s leadership, the commission has indeed been very productive. In 2013 alone, it worked to build barley’s profile and boost communication with farmers, in part through a rebranding initiative that saw the launch of two barley-focused websites. Sawyer was also influential in the creation of the Barley Council of Canada.

“We were the group that spearheaded it and put a lot of funding behind it, because we realized the importance of having a national voice for barley farmers—a voice that unites the entire value chain on the barley side,” said Sawyer. These and other initiatives, such as the creation of GrainsWest magazine, reflect the hunger for communication and information sharing that really characterize contemporary farming.

Sawyer and his wife Tara practise what they preach. Together, they received the 2011 Outstanding Young Farmers of Alberta Award. Aptly, the award’s national governing body presents the honour to producers for their farm practices and achievements, as well as community contribution. While he balances fieldwork with commission responsibilities, she does the books, acts as the general leader of the Swalwell 4-H Beef Club, feeds the hired help and together they host 4-H meetings and raise three young children.

The award illustrates Sawyer’s hard-earned understanding of the agriculture industry. As a man who finds fulfilment in hard work, this suits him fine.

“It’s exciting. The environment is always changing. There are always issues that have to be dealt with,” he said. “You want to make sure that you’re always moving your industry forward. Farmers’ opinions matter, and it’s important they’re represented. And that’s what I’m excited about.”
THE FOUNDATION
GENERATION
Worldliness is not a quality historically ascribed to farmers, but “worldly” well-describes today’s young farmers. Informed and connected, many contemporary farm leaders have worked and studied outside their field (no pun intended). Additionally, the Internet and social media platforms are as much a part of rural life as life in the city, allowing farmers to share their experiences with regional and international colleagues more than ever.

Levi Wood, president of the WCWGA, is a man of his generation. He spoke with GrainsWest having just returned to his grain and oilseed farm near Pense, SK, after attending the annual CropSphere agricultural conference in Saskatoon. He praised the conference as a place to discuss issues, compare notes on productivity, socialize in person with farm colleagues and simply take the pulse of the industry.

He said he believes the prevalence of social connectivity among young farmers drives attendance at events such as CropSphere, with its roster of informational sessions.

“Producers, especially younger ones, are looking at agriculture as a business, and they understand the interconnectivity not just within their own region or province, but also nationally and internationally. Getting a good understanding of where we fit in globally is becoming more important, especially when it comes to making marketing decisions, making crop rotation choices and all those kinds of things.”

Wood’s own journey off the family farm and back to agriculture was a roundabout one. Completing a bachelor of commerce in finance and marketing from the University of Saskatchewan, he worked in currency trading, completed his master of business administration at UBC and spent six months studying in Hong Kong. Though he had no interest in farming after high school, once his university education was complete, he was drawn back by a renewed optimism in the industry that he said is driven in part by young producers.

Gerrid Gust, a young farmer in Davidson, SK, and WCWGA board chair, approached Wood to join the organization. Wood said Gust’s encouragement and mentorship has shaped his grasp of ag issues, as well as his leadership style.

Gust countered that Wood exemplifies farming’s skilled new breed.

“Levi’s experiences add value and make you look at things in a completely different manner than you would have before,” he said. “People coming into ag policy now have all kinds of experience in everything from banking to retail to agronomy. It’s people who’ve really had to work for what they’ve got, and made a conscious decision to come back to the farm. It really makes it exciting.”

Elected a director of the WCWGA in 2011, Wood was named president in 2013. As an industry association populated with like-minded young farmers bent on moving the industry forward through the promotion of open markets and good business practices, Wood said its ambitions are close to his own.

“These things continue to make agriculture an attractive industry for people,” he said, “and I think that’s really kind of the key.”

His ambitions for the organization are both local and global in scope. Farmer outreach will increase, for example. He also said the elimination of the Canadian Wheat Board monopoly and its umbrella over the grain industry value chain has left parts of that chain—such as grain transportation and variety registration—in need of attention.

Last year, he returned to Asia on a joint trade mission with the New West Partnership, whose member provinces include British Columbia, Alberta and Saskatchewan.

“It really opened my eyes to Canada’s position internationally as a grain supplier,” he said.

The trip also highlighted the ferocity of Canada’s international agricultural competitors, and the need for the country to boost its own competitiveness, as well as access to foreign markets and demand for Canadian crops.

“Realistically, that translates across all industries we use, whether it’s potash or wood or wheat. As a country we need to really, really be focusing on our international market.”
REGULATORS, MOUNT UP

PROPER MANAGEMENT IS THE KEY TO PLANT GROWTH REGULATOR SUCCESS

P LANT GROWTH REGULATORS (PGRs) may be the next big wave of crop management tools helping farmers to increase cereal crop yields and profitability, but the products that have been widely used in Europe and other parts of the world for decades still have to earn their stripes in Canada.

It’s not that they don’t work to reduce and strengthen crop stature and therefore help to reduce lodging. It’s a question of whether the growing conditions here are suitable, whether crop management is up to the rigours of the specific timing for application, and whether regulations and attitudes need to change to allow farmers better access to the products.

Bayer CropScience has had Ethrel on the market for some time, and BASF has a product called Cycocel Extra. Both are more widely used in the horticultural industry, although Ethrel is also registered for use in cereals and Cycocel Extra for use on winter wheat. Because of their narrow window of application and other limitations, neither has been widely promoted to western grain growers. In fact, Ethrel is not readily available across Western Canada because timing of application is so critical that the company requires producers to sign a liability waiver before they can access the product.

Syngenta, which already markets cereal crop PGRs in the U.S. (a product called Palisade) and Europe (Moddus), is conducting research on a similar trinexapac-ethyl-based product in Canada.

In the meantime, Engage Agro, based in Guelph, ON, may have the most exciting news on the PGR front. It hopes to have a product, Manipulator, registered for use on Canadian cereal crops in mid-2014 and available for producers in 2015. Based on a different active ingredient than other products, Manipulator is said to be more user friendly. It is effective at a wider temperature range, has a much wider window of application and can effectively be used in tank mixes with many herbicides.
A SPECIFIC ROLE

The value of plant growth regulators needs to be kept in perspective, said Sheri Strydhorst, a research scientist with Alberta Agriculture and Rural Development in Barrhead. While they can play an important role, they won’t have a fit in all growing areas, and they do have a very specific purpose.

“There may be a bit of confusion over what plant growth regulators do,” said Strydhorst, who is conducting research and field trials with PGRs. “The goal of a PGR is not to increase yield. The goal is to increase harvestability of the crop—to help crops stand better. But in doing that, if crops don’t lodge they are likely able to fill better, which can improve yield. And if a crop isn’t plastered to the ground, then, again, farmers are able to harvest more grain. But the main purpose of the PGR applied to the crop is to prevent cells from elongating and to lower the rate of cell division so you have a shorter-stature crop with stronger stems.”

Strydhorst said PGRs have been used extensively in parts of the world where cereals are grown under relatively high moisture conditions. Figures from the U.K., for example, show that between 80 and 90 per cent of winter wheat, winter barley and winter oat crops are produced with one to two applications of a PGR each year.

In Canada, Strydhorst sees PGRs having the best fit in irrigation districts and in higher-moisture growing areas, generally regarded as the black soil zone. However, in recent years, as many farmers in Western Canada know, higher moisture conditions have prevailed in many areas outside the black soil zone.

“With higher moisture conditions, more farmers are seeing the potential to increase crop yields by using higher rates of nitrogen and a wider range of crop-protection products,” she said. “But one of the limitations as producers push for higher yields is the risk of crop lodging. So with PGRs we have a potential tool that may allow for higher yields and improved standability.”

Strydhorst’s research with both Ethrel and Cycocel Extra PGRs did not produce dramatic results in 2013. It was only one year, and growing conditions vary, but she said she saw only a slight improvement in lodging and a crop height reduction of about seven centimetres (two to three inches). However, she is planning to expand the research to 15 sites in 2014, from southern Alberta’s irrigation district to the Peace River region.

“Growing conditions can certainly play a factor, and the other thing to remember about PGRs is that some varieties are more responsive than others, so their effectiveness can depend on the year and the variety.”
FARMERS HOPEFUL
That was the general observation of central Alberta farmer Dallas Dau in 2013. He was involved in a PGR research trial organized by his local crop consultant. Dau said a research plot on his Three Hills-area farm didn’t produce any dazzling results showing the effectiveness of PGRs on preventing cereal crop lodging, but he said he is hopeful that over the next two or three years it will emerge as another useful tool in increasing crop yields and overall efficiency.

Dau said the biggest problem in 2013 with products applied to reduce lodging in both wheat and barley was probably that it was just too good a growing year. “The products have very specific timing and they were probably applied on the later end of the window,” he said, “but it was a year with such ideal growing conditions, I think the crops just blew right through the products—just kept growing.

“Our wheat and barley were both just growing gangbusters, and even after we applied the products they didn’t slow down a bit.”

The 40-acre field had plots of wheat and barley seeded with varying rates of fertilizer from a standard check level to double the fertility rates.

“Lodging can be a concern so we have to watch how much fertilizer we apply,” said Dau. “On these plots, I think the wheat did stand a bit better but it wasn’t a huge difference. I think because it was such a good growing season, it might have been a bad year to try this. But it was only one year and I’m hoping we do it again for at least two or three more years to get a better idea of how it works. It will be an excellent tool if it works.”

A “NO-BRAINER”
While field research is important, Elston Solberg, president of Agri-Trend Agrology and a longtime crop consultant, said he believes the broader use of PGRs should be a “no-brainer.” He said that the industry needs to do a better job of education to ensure the proper product is applied at the proper rate and at the proper timing, but that there is no doubt PGRs can be a valuable tool in helping farmers increase crop production efficiency by getting higher-yielding crops to stand better.

Solberg was involved in research work with PGRs in Canada nearly 30 years ago, “and at that time these products had already been in use in Europe for about 20 years.”

Even back in the late-1980s, the use of PGRs in trials showed a reduction in lodging, which translated into easier combining, improved crop quality and, in many cases, higher yields.

But because timing and management of product use is so critical, some mistakes were made and interest in the products never took off.

“Fast-forward to 2013 and now the world has had another 30 years’ experience with the products,” said Solberg. “These products have proven themselves in high-producing, high-yielding environments, so I think we should be able to figure it out here.

“The other thing we keep hearing is that over the next 36 years we need to be producing 70 per cent more crop on each acre of land we have now, which means higher rates of fertilizer to produce higher yields, which predisposes us to a higher risk of lodging—which, to me, means that if PGRs aren’t already a no-brainer, they soon will be.”

Solberg said PGRs won’t be effective on every acre of cereal crop in Western Canada, but they will have a fit in higher-producing environments and on farms able to apply a higher level of management.

“It isn’t just about the timing of the product, it is about the whole crop production system,” said Solberg. “They need to be used in a system that uses the proper (higher) seeding rate, proper fertility, and good management of crop-protection products. PGRs can be a useful tool in a system where all these management factors are integrated.”

BENEFITS WITH RISKS
Another longtime central Alberta farmer and crop consultant, Steve Larocque of Beyond Agronomy said that, after four years of field research and some trial and error, he is convinced PGRs can be an effective tool in helping “malt and feed barley growers attain higher yields in our semi-arid climate.”

Larocque said the increased risk of lodging is the limiting factor in achieving consistently high barley yields.

“In our area, applying nitrogen rates above 100 pounds per acre usually resulted in lodged barley and would void any gains we made through intensive agronomy,” he said. If he applied 120 pounds of nitrogen, his barley crop would go flat.

Obtaining the products for research purposes, Laroque worked mainly with Ethrel and Cycocel Extra. He said he found Ethrel to be the most effective on wheat and barley. He also did some trials with Manipulator on wheat. Manipulator is expected to be registered in 2014 and available for commercial use in 2015.

Timing and temperature were indeed critical, he said, adding he also used a lower rate of Ethrel than the 400 millilitres per acre recommended for crops grown under irrigation. He said he had the most success using 250 millilitres per acre. That rate reduced lodging in barley, but didn’t shorten the height too much. If the crop is shortened too much, a combination of rainfall, sunlight and open canopy can encourage late tillering, which he didn’t want.

With Champion barley, for example,
Larocque said he found he could apply up to 180 pounds of nitrogen and, with the properly timed PGR, the crop remained standing. Crop height was about 10 inches shorter compared to untreated crop.

“Overall, I am very encouraged by what PGRs can offer farmers with the proper management,” he said. “I believe they will take us to the next level by giving farmers a tool to manage their lodging risk. On average, I think we’ll be able to apply another 20 to 30 pounds of nitrogen and realize between 10 to 20 bushels per acre higher yields.”

His main caution, however, is that “the timing of Ethrel is absolutely critical for the PGR to be effective and not cause crop injury.

“Apply Ethrel at late flag leaf or just prior to awn emergence. You want the main stem and the tillers to be in full flag leaf stage. Application before flag can kill off tillers, while application at awn emergence will reduce kernel numbers.”

While he said he likes the price point of the product—ranging from $4 to $6 per acre—he said management is critical and the challenge for producers with a lot of acres is to use the product at the proper time on every acre.

“If you’re thinking about using a PGR like Ethrel, understand the risks, proceed with caution, but realize it could be a valuable tool in your quest for higher barley yields,” said Larocque.

A WIDER WINDOW
Tom Tregunno, Engage Agro product manager for Manipulator, said the flexibility of the product will help to attract more farmers to the concept of using a plant growth regulator.

“It’s not something all farmers will use, but it will probably have the best fit in the irrigation areas and within the black soil zone, or in areas where growing conditions are good even on a year-to-year basis,” Tregunno said.

“It is amazing to see how this product works in Europe. Of course, much of the U.K. has perfect growing conditions for wheat. They can apply up to 200 pounds of nitrogen and, even with lower seeding rates, achieve yields well over 100 bushels per acre. And they may be applying multiple applications of a PGR during the growing season. We’ll not likely be doing that here, but it is an example of how it is used.”

Tregunno said because Manipulator can be used within a wider temperature range and a wider timing range, in many cases
cases it can be applied by itself or tank-mixed with herbicides, appealing to producers looking to optimize yields.

With Manipulator expected to enter the marketplace in 2015, the company has already done considerable research with the product across Western Canada.

“We are planning more extensive field trials again in 2014, not only to demonstrate the product to producers, but also to further support our registration,” he said. “Our main focus in research trials this year will be to increase fertilizer rates to further test the effectiveness of the product. So our trials this year will be looking at rates ranging from 10 to 25 to 50 and even up to a 100 per cent increase in fertilizer rates, with different varieties, to see where the limit is.”

Tregunno said that while the main purpose of Manipulator is to reduce the risk of lodging under higher fertility rates, in many trials they have seen that the product itself appeared to improve yield without added fertility.

When Manipulator was applied with no fertility over the regular rates, wheat trials conducted at AAFC Indian Head Research Farm produced up to a seven per cent yield increase between 70 and 80 per cent of the time, said Tregunno.

“It is primarily intended to reduce lodging but the thinking is that, because plants are shorter and putting fewer nutrients into longer stems, they are putting more resources into seed development.”

Since varieties can respond differently to the PGR, Tregunno said the reduction in plant height can range from five to 20 per cent, depending on the variety.

“We see it as a tool benefiting farmers looking to make use of good growing conditions, who are prepared to supply the inputs, provided they can keep the crop standing,” he said. “And it is a product that offers flexibility. If you have improved growing conditions this year, then increase your fertilizer rates to take advantage of those conditions and apply Manipulator to keep the crop harvestable and capture that increased yield.”

Tregunno said the initial registration will be for all classes of wheat, including winter wheat, and Engage Agro may look at adding barley to the registration down the road.

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SPECTRE IS HAUNTING THE WORLD’S WHEAT FARMERS, AND ITS NAME IS UG99.

Spread by spores that can cross oceans, Ug99 is the latest mutation of a crop disease called stem rust that has been feared throughout history. Known since ancient times, it was considered a curse in what is now Israel. To the Romans, it was a deity to be appeased with sacrifices and processions, lest their crops be destroyed.

The new strain was discovered in Uganda in 1999, and gained virulence as it spread up and down the east coast of Africa. It then jumped the Red Sea to Yemen, and continued on to Iran. It’s even been found as far away as Australia, after winds carried the tiny spores all the way from southern Africa.

Tom Fetch is a Winnipeg-based Agriculture and Agri-Food Canada (AAFC) scientist specializing in stem rust pathology. He has studied Ug99 for the past decade, and said the arrival of the fungus in Canada’s grain belt looks almost inevitable.

“We think it’s more a matter of when it will get here, rather than if it will,” he said.

While Ug99 could arrive in Canada thanks to a hapless tourist coming home from safari, Fetch said, it’s most likely to arrive by natural—and more indirect—means. Like other fungal crop diseases before it, spores could blow from South Africa to South America. And once it makes landfall in the Americas, Fetch said, it’s just a matter of time before it appears in a field near you.

“If it gets to South America, then it’s likely a matter of three to five years before it gets to Canada,” he said.

Such an outbreak would not be a new experience for Canada. Similar outbreaks occurred in 1919 and 1935. Then, in the early 1950s, a new strain of stem rust called 15B swept across the Canadian Prairies in epidemic levels. It spoiled some eight million tonnes of wheat, accounting for around 40 per cent of the total crop.

NEXT STOP: CANADA

Ug99 wheat rust is marching our way. Should we be scared?

BY JEFF DAVIS • PHOTOGRAPHY BY TOM FETCH
“When it gets going, it can really cause a lot of damage,” Fetch said. “The potential yield loss can be total, in epidemic conditions.”

Sridhar Bhavani has seen the devastating effect of Ug99 from ground level. Based in Nairobi, Kenya, he is a wheat pathologist and breeder who is co-ordinating screening efforts for the Consultative Group on International Agricultural Research.

Bhavani said comprehensive tests of the Ug99 strain in 2008 and 2009 showed that more than 90 per cent of the world’s wheat varieties are vulnerable to the stem rust, including those used in Canada.

“It is a devastating disease to wheat production, as susceptible varieties can result in 100 per cent losses,” he said. “It is considered a threat to global wheat production.”

As it marched across an unprepared Africa in epidemic levels, Bhavani said, the losses were simply devastating. Some of the more sophisticated farms in East Africa had the resources to fight back against the disease, but still suffered major losses.

“Large-scale farmers were able to avert losses by spraying fungicides,” he said. “However, they still lost 10 to 40 per cent of the crop due to high disease pressure.”

Bhavani said a much larger impact was felt by small, traditional farmers, many of whom were growing heritage varieties and lacked the resources to spray.

“Small-scale farmers lost their entire crop if it was un sprayed and they were growing susceptible varieties,” he said.

After more than a decade of fighting the disease, things are now starting to look up, Bhavani said. Today, after years of research and breeding, there are 45 varieties of Ug99-resistant wheat in the world. Two of these cultivars—Robin and Eagle 10—now occupy about 40 per cent of the wheat area in Kenya.

Preparations for the arrival of Ug99 in Canada are now well underway, Fetch said. After five years and $13 million worth of research, AAFC scientists have discovered three genes that provide resistance to Ug99 infection. In November, the federal government pledged an additional $1.26 million to continue with phase two of this genetic research.

The ultimate goal is to create a strain of wheat that is resistant not just to the Ug99 wheat rust, Fetch said, but to possible future mutations. This will be done by including multiple resistant genes into one plant. “We want to stack the genes, so you have more than one gene in the cultivars we’re developing,” he said.

The need for multiple resistant genes is illustrated by the experience of Ethiopia, Fetch said, where farmers relied heavily on wheat with a single rust-resistant gene.

“They relied on one single gene called Sr31, and it was effective for several decades,” he said. “But then, when Ug99 came along, it attacked it, and when that gene went down there was a lot of susceptible wheat. ‘They had all their eggs in one basket … and we don’t want to do that.’

In the meantime, Fetch said farmers should always watch their fields closely and report any strange symptoms. In the case of Ug99, symptoms include raised, brownish-red, blister-like lesions that are elliptical in shape.

The worst-case scenario for farmers is that a large infection breaks out in the southern United States in January, Fetch said. This would generate a large mass of spores, which could then be carried up to Canada by prevailing winds as planting is underway in the spring. Such conditions could lead to widespread infections, and leave Ug99 the whole summer to wreak havoc in Canadian fields.

“The coloured portion of the map illustrates where wheat is grown in the Prairies. The red portion indicates areas that receive enough rain and humidity to favour stem and leaf rust infection.”

“It gets to South America, then it’s likely a matter of three to five years before it gets to Canada.”

—Tom Fetch
Areas in Canada likely to be worst hit by a large Ug99 outbreak include much of southern Manitoba and southeast Saskatchewan. A somewhat lesser threat faces Alberta’s southerly parklands and grasslands, as well as southwest Saskatchewan.

Unlike earlier times in Canada, the impact of a stem rust outbreak could be mitigated by the use of fungicides. However, since Ug99 only takes eight to 10 days to produce a new batch of spores, frequent spraying could be necessary.

“It’s not that we would need to panic, because frankly, a lot of growers are spraying fungicides on their crops now,” Fetch said. “But this would increase the cost of production.”

Efforts to prepare for the arrival of Ug99 are also well underway in the United States. Erick De Wolf, an extension plant pathologist at Kansas State University, said the U.S. is quite well prepared for a Ug99 outbreak following five years of preparation, although some work remains.

“We’ve developed resistant varieties, and tested fungicides and application technologies as we begin to prepare,” he said. “There’s also an education effort to communicate some of that to growers.”

Similarly, Montana farmer Bing Von Bergen, president of America’s National Association of Wheat Growers, said everyone is taking the threat seriously.

“The industry is aware that if it does get to the United States, it’s going to have devastating crop losses,” he said. “We’ve seen the pictures of the devastation in parts of the world where it is prevalent, and it’s horrible.”

Unlike Canada, the United States has in place the Recovery Plan for Stem Rust of Wheat. This public document was prepared in response to a Homeland Security Presidential Directive. The 27-page plan includes vital information on the stem rust life cycle, how stem rust spreads and how to recognize it. It also has information on resistant strains, charts detailing the effectiveness of various fungicides on Ug99, and a list of recognized experts in the field.

Despite years of research and vigilance, Bhavani said the battle with this crop disease will never really end. He said plant pathologist and Nobel Peace Prize winner Norman Borlaug put it best: “Stem rust never sleeps.”

“Scientists and farmers must keep on observing as rusts develop new strategies in the arms race of host and pathogen,” Bhavani said.
**GMO Issues 2.0**

**CONCERNS OF A BIOTECHNOLOGY ADVOCATE**

**By Stan Blade, P.Ag.**

This is noT anoTher arTicle about whether GMOs (genetically modified organisms, otherwise known as “transgenic” crops) are likely to save the world or destroy it. The basis for this article is that using molecular biology is appropriate as another tool that can be used to improve crops.

At Alberta Innovates Bio Solutions, we invest in many research programs that employ a range of biotechnology tools to improve western Canadian crops. I serve as vice-chair on the board of the African Agricultural Technology Foundation, which supports African and global partners to use biotechnology to address disease resistance, nutrient use and water efficiency in cassava, banana, rice and corn.

There are still many issues that concern me (a supporter of using biotech) when I think about how biotechnology is being used for crop improvement in Canada and around the globe. They fit into five categories:

1) **Who will determine which traits receive attention?** First-generation traits have been input traits such as herbicide resistance. This makes market sense since companies can sell both seed and inputs. But who is going to work on developing transgenic disease resistance or enhanced nitrogen use—traits that will benefit all producers without an obvious method of recouping research costs? Clearly, this is where the public research system can play an important role.

2) **How will public biotechnology research be funded?** Plant biotechnology costs money. As new technologies become available, the cost of the people and equipment necessary to take full advantage of new opportunities continues to increase. This is happening in an environment of reduced public-sector research budgets. If biotechnology is going to focus on “public good” opportunities, do governments have the appetite to provide the necessary resources? Producers (and end users) need to continue to advocate for the appropriate investment of both their own money (via organizations they control) and public funds.

3) **How do we maintain a system where everyone learns from new discoveries?** We have made progress over many centuries through scientists learning from one another. As private companies dedicate significant resources to crop improvement, issues such as “freedom to operate” limit researchers’ capacity to collaborate. When companies control specific gene constructs, it restricts the ability of others to make progress.

4) **Where will new science come from?** Technology success stories from the past 30 years often start with someone having a great idea in his or her garage or basement. But when it comes to biotechnology, reports suggest that it costs life science companies between $40 million and $140 million to place seed of a single-trait transgenic crop in the hands of growers. This means that lots of great ideas may never see the light of day unless we develop systems to support “blue sky” work.

5) **How do we reduce the cost of bringing transgenic crops to market?** One of the main factors for the expense associated with seeking approval to sell transgenic cultivars is the regulatory burden placed on companies by governments that often use rules that are not based on plant biology or scientific evidence.

As users of biotechnology, producers need to ask these questions, and use their economic, political and industry influence to get answers to benefit their operations and the entire agri-food sector.

There are many interesting opinions published recently on how transgenic technologies should be viewed. Two suggested sources from opposite ends of the spectrum: Mark Lynas spoke at the 2013 Oxford Farming Conference and detailed his “conversion” from being one of Europe’s leading anti-GMO campaigners to a supporter of using molecular biology to improve crops. Meanwhile, food journalist Nathanael Johnson addressed aspects of plant biotechnology in 26 thoughtful, well-researched installments for the environmental magazine *Grist*.

My observation is that the thousands of blogs, articles, papers, books and speeches on transgenic technologies have done very little to change how people view biotechnology. I suspect this is because neither supporters nor detractors address the concerns that motivate the opposition. Bottom line: As with most important issues there are many shades of grey when addressing the issue of plant biotechnology. If you hear anyone taking a hard line on either side of the discussion, consider looking elsewhere for a more nuanced view.

Stan Blade is the CEO of Alberta Innovates Bio Solutions.
Rail service in Canada has rapidly deteriorated, becoming a pressing and urgent concern. Thankfully, a CN rail strike that would have been devastating both to farmers and to Canada’s economy was averted. But in many ways, this close call heightened farmers’ frustrations with the serious rail capacity deficit.

Prairie farmers rely on railway transportation to get our crops to port. Carry-over stocks for several of the grains will be large. In many cases, this could mean farmers not being paid for last year’s harvest until after planting, causing serious cash flow issues.

Canada is the fourth-largest agri-food exporter in the world. It is a very real concern that rail service issues are hurting our international reputation as an exporting nation, which is what Grain Growers of Canada (GGC) directors are hearing while on trade missions. In early February, the Japanese moved an empty ship out of Vancouver to a port in Seattle to be filled with American wheat.

Growers supports the leadership of Pulse Canada, and their project partners, as they strive for greater measurement and rail service supply chain efficiency over the next five years. This work will provide effective data to help communicate shippers’ long-standing rail issues that hinder grain farmers’ market access.

Since rail transportation is so vitally important to our vast economy—and, in turn, to the railways’ own sustainability as a transportation provider—we encourage the railways to reinvest recent profits into rail cars, engines, new hiring and improvements to communications processes with the elevators.

As GGC President Gary Stanford recently explained to the Toronto Star, “If, during harvest time, my combine broke, I would have to find another to get it done. So find another locomotive and get it going.”

Gearing up to alleviate the grain backlog needs to translate into long-term service solutions for the future—not only so this doesn’t happen again, but also so that rail service is able to keep pace with the expanding business that farmers and Canada’s thriving economy are offering to the railways.

Rail Service Needs Long-term Solution

**RAIL SERVICE IN CANADA HAS** rapidly deteriorated, becoming a pressing and urgent concern. Thankfully, a CN rail strike that would have been devastating both to farmers and to Canada’s economy was averted. But in many ways, this close call heightened farmers’ frustrations with the serious rail capacity deficit.

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Other industries, too, are feeling the economic impact of the rail crunch. The availability of livestock feed in the Fraser Valley, B.C., is affected. Reports also indicate rail service is affecting the national food supply as both millers and maltsters indicate unsatisfactory service to move grain to mills and malthouses, as well as to market. Across the board, an estimated $20 million in demurrage and vessel penalties have been applied since the beginning of the crop year.

Action is needed.

Grain Growers’ directors participated in a ministerial roundtable with railway officials and grain companies on Jan. 21 to find solutions to the grain backlog and address the immediate need. At the meeting and going forward, our farmers asked the railways if they have a long-term plan to address rail issues—discussions are ongoing.

Farmers had a record crop last year with a significant increase in yields. A buoyant farm economy, stronger genetics, improved fungicides, overall better agronomics and utilization of micronutrients in fertilizer application were contributing factors. Good crops are weather-dependent, but thanks to new technologies and sustainable farming practices, there is no doubt that farmers’ yields will continue to increase.

We’re encouraging all involved—railways, grain companies and the federal government—to have better communication in order to get the grain moving. The railways need to add significant capacity because this is the new reality. Adapting to larger grain shipments, combined with the needs of the oil industry and other commodities, is a priority for the economy.

We need better data to backup our claims regarding longstanding rail service issues. That is why more regular measurements and public reporting, as recently announced by Agriculture and Agri-Food Canada Minister Gerry Ritz, will help grain shippers examine the issue. Grain Growers supports the leadership of Pulse Canada, and their project partners, as they strive for greater measurement and rail service supply chain efficiency over the next five years. This work will provide effective data to help communicate shippers’ long-standing rail issues that hinder grain farmers’ market access.

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DAVID EATON IS PASSIONATE ABOUT environmental farm planning. He was one of the earlier adopters of the Alberta Environmental Farm Plan (EFP), and has maintained his passion and awareness of environmental issues on his farm since completing his plan in 2007.

“I initially did an EFP to be able to access funding, but once I went through the process, it became apparent that I had made a few mistakes at home,” said Eaton. “It was a real good reminder that sometimes we should just stop and remove ourselves from the picture to take a look at what we are doing.”

Like many producers who go through the process, Eaton became more aware of the environmentally sensitive areas on his farm, and was able to make some relatively minor changes to reduce risks. He moved a fertilizer bin, capped a well and made changes to the way he fed cattle in the winter to prevent issues with manure runoff into waterways, and to preserve the nutrients for crops in the spring.

“The biggest result you are going to get from doing an EFP is to change the way you think,” he said. “If I think of the water and land as resources that I am responsible for, this helps me understand what I can do to manage it better.”

The 52-year-old farms grain and cattle near Oyen, and is chair of the Agricultural Research and Extension Council of Alberta (ARECA), a provincial association of non-profit producer groups that provide regional extension services to producers. In June 2013, ARECA took over delivery of the EFP program from Alberta Agriculture and Rural Development.

“Having ARECA take on delivery of the program really gave it back to industry to drive and take some more ownership of where it can go and what it needs to do,” said Fiona Briody, EFP program manager for ARECA. “The EFP has been industry-driven in Alberta from the start.”

Briody has been with the program since its inception in 2003. Initially, the program was delivered by the Alberta Environmental Farm Plan Company, a non-profit company created and contracted to deliver EFPs under the first Agricultural Policy Framework (APF). When the company folded at the end of the APF agreement, the provincial government stepped in to ensure the program could carry on.

Today, the program is delivered by ARECA through its 13 partner organizations, with a network of 40 EFP technicians available to help producers through the process. EFP technicians help producers start the process by working through the EFP workbook, either on hard copy or electronically. Once the workbook is complete, the technician reviews the plan and issues a statement of completion.

“Producers are environmentalists—they are a part of the system, and if they treat the land right, the land treats them right,” said Lacey Ryan, an EFP technician with the Chinook Applied Research Association.

“The biggest reservation that Ryan hears from producers is about privacy—they are afraid that the government is collecting information about their farm.”

“As an EFP technician, I am the only person who sees their book or web book,” said Ryan, noting that the EFP process is free, voluntary and confidential. “It’s for producers to improve both profitability and environmental stewardship on their land, and knowing what’s on their farm.”

For Eaton, the EFP is more than a way to inform his own farm practices—it’s a gift to the next generation.

“We need the ability to communicate with the next generation about the choices that we have made,” he said. “Your EFP is something that you can turn over to the next generation and say, ‘This is what I have done and why I have done it. Be aware of these issues.’”

MAN WITH A PLAN: Like many Alberta producers, David Eaton has an Environmental Farm Plan for his operation. With a full-fledged plan, proponents say it will create more efficient farming methods with net benefits for the environment.
Hunting Cereal Killers

LACOMBE’S RESEARCH TEAM BATTLES VICIOUS LEAF DISEASES

BARLEY FARMERS FACE MANY obstacles in the course of a growing season, but one threat is ever present: leaf disease.

Kelly Turkington, PhD, and his colleagues at the Lacombe Research Centre, know this all too well. The centre is one of 19 national agricultural research centres operated by Agriculture and Agri-Food Canada.

As a research scientist specializing in plant pathology, Turkington has seen leaf diseases ravage healthy crops.

“Leaf diseases are complex,” he said. “They attack at different times and in different ways, so we take a multi-faceted approach to them.”

Unfortunately for the scientists, the problems of leaf disease have only worsened over time.

“We’ve seen a dramatic shift over the last 25 years to a rotation based on canola-cereal-canola. It’s a bad rotation from a disease standpoint because it’s not long enough to allow for decomposition of pathogen-infested crop residues.”

Turkington said that two years is needed between host crops.

“You must allow time for the residue to dissipate. At one year, there’s sufficient residue left in the field to cause disease.”

BREEDING SUCCESS

“One line of defence involves co-operative breeding programs,” said Turkington, referencing Alberta Agriculture and Rural Development in Lacombe, the University of Saskatchewan and Agriculture and Agri-Food Canada in Brandon, MB.

“We collaborate on the development of breeding lines and varieties that are resistant to disease.”

Farmers will appreciate that the added input costs involved with this approach are minimal.

“You’re just shifting to a variety with resistance to disease,” Turkington said. “It’s an easy technology and you don’t have to worry about whether to spray.

TIMING IS EVERYTHING

In addition to broader disease strategies, Turkington’s team is investigating fungicide timing (flag leaf stage versus flowering) and interactions with seed treatments.

“It’s about timing,” said the researcher. “Recently completed experiments assessed the impact of fungicide timing on leaf disease management in malting barley.”

There is interest in applying fungicide at an early crop growth stage when herbicides are applied.

“Farmers may assume that they’ve dealt with the leaf disease problem when they haven’t. Based on our findings around how fungicides work and move in the plant, and the key plant tissues that contribute to grain filling in cereals, early application is of little benefit. It’s best to delay fungicide application to actively protect the upper canopy of the leaf tissue, which is important for grain filling and yield.”

As for seed treatments, they’ve been around for years, but there’s always room for improvement.

“We’re looking at whether seed treatments, apart from protecting the plant when it’s emerging, can also protect into the two-, three- or four-leaf stage,” said Noyrane Rauhala, Turkington’s lead research technician. “Can the treatments hold leaf disease in check, especially if disease pressure is high when they’re young?”

STRATEGIES THAT MAKE CENTS

“Yield loss from leaf disease ranges from 15 to 40 per cent,” said Turkington, “so if you’re not mitigating your risk with rotation, resistant varieties or fungicide, it becomes costly.”

At the same time, he said that since resistant varieties have minimal disease risk, you may waste $7 to $15 dollars per acre on fungicide and derive no benefit.

For optimal results, he said his team balances lab and field work.

“Our disease resistance work is done primarily in disease nurseries, but we also collaborate across the Prairie region on integrated disease management trials.”

Those trials reach from Beaverlodge to Lethbridge in Alberta and east through Saskatchewan (Scott, Indian Head and Melfort), Manitoba (Brandon) and all the way to Charlottetown on Prince Edward Island.

There are a host of variables that the barley farmer can’t control, from weather to economics to changing consumer demands. But leaf disease is one area where—armed with the right tools and strategies—the producer stands a fighting chance.

MANAGING LEAF DISEASES

• If practical, use a rotation with at least two years of a non-host crop between barley crops.
• Use quality seed and a treatment to ensure good stand establishment.
• Grow a variety with resistance to the diseases of concern.
• Regularly scout fields to identify leaf disease problems.
• When leaf disease risk is high, apply a fungicide to protect upper canopy leaves.
• As the crop starts to mature, note what disease issues occurred and use this information to develop management strategies for subsequent crops.
Come Back for More

SCIENCE MAY HOLD THE SECRET TO A BREED OF WHEAT THAT COMES BACK YEAR AFTER YEAR

GROWING UP IN THE RURAL community of Walkerton, ON, a lot of Jamie Larsen’s buddies were becoming farmers. And while his friends were thinking about what crops to plant, Larsen was always wondering why they should grow certain crops and how they would do it.

“Yeah, I was always wondering about the science,” the research scientist recalled from his office at the Lethbridge Research Centre. “It’s always been something that really intrigued me. My Grade 7 science project was looking at beans and what soil they grew best in. So I’ve always had an interest in plant science and agriculture, and it’s grown over time.”

This fascination has led Larsen to his current (and very novel) project, perennial wheat breeding, which aims to develop a breed of wheat that will come back year after year after being planted only once. It will be the first of its kind in the world.

The project is currently being funded by Agriculture and Agri-Food Canada. “It is really cool,” he said about being an innovator in this field. “There’s less than a handful of people doing this in the world. It’s really cool from that perspective, to be a pioneer and be a part of that small group.”

One of those other people is Lee DeHaan, a plant geneticist at The Land Institute in Salina, Kansas, who will soon be working with Larsen on the new strain. “I love working on perennial grains crop development,” said DeHaan, who has been working on perennial wheat since 2001. “These new crops hold the promise of being able to simultaneously: one, provide abundant human food; two, improve the economic situation for farmers by reducing inputs while maintaining yields; and three, eliminate and reduce the negative environmental impacts that can come from today’s farming practices.”

Larsen and DeHaan see the benefits of perennial wheat as numerous and far-reaching for farmers and the industry. Since it only needs to be planted once, the farmer has significant cost savings in seed purchase, land tilling and fuel. The longer-living plants will be exposed to more moisture and sunlight, requiring less irrigation and reducing soil and fertilizer erosion on the land. Additionally, by occupying the land for longer periods of time (Larsen is working on a perennial that will last two to three years), they help keep out any intruding weeds.

“And with those [perennial roots] in the soil for all those years, it’ll increase the organic matter and its quality,” Larsen said. “The soil traps the water and good stuff, making it a pretty ideal environment to grow a crop in.”

Stephen Vandervalk, vice-president of the Western Canadian Wheat Growers Association and a farmer near Fort Macleod, said, “There would definitely be lots of positives” for perennial wheat, including saving time and money on fuel costs and upgrades to seeding equipment.

“There’s no question,” Vandervalk said, “depending on what they charge for the seed, a perennial wheat would be a huge net benefit for cereals and make it a little more competitive with some of the specialty crops and canola.”

“We have significant wireworm problems in Western Canada and it would have to be resistant to that,” he added. “That would be a big factor, especially if it’s in the ground for a couple of years.”

But it will be a while before Larsen knows if the strain will be resistant to pests like wireworm. He said that it will take a minimum of 20 years, but likely more, to develop perennial wheat.

“When I tell people that I’m a perennial wheat breeder, it’s difficult for them to wrap their heads around that,” Larsen said with a small chuckle. “It’s hard to wrap your head around the length of time it will take to develop it, but also what it could do for farmers and the industry.”

FAST FACTS

1) Significant effort was put into developing perennial wheat in the early 1900s in Russia, Canada, Germany and the United States. Breeding stopped for about 40 years, resulting in the loss of important germplasm and breeding material.

2) Perennial wheat is being developed through intergeneric crosses between wheat (bread and durum wheat) and Thinopyrum sp. (a tall wheatgrass and common perennial forage species in Western Canada). Thinopyrum sp. is mined for disease- and pest-resistant genes, which can be moved into mainstream wheat.

3) Perennial wheat could provide an economic advantage for mixed operations. Top growth can be grazed in the spring and fall, which would extend grazing periods while still producing a valuable grain crop.

4) Its roots can extend twice as long as regular wheat, meaning more biomass and organic matter in the soil, improved nutrient capture and water retention.
When this photo was taken of Elevator Row in 1906, the young, bustling, central-Alberta town of Wetaskiwin had just reached 1,600 people. The board of trade included this photo in a promotional booklet describing Wetaskiwin as “The Elevator City of Alberta.” While the photo shows five, the new city actually had six grain elevators with capacity for 250,000 bushels at the time, able to hold the bountiful harvest from the 65,000 acres of cultivated land in the district.

A grain company called Brackman-Ker built the first elevator in Alberta in nearby Strathcona in 1895. As Canadian Pacific Railway lines and cultivated farm land expanded, by 1912 there were 279 elevators in the province, operated by 72 grain companies and organizations. The Wetaskiwin district was promoted as a prime agricultural area: “The soil is rich and black loam with an average depth of two feet. The rainy season occurs in June and July, leaving the remainder of the year free to do all classes of outdoor work, and even if the rainy season is short, no damage can possibly come to the crops as there is sufficient moisture to mature any crop. Wheat, oats and barley … grow in abundance. It is not uncommon to find yields of wheat running as high as 55 bushels to the acre and oats as high as 110.” From a peak of 1,755 Alberta elevators in 1934, today there are 88 with a total capacity of 1.9 million tonnes.
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