

## This year, spring is the new fall

Hundreds of farmers are coping with unharvested crops **8**



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# Grainews

VOLUME 43 · NUMBER 10  
APRIL 25, 2017 · \$4.25

Practical production tips  
for the prairie farmer

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CROP DISEASE

## WATCH FOR THESE FOUR CANOLA DISEASES

Be ready to recognize these major diseases in your canola crop this summer



PHOTO: THINKSTOCK

By Lisa Guenther

Is that canola crop afflicted by blackleg, root rot, both, or something else entirely? It's a messy question farmers and agronomists encounter every year. Presenters tried to untangle those problems at CanoLAB in Vermilion this winter.

Here are four diseases to watch for in canola fields this summer, and tips on diagnosing them.

### 1. BLACKLEG

Blackleg produces a dry rot, said Clint Jurke, agronomy director for the Canola Council. That turns the stems woody. Cankers look like the rough, knotted bark you would see on a tree, he added.

"If you're walking into a field and you're seeing a bunch of plants that are falling over and they look really woody at the base, (that's a) pretty good indication that you might be dealing with blackleg," he said.

But cankers alone don't make a blackleg diagnosis. The next step, said Jurke, is to look for the fruiting bodies produced by the fungi, called pycnidia. The pycnidia look like spots of pepper. Farmers can find them within cankers.

See CROP DISEASE on Page 5 ►

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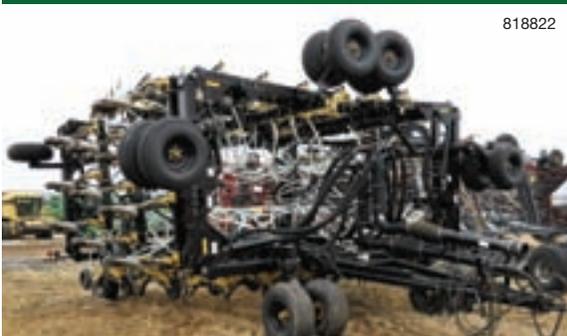
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# How to be more popular



## Leeann Minogue

[leeann.minogue@fbcpublishing.com](mailto:leeann.minogue@fbcpublishing.com)

If you've been wanting more email in your inbox, one sure way to attract attention is to tell people you've never heard of their curling rink.

In the March 28 issue of *Grainews* I wrote about what I'd heard at the Griffin bonspiel: that Griffin and Osage are the only Saskatchewan communities still curling on natural ice. Boy was that wrong.

Rob McGregor emailed to say the Tuffnell rink is still going strong. Delphine Wirth sent in a photo of her rink in Strongfield. "My husband is one of many volunteers who make and maintain our curling and skating ice," she wrote.

Some readers took to Twitter. Russell Fersch (@rfersch) tweeted to tell me that Fiske and Hershel still have natural ice curling. Daryl Harrison (@Daryl306) tweeted to say that the Storthoaks rink has two sheets of natural ice and point out that the "provincial natural ice championship" is still going on.

So not only have I learned about all (some?) of the other Saskatchewan communities where they're still curling on natural ice, I learned a bit about the gossip you hear in the curling rink: entertaining, but not always 100 per cent accurate.

#### LAST CHANCE TO ENTER

You still have until May 8 to enter our contest for a chance to test out a selection of brand-new telehandlers. To enter, just email or tweet



PHOTO: DELPHINE WIRTH

#### The Strongfield natural ice rink is still going strong.

us a picture of whatever you use for a loader on your farm. We don't care what colour it is, or how new it is.

On July 17, we'll be on the grounds of the Ag In Motion farm show near Saskatoon. Three winners will join us as guest judges. After we try out the telehandlers we'll take the judges out for dinner, then give them \$50 to spend on gas, a room at the Delta Bessborough and two tickets to the AIM show. AIM runs from July 18 to 20, 2017.

Email or tweet your photos before May 8: [leeann@fbcpublishing.com](mailto:leeann@fbcpublishing.com) or [@GrainMuse](https://twitter.com/GrainMuse).

#### CORRECTION

In the March 28 issue of *Grainews*, our cover article on dealing with hail damage mistakenly stated that Bayer's fungicide Prosaro carries label claims of hail rescue. This is not the case. Thanks to Bayer's field marketing manager, Jared Veness, for pointing out our error.

Leeann

# See Agritechnica with *Grainews*

Always wanted to see the world's largest machinery show? This is your chance. *Grainews* and Leader Tours have put together a tour to Germany just for *Grainews* readers. Our machinery editor Scott Garvey will be along to talk about the new machinery, and I'll be your host, making sure everyone gets on the right bus at the end of each day.

The tour runs from November 8 to 16, 2017. The trip includes two days at the farm show, with an orientation to the site from Scott Garvey. This will be his fifth visit to Agritechnica, so he should be able to get you on your way to what you'd like to see.

As well as Agritechnica, this tour will stop at the German DLG Test Centre Technology and Farm Inputs. This test centre takes an unbiased look at machinery, equipment and farm inputs to see if they meet the manu-

facturers' claims. We'll get a first hand look at how they put products through their paces.

A visit to the CLAAS combine factory is also on our agenda. This factory is said to be one of the most high-tech ag machinery production plants in the world. Let's find out.

Of course, since we'll be in Germany, there will also be time in Berlin, a castle in Heidelberg and a Bavarian-style beer hall.

Visit [www.leadertours.ca/grainews](http://www.leadertours.ca/grainews) for the full tour agenda, pricing information and booking forms. Or, email Scott or me for more information. We need confirmation deposits by June 15, so you can wait until after seeding to book your seat.

Leeann



The Claas combine factory is a high-tech production facility.



PHOTOS: SCOTT GARVEY

We'll be visiting Germany's DLG test centre.

## FARM SAFETY

# Back to basics: tractor operation 101

**T**ractors are essential to farm operations. From field work to feeding livestock to cleaning snow, tractors are the most used machine on the farm. As simple and as commonplace as these machines are, the fact remains that the majority of agriculture machinery-related fatalities involve tractors. Reminders on basic safety while operating tractors can help everyone stay safe.

Runovers and rollovers are the top two ways people are killed on the farm. Unmanned machine runovers account for approximately half of all runover fatalities. This means that half of all runover deaths happen when no one is even driving the machine! Passengers and operators who fall from the machine are also killed in runovers all too frequently.

Bystanders are also in danger of being run over, unfortunately,

most killed in bystander runovers are children under the age of nine.

Runovers are easy to prevent if basic tractor operating procedures are followed.

Before mounting the tractor, walk around the machine to check for obstructions, bystanders and to check the general condition of the tractor. If any systems are faulty, do not use the tractor.

Before starting the tractor, make sure that all controls are in their neutral positions, the parking brake is applied and the clutch and PTO are disengaged. Do not start or operate any of the controls from anywhere other than the seat.

Be sure to drive at a speed slow enough to keep control of the tractor, especially over expected hazards like railroad crossings. Do not drive the tractor on ground that may collapse, like near ditches or embankments.

When coming to a stop, make sure you are parked on even ground, disengage the PTO (if connected), and lower any implements that are attached. Be sure to place all controls in the neutral position, apply the parking brake and turn off the engine. Remove the key. Never dismount the tractor if it is still moving.

Tractors are not passenger vehicles. Except for those built with instructional seats, they are built for one person. There are far too many stories of extra riders being killed or injured. Keeping extra riders off the tractor is an easy way to prevent tragedy.

To sum up, watch for bystanders (keep kids in supervised, safe play areas), do not try to start the tractor from anywhere but the operator's seat, drive cautiously and never, ever allow extra riders. **GN**

*Canadian Agricultural Safety Association, online at [casa-acsa.ca](http://casa-acsa.ca).*

## AGRONOMY TIPS... FROM THE FIELD

## BLACKLEG MANAGEMENT AND AGRONOMY

Three main tools go into a successful blackleg management strategy in canola: seed genetics, seed treatment and foliar fungicides.

Blackleg genetics, along with seed treatments, can help you get into the season and established while protecting seedlings from blackleg for the first few weeks after seeding.

At the two- to six-leaf stage, consider using a foliar fungicide — especially if last year's scouting showed that you had significant blackleg infection in your fields.

Genetics, seed treatments, and fungicides can be individually effective against blackleg, but they should be supported by good agronomic practices to maintain their useful life.

Scouting to identify the disease, as well as good weed control to eliminate host weed species, are two important pillars of a successful blackleg management strategy.

The ideal time to scout for blackleg is right around maturity, or close to swathing. When scouting, cut stems just above the soil surface to check for blackleg infection symptoms. Late-season blackleg infections may look like several other issues, such as lodged or early-maturing patches, and might not otherwise raise a lot of concern.

Weed control throughout your rotation should also be top-of-mind. Controlling brassica weeds and canola volunteers is especially important, as they can be prime blackleg hosts in your non-canola growing years. **GN**

*Michael Hutton, product evaluation scientist with Syngenta Canada.*

## FARM POLICY

## Potential carbon taxes

Over the winter, Dr. Mario Tenuta spoke in Weyburn, Sask. about the possibility of a carbon tax on fertilizer use. Tenuta had calculated the potential costs to farmers, if taxes were imposed based on carbon prices. *Grainews* reported these numbers incorrectly. Here are the corrected numbers.

Tenuta's numbers are based on fertilizer rates of 89.2 pounds per acre for the Red River area in Manitoba, and based on a loss rate of two per cent of all nitrogen added. Tenuta writes, "The Red River Valley has high emission of N<sub>2</sub>O compared to most areas of the Prairies. In other areas, the potential user tax would be lower, however, the potential manufacturer's tax would remain the same."

We regret this error and apologize to Dr. Tenuta.

## POTENTIAL TAX TO FARMERS

LEVEL OF CARBON TAX	POTENTIAL USER TAX PER ACRE	POTENTIAL MANUFACTURER'S TAX PER ACRE
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\$30/tonne CO <sub>2</sub>	\$11.45	\$2.49
\$50/tonne CO <sub>2</sub>	\$19.08	\$4.14
\$100/tonne CO <sub>2</sub>	\$38.16	\$8.29



## Give us your best shot!

Tom Walters from Wanham, Alta, sent us this photo. He wrote, "Our farmers just itching to get going seeding on April 18, 2015." Thanks for sharing this, Tom. We hope you're just as ready to go this year.

We're sending Tom a cheque for \$25.

Send your best shot by email to [leeann@fbcpublishing.com](mailto:leeann@fbcpublishing.com) or through Twitter at @GrainMuse. Please send only one or two photos at a time, and also send along some information about where and when you took the photo, or even something about your farm. Photos with larger file sizes look better in the paper.

— Leann

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1666 Dublin Avenue,  
Winnipeg, Man. R3H 0H1  
www.grainews.ca

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Printed in Canada by TC Printing,

Winnipeg, Man.

Grainews is published by  
Glacier FarmMedia LP, 1666 Dublin Avenue,  
Winnipeg, Manitoba R3H 0H1.  
Publications Mail Agreement No. 40069240.

We acknowledge the financial support of the  
Government of Canada through the Canada  
Periodical Fund of the Department  
of Canadian Heritage.

## Canada

## Subscription Prices:

For Canadian farmers, \$63 per year  
or \$95 for 2 years (includes GST) or  
\$119 for 3 years (includes GST). Man.  
residents add 8% PST to above prices.  
U.S.: \$43 per year (U.S. Funds).  
Outside Canada & U.S.: \$79 per year.  
ISSN 0229-8090.

Call 1-800-665-0502 for subscriptions.  
Fax (204) 954-1422

Canadian Postmaster: Send address changes  
and undeliverable copies  
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U.S. Postmaster: Send address changes and  
undeliverable copies (covers only) to 1666  
Dublin Avenue, Winnipeg, Man. R3H 0H1

Grainews is printed on recyclable paper with  
linseed oil-based inks.

Published 18 times a year.

## Subscription inquiries:

Call toll free 1-800-665-0502

U.S. subscribers call

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email: subscription@glacierfarmmedia.com

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## CROP DISEASE



Woody cankers at the base of the stem are typical of a blackleg infection.



Sclerotia inside the stem of a sclerotinia-infected plant looks like mouse droppings.



Leaf lesions on a canola plant infected with sclerotinia.



A half-yellowed leaf is a textbook sign of verticillium wilt in canola.

PHOTOS: LISA GUENTHER

### ► CROP DISEASE from Page 1

If you see pycnidia in cankers “you can stop right there,” said Jurke. Blackleg is the only canola fungus that produces pycnidia.

“At swathing time you’ll see lots of pycnidia. But if you’re going out in flowering time looking for pycnidia, it’ll be a little bit hard to find.” If farmers or agronomists suspect blackleg, it’s time to bring out the scissors. Pull plants, clip at the base of the stems, and look for blackened tissue inside the stem’s crown.

If farmers confirm the variety’s blackleg resistance has fallen, they shouldn’t grow that variety again next time canola is in the rotation, Jurke said.

“All this old residue is going to spit out spores that are going to be able to overcome that resistance gene,” said Jurke.

## 2. SCLEROTINIA

Blackleg isn’t the only disease to leave lesions on canola plants. Sclerotinia also causes lesions. Krista Zuzak, research technician with Alberta Agriculture and Forestry, pointed out the differences.

Blackleg lesions tend to start at the soil level and move up, she said. Sclerotinia lesions can be found lower on the plant as well, but they’re commonly found in the leaf axles.

“Sclerotinia lesions are a lot softer,” she added.

Around harvest, plants might turn white or grey. But that doesn’t necessarily mean the plants have sclerotinia, Zuzak said. “It can be grey from blackleg, and bleach in the sun, and become quite light.”

To figure out whether those older plants have sclerotinia, she recommended pulling them and twisting the stalks apart.

Plants infected by sclerotinia will shred when twisted. Blackleg will cause the plants to “rip cleaner” as

the girdling will have weakened the plant, she explained.

Another sign of sclerotinia is sclerotia inside the plant. The sclerotia will look like mouse droppings, Zuzak said. Those sclerotia will survive in the soil. The next year the sclerotia may infect the crop by growing apothecia (mushrooms that release spores), or growing mycelia that reach plants.

## 3. ROOT ROT

There are several pathogens implicated in root rot, including rhizoctonia, fusarium, and pythium. Rhizoctonia is the main suspect in brown girdling root rot, which is the most serious root rot afflicting canola.

All canola growing areas see root rot from time to time. According to the Canola Council website, brown girdling root rot is widespread the Peace River region, causing more yield loss than all the other diseases. B. rapa varieties have greater susceptibility, the Council states.

Jurke said plants sick with root rot will not have cankers or pycnidia. The insides of stems will either be clean, with no blackening, or with some brown.

The Canola Council states early in the year light-brown lesions will form on the taproot or the main lateral roots, below the soil line. Those lesions enlarge, sink, and girdle the taproot. Those plants can be ripped out by wind or die from desiccation. They also tend to ripen before setting seed.

Jurke pointed out that canola can have both blackleg and root rot. Those plants will have cankers, as well as the typical root rot symptoms.

Blackleg and root rot together are a disaster which will create a big yield loss, said Jurke. When faced with such a double whammy, farmers need to remember that the blackleg populations in their field must have evolved to get around the variety resistance.

“It doesn’t really matter if there’s root rot in the root or not. If you’re finding blackleg here, the (blackleg) resistance is not working,” said Jurke.

## 4. VERTICILLIUM WILT

Verticillium wilt is a big problem in Europe’s winter oilseed rape, said Zuzak. It’s also been found in Manitoba, but Manitoba is not Sweden.

“In spring canola, we’re not really sure exactly what kind of infection potential it has,” she said.

Farmers and agronomists can spot this disease by watching for “half symptoms,” Zuzak said. For example, fusarium wilt will yellow half a leaf. Half the stem may also turn brown, or there may be a brown stripe, with very straight margins, she added.

The disease forces the plant to shed its own cuticle, Zuzak said. Plants will also shed their own cuticles while still growing, she added, exposing the microsclerotia.

Verticillium wilt is a later-season infection, so farmers and agronomists can scout stubble after swathing, or even the next year. The plant produces lots of microsclerotia after it’s cut, between the cuticle and the pith, Zuzak said. Those microsclerotia look like dirt specks.

The microsclerotia also inoculate the soil. Right now there are no resistant cultivars. Zuzak said the management recommendations are similar to clubroot. And although the resting spores are long-lived in the soil, a longer rotation should reduce the inoculum, she added.

There haven’t been many disease trials yet on spring canola, she added.

“So we’re not really sure about the extent of this threat yet, other than it’s soilborne. And there’s nothing to really stop soilborne pathogens from crossing borders.” GN

Lisa Guenther is field editor for Grainews based at Livelong, Sask. Follow her on Twitter @LtoG.

## New blackleg resistance labels

The canola industry has agreed to voluntarily enhance blackleg resistance labels on canola seed.

Seed companies will still use the current R, MR, MS, and S labels. But they will also start adding information indicating which major genes are present in a blackleg-resistant variety.

Each blackleg-resistant variety leans heavily on a single major gene for that resistance. That resistance gene is very effective against a blackleg race that has a matching avirulence gene.

But the blackleg population in any field can also evolve to overcome that resistance gene. Basically, once the blackleg drops its matching avirulence gene, the resistant cultivar is susceptible again.

The new voluntary labels will group major gene resistance into different groups. The idea is that farmers can then rotate to a different resistance gene group if a favourite variety falls down in their fields. Rather than numbered groups, like those used for herbicides, blackleg resistance groups will be labelled by letters.

The old R, MR, MS, and S ratings are still useful as well. For example, a variety with an R(B) rating would have good field resistance, and major gene resistance to blackleg race Rlm2. A rating of MR(D) would have moderate field resistance, and major gene resistance to LepR1. An R rating alone indicates good field resistance, and either no major gene resistance, or major gene resistance hasn’t yet been determined.

Some varieties should have the new labels this year, and more will in the future as seed companies release new varieties.

Jurke noted that it would be nice if farmers could send canola residue to a lab for screening. If they knew which blackleg avirulence genes they’re dealing with, they could use that information to pick canola varieties. That test isn’t available yet, but Jurke said based on conversations with labs, it could be available as soon as next year.

Lisa Guenther is field editor for Grainews based at Livelong, Sask. Follow her on Twitter @LtoG.

## MAJOR BLACKLEG RESISTANCE GENES IN CANOLA VARIETIES

Major Resistance Gene Grouping	Blackleg Race
Resistance A	Rlm1 or LepR3
Resistance B	Rlm2
Resistance C	Rlm3
Resistance D	LepR1
Resistance E1	Rlm4
Resistance E2	Rlm7
Resistance F	Rlm9
Resistance G	RlmS
Resistance H	LepR2
X	Unknown

## CROP ADVISOR'S CASEBOOK



The plants in the field's inner region were already starting to bloom, while the plants in the perimeter remained green and weren't nearly as tall.



The area of affected plants included the entire outside round and back side of the field, with a sharply demarcated boundary which included straight lines.



The growing points looked damaged. They were yellowing, and the flowers looked odd.

# What's holding up this blooming stage?

By Samantha Sentes

**K**yle farms 2,000 acres of canola, oats and peas west of Yorkton, Sask. He called me the first week of July, last year, when he discovered part of his canola crop wasn't flowering with the rest of the field.

Kyle thought perhaps environmental factors, seeding issues or nutrient deficiencies could be stressing the crop. The plants adjacent to the road were developmentally delayed when compared with those located in the rest of the field. In fact, the plants in the field's inner region were already starting to bloom, while the plants in the perimeter remained green and weren't nearly as tall, he said.

Also, some of the plants' leaves were yellowing, and the smaller leaves around the main stem were purpling, Kyle said, although he wasn't sure when the symptoms began because they weren't noticeable to him until the crop began to bloom. These symptoms warranted a visit to Kyle's farm.

Upon approaching the field, I could see the bright yellow blooms of healthy canola plants surrounded by a perimeter of green plants, which hadn't reached the flowering stage.

Walking into the field, I noticed some of the leaves on the affected plants were turning yellow, and the smaller leaves around the main stems were purpling. The growing points, as the plants were beginning to bolt, also looked damaged — they were yellowing, and the flowers looked odd.

Kyle asked if environmental stress, seeding issues or a nutrient deficiency could have caused the plants' delayed maturity around the perimeter of the field. He also suspected something had gone wrong with his sprayer, since he'd recently applied an in-crop, Group



Samantha Sentes works for Richardson Pioneer Ltd. in Yorkton, Sask.

10 herbicide to the herbicide-tolerant canola crop.

The area of affected plants included the entire outside round and back side of the field, notably with a sharply demarcated boundary which included straight lines, a pattern not typically found in nature, and exactly corresponding to the sprayer's first pass. However, before focusing on potential sprayer issues, I wanted to address Kyle's other concerns.

For example, stress placed on plants by inclement weather can include yellowing or purpling of leaves, but I would not expect to see the damaged areas marked out in straight lines like this.

Furthermore, although seeding canola too deep can delay maturity, seeding issues didn't play a role in this case because Kyle's seeder settings were correct and the machinery was working properly. I would also expect to see a more uniform distribution of affected plants with a seeding depth issue.

In addition, if too much fertilizer is applied at seeding and has harmed the seed, or too little is applied, resulting in a nutrient deficiency, I would expect to see symptoms across the field and not

in such a specific pattern. Although the drill could have been plugged for the outside round and back side, I thought it unlikely.

Leaf chlorosis is also a symptom of a nutrient deficiency, but, again, it didn't fit the pattern in this field.

The damage pattern did correspond exactly to the area Kyle sprayed with his first tank of herbicide — a full round of the field and across the back side — ending at the spot where he changed tanks.

I asked Kyle what crop he'd sprayed before moving to this field.

His answer: a cereal. That's all I needed to know.

If you think you know what has caused the distinctive damage pattern in Kyle's canola field, send your diagnosis to *Grainews*, Box 9800, Winnipeg, Man., R3C 3K7; email [leeann@fbcpublishing.com](mailto:leeann@fbcpublishing.com) or fax 204-944-95416 c/o Crop Advisor's Casebook. The best suggestions will be pooled and one winner will be drawn for a chance to win a *Grainews* cap and a one-year subscription to the magazine. The answer, along with reasoning that solved the mystery, will appear in the next Crop Advisor's Solution File. **GN**

Samantha Sentes works for Richardson Pioneer Ltd. in Yorkton, Sask.

## Casebook winner

The winner for this issue is Lionel Fradette from Radville, Saskatchewan. We're sending him a *Grainews* hat and a one-year subscription to the magazine. Thanks for reading and entering, Lionel!

You could be a winner too. If you know the answer to this issue of Casebook, email me at [Leeann@fbcpublishing.com](mailto:Leeann@fbcpublishing.com). Leeann Minogue

## CROP ADVISOR'S SOLUTION

# Wheat stem maggot: a barley-bingeing bug

By Kathy-Jo Toews

Ian was assessing his crop for damage after a storm system moved through his region when he noticed the affected barley plants. He wasn't sure if the weather event, which included rain, wind and hail, had caused the white heads, or if there was another reason for the symptoms.

When I scouted the field with

Ian, we found the distribution of affected plants was random, and only a small percentage of the barley heads had turned white, while the rest of the plant remained green. When we examined these plants, the heads were without kernels. When we pulled lightly on the heads, they came away easily from the stem.

Ian wondered if the storm had damaged the barley heads. I didn't think this was the case because

the whitened and empty heads here were not consistent with damage typically caused by wind, rain and hail.

Alternatively, the symptoms looked like those caused by a pest I'd found in a few wheat fields that season — the wheat stem maggot.

Wheat and barley crops, as well as oats and rye, are favourable hosts of the wheat stem maggot, which burrows into the stem, consuming it and shutting off the flow

of nutrients and water to the upper stem and head, thus killing them.

Wheat stem maggot larvae overwinter in the plants' lower stems and pupate in the spring, emerging as adults in June. Once the adult flies have mated, the females lay one egg per stem on host crops, which hatch into green- or cream-coloured maggot larvae, burrow into the host stems and consume the interiors, completing the cycle. Cultural control methods are

recommended when managing wheat stem maggot infestations.

For example, include non-host crops in the rotation, destroy infested stubble, control volunteer plants, and delay planting.

Because only a small percentage of plants were affected in Ian's barley field, the yield loss at harvest was almost negligible. **GN**

Kathy-Jo Toews works for Richardson Pioneer Ltd. in Brandon, Man.

## CROP PROTECTION

# Add a refuge to your soft white wheat

SeCan asks Prairie soft white wheat growers to protect midge-tolerant technology

By Leeann Minogue

It was a great day for wheat growers when breeders first transferred the Sm1 gene from varieties of soft red winter wheat into spring wheat. Commercial midge-tolerant spring wheat varieties launched in 2010. But, as they state on the Midge Tolerant Wheat website ([midgetolerantwheat.ca](http://midgetolerantwheat.ca)), “there is no Plan B.”

To keep wheat midge populations from adapting to the Sm1 gene, the industry developed the idea of planting a refuge within every midge-tolerant crop. Midge-tolerant wheat seed is sold as a blend with a non-midge-tolerant variety that makes up 10 per cent of each seed lot.

## THE SOFT WHITE SURPRISE

In 2015, Agriculture and Agri-Food Canada biotechnologist Curt McCartney started wondering about natural midge tolerance in soft white wheat. He began evaluating dissected plant heads. Curt Pozniak and Krystalee Wiebe at the Crop Development Centre at the University of Saskatchewan were working on a similar question.

Together, these researchers have found that the Sm1 gene occurs naturally in several varieties of soft white wheat. These varieties are: AAC Awesome, AAC Indus, and Sadash. AAC paramount may have the Sm1 gene; confirmation is underway.

The only soft white wheat variety that definitely doesn't have the Sm1 gene is AC Andrew.

What does this mean? Planting soft white wheat crops that contain the Sm1 gene gives midge populations a chance to adapt. Farmers planting AAC Awesome, AAC Indus and Sadash have been unknowingly putting the usefulness of the Sm1 gene at risk.

What's the solution? Todd Hyra, business manager for SeCan, says, “my advice to everyone, whether it be a seedgrower or a farmer, is, if they can get AC Andrew and remediate those products that are known now, do it. But I recognize it's April. There is not going to be enough time, there is not enough seed. This is going to be a several-year process.”

By “remediate,” Hyra is asking farmers to voluntarily add a refuge of AC Andrew to their soft white wheat seed for spring 2017. This would mean adding a bushel of AC Andrew to every nine bushels of Sadash, AAC Awesome or AAC Indus.

Soft white wheat is only a segment of Prairie wheat acres. “We're fortunate that we're not dealing with five million acres of wheat,” Hyra says. In 2016, the Canadian Grain Commission reports, 12.4 million acres of wheat were insured in Western Canada. Of these, only 451,571 acres were soft white wheat. And, Hyra says,

“half of this wheat is grown in a low midge pressure area. It's new to Saskatchewan, and that's the reason it's important to get to remediation as quickly as we can.”

Deregulating Sadash to get it out of the system is one option. However, Hyra says, “the industry will be best served to have that product in the marketplace.” And, he says, “deregulation would take three years.” Hyra hopes Sadash seed can be remediated more quickly than that.

It's important that soft white wheat growers co-operate. “The trait is out there for the benefit of wheat growers,” Hyra says. “We want to preserve it because there's no other options. That's why we've taken this path of appealing to farmers to add the refuge and remediate as soon as they get a chance.” **GN**

Leeann Minogue is the editor of Grainews.

## SOFT WHITE SPRING WHEAT: 2016 INSURED ACRES

	Alberta	Saskatchewan	Manitoba	Total
	Acres	Acres	Acres	Acres
SADASH	126,114	147,822	428	274,364
AC ANDREW	44,442	111,650		156,092
AC CHIFFON	12,250	8,661		20,911
AAC PARAMOUNT	140			140
BHISHAJ	64			64
<b>Total</b>	<b>183,010</b>	<b>268,133</b>	<b>428</b>	<b>451,571</b>

SOURCE: CANADIAN GRAINS COMMISSION



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## HARVEST MANAGEMENT

# Spring is the new fall: harvest time crunch

Many areas are still dealing with unharvested crops; wet weather is delaying seeding as well

By Lee Hart

As of April 6 Jason Craig had combined about half the wheat that had been left out under snow all winter on his central Alberta farm. He only had about 120 acres in total of both wheat and canola left out, but it is still a considerable investment.

Combining the swathed wheat that was on the hilltops and high parts of the field on his farm near Delburne in early April, he was surprised at just how dry the grain was, but quality was another question.

"It doesn't look too bad," he said from the combine cab. "But we won't know until we have it graded. There is deer and mouse (excrement) in it but I really don't have any idea of quality. I really didn't expect to get anything, so if someone does buy it that will be a bonus."

That was Craig talking about his swathed crop. There was also so-called standing wheat and canola in lower and wetter areas of his fields. That "standing" wheat and canola

wasn't much more than a couple inches tall. He wasn't very hopeful.

"The standing crop is barely up to my ankles. I don't even think I can even pick it up," says Craig. "I may just have to work it in so we can get at seeding."

Craig is just one of hundreds of farmers across northern and central B.C., Alberta and Saskatchewan who are all facing the challenge this spring of getting overwintered crop harvested, or worked down as the case may be, and almost at the same time looking to get the 2017 crop seeded. Some estimates peg the amount of unharvested crops to cover two to 2.5 million acres.

Farmers in many parts of the Prairies are expecting to deal with adverse conditions this spring. Either they've got unharvested crop to deal with before seeding, or just excessive moisture following a wet fall, topped with spring snow melt. Their 2017 field operations could be delayed.

Darwin Kells, who will be seeding his 40<sup>th</sup> crop on his east central Saskatchewan farm says he along with other producers may have to consider some different options this spring to



PHOTO: LEE HART

It is anyone's guess how unharvested canola that sat out over winter will yield or grade this spring. These swaths north of Edmonton were still holding onto their seeds, but quality is unknown.

get everything done during a much narrower seeding window. Along with farming himself, Kells also owns and operates Lambton Agra Strategies crop consulting services.

"Unless conditions change drastically in a hurry we will be looking at wet conditions this spring," he says. "I expect more crops will be seeded in

the last two weeks of May or later, than in the first two weeks of May." That may require some different approaches.

#### OPTIONS TO CONSIDER

Here are a few thoughts from Kells on options to consider this spring:

1. More soil disturbance at seed-

ing. He's expecting farmers will be replacing narrow low disturbance openers on air seeding equipment with sweeps or some other type of opener that will cause more soil disturbance. The sweeps will help saturated soils to dry out and will also fill in some of the ruts left behind after harvest on wet soils.



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**2. Stabilized nitrogen.** Kells expects to see more farmers turning to some form of stabilized nitrogen this spring because of the wet conditions. Products such as Agrotain and SuperU, urease inhibitors, and ESN a polymer coated slow release urea will be in demand he expects.

**3. Adjust nitrogen rates.** Particularly with late-seeded crops — late May early June — producers may want to reduce fertilizer rates. He says with later seeding, yield expectation is reduced. Fertilize according to yield forecast.

**4. Top-up applications.** If there is only so much time to get fertilizer applied at seeding, or farmers want to wait to see what the growing season brings, a top-up fertilizer application can work with some crops, says Kells. Top-up treatments may not be practical with cereal crops such as barley, he says. As yield is determined and nutrient demands are highest by the three- to four-leaf stage any top-up application would have to be made by the two-leaf stage. Canola offers a bit more latitude for an in-crop top-up fertilizer application. Fertilizer can be applied up to the stem elongation or bolting stage. If a top-up fertilizer is applied, it needs to be followed by at least 10 mm of rain to move it into the soil.

**5. Don't forget phosphorus.** As soil-available phosphorus is declining in some parts of Western Canada, producers need to make sure they are applying enough to meet yield expectations. "Some of the older agronomy information was based on lower yield expectations," says Kells. "So 25 to 30 pounds of seed-placed phosphorus was enough." But he points out that a 50-bushel canola crop will use about 50 pounds of phosphorus. On his farm Kells plans to apply 15 to 20 pounds of phosphorus with the seed and then place another 30 to 35 pounds about an inch to the side and one inch below the seed row.

**6. Keep seeding rates up.** With a later, wetter spring and later-seeding season it is important to keep seeding rates up and higher than usual. Kells suggest targeting a seeding rate that will produce 28 to 30 plants per square foot for barley, about 35 plants per square foot for wheat and 40 to 45 plants per square foot for flax. The higher plant stands will reduce tillering. Long-standing research shows higher plant density can shorten crop maturity by a week. He points out under wetter seeding conditions seed mortality increases.

**7. Disease pressure.** Under wetter conditions he says producers should be prepared for and manage as possible for higher disease pressure, such as higher levels of fusarium head blight. Some bin run seed might be carrying the disease and there is likely just more disease present in the field. Use a good seed treatment and seed fusarium resistant varieties or crops.

**8. Rotation options.** Kells follows and always recommends producers follow at least a one-in-three year rotation with canola. It helps to reduce disease risk. He is one of the "crazy few" in his area who aim to produce malt barley. With reasonably good luck in the past, he'll be seeding barley again this year. But he says he applies proper agronomic practices in the hopes of achieving malt quality

— "I treat it as a super special crop, and it seems to pay off," says Kells. He also plans to include brown flax and gold flax in his rotation this year. While flax doesn't have a particular reputation for handling wet conditions, crops over the past three years have "exceeded expectations" even with wetter growing seasons. With wet conditions, he's not optimistic about peas. Last year he saw some exceptional crops at the start of the season, but then with three inches or more rain in some areas in later July the crops were decimated, falling from 60 bushel yield potential to about 35 bushel yield. While he is cautious about soybeans in his part of Saskatchewan, he has seen fields of a new Syngenta variety, M2, that performed very well under fairly wet

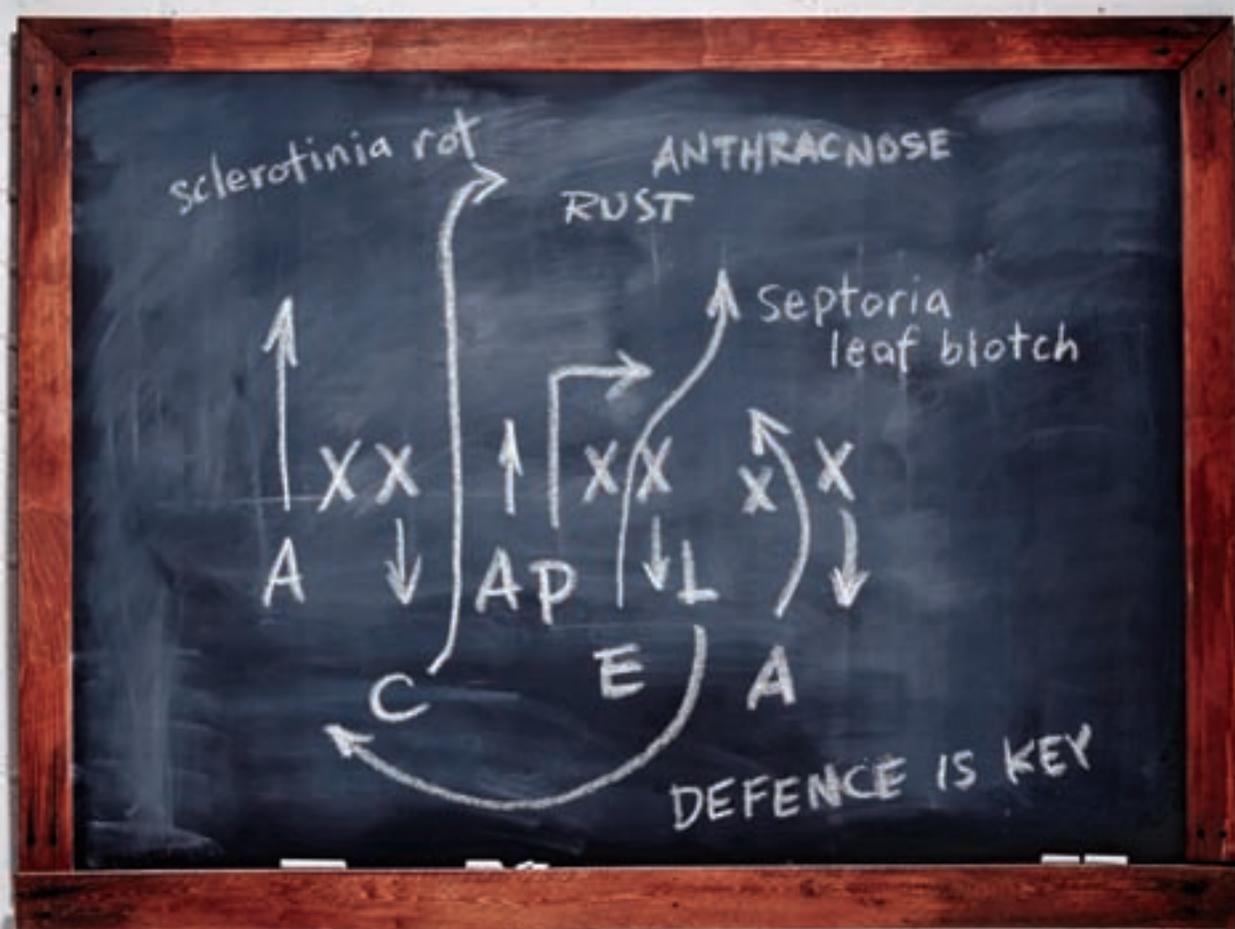
growing conditions. "In this area having the crop reach maturity on time is the big issue," he says. But some of the newer varieties are showing promise. He notes that soybeans are prone to sclerotinia, which can put canola crops at risk. Faba beans seem to grow fairly well under conditions, but they can be later maturing. Last year people were battling to get them harvested in November. This fall he's also planning to seed some acres to a newer hybrid fall rye. With proper agronomics, they can be high-yielding, high-value crops. **GN**

*Lee Hart is a field editor with Grainews based in Calgary. Contact him at 403-592-1964 or by email at lee@fbcpublishing.com.*



PHOTO: JASON CRAIG

Swathed unharvested crops might be the easiest for Jason Craig to deal with this spring. The "standing" crops may just have to be worked down.



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## DISEASE MANAGEMENT

# Use those fusarium maps

Know your risk: fusarium maps offer another metric for spraying decisions

By **Julienne Isaacs**

**W**hat if farmers could predict Mother Nature's moods in the growing season? The idea is becoming less and less far-fetched with advances that help producers put a number on disease risk. But fusarium head blight (FHB) risk assessment maps are only one factor among many influencing spraying decisions.

FHB risk assessment maps have been available in Manitoba since 2001 and in Saskatchewan since 2015.

The Manitoba maps are based on data collected by over 70 weather stations operated by Manitoba Agriculture's agrometeorology program, and use a model that looks at precipitation and temperature. Saskatchewan's maps are generated by Weather INnovations (WIN), based on data from the company's and Environment Canada's weather networks, and take into account temperature and relative humidity.

In both provinces, the maps are updated daily through June and July.

Bill Gehl, chair of the Saskatchewan Wheat Development Commission (Sask Wheat), says the province's risk assessment mapping program came about partly due to an awareness of fusarium's impact in Manitoba.

"Farmers have put a lot of money into

fusarium research, and all the farmers around the board table were starting to have issues with it, so certainly the knowledge was there, as well as awareness of the problem in Manitoba," he says. "It is a very detrimental problem to farmers' bottom line and we wanted to do as much as possible."

## A "MULTI-PRONGED APPROACH"

Barbara Ziesman, Saskatchewan's provincial specialist in plant disease, says the map indicates disease risk, but in order to be used accurately it has to be used in conjunction with staging.

"The first step is for producers to stage the crop and determine when it will flower," she says. "If you're looking at the map 10 days before anthesis, that risk can shift quickly. And your risk assessments might be different for different fields."

She cautions that FHB needs to be managed with an integrated approach. "The risk assessment maps can help with fungicide application decisions, but those fungicides are only registered for suppression. They will only give us partial control, so we need to look at using some of those other management practices, such as good rotations and the use of resistant varieties."

Gehl, who farms near Regina, agrees that it's important to look at fusarium management not just as a spraying issue

but as a "multi-pronged approach." Gehl has abandoned durum production on his farm in favour of better CWRS varieties and adopted agronomic practices that minimize risks.

That's when the maps kick in, he says, by providing temperature and moisture levels. "We can safely say all the soil in Saskatchewan has Fusarium inoculum in it now, so it's a question of whether the conditions are correct."

Last year, Sask Wheat saw 5,000 unique hits on its website during the time it had the maps up. Gehl believes that after last year's problems producers are learning quickly how to manage the disease.

"There are things a person can do. It's not all bad news. We do have some very good varieties," he says.

Ian Nichols, president of WIN, says while the final spraying decision rests with producers, the maps provide a good indication of Fusarium risk in specific areas relative to crop stage. "When you can only grow one crop a year, my recommendation is do not push the risk threshold too far. If there is even some risk indicated by the model, producers may lean toward applying a protective fungicide," he says. "This crop disease is not forgiving — it is not a condition that you can cure once infected."

In Manitoba, producers have been dealing with FHB longer than Sas-

katchewan producers, and especially in eastern and southern Manitoba, "farmers spray preventatively," says Holly Derksen, field crop pathologist for Manitoba Agriculture.

"At least two thirds of producers, and depending on where you are, sometimes 100 per cent of producers look at the maps, but don't necessarily use them as part of their spraying decisions," she says.

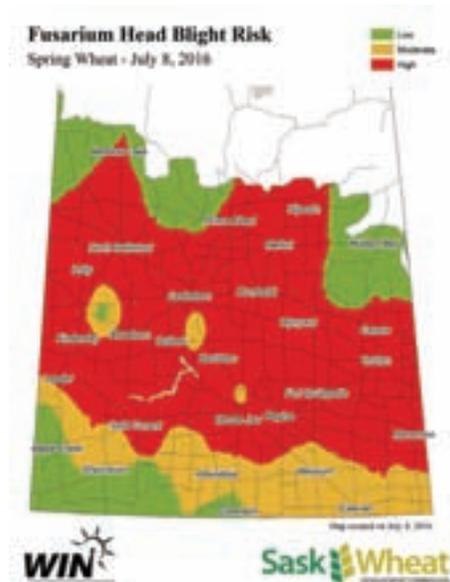
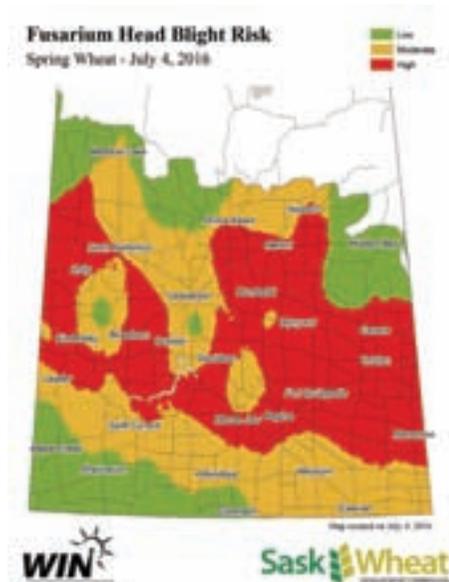
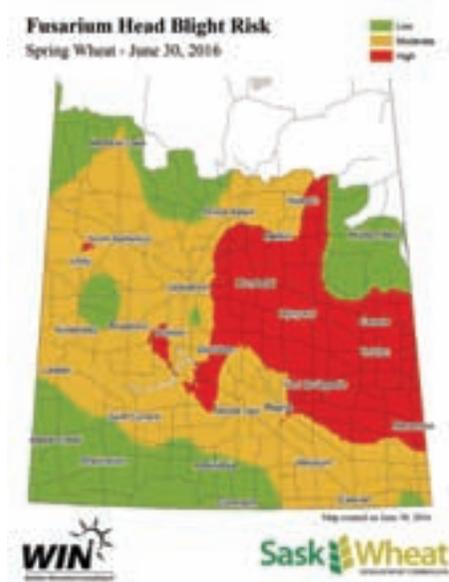
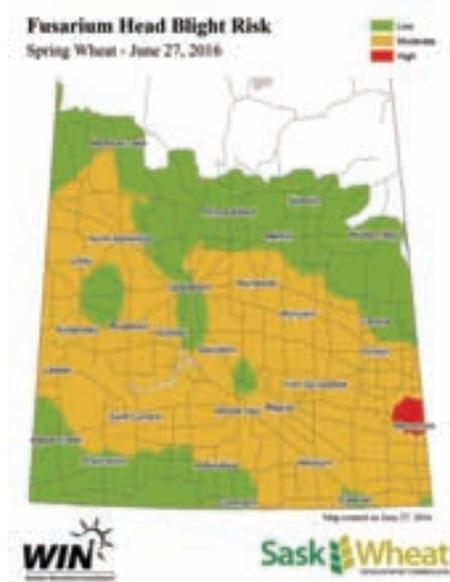
The exception is western Manitoba and the Interlake, where producers rely on the maps to spray.

She says southern Manitoba producers have an advantage in terms of mapping resources, as North Dakota uses a model that takes into account host susceptibility. "So if you live close to the border look at those maps," she says.

This year, Manitoba Agriculture hopes to re-validate its risk assessment model with trials on farm and at its Crop Diversification Centres to measure more variables, including DON and FDK. **GN**

*Julienne Isaacs is a Winnipeg-based freelance writer and editor. Contact her at julienne.isaacs@gmail.com.*

**i** These fusarium risk maps from Saskatchewan during the 2016 growing season show the progression of FHB across the province.



GRAPHICS: SASK WHEAT

## Find the maps

Farmers in Saskatchewan and Manitoba can access regularly updated fusarium head blight risk maps during the growing season.

### IN SASKATCHEWAN

On the Sask Wheat website ([saskwheatcommission.com](http://saskwheatcommission.com)), choose "Producer Info," then "Fusarium Resources." The maps will be updated again in June.

### IN MANITOBA

Manitoba farmers can see updated maps on the Manitoba Agriculture website. At [www.gov.mb.ca](http://www.gov.mb.ca), search for "fusarium head blight risk forecast" in the search box.

Leeann Minogue

## TIP OF THE ISSUE

## Midge scouting

Scouting is an important component of management. If you don't know what's in your field, you can't evaluate what control measures to use.

Yearly scouting is needed to assess what pests exist in fields, as populations don't always remain constant. For

example, in 2016 there were higher counts of cutworm but lower incidence of Bertha armyworm. Diamondback moth arrive via winds from our Southern neighbours, and thus are very unpredictable. Flea beetles are usually present but damage depends on the effect growing conditions have on their development as well as ability of the canola crop to outgrow feeding damage.

Identifying pests can also help prevent future problems. Recently, a team of researchers from Saskatchewan, Alberta and Ontario identified a species of midge that is slightly different from the Swede midge. The Swede midge has caused major issues for canola growers in Northern Ontario, however the economic impact to Prairie canola growers, as well as the insect biology, is still being

assessed. The new midge species is different physically and in DNA makeup, according to the research scientists at Agriculture Canada. However, the economic impact of this new species is not yet known.

Establishing a canola crop with good, uniform plant counts goes a long way towards minimizing pest impact. Well-fertilized crops allow for

more rapid and even development and maturity. Proper rotations can also help to reduce impact.

For more information on insect identification, the Canola Council of Canada ([www.canolacouncil.org](http://www.canolacouncil.org)) has excellent information on pests and scouting. **GN**

*Doug Fehr, DuPont Crop Protection Canada*



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CAN'T TAKE THE FARM FROM THE BOY

# Taking that big leap to “landowner”

Choosing to buy land is a big decision. Especially when it's your first land purchase



**Toban Dyck**  
tobandyck@gmail.com

It was just a text. The setting wasn't formal. There were no lawyers present. We were in Arizona. The sun was shining. A pot of coffee had just been brewed. My wife, Jamie, was sitting outside reading. I was about to join her. But it was closing in

on the eleventh hour and our final decision needed to be communicated.

In mid-March, the couple we had been renting 120 acres of land from took us out for supper. For those of you who are not religiously dedicated to reading every one of my columns (shame on you), in the fall of 2015 I began renting 120 acres of what was initially pastureland a mile north of Morden. I broke the land (which was quite a process) and

grew a 49 bushel per acre soybean crop on it the following year without applying any fertilizer. The yield exceeded my expectations.

One growing season hardly qualifies as a litmus test for the overall quality of a parcel of land — especially one with no recent crop history — but, there's an element of risk to any venture, and this happens to be one I can live with.

They presented us with an offer. It was unique, tailored to our condi-

tions and circumstances and to theirs, as well. They had done their research. It was fair. They gave us until the end of March to think it over and respond.

## TAKING THE LEAP

I'm 37 years old. I see the burden of what that means and the obligations behind it in the eyes of my peers of a similar age. I'm not saying I'm old. No. All I'm saying is that in and around this age, the ether hands you a

package, the contents of which are full of words such as, “investment,” “ownership,” “responsibility,” and “future.” These concepts and the value behind them are largely artificial, but they play a role in life.

The possibility of purchasing land plunked me in the middle of this thought process. Starting to take risks outside the comforts of an established, family-run operation is something that most growers would say is a natural course of action for a young farmer. And while I agree, I don't agree with doing things just because that's how they have been done in the past. No matter how pedestrian buying 120 acres may seem to some farmers, it's a big decision for us, and it requires/deserves real thought. And it's at this point where it's important to distinguish between what are real concerns and what are artificial pressures.

Listening to their offer and then discussing it further felt like a big step for us. We asked a lot of questions. They asked a lot of questions. It was clear that they wanted us to think about the offer and that they wanted us to be comfortable with every aspect of the offer, as presented. I was excited but quickly remembered that people my age are not to exhibit such emotions when discussing business, even if it is with friends.

They shared anecdotes about their experience trying to make payments on the land when times were tough. Every farmer has such a story or two.

All they needed was a text from me to start the process, and it was nearing the end of March — deadline time. Jamie and I had discussed the pros and cons of owning land — owning that land — and taking on that level of debt. We went through this process a few times, and every time we unanimously arrived at the conclusion that we did not want to pass on such an opportunity. If the five years I've been back on the farm are any indication, land doesn't go for sale very often, and when it does, it's rarer still that buying it is a possibility.

The specifics of the transaction have yet to be ironed out, but that's in progress. Papers will need to be signed and lawyers will need to get involved. But for now, Jamie and I will enjoy the honeymoon period between knowing that we're going to be landowners and not yet having the burdens and obligations that come with such an investment/responsibility.

So, quietly, and unceremoniously, I sent the text, poured a fresh cup of coffee, picked up a book and took a seat beside Jamie under the hot Arizona sun. Nothing changed. No one around me knew what we just did. We were about to meet my parents for breakfast at their RV. We did. We had bacon and eggs. **GN**

*Toban Dyck is a freelance writer and a new farmer on an old farm. Follow him on Twitter @tobandyck.*

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**Brian Wittal**

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The marketing risk management issues I usually write about are focused on improving marketing results while reducing marketing risk. I would say this falls under the category of production management. What I would like to talk about in this article comes under the category of business management: farm transition planning.

You may wonder why I would call this a risk. I would respond by saying that the lack of farm transition planning likely one of the biggest risks many farms face.

I recently attended a local chapter meeting of the Canadian Association of Farm Advisors (CAFA) and sat around a table with accountants, financial advisors, realtors, estate and retirement planners, insurance agents, lenders and transition specialists.

The main takeaways I got from this meeting are:

1. The vast majority of farm families do not have any kind of a formal written transition plan for their farm.

2. Too many farmers believe including a transition plan in their will is sufficient, not realizing the potential tax implications and added family stress this can create.

3. To build a complete and effective farm transition plan, you need a collaborative team approach. Include your family and some professionals, including an accountant, a financial advisor, a life insurance representative, a realtor and a lawyer.

We hear often that "farming is big business." That is true, especially when it comes to the details of transferring or selling property, which can involve taxation law, inheritance law, capital gains or losses, tax credits, divorce and death. It is highly unlikely that any one person has the capacity to understand all of these aspects.

It's also important to start the process several years in advance of when you anticipate you will need it. At the CAFA meeting, we discussed the importance of getting all generations of the farm family together to discuss the future of the farm. This meeting should include all spouses and siblings, even those that do not live or work on the farm.

Many farm families have meetings and start to discuss transition, but unless they actually write things down and commit to a next meeting, the topic is often left, and eventually dropped all together. It's easy to do this when you're busy with the day-to-day operations of a farm.

## MAKE THE PLAN

Transition planning takes commitment and time. That's why it's usually best to bring in a transition facilitator who can move the process forward and make sure everyone is engaged and has a say in the outcome. Advisors suggests starting the

process at least three to five years before you intend to implement it so there is time to cover off all aspects of the plan and get everyone's feedback. This way the transition will happen as seamlessly as possible with little disruption to the farm business and few hard feelings between any family members.

One specialist said that 90 per cent of the farm transition plans he works on are done in the hospital at someone's bedside, which is the worst time

to do it. From his experience last minute decisions made under severe stress are not likely to take in to consideration all of the aspects or people the decision might affect. These hospital decisions end up being made with too much emotion and not enough pragmatic thinking.

If you don't have a transition plan in place and something happens, the farm may need to be sold.

If your plan is to sell your farm at retirement you need to ensure you

are transitioning properly to minimize taxes and maximize what you can keep for your retirement and pass on to your family.

I suggest that you start the process for your farm operation now to ensure that you don't leave it until you are in the hospital. Starting the conversation may not be the easiest thing to do, but it needs to be done now to prevent worse things happening later.

Farming is and always will be a long-term business, a labour of love.

For most Prairie farms, that means it's multi-generational, and the intent is to pass it on to the next generation.

So if you want to ensure the continued success of your family farm get your plan done! **GN**

*Brian Wittal has 30 years of grain industry experience, and currently offers market planning and marketing advice to farmers through his company Pro Com Marketing Ltd. ([www.procommarketingltd.com](http://www.procommarketingltd.com)).*



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<sup>1</sup> HGCA Wheat disease management guide hgca.com, 2012. <sup>2</sup> AgCelence benefits refer to products that contain the active ingredient pyraclostrobin. <sup>3</sup> All comparisons are to untreated, unless otherwise stated. <sup>4</sup> Stratus, 2016.

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## REPORTER'S NOTEBOOK

# A new growing season brings a new start

For the start of a new growing season, Lisa Guenther has some listening recommendations

By Lisa Guenther

I started writing this column on the last day of March. The snow was rapidly receding, the water running, the rhubarb in my backyard emerging and my recently-transplanted tomato seedlings were leaning into the light.

To me, spring feels more like the New Year than January 1.

A while back I was visiting seed

grower Ed Seidle, talking to him about his on-farm research. Ed likes to say that if the weather puts on a waltz, you better waltz, not jig. With all the advancements in farming, Mother Nature still has the final say.

I find it hard to focus on writing this time of year, with the birds chirping and yard work beckoning. I'm tempted to play hooky from the day job and start working on a new flowerbed, plant some spinach and kale and go horseback riding.

I think spring fever would drive me nuts if I were a farmer. How do farmers deal with the waiting game during late – or wet – springs that delay field work?

There are many things producers can control or at least influence. Soil fertility, livestock nutrition, crop rotations come to mind. But, as Ed pointed out, Mother Nature still chooses the music. As spring unfolds, we'll be waiting to see what's on her playlist.

## SPEAKING OF PLAYLISTS

This winter Glacier FarmMedia launched a podcast, *Between the Rows*. Glacier FarmMedia owns several of the western Canadian ag publications, including *Grainews* and *Country Guide*. The weekly podcast features reporters talking about recently-published stories. It's a good snapshot of stories from across Western Canada.

I'm a big radio fan, and I've been listening to podcasts on my iPhone for a

few years now. I wasn't involved in the development of *Between the Rows*, but I did get to listen to a few of the pilots as my colleagues worked on the show this winter. It was interesting to hear how the show developed and improved. Personally, I think it makes a lot of sense for Glacier to get into podcasting. It seems like something our audience will appreciate and find accessible. And as a "print" journalist, podcasting fits well into my own workflow.

This winter I started a podcast of my own (*Reading West*), featuring western Canadian authors reading their work. There was a bit of a learning curve when it came to technical stuff such as editing audio and uploading and distributing the episodes. But surprisingly, the most work has been getting enough authors to record their own readings. I need to send out requests regularly, something that I haven't been doing enough. It's been an interesting, worthwhile experience so far.

If you're a radio fan, but haven't subscribed to podcasts yet, I'd highly recommend it, especially as you prepare to put in long hours during seeding. All you need is a smartphone. You can subscribe to podcasts by searching through iTunes, a podcast app, or Google Play. You can also listen through the podcast's website. *Between the Rows* is online at [www.agcanada.com/podcasts/between-the-rows](http://www.agcanada.com/podcasts/between-the-rows).

Subscribing is free, although some shows ask for donations.

I subscribe to a couple of dozen podcasts. On the farming side, I listen to BBC's *Farming Today*, *Real Ag Radio*, Rob Sharkey's *Shark Farmer*, *Canola Watch*, and of course *Between the Rows*.

On the literary side, I like *The New Yorker: The Writer's Voice* (I sort of modeled my own show after it). I also like creepy sci-fi series such as *Tanis and Rabbits*. I'm a true crime listener, so *Crimetown* and *Criminal* are favourites. *Reply All* is an interesting technology/current events show from the U.S. *Reveal* is an investigative journalism series I like. Jesse Brown is building a small media empire with shows such as *Canadaland* (looks at Canadian media) and *The Imposter* (arts and culture). Brown himself rubs some people the wrong way, but he has interesting guests.

If you're looking for more suggestions, ask your fellow farmers. You'll probably get plenty of ideas from others. You can also see what's available by browsing a podcasting app. I use the iTunes podcast app, but there are plenty of other apps out there.

Good luck with seeding this year. I'm crossing my fingers that Mother Nature picks a tune everyone can dance to. **GN**

Lisa Guenther is field editor for *Grainews* based at Livelong, Sask. Follow her on Twitter @LtoG.

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## FARM MANAGEMENT

## “New” deals on FCC software

Last year I wrote in *Grainews* that I was searching for farm record-keeping software. I'd considered FCC's Field Manager PRO, but thinking it cost \$499 annually, I ruled it out.

I was wrong. For me, the cost of Field Manager PRO has turned out to be zero.

This won't be the case for everyone, but I suspect quite a few farmers missed the FCC price changes that have been in place for a couple of years. Anyone using AgExpert for farm bookkeeping and paying for annual Customer Care can now access updates for both AgExpert and Field Manager PRO.

Here's my situation: We use FCC's AgExpert and pay \$269 (plus tax) annually for Customer Care. The annual fee lets us keep our payroll deductions up to date, download software upgrades and phone the help line when we have questions. (I could save \$30 a year by not taking the payroll and phone-in options.)

Back in 2007 we tried Field Manager PRO for one year, but didn't renew.

Now, our AgExpert Customer Care plan also allows us to update Field Manager PRO. Free. Of course I'm not using the same computer and I've lost my original serial number, but they don't mind. Steve Liebel, senior product specialist, looked up the serial number and I downloaded the latest Field Manager PRO software on my current machine.

If you're only using one of these two programs, if you've ever purchased the

other, you can now use both for \$239 per year. Never bought them? New user costs are \$499 (plus tax) for AgExpert; \$499 for Field Manager PRO; \$729 for both. (That's \$230 for the second program, even if you buy it years after you purchased the first one). The Customer Care fee is waived for the first year. **GN**

Leeann Minogue

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## SOILS AND CROPS

# Back to the root of the matter

In Part 2 of a 3-part series, Les Henry talks about perennial crop roots



Les Henry

This is Part 2 of a three-part series. In Part 1 we talked about the folks that provided very detailed diagrams of many plant roots to the depth needed to get the complete picture. In this part, we'll talk about perennial plant roots, and in Part 3 will be about annual crop plants.

Thomas K. Pavlychenko from the University of Saskatchewan left a legacy of root mounts second to none in the world. You can see a silent movie of his work on the Internet on YouTube. (Go to youtube.com and search "Pavlychenko Roots in the Ground" in the search box.)

John E. Weaver from the University of Nebraska made a life's work of Prairie plant ecology including many root diagrams and publications. A quick Google search of J.E. Weaver, Nebraska reveals his complete works in PDF format from the University of Nebraska. The link is: <http://digitalcommons.unl.edu/agronweaver/>.

## THE PRAIRIE SOD

Let us begin by taking a peek underground at the root systems that were in place when our grandfathers arrived in the early 1900s to a raw new land. Figure 1 shows the dense mat in a True Prairie (Black) soil.

When we consider the biology and microbiology associated with that root system it is easy to see the huge transformation that took place when Grandpa came along with his breaking plough (Figure 2).

Weaver recognized three main rooting layers: zero to two feet, very dense; two to five feet, slightly less dense; and three to eight feet, only a few plants motored on to reach eight feet. Such a plant community is well set to deal with the challenges of dry and wet periods.

It is not surprising that trouble arose when the dry years came. The wind blew, the grass roots were long gone and away it went in a cloud of dust. My Mother (as did many) oft repeated the Dirty 30s story of setting the table with plates upside down to keep the dust off the business side until dinner was ready.

It also drives home the common sense of folks that are pioneering work on multi-cropping and intensive short term grazing of broadly mixed stands. Kevin Elmy of Yorkton area, Colin Rosengren of Weyburn area, and the famous Gabe Brown at Minot, North Dakota come to mind. The current interest in "soil health" comes into sharp focus when we look at the root diagrams of Weaver.

## ROOT GROWTH AND SOIL CONDITIONS

A plant ecology type gets all agog about what an individual or group of plant species can do. A soil scientist gets excited about a rich Black soil

and what it can grow. But Mother Nature has to deal with the hand that is dealt. A plant capable of sending roots several metres into the ground may not always be able to do that. Sending roots deep looking for moisture does not work unless the moisture is there in the first place. Alfalfa is a good plant to illustrate.

In a situation of a rich lowland soil with a water table at 12 feet alfalfa roots reached a depth of 10 feet in only two years. With our recent wet years I have come to appreciate the profound influence that a water table within reach of plant roots has on what we grow. A shallow water table has also played a big role in determining the soil that formed from the parent material the glaciers and meltwaters left behind.

Weaver also examined two year old alfalfa at a dry site at Burlington, Colorado (Figure 4). At the two-foot depth the soil had a "hardpan" but closer examination showed that the hardpan was really just dry soil. In wet periods roots do penetrate the hardpan. The conclusion was that the hardpan itself was no barrier to plant roots when moist.

The granddaddy I have found for root depth is 17 feet for a herb (false boneset, Figure 5). Of interest with that deep-rooted herb is the reaction of roots to the soil/water conditions. The clay layers at eight and 12 feet allowed roots to branch out to make use of the extra water the soil provided.



Figure 2. Grandfather Jerome Henry's plough breaking the Prairie sod on Brunswick farm at Milden, Sask.

## A SPECIAL EXAMPLE – CURLED DOCK

The final example is an "alien species from Europe." It is not native here but the USDA map shows it from Florida to Alaska and all points between, including all of Canada. It likes wet spots and we see have all seen it on our farms. Amazing how a "foreigner" adapted so well to such diverse conditions. I had assumed it was native.

With a root system that reaches to three metres (Figure 6) and the numerous seeds that we have all seen, curled dock has settled in well. The example is from central Europe but our German was not good enough to pinpoint it exactly.

It is amazing that the plant has

adapted to all of North America. It is considered a noxious weed in some U.S. states but not that I have found in Canada. Readers can enlighten me if I am wrong.

Stay tuned for Roots 3, which will deal with annual crop plants that we use to pay the bills. **GN**

*J.L. (Les) Henry is a former professor and extension specialist at the University of Saskatchewan. He farms at Dundurn, Sask. His book, "Henry's Handbook of Soil and Water," mixes the basics and practical aspects of soil, fertilizer and farming. To order a signed copy, send a cheque for \$50 (includes shipping and GST) to Henry Perspectives, 143 Tucker Cres, Saskatoon, Sask., S7H 3H7.*

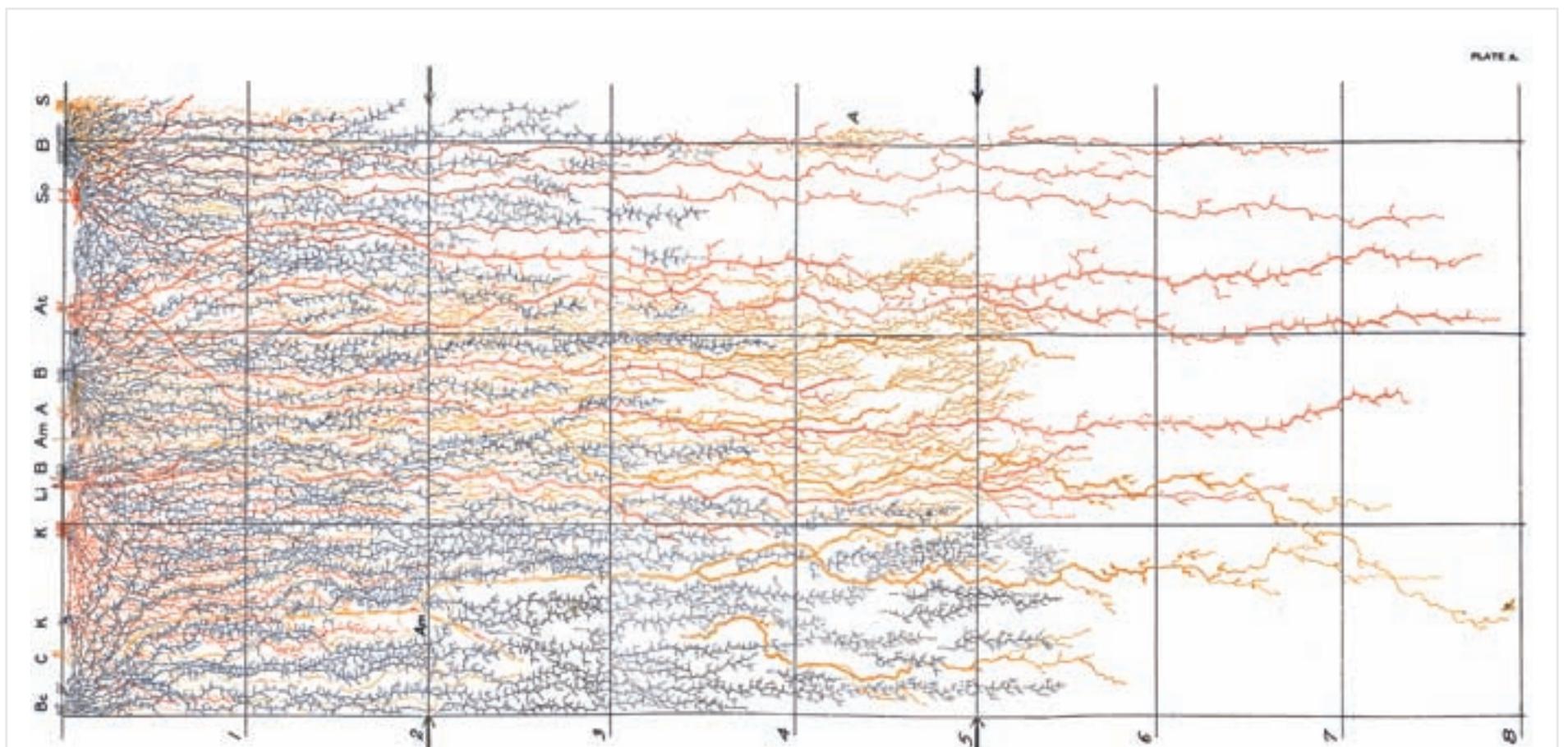
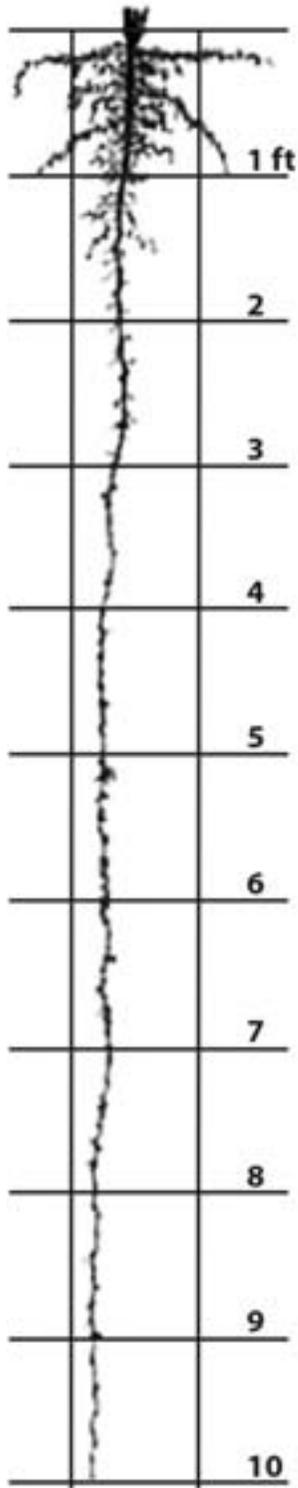
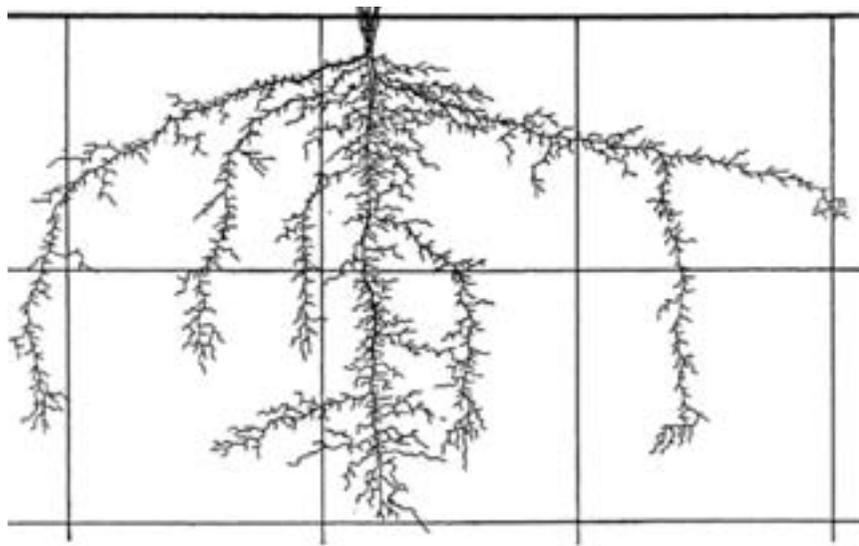


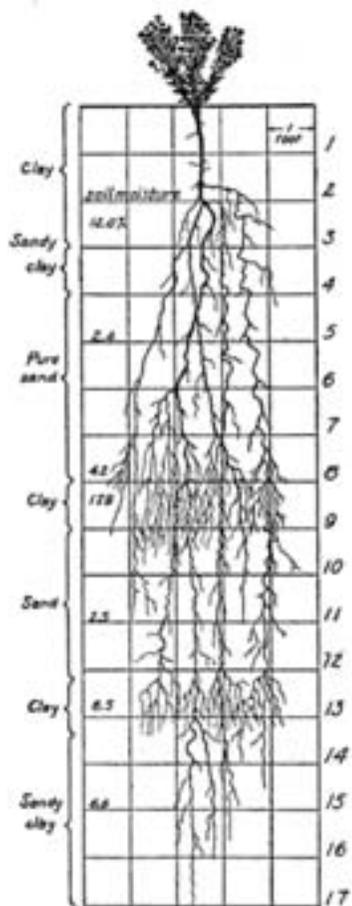
Figure 1. Roots of native sod of True Prairie in SE Nebraska. Each square in this figure is one square foot, for a total root depth of eight feet. The common names of a few of the plants are: Bc = side oats grama; K = Junegrass; B = blue grama; So = prairie goldenrod; S = needle grass. From: Plate A, after page 38 of Weaver, J.E. 1920. Root development in the grassland formation. Pub. by the Carnegie Institution of Washington.



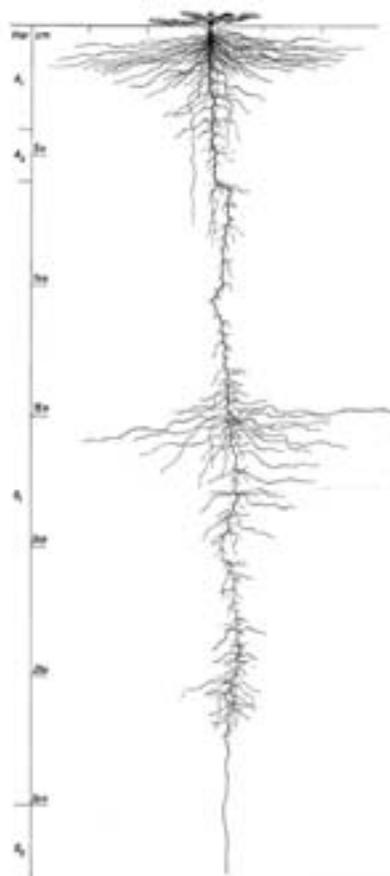
**Figure 3.** Two-year old alfalfa root grown on a rich lowland soil. Water table depth at 12 feet. From: Fig. 95 of: Weaver, J.E. 1926. *Root development of field crops.* McGraw-Hill Book Company Inc. New York, London.



**Figure 4.** Root system of alfalfa in second year of growth. From: Weaver and Crist, 1922. *Ecology*, Vol. 3 pages 237-249.



**Figure 5.** False boneset grown on an alluvial soil with sandy and clay layers. From: Weaver, J.E. 1919. *The Ecological Relations of Roots*, Carnegie Institution of Washington.



**Figure 6.** Root system of curled dock (*Rumex crispus*) that extends beyond three metres. From: Kutschera, L. 1960. *Wurzelatlas (root atlas)*. German edition of the book is in the University of Saskatchewan library.

## Organic wheat and fusarium head blight

Les Henry

There have been recent farm press talks about the lack of fusarium head blight and associated vomis problems in organic wheat.

Organic farmers do not spray with fungicides so how can that be? Some experts say that in a fusarium area and year there is no way to grow wheat without spraying with a fungicide.

In my experience, fungicide is a band-aid at best, not a solution. It is impossible to spray at the “right” time because a crop of wheat does not flower all at once. There is a best possible time, but not a right time.

So, what magic do the organic farmers have? Perhaps they are using older or different varieties that are more resistant to fusarium, but I very much doubt that.

I may be wrong, but I think the answer is this:

As “conventional” farmers we have a lot of wheat in a continuous crop system with little or no tillage and plenty of nitrogen to insure a good crop and high protein. We are shooting for 50 to 60 bushels per acre — some much more — with a high seeding rate and high plant population to reduce tillering and tighten up flowering time. We also hope we can get \$6/bu. and maybe even \$8 but seldom more.

All of the above contribute to acquiring and maintaining adequate inoculum of fusarium to keep us in hot water whenever conditions are right. (See my column in the March 17, 2017 issue of *Grainews* for what constitutes “right” conditions.)

It has been my observation that the worst affected heads have been in the part of the field that produced the very best crop where there was plenty of nitrogen and water.

And, I think those very good areas may produce very healthy fusarium because of not only the moisture in the air, but the NH<sub>3</sub> that is in that moisture. And, we know nothing about NH<sub>3</sub> in the atmosphere. I think it is time we learned.

Organic farmers use no N fertilizer and lots of tillage, including summerfallow in many cases, and can do quite well with a 20 or 30 bushel crop of what that they hope to sell for \$20/bu. Such a production scheme leaves no room for fusarium to develop and maintain inoculum in the soil.



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## HART ATTACKS

# Despite headlines, ag does a good job

It's a challenge to produce crops and livestock and manage consumer perception as well

By Lee Hart

The good name of agriculture has taken a few hits this spring. They don't necessarily link to Canadian farms, but I'm sure even a global event making headlines has some impact with consumers wondering about what goes on with their food and the environment.

First, JBS meat packers in Brazil — the world's largest meat processor owning one of two major beef plants in Canada — had to deal with a scandal involving meat inspectors in Brazil who were allegedly bribed to "permit the sale and export of rotten meat."

Just that line alone "permit the sale and export of rotten meat" has to raise an alarm with a consumer concerned about the quality of products in Canadian meat counters. Consumers are already wondering about meat products laden with antibiotics and hormones and now they have to wonder if that bright pink package of ground beef is harboring some rotten burger. If I can just make it to A & W for lunch I should be safe and okay.

The fact is there is no Brazilian ground beef in Canadian retail stores and Canadian beef is fresh, healthy and safe as it ever was. But an event like a "rotten" meat scandal makes an impression... and not a good one. Brazil is working hard to clean up the mess and protect its \$14-billion meat industry.

## CONSUMER CONFIDENCE

Next into the headlines, Robin Hood Flour, a Mother Corp. for wholesome, high quality, pure-as-the-driven snow wheat flour had to recall some of its products due to contamination from E. coli O121 bacteria. At first it was just a recall of 10 pound bags of flour in Western Canada, and then the recall went nation wide. Twelve people in B.C., four in Alberta, four in Saskatchewan and five in Newfoundland were among 25 cases of people getting sick due to that particular strain of E.coli.

So where did this come from? How does E.coli get into flour? Could it have some connection to stinky old raw pig manure that goes on the land, high herbicides residues in grains, or those millions of acres of genetically modified wheat across the prairies? It's all pretty suspect. It could be one or a combination of those factors.

Again the fact is that Robin Hood is cranking out tons of healthy safe flour, there are no herbicide residues and there is no genetically modified wheat — at least not yet anyway. But for ag industry critics, the uninformed, even leery or questioning consumers E. coli in flour may make them at least pause with some concern. How safe is this stuff? Mom's homemade, fresh baked bread and a glass of cold, wholesome milk almost share the same pedestal in the consumer's mind. Don't mess with bread and milk.

And then to add to the whole credibility concern about agriculture, another headline in the daily paper the day of this writing warns that "thawing farmer's fields fuel climate change." This has to do with tons of nitrous oxide, probably from the over-use of chemical fertilizers, floating off fields as the ground thaws creating holes in the ozone layer you could drive a bus through. I think I saw one hole in the sky this morning as I was driving over to A & W for a life saving breakfast. A & W is like a bombshelter in the hostile food world.

## ENVIRONMENTAL ISSUES TOO

I wanted to learn more about how or why the annual spring thaw was "fuelling climate change," so I called the lead researcher, Dr. Claudia Wagner-Riddle at the University of Guelph. She was helpful. I came away believing her research is sound, but the headline on the story in my daily paper may not have told the whole story.

Wagner-Riddle, with the University of Guelph School of Environment Sciences is studying greenhouse gas emissions from farmland, such as carbon dioxide (CO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O).

An important part of this project was determining a field-scale system for measuring nitrous oxide emissions from farmland. In the past they could take a frozen soil sample, thaw it out in the lab and measure gas release from the sample. But in this more recent work she developed a system that works on a field scale basis. She worked with farmland in Ontario and as well with the University of Manitoba on farmland in Manitoba. She had 14 years of research information from Ontario and nine years from Manitoba.

With that research information, she then gathered readings from 10 other locations in Canada as well as in the U.S., Japan, China and Germany. By extrapolating those findings to cropland world wide exposed to freeze/thawing cycles she came up with a figure.

Based on all the data, the freeze/thaw cycle worldwide produces about a teragram — one billion kilograms — of nitrous oxide per year. While the research might be out by a tonne or two here and there, the amount of nitrous oxide produced had not been qualified before.

So is every acre of western Canadian farmland contributing to the release of nitrous oxide into the atmosphere? Should we shut down farming?

No. The main contributor to the release of this harmful greenhouse gas is water-logged soils, particularly as they freeze and thaw. Parts of Manitoba and Ontario are very familiar with wet conditions, and the range might extend even much further across Western Canada after a very soggy 2016 growing and harvest season.

As you all remember from high school science class (I didn't, I had to look it up) when soils become satu-

rated soil microbes use nitrate — N to respire instead of oxygen — the process is called denitrification — resulting in the loss of nitrogen fertilizer to the atmosphere in the form of gases.

The fix is easy to describe, but not necessarily always easy to apply. Wagner-Riddle says maintaining late-season cover crops that use moisture, use up nitrogen and also provide some cover and insulation to reduce the degree of freezing is an important tool. Even just insuring there is crop stubble and residue on the soil helps to trap snow and again provides some measure of insulation against a real solid freeze. Pasture and hayland are less prone to denitrification than annual crop land and certainly compared to

conventionally tilled farm land. The worst case scenario involves saturated soils that have been cultivated and have no cover.

And of course once you get into tillage that stimulates the loss of another greenhouse gas, carbon dioxide so fields could be releasing CO<sub>2</sub> as well as nitrous oxide.

Keeping crops growing and the ground covered will help reduce the risk of nitrous oxide emissions, says Wagner-Riddle but the dilemma for many producers — when the soil gets wet, some tillage is needed to get it dried out. Tile drainage might be an option in some situations, but it comes with a capital cost. And then on top of that most provincial gov-

ernments in Western Canada really don't understand tile drainage or have regulations in place to accommodate it.

Most farmers in Western Canada today are following some program of direct seeding or reduced tillage, but when conditions get wet, what do you do? I guess just be aware of the hazards that tillage causes, and where and when possible keep the tillage tool parked and some kind of cover on your land. Stop reading the paper might help too. **GN**

*Lee Hart is a field editor with Grainews based in Calgary. Contact him at 403-592-1964 or by email at lee@fbcpublishing.com.*



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## FARM FINANCIAL PLANNER

# A smooth transfer on the way to retirement

Planning smooth generational transfer to six children keeps Manitoba farm in the family

By Andrew Allentuck

A couple we'll call Jack and Susan, ages 56 and 54, respectively, farm 2,240 acres in central Manitoba. The third generation of their family to farm in Manitoba, they began three decades ago with 640 acres and expanded by renting an additional 1,600 acres of cropland. About 15 years ago, they incorporated their grain production operation. Today, the farm is profitable, but structurally it is complex. Their issue is generational change — how to give property to their six children while

holding taxes down and structuring their own retirement income.

Their eldest child, a daughter, is married to a local tradesman and owns 160 acres of her own. Three sons whose ages range from 22 to 32 want to farm part time. The eldest son rents 320 acres of cropland and uses the parents' equipment to farm it. Two other children are married to local farmers.

The problem now is to split four quarters into six equal legacy shares while still providing a comfortable retirement for Jack and Susan. As well, all parties, especially the parents, agree that minimizing taxes is an important goal.

Don Forbes and Erik Forbes of

Forbes Wealth Management Ltd. in Carberry, Manitoba, worked with Jack and Susan to make the combined shift of ownership and a retirement plan compatible and tax efficient.

## THE PLAN

"We can look at the farming operation and its related financial assets as three major value pools to generate future income," Don Forbes explains. "The goal will be to pay income tax in a range of 26 to 33 per cent every year rather than attempting to defer the maximum amount of income tax until Jack and Susan pass away when the estate would face taxes that, at current rates, would be 50 per cent or more.

The first pool of value is the personally owned farm land. Its gains in value can be offset by the \$1,000,000 Personally Owned Farm Land Capital Gains exemption to which both parents, acting as co-owners, are entitled. There is also a 100 per cent exemption on their personal residence including one acre. That is a \$300,000 value duly exempted. Thus the first \$2.3 million of capital gains on the farm property and home will be tax free, Erik Forbes explains.

Each farming parent can transfer land to the next generation at any price between book value and today's market value. This includes any land, equipment and/or inventory, Don Forbes notes. The goal is to use up all tax credits and tax exemptions while not claiming the entire value of the farm and having to pay tax on it as of the date of transfer.

The package of assets will have a transfer price of book value plus the \$2.3 million capital gains tax exemption. Any remaining taxable gain would be deferred to the respective future owners through a lower notional purchase price. The result will be a tax-free transfer of farming assets to the six children.

The time frame for the land transfer and for the retirement of Jack and Susan, who are only in their mid-50s, is quite long. Handing the land over to the children could be imprudent, for they could run into financial difficulties and have to sell land to pay creditors. Thus it is prudent to take back a zero per cent interest promissory note on the land given to each child. Creditors or an estranged spouse could try to seize assets, but it would be necessary to pay the parents before their claims could be adjudicated. This process results in a transfer of title to the land to each child but allows final control to be exercised by the parents, Don Forbes explains.

The family farming corporation is a more difficult problem. As a family farming corporation, favourable farm transfer rules apply. The shares can be transferred to the children active in farming at any price calculated between book value and today's market value. Any deficiency in value and any tax liability is assumed by the new owner.

The alternative is to have the farming corporation classified as an investment holding company. On the death of the parents, all assets would be valued at current market prices and taxes paid. An estate freeze could be applied. The method is to value the common shares and convert them to fixed price preferred shares. Any future increase in the equity value of the corporation then flows to the common shares issued to the children while the parents' value remains fixed in the preferred shares.

There is a third asset pool, namely life insurance policies. A Term to 100 term policy with a \$1 million death benefit has level premiums and will pay out on the death of the final parent. All life insurance pro-

ceeds, which are viewed as the property of the beneficiaries, are paid tax free.

Apart from the farm and life insurance, Jack and Susan have registered assets. Each has an RRSP. Jack's RRSP, with a present value of \$70,100, can grow to \$118,000 in nine years with no further contributions assuming a six per cent average annual gain. Susan's \$58,300 of RRSP value will grow to \$98,000 in nine years. The combined value of the two accounts, \$216,000, could provide \$15,350 per year or \$1,280 per month for the thirty two years from Jack's age 65 to her own age 95.

The couple has tax free savings accounts with a present, combined value of \$62,385. Assuming that Jack and Susan each add \$8,000 a year for the next nine years, providing both a catch up and then making use of the present annual contribution limit, their currently underfunded TFSA's will grow to \$289,260 and support payouts of \$19,375 per year or \$1,615 per month for the next 32 years.

## AFTER RETIREMENT

Assuming that Jack and Susan retire in nine years, Jack will get Old Age Security of \$6,942 per year or \$ 579 per month at 2017 rates and Susan a like sum two years later. Their estimated Canada Pension Plan benefits will be about \$300 per month each, again at 2017 rates. Their RRSPs will pay them \$1,280 per month. Their TFSA's will generate \$1,615 per month. The farm property will generate a combined \$1,660 per month and the land rent \$1,250 per month. The sum of these income components, \$7,563 per month, will be sufficient after splits of eligible pension and property source income taxed at an estimated Manitoba tax with age and pension benefits and a 18% tax rate, to provide \$6,200 per month. That would more than cover estimated living costs of \$5,000 a month, Erik Forbes estimates.

There are unknowns in these calculations. We have used 2017 values and a six per cent rate of return for financial assets, though inflation before Jack is 65 in nine years and in the following three decades could make an adverse change in their ability to support costs. There are no provisions for long term care or critical illness costs. These can be partially covered through low cost supplemental health insurance, which Jack and Susan should consider, Don Forbes notes.

On balance, the steps taken to realize and fix the farm values, to transfer ownership to the children, and to provide a retirement income to the parents are conservative. Moreover, the parents will retain their farm home and could sell it for what would probably be appreciated price in future, Don Forbes notes. **GN**

Andrew Allentuck is author of *When Can I Retire? Planning Your Financial Life After Work* (Penguin, 2011).

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## INDUSTRY NEWS

# AGCO BUYS LELY

AGCO adds European forage equipment manufacturer



AGCO is in the process of purchasing the forage division of Lely Group.

PHOTO: AGCO

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By Scott Garvey

In a mid-march press release, AGCO announced that it has reached an agreement in principle to acquire the forage division of Lely Group. Lely's forage division manufactures balers and loader wagons in Europe, primarily for that market. The deal is expected to close by the fourth quarter of 2017. However, it's still subject to regulatory approval.

"The integration of Lely's industry leading competence in hay and forage technology will further strengthen AGCO's full line product offering," said Martin Richenhagen, AGCO's chairman, president and CEO, in the announcement.

There was no further word on whether or not AGCO could incorporate any existing Lely products into its North American offering to compliment its existing Hesston haying equipment line. **GN**

Scott Garvey is machinery editor for Grainews. Contact him at Scott.Garvey@fbcpublishing.com.

**i Industry Quote:**

"The (proposed U.S.) border adjustment tax would actually help us; we're a significant net exporter. So on a Deere and Co. level it would be a positive. We're very concerned, however, about our farmer customers. If as a result of the proposed tax it had an unintended consequence causing countries like China and Mexico to buy their ag commodities from other countries, that would be negative for U.S. farmers... I think, without a doubt, any form of protectionism or nationalism, on the whole, is not beneficial for any global company, like ours."



Samuel Allen, CEO and chairman of Deere and Co., speaking on CNBC.

## TECHNOLOGY

# New monitors for AGCO tractors

Both MF and Challenger brand high-horsepower models get a digital upgrade



The new nine-inch, touch screen terminals have been designed for simplicity and flexibility.

PHOTO: AGCO

By Scott Garvey

**2**018 models of AGCO's Massey Ferguson 8700 and MT600E Challenger tractors will leave the Jackson, Minnesota, assembly plant with a new in-cab monitor. The MF version will be called the Datatronic 5, while Challenger systems will be known as the Tractor Management Center (TMC).

The new nine-inch, touch screen terminals get a simplified menu, easily identifiable icons and more flexible navigation options, and they take a "more convenient approach to machine and implement control" according to the company. AGCO claims the terminals are broadly compatible, so they should play nicely with implements across most brands. They also get 4 GB of memory and 1 GB of RAM along with the ability to input video data from one camera. They're also Bluetooth capable. **GN**

Scott Garvey is machinery editor for Grainews. Contact him at [Scott.Garvey@fbcpublishing.com](mailto:Scott.Garvey@fbcpublishing.com).

**i** **Industry Quote:**  
 "[AGCO] has redesigned and improved Sprayparts.com, making online ordering of sprayer parts faster and easier. Expanded product descriptions, improved search capabilities, better product photos and new dropdown menus provide easier navigation and are all part of the redesign. The site has also been updated for easy use on any internet-enabled device.

"Customers can continue to order parts directly from their local AGCO dealer or they can order and select the shipping address of their choice."

— AGCO press release

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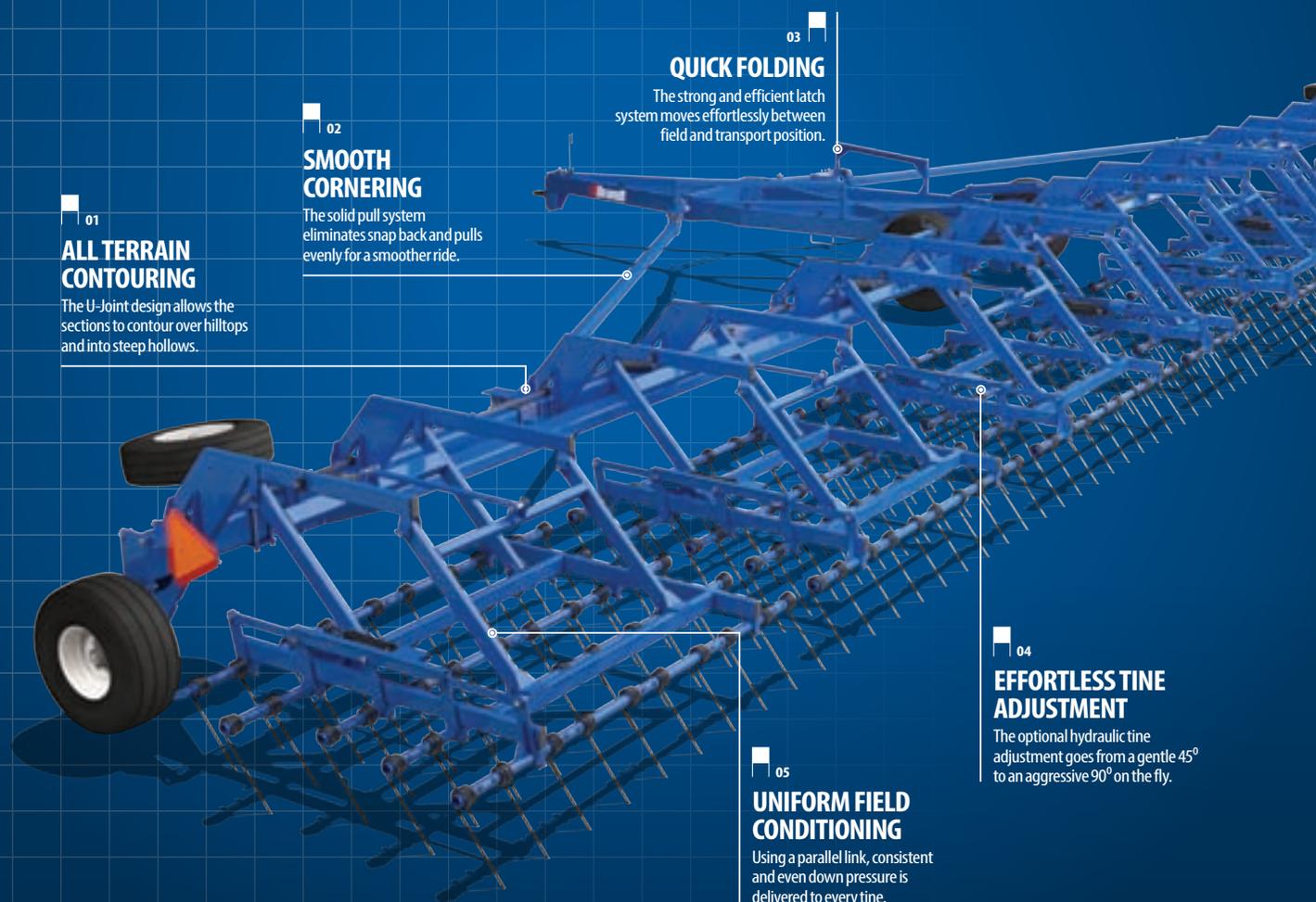
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## SHOP CLASS

# FINDING THE WEAK SPOTS

Looking for typical problems on used sprayers with a service expert

**W**hether you're looking at buying a used sprayer or handling maintenance on your own machine, knowing where to look for common problems will speed up the inspection process and help ensure you're not surprised with a big repair bill later on, along with unexpected downtime. So where do you start looking for trouble?

To find out, *Grainews* spent some time with Joel Hoehn, regional service manager for Rocky Mountain Equipment in Saskatchewan, walking through one of the company's used equipment yards looking at some common trouble spots on late-model sprayers.

Using his experience, we pinpoint some typical problem areas producers should keep an eye on.

## JOINTS



As he walked around the back of one machine, Joel pointed to the dirt and grease around the edges of a main joint on the boom. When it comes to assessing used machines, sometimes finding dirt is a good thing, he suggests.

"That's a good indication they actually did maintenance," he said. "They're greasy and that stuff doesn't wash off easily. That's one thing we always look at. On a sprayer, the best thing to do is walk around with a grease gun. If it takes grease, you know it's been greased."

## BOOM ENDS



Because boom joints are subjected to a lot of stress, especially those near the tips, constant greasing is

essential to prolonging their lives. Looking at how this boom folds up suggests the outer joints are in need of repair. If the outside boom ends no longer land properly in their support brackets, they likely have excess play.

"Typically where you have the most wear (on boom joints) is on the breakaways," said Joel.

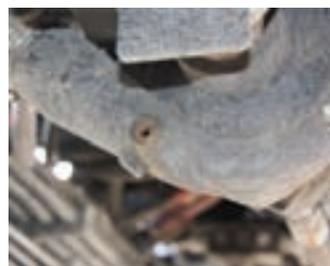
## LEAKS



With so much plumbing on a sprayer, it's important to spend time looking at the fittings for cracks and leaks. Even without any fluid inside them it's possible to see where chronic leaks have been occurring. There will be indications of drips having dried on the lowest point, like those on these fittings.

"The big thing is the chemical system. With product lines and pumps, you want to make sure there is nothing dripping or leaking," Joel explains, pointing to places where there are indications product has been persistently dripping over a long period of time.

## DRAIN PLUGS



If the sprayer has been properly winterized, drain plugs will have been removed. It's important to flush the entire product system with antifreeze at the end of each season and to clean all that out again before operations begin at the start of the next year. Having removable end caps on the booms can really help in getting systems flushed properly and quickly.

"We like to run Spray Guard antifreeze through them (before



Joel Hoehn is a regional service manager for the Rocky Mountain Equipment dealership.

PHOTOS: SCOTT GARVEY



We take a look at some common sprayer problems with an experienced mechanic.

winter)," he adds. "RV antifreeze can be an acceptable substitute. The big thing guys do wrong is they don't put enough antifreeze in them. There is still water in the system, so it (antifreeze) gets diluted pretty heavily. It (the freeze point) should be (at least) -30. I suggest putting 10 (five gallon) pails through. With 120-foot booms, there can be a lot of product in there."

And ensuring the tank water is clean and free of contaminants is not only important for efficacy when spraying, but it's essential for extending component life.

"Filtered water is huge with these things," said Joel. "You want to make sure you don't have dirty water."

## WHEEL HUBS



Joel stops beside a used Case IH machine and points to the wheel hubs, noting annual service is necessary to keep wear on the planetary reduction gears down to a minimum.

"On powered wheels, changing the fluids in them is a big thing," he explained. "It should be done seasonally with synthetic (oil). I recommend you pop the cover off and look at the gears to see if there are any chips or peeling."

## OIL



Taking time to inspect the old gear oil after a change in the axle planetaries is important as well. A look at the contaminants in it will be a good indicator of whether the components are wearing normally or if they are facing imminent failure. Under normal circumstances, expect to see swirls of grey in the used oil, just as in this image. But if metal is flaking off bearings or gears, the tiny metal fragments will look like glitter mixed in with the oil.

"Failure looks like kids' glitter," said Joel. "That's peeling

hard-surface bearing (material). Normal wear is just grey."

## SUSPENSION



Be sure to pay attention to the suspension components on each wheel. The systems on these Case IH models require daily greasing. Check to see if the components are in proper alignment. If the hinged suspension arms appear to be misaligned, there could be excessive play in the joint. **GN**

Scott Garvey is machinery editor for *Grainews*. Contact him at [Scott.Garvey@fbcpublishing.com](mailto:Scott.Garvey@fbcpublishing.com).



**Editor's note:** *Grainews* would like to thank Joel and the staff at RME for sharing their time and expertise.

## MEDICAL EMERGENCIES

# Fixing fractures in cattle is doable

Early attention to treatment can often get the critter back on its feet

By Heather Smith Thomas

Accidents happen. Sometimes a cow steps on her calf, breaking its leg, or a limb fractures due to extensive or improper pressure applied during a difficult calving.

Veterinarian Eric Laporte, with the Bonnyville Clinic at Bonnyville, northeast of Edmonton, says he doesn't see as many dystocia-related fractures now as in the past, due to better education and awareness in proper methods of pulling calves.

"The sooner a fracture can be assessed, the better," says Laporte. "I take an X-ray if possible to see if it affects the growth plates, and assess damage to the bone — whether there are a lot of small fragments or if it's a clean break. We utilize pain management for these procedures. In Canada we have meloxicam (Metacam) approved for cattle."

Sedatives also help to keep the



A calf with a fiberglass cast.

calf quiet/immobile while setting the leg (if the break is displaced) and while applying a cast.

Laporte says young calves heal amazingly well, even if the bone is not perfectly in place, but heals better and more quickly if the fracture is set correctly. The sooner the calf can be treated, the better.

"The longer you leave it, the higher the risk for more tissue damage," he says. "Especially if the break is higher up the leg, with muscle damage. If the skin hasn't been bro-

ken, there's also less chance for infection, and a better prognosis."

## DECISIONS HAVE TO BE MADE

It takes diligence to deal with an open fracture until it heals, but most producers will handle it if their veterinarian is on board to help.

"If there is a situation where the veterinarian is not willing to help, then the producer may seek a different veterinarian or euthanize the calf," Laporte says. "And then of course they wonder if they might have been able to save that calf if they'd tried."

"Often these decisions (about course of treatment) are financial, but in the cattle business it's also about welfare of the animal. Most ranchers try to save the calf. One animal might not pay for itself after extensive care, but in the grand scheme of things, and because we want to do the right thing, producers generally want to try. These are living creatures and we have a responsibility to them. Livestock production today is in the public eye and

we want to save the animal and have a good outcome."

Laporte says with improved materials it's much easier today to splint or cast a broken leg.

"We can use fibreglass and other materials that are light and hold up under pressure. I've been able to resolve growth plate fractures even in heavier animals, such as an 800-pound heifer. This was the farmer's daughter's 4-H heifer and she didn't want to send it to slaughter."

A young calf heals quickly because bones are actively growing, and there's not much weight on them, but even the adult animal's ability to heal is remarkable, when given a chance.

"The younger the animal, and the lower the fracture is on the leg, the better the prognosis," says Laporte.

Fractures above the knee or hock can be more challenging. There are special splints such as a Thomas-Schroeder splint that can be used based on veterinarian advice.

"Early intervention is important," says Laporte. "Getting a clean towel

around it (to keep it clean and protect it) and using something to hold it in place and wrap it, can be helpful."

A splint can be created from PVC pipe cut lengthwise, putting the two pieces around the towel-wrapped leg, and securing everything with strong tape. This may immobilize the break until the veterinarian can assess it.

## CONSULT VETERINARIAN

"If the producer has a working relationship with a veterinarian and has pain medication on hand, some of these cases can be dealt with as first aid on the ranch," Laporte says. If there is skin damage, the hair can be clipped away and the wound cleaned with disinfectant soap. The calf can be given antibiotics and the leg splinted. Even if you can't get the calf to the veterinarian right away, advice can often be given over the phone. **GN**

Heather Smith Thomas is a longtime *Grainews* columnist who ranches with her husband Lynn near Salmon, Idaho. Contact her at 208-756-2841.

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## THE MARKETS

# What is the cattle futures market saying?

The combination of cash and futures market numbers will point the way



## MARKET UPDATE Jerry Klassen

I've received numerous calls over the past month from cow-calf producers and backgrounding operators in regards to a marketing strategy for their individual operation. In four previous articles I've discussed the feeder cattle futures market and the historical relationship between the cash and futures market.

I analyzed basis levels and discussed using the basis and futures for calculating an expected forward price. I then focused on hedging with futures and options and commented a bit on market behaviour, such as the constellation of prices. When discussing the markets with producers, I always review what the futures market is telling us based on the current price structure. To finish the series, I thought it would be prudent to look at a couple of case studies. Reading the futures market in relation to the cash price can provide producers with a wealth of knowledge to make the best decision.

First, the feeder cattle futures market closes as of March 31 were as follows:

May 2017	132.70
Aug 2017	133.75
Nov 2017	129.97
Jan 2018	125.37

### PRODUCER SITUATIONS

At the time of writing, steers weighing 850 pounds were averaging C\$166 in Western Canada. Producer Bill, from Northern Manitoba Cattle Co., called and asked if he should finish a pen of steers averaging about that weight or if he should sell the cattle in the auction ring.

If we calculate the basis using the formula "May Futures minus the local cash price," we come up with US\$132.70 divided by the exchange of 0.7533 or C\$176. Subtracting the cash price of \$166 results in a \$10 basis.

If you remember from my previous articles, the average basis in Manitoba for 850-pound steers is \$20 with a standard deviation of \$10. This means the cash price is relatively strong when the basis is this firm — the market is telling producers to sell now. Secondly, if Bill wants to put on another 50 or 100 pounds, the futures market is not rewarding producers for holding cattle because the deferred futures

prices are relatively the same or slightly lower. Looking at history, the basis is likely to deteriorate so he won't be rewarded for putting on the additional pounds.

The second caller was Betty from Saskatchewan Green Red Light Cattle Co. She stated that she owned 700-pound steers and was wondering if she should sell now or place them on grass over the spring and into summer. These larger-frame Simmental steers have been quoted as high as \$194 in her local auction ring. Using the same calculation as above (futures minus cash in Canadian dollars) the basis is -\$17.

First, this is an extremely strong basis level for her region. Secondly, if she plans to put on another 150 pounds, her expected forward price is calculated as follows:

August futures of US\$133.75 divided by the exchange rate of 0.7533 equals C\$177.55; then subtract an average basis of \$20 = \$157.55. If her cost per pound gain is 85 cents, she will not be rewarded for putting on the additional pounds. Betty should sell the cattle now and then look at buying some lighter-weight cattle later on for her pasture. The key is she may have to buy lighter 600-pound calves around the \$200 area in order to make this more reasonable, or even

look at heifers. If you have a decent profit now, it's better to clear the table and start fresh under the current market conditions. Don't use the fact that you have feed available to determine your marketing strategy.

### WILL IT GET BETTER?

Both of these producers stated that "maybe the futures market will come up." To that comment, I pointed out that the April live cattle futures were at US\$119.95 and the August contract was at US\$106.75. The deferred live cattle futures were trading at a US\$13 discount to the nearby contract. The strong nearby cash fed-cattle price, which was also at a premium to the futures, had pulled up the feeder cattle prices = which resulted in a strong basis levels for their feeders. It's hard to justify holding feeder cattle under the current price structure looking at the cash and futures markets.

I also want to point out that when the basis levels are so strong as we've seen over the past two months, it is quite costly to buy put options or to use the Livestock Price Insurance program. A rule of thumb is that buying put options is only favourable when the basis is weak and the deferred feeder cattle futures are at a premium to the nearby month. This

is the combination needed to use put options or the Livestock Price Insurance program.

Many producers ask why the premiums are so costly. The reason is the strong basis and weaker deferred futures. Remember, the 2016 U.S. calf crop was one million head above 2015 so there are a lot more U.S. calves to come on the market this fall. In Canada, the 2016 calf crop was only 50,000 head above 2015. The Canadian basis will be stronger than the U.S. basis given the current fundamentals.

Producers should look at the cash and futures market and listen to what the market is telling them. You don't have to "out guess" the market to be successful in the long run. **GN**

*Jerry Klassen manages the Canadian office of Swiss-based grain trader GAP SA Grains and Produits Ltd., and is president and founder of Resilient Capital specializing in proprietary commodity futures trading and market analysis. Jerry consults with feedlots on risk management and writes a weekly cattle market commentary. He can be reached at 204 504 8339.*

 Editor's Note: This is fifth and final part of a series on the basics of feeder cattle marketing.

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## PEN CHECKER DIARY

# Stiff, sore and hurtin' — I can relate

A foundered steer is troublesome, but elicits some extra sympathy

By Bruce Derksen

During my morning pen-checking rounds I came across a yearling red and white steer with a bad case of foot rot. Now there is nothing unusual about that, being that I find many cattle with this problem every day.

The difference in this case, was that this particular steer was badly foundered to start with. On his best day, he was only able to shuffle around a very small area between the feed bunk (on the edge of which he seemed to live) and the water bowl. Anything more was asking a lot from the poor creature. Anyway, this particular morning when I managed to get him up off the steaming bed-pack, I noticed one of his back feet was swollen up like a tetherball.

After feeling sorry for him for having to move all the way down the alley to the hospital pens, and then feeling sorry for myself for the extra minutes it was going to take out of my morn-

ing, I shifted my weight in my saddle and tried to stretch the kinks out of my legs the best I could. He wasn't the only one feeling sore this morning. With a deep breath, I began to push him toward the gate.

Now anyone who has ever had the pleasure of pulling a foundered steer or heifer out of a pen knows that this can be very time-consuming, not to mention frustrating, so I resigned myself to the fact that this was going to take some patience.

Twenty minutes later, I finally had him about 10 feet from the gate. Old Sonny was well sweated by this time and so was I. The air had been saturated with a wide variety of colourful phrases and adjectives and the three of us stood at a standstill squaring off for what I hoped would be the final surge out the gate.

## STARING MATCH

A foundered animal is by no means fast but they can be very stubborn and difficult, which come to think of it described me quite well too. This

red and white fellow was doing his best to uphold these high standards and nothing to dispel the stereotype. He had already pushed his way by Sonny and I several times in his slow-motion non-fearing way and I was to the point of bringing out my rope and moving him out whether he wanted to go or not.

I had decided this was to be his last chance. I didn't want to take extreme actions with him, because I sympathized with the way he felt, but a fellow can take only so much.

After staring each other down for a minute, he managed to get turned crosswise to us and tried to make a dash for freedom along the fence. Sonny smartly stepped into his path, taking a solid bodycheck in the chest. The steer lost his footing and fell with his head facing out into the alley. We crowded him as he got back to his feet and with a push from Sonny's front end he was out and heading down the alley.

As I pushed him awkwardly toward the hospital pens, I used the time and

the cool breeze to calm my nerves and cool my sweated face. Partway there, I remembered for some reason that I too had an appointment at the hospital in the next few days. Like the steer, I had been doing my best to avoid seeing the doctor, having cancelled and re-scheduled my physical more than once in the last couple of months. My wife was not impressed, and had warned me in no uncertain terms that this time I had better get my butt there or else. I didn't like to think about what the "or else" could mean.

## SUCCESS

After one more valiant effort to get by me on his part and more than one face-to-face confrontation with Sonny, the steer seemed to finally give in and moved more easily down the alley. With a few more pushes and nips to the tail head from Sonny, we arrived at the hospital pens. After latching the gate, I called to one of the staff to take care of him better than most. He was stiff and sore and didn't need any more grief. I knew the feel-

ing as I stretched my legs and knees once again.

After finishing my rounds that morning, I went back to the return pens to take the pulls home. There he was with a red stripe across his white backside showing he had been treated. In a few days, he would be as good as new (well maybe not new but as good as he could possibly be with his condition). I leaned from the saddle and opened the gate. He moved willingly past me into the alley and headed confidently toward his pen, much more eager to go back than he had been to come out in the first place.

When he jogged stiff-legged through his gate, he was met by a bunch of his pen buddies giving him a hard time.

Later, I reminded myself to go back and check on him. Make sure he wasn't getting picked on. We hard-done-by, stiff and sore fellows, had to look out for each other. **GN**

*Bruce Derksen is a longtime feedlot penchecker living in Lacombe, Alberta.*



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## NEXT GENERATION

# Young producers talk industry future

They are really just begin their careers, but they are ready for challenges ahead

By Lisa Guenther

As a fifth-generation producer, Chad Hollinger faces some of the same challenges as his great-great grandparents, plus a few new ones.

Hollinger, who is in his late 20s, farms with his father and grandfather near Neudorf, Saskatchewan, cropping about 3,700 acres of grain land and running 250 head of commercial and purebred Angus.

"Our land is well-suited to both cattle and grain," Hollinger said during an interview at the 2016 Canadian Western Agribition.

Hollinger is a Lakeland College

alumnus, and credits the Vermilion program for giving him practical knowledge in everything from animal nutrition to pharmacology. "It's just a tremendous college in that respect, that it's so hands-on," he says.

Weather is always a challenge, as 2016's growing season proved. Market fluctuations are also a risk. The Hollinger family is looking at marketing more steers directly to buyers, although auction marts are still a good option, Hollinger says.

They also forward-price both grain and cattle. "You know what your payments are so you have to get some on the books."

Marketing grain has given him insight he uses on the cattle side. He's noticed how farmers tend to sell on the downward trend because they were waiting for prices to go higher. And it's important to know the break-evens on both sides of the operation so he knows what he needs to sell at to make a profit or pay the bills.

## YOUNG PRODUCERS READY FOR CHALLENGES

But unlike earlier generations, today's producers face consumer scepticism. Hollinger sees a need for farmers and livestock producers to educate consumers. "That's one big challenge because there's a lot of consumer misperception," he says. "Especially with social media and TV."

Hollinger isn't the only young producer who feels that way. Teresa Mann is finishing her last year at Lakeland College, where she serves as the general manager of the college's purebred herd. Mann grew up on a commercial cattle operation, and has developed her own purebred Simmental herd. She plans to complete an animal science degree at the University of Saskatchewan after graduating from Lakeland.

Asked what challenges she sees ahead for young producers like her, Mann mentioned changing technology. But in her opinion, the big one is adapting to what consumers want while also educating them about food production. She sees a bigger role for ag advocates in the future.

## COMMUNICATE WITH THE PUBLIC

Royce Moellenbeck, who is still in high school, agrees that his generation will need to communicate with the public. Moellenbeck

said most of his classmates in rural Saskatchewan have a general idea of what happens on the farm, but even they miss some of the more subtle things. "They'll call a straw bale a hay bale. Mostly things like that."

Moellenbeck's family raises purebred Shorthorns, along with commercial cattle, east of Humboldt. Moellenbeck plans to work in ag marketing and raise cattle. He's been coming to Agribition since he was a baby, and notes it was the first year his family won Grand Champion Bull at the show.

Agribition provided Moellenbeck with plenty of opportunities to talk about agriculture as families and school groups walked through the barns.

"A lot of them will have questions to ask about what do you do, what's your role and stuff," he says. Moellenbeck enjoys talking to people about agriculture and explaining what he does at the show.

Mann, a 10-year veteran of Agribition, was helping show Lakeland College's genetics and programs at Agribition. She said she was getting plenty of questions from kids, adding "it's great telling them what we get to do on a daily basis at school because it's part of our learning program."

Hollinger said he's closing in on 20 years of attending Agribition. Hollinger tends to have more conversations with parents, but some kids were interested in what he was doing, too. He said he encouraged questions from the public.

"We're here to market our product and really they're the end consumer," he says. **GN**

Lisa Guenther is a field editor for Grainews based at Livelong, Sask. Follow her on Twitter @LtoG.



Teresa Mann, general manager for Lakeland College's purebred herd, grooming a heifer at Canadian Western Agribition.



Chad Hollinger poses by his Angus cattle at Canadian Western Agribition.



Royce Moellenbeck tidying up at Canadian Western Agribition. Moellenbeck is up between 5:30 a.m. and 6:00 a.m. so he can start fitting cattle for the show ring.

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## COMING EVENTS

### UCVM BEEF CATTLE CONFERENCE

Set aside a couple days in late June to attend the 2017 Beef Cattle Conference hosted by the University of Calgary Veterinary Medicine school.

This two-day event — June 22 and 23 is developed around the theme, Raising Healthy Beef Cattle in a Changing World. For more details and to register visit the conference website at: <http://www.vet.ucalgary.ca/beef/>

The first morning of the conference will be held at the vet school Spyhill campus on 85th St. NW, Calgary for some hands on sessions with Eugene Janzen and Carolyn Legge talking about feedlot pathology and disease and sickness diagnoses.

On the cow-calf side Claire Windeyer and Karen Schmid will be



CLAIRE WINDEYER

talking about the how, when and why of body condition scoring. The BCS isn't just something that

After lunch that first day, the conference moves to the Deerfoot Inn and Casino conference centre just off Deerfoot Trail in southeast Calgary for the remainder of presentations on a wide range of animal health related topics.

Speakers this year include experts from Nantes Atlantic College of Veterinary Medicine, Lethbridge Research Centre, Western College of Veterinary Medicine, University of Saskatchewan, University of Calgary (UCVM), veterinary practitioners and beef industry leaders. The program also allows for plenty of time for networking and interaction with conference presenters and beef industry stakeholders.

### MACHINERY, CROPS AND MORE

There are two big summer shows coming up that will allow you to kick all the machinery tires you can handle, and learn more about crop and livestock production.

The 40th Canada's Farm Progress Show will be opening its doors in Regina, Sask. June 21 to 23 at the Regina exhibition grounds. For more information visit their website: <http://www.myfarm-show.com/>.

And to actually see equipment working in the field, plan to attend the third annual Ag In Motion farm show July 18 to 20 at Langham, Sask., just north of Saskatoon. It's not just about crop production, the show features an ever-expanding livestock area as well. For more information visit AIM website at: <http://aginmotion.ca/>.

## BETTER BUNKS AND PASTURES

# Beware of grain bloat in self-fed cattle

Feed roughage and avoid very fine grain particles



**Peter Vitti**

Self-feeders are both a blessing and a curse. A handful of self-feeders makes life a lot easier by augering in tonnes of creep or grower ration into each one for growing beef cattle. They can also be a curse when a few cattle become victims of grain bloat.

Since nobody wants to lose animals to grain bloat, those who raise cattle on high-grain diets and feed them in this way learn to take necessary precautions. These measures pay for themselves almost immediately – it's a low-cost way of feeding cattle, which in turn helps generate optimum revenue.

However, I know of two extreme cases of grain bloat where cattle in Saskatchewan were fed high-grain diets in self-feeders and a few bloated animals died.

In the first case, the producer back-

grounded a couple of hundred five-cwt steers to 900 lbs. using a series of old wooden self-feeders. The regular diet was hammered 50:50 oats-barley, a medium-level protein supplement and a bit of chopped straw. Bales of free-choice alfalfa-grass hay were provided in addition to the concentrate ration in the self-feeder.

The small hammer mill to his own admission was old and created a lot of grain fines, which he had planned to replace. Unfortunately, it should have been replaced a long time ago, because this year, it literally was a "dust-" making machine. After a few days of feeding this diet to a group of cattle, this producer drove down to his small feedlot one morning and found a half-dozen animals bloated and a couple that had died overnight.

In the second case, the producer was feeding a group of 50 replacement heifers by using a mobile metal self-feeder. For weeks this winter, the producer was cleaning out grain bins and wanted to use up its last bushels.

I understand that this grain had a lot of chaff and was musty, but the producer thought it was still viable to feed it to cattle.

On the unfortunate day, the hired man made the heifer ration as usual: rolled barley, a few 25-kg bags of protein supplement, plus some chopped grass (bales of the same grass hay were provided separately).

However, he ran out of chopped hay about half-way through, so that week's diet was almost all grain. As a result of this major diet change, low-forage diet and questionable grain quality, within a day or so three animals had distended left sides and one animal died. Other animals looked like they had a hard time breathing.

#### HARD LESSON LEARNED

Both producers chalked up their sick and dead cattle as a lesson learned. However, the first producer had his veterinarian examine some of the survivors and it was confirmed to be frothy grain- or feedlot bloat.

Frothy bloat in cattle is often caused

by a sudden increase in the consumption and subsequent digestion of large amounts of readily available grain starch by the rumen microbes. This starch digestion is so rapid that fermentation gases get unnaturally mixed with rumen fluid into a mass of slimy green foam (slime produced by specific types of rumen bacteria).

#### PREVENTION

Awareness and prevention are the real keys to avoiding sometimes-fatal grain bloat in self-fed beef cattle. Here are some precautions:

1. Provide at least 10-15 per cent forage in your self-fed beef diets. I realize mixing chopped forage with grain ration isn't particularly practical, and separation is a big problem. However, it is warranted.

2. Feed palatable free-choice forage. Self-fed grain is usually the preferred choice versus free-choice forage by cattle.

3. Avoid significant diet changes. Keep a good inventory of forages, grain and other feeds. Whether cattle are

self- or bunk-fed, it's never a good idea to make forced feed changes in a short period.

4. Avoid feeding "too fine" grain, one of the biggest culprits in grain bloat in self-fed cattle. If grain particle size is too fine, it creates a readily available surface area for starch digestion. I recommend that barley kernels are hammered into quarters for optimum rumen digestion.

5. Manage your self-feeders. I advocate grain self-feeders with adjustable panels to limit grain filling the trough. The opening can be narrowed or widened depending on how much grain ration that cattle should be eating.

6. Avoid adding feed additives to control bloat. Adding monensin sodium to reduce bloat in cattle is not recognized by the Canadian Food Inspection agency. **GN**

*Peter Vitti is an independent livestock nutritionist and consultant based in Winnipeg. To reach him call 204-254-7497 or by email at [vitti@mts.net](mailto:vitti@mts.net).*

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## SEEDS OF ENCOURAGEMENT

# Seeding smartphone tips

They may be called 'smart' but phone addictions can cause dumb problems



**Elaine Froese**  
www.elainefroese.com

Cellphones have been dubbed "smartphones" but sometimes the way folks are addicted to them causes dumb problems. I've read three articles that suggest that cellphones are creating isolation, poorer communication and less robust relationships.

Stress rises when there is a million-dollar crop to get in the ground, excess moisture, and too many jobs for the short hours of the day.

Consider these tips:

**1.** Sleep is healing and restorative. Are you getting a decent sleep? If your cellphone is in your hand while you sleep or beeping at 5 a.m. you might want to consider turning it off and using a regular old-fashioned alarm clock. Most farmers I know have an adrenalin alarm clock built into their bodies

at seeding time. The sun breaks through the window and they are ready to roll.

**2.** Learn how to text. Texting keeps everyone informed and able to ask questions to double-check procedures. "How many acres did you cover?" Was the depth OK?, etc. Communication is about giving and receiving clear messages.

**3.** Put some power packs in your tractors. I attend enough farm meetings that I have a cache of power packs for my cellphone. Check if your tractor port can house an adapter. While you are checking your tractors, also supply toilet paper and a first aid kit in a lidded ice-cream pail.

**4.** Honour your mother's request to fill her basket at the back door with your phone when you come to Mom's for a special dinner. Some homes use a basket at the back door to hold the cellphones while the family celebrates being together. This may be a stretch for

those of you working 24-7 to get the crop in, but it would work for better family dialogue if there was a "no cellphones at the table rule."

**5.** Manage interruptions with grace. We once had a guest who suggested, "next time they will just call" as my husband was interrupted several times during our meal. This is the fight/plight of business owners who serve other farmers. Is your mantra to always be "available" no matter what? Boundaries are important for good self-care, especially in 2017's time-crunch seeding cycle. Make sure that you are rested, well fed and refreshed in order to manage the extra stresses of seeding time. Maybe it is time to change your voicemail to help manage expectations.

**6.** Avoid the social media vortex of sucking away too much time. You might be wise to use a timer to limit Facebook, Instagram, Twitter etc. when you really should be napping, or connecting with and playing with your children.

**7.** Place your phone in a spot where habitually it works for you. When I travel, my phone is designated to a special pocket of my bag. Guys who put it in shirt pockets have to be careful it doesn't fall out when they lean over moving parts. Do

what works for you, but don't create extra stress by leaving it on the tractor tire. Always keeping it in your hand is likely a sign you are pretty much addicted to it, and you may be setting yourself up for a physio appointment for sore hand muscles! I use a passport-type neck pouch that is great for having my phone close, but being hands free in the garden and doing field runs.

**8.** Give yourself permission to silence your phone. Solitude is a huge gift. It is also a good discipline for blocking time off in silence to think. Think about your plans for the day. Listen to your intuition and reflect. Shut off the truck radio while you wait in the field and just think. When you get some great ideas, jot notes on your phone! Get the thought captured, but go back to thinking about how you can work on your farm business, not just in it.

**9.** Share seeding actions with the rest of your farm team. A farm team uses Google documents to keep the whole farm team abreast of what is happening on the fields in real time. The data is shared in the cloud so the team has access to all the information it needs to make great management decisions. Group texts may work for you.

**10.** Email with better subject lines. Take a few extra seconds to refresh or change the subject line so busy people can prioritize your requests. My speaker friend Hugh Culver authored *Give Yourself a Break*. Culver suggests that your email inbox is someone else's agenda, NOT YOURS! All capitals suggest that I am screaming at you. I am not. Understanding that your farm team gets to set their agenda is huge when folks start feeling overwhelmed with seeding's demands.

**11.** Tools are important, but people come first. Does your cellphone etiquette cause you to put down your phone and look people in the eye when they are conversing with you? Do you ask for permission to take a call?

**12.** Social media support. I use Culver's Stand out Social at [www.getsos.net](http://www.getsos.net) to help manage my social media. Tell him I sent you. **GM**

*Elaine Froese, FB "Farm family coach" @elainefroese, is thankful for many forms of communication. She is working on improving her time use of social media. Elaine wishes you all a very safe and timely seeding season. Visit [www.elainefroese.com/store](http://www.elainefroese.com/store) to buy her books for your mom.*

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## FROM THE FARM

# Using wild edibles on our farm

Plants that are often regarded as 'weeds' can actually be beneficial



**Debbie Chikousky**

A few years ago we started to learn how to use more herbs and "weeds" around the farm. The one that totally surprised our family was purslane (*Portulaca oleracea*), or as we call it, wild portulaca. It is very invasive, so if left to grow it needs boundaries with border edging. It's worth keeping around though as it's an excellent source of vitamins A, C, and E, of calcium, magnesium, and potassium, and it contains some B vitamins and iron as well.

As a treat for baby chicks mix nettles, dandelion and purslane together. Chop up fine and mix into their feed. This will also give layers a boost if they must be kept inside all year round.

A really tasty way for humans to get their purslane boost is salads. Here's one that we especially enjoy.

## CHICKPEA AND PURSLANE SALAD

1 c. drained cooked or canned chickpeas  
2 to 3 garlic cloves, finely chopped  
1 bunch green onions, thinly sliced  
2 tbsp. extra-virgin olive oil, or as needed  
2 tbsp. fresh lemon juice, or as needed  
Salt  
1-1/2 c. fresh leaf lettuce, torn into pieces  
1-1/2 to 2 c. purslane with tender stems, cut into 1-inch lengths, or 3/4 c. purslane leaves  
4 oz. feta cheese

In a large mixing bowl, combine chickpeas, garlic and green onions. Add olive oil and lemon juice. Mix well, and season with salt to taste. Add leaf lettuce and purslane, and mix well. If desired season with additional oil, lemon juice and salt. Sprinkle with feta cheese. Serve immediately.

Yield: 4 servings.

Dandelions also have a lot of uses. Every spring we enjoy watching the bees pollinating this early crop and we usually pick them for the goats. Dried leaves are helpful in the winter if one of our does is a bit slow bouncing back from kidding. We infuse the flowers into oil to make a pain-relieving salve for overworked muscles.

## DANDELION MAGNESIUM LOTION

2 tbsp. dandelion-infused oil  
3 tsp. emulsifying wax NF  
2 tbsp. magnesium oil  
3 drops lavender essential oil (optional)  
15 drops vitamin E oil for preservative

Add the dandelion-infused oil and emulsifying wax to a heatproof

jar. Magnesium oil is actually water based, so measure it out and place into another half-pint (250-ml) canning jar. Place both containers into a saucepan containing 1 to 2 inches of water, then set the pan over medium-low heat for about 10 minutes till wax is melted. Remove from heat. Carefully pour the hot contents of the two containers into a heatproof mixing bowl or measuring pitcher. As they're poured

together, the two mixtures will begin to emulsify upon contact and turn a slightly milky-yellow colour. Using a fork or small whisk, stir the lotion briskly for 30 seconds, then set aside to cool for five minutes, stirring occasionally. To speed the cooling process, place mixing container in a bowl of ice water. Stir occasionally, for around 30 seconds at a time, as the lotion cools and thickens. Stir in the lavender essen-

tial oil, if using. If you're adding a preservative to help your home-made lotion stay fresh for several months, do so now as well. If you don't add a preservative, shelf life is only around one or two weeks, if stored in the refrigerator. To extend shelf life use a clean utensil to take a tiny bit out of the jar at a time and apply. Do not double dip.

Planting mint around buildings will deter rodents and there are wild

varieties that we have cut in our hay for years. Hopefully we can transplant and encourage them in the yard. If not, there are a lot of tame varieties to try that we can also harvest for teas. Then there are nettles, plantains and wild sage growing around us. The possibilities are endless! **GN**

*Debbie Chikousky farms at Narcisse, Manitoba*

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Cost: \$195

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Farming Smarter Cypress County Site  
9am - 3pm (includes lunch)  
Cost: \$95

#### Wheat Stalk – July 20

Farming Smarter Lethbridge Site  
9am - 4pm (includes lunch)  
Cost: \$95

#### Open Farm Days – August 20

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11am - 4pm (BBQ)

#### Cypress Conference – Oct 26

Medicine Hat – venue TBD  
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## PRESERVING SEEDS

# Blazing Star Wildflower Seed Company

Family business grows native wildflowers and heirloom veggies and markets the seeds

By Edna Manning

When Renny Grilz's parents started the Blazing Star Wildflower Seed Company as a farm diversification project in 1992, they didn't anticipate the interest and success the business would generate.

"They were one of the first companies offering wildflower seeds native to Western Canada and did extremely well for the first couple of years. Then the big-box stores started carrying wildflower mixes, which came from California. These mixes often contained annual flowers, some of which are on the noxious weed list here in Saskatchewan. This created problems for growers," Renny said.

Renny's wife Lisa took over the business in 2001. Today Lisa grows some wildflowers in their backyard garden at Aberdeen, but the bulk of the wildflowers and heritage vegetables they grow for seed are located at Renny's parents' farm near Hum-



Lisa and Renny Grilz took over the business in 2001.

boldt. They also grow some flowers in plots at a friend's property north of Aberdeen and at a community garden Lisa and several other enthusiasts started in Aberdeen.

Renny holds an agriculture degree from the University of Saskatchewan in Saskatoon and is currently the resource management officer at

Meewasin Valley Authority in Saskatoon. He manages Meewasin's river valley projects as well as other conservation sites around the city. Lisa has a biology degree and manages Blazing Star Wildflower Seed Company. Their children Salix, 14, Jonathan, 12, and Linnaea, 10, help with the business as time permits.

The Grilz family grows a large selection of native wildflowers and heirloom vegetables from which they collect and market seeds through their website, at the farmers' market and various plant sales. Some of the seed has been in the family for 40 years or more.

Lisa starts the flowers and vegetables indoors about mid-February. "Last year I grew over 50 varieties of tomatoes," she says.

A heritage variety of spring-planted soft-neck garlic has been in the family for 70 to 80 years.

Seed gathering, done by hand, begins in June with the prairie crocus being the first to require harvesting. The harvest continues on until well into October.

Wildflowers can take a long time to become established, so keeping the weed competition down and being patient are keys to success. They are perennials and therefore don't produce flowers the first year. Some, like the western red lily take four years to bloom.

"From the business perspective, it's not a get-rich-quick scheme. You have to take it slow and make it more of a hobby than a full-time business," said Renny.

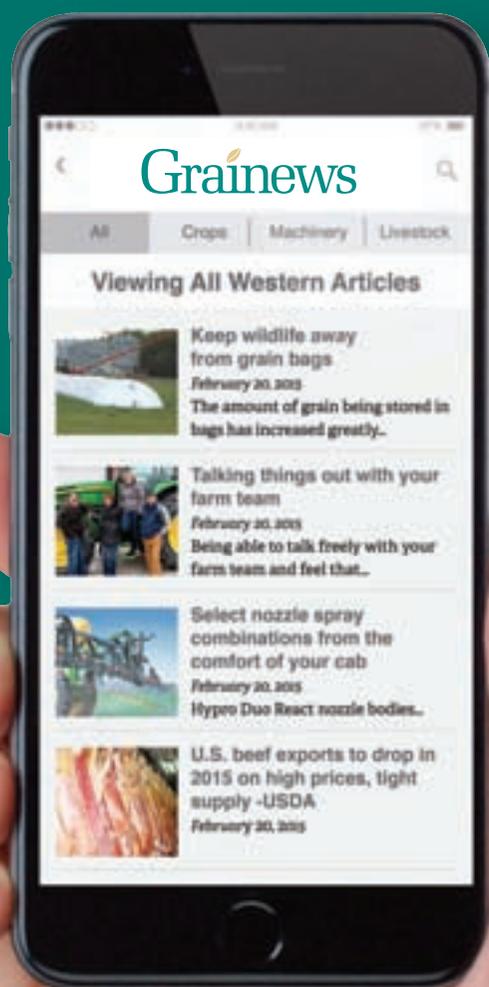
The business has, nevertheless, grown steadily over the last several years, and the couple would like to acquire more production plots for additional species of wildflowers and grasses.

"We have continued to diversify, adding custom seed packs, and wedding papers to our portfolio," said Lisa.

"We do a lot of education. I've spoken at different conferences throughout the province, which are organized through Seeds of Diversity Canada. For conferences, workshops or organizations we provide custom seed packages to promote an interest in growing wildflowers, Renny said.

For more information go to [www.growwildflowers.ca](http://www.growwildflowers.ca) or Seeds of Diversity's website [www.seeds.ca](http://www.seeds.ca). **GN**

Edna Manning writes from Saskatoon, Sask.



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**Ted Meseyton**  
singinggardener@mts.net

As always, lots to write about in *Grainews* Singing Gardener page. Am sharing more feedback from readers, so thanks to folks who take time to write. Got some thoughts on the best days to go fishing once the rod and reel season opens in your area. Here where I am we've got the Portage Diversion spillway that can channel water northward from the Assiniboine River. A lot of fishers gather there in season to test their ability to catch something.

With each column my hope is to catch new readers and hold those who enjoy my kind of jargon. That word "jargon" has extensive interpretation, according to my unabridged 20th-century dictionary and can mean anything from a variety of quick gabble talk that's loud and rapid or even slang, to dialect resulting from a mixture of discordant languages. Hey! That's not me. That dictionary must be describing someone else.

Well there's no doubt what the tip o' my hat means. You're all as welcome as May flowers so bloom, bloom where you're planted. I'm getting right down to business while yodelling a trill or two. Oh if you could only hear me now.



## FROM THE EMAIL IN-BOX

Mary L. Reimer writes from McKague, Sask. The following story, according to Mary, is not totally accurate and was later revised by her with an updated version of events. It is however, quite humorous so is shared with the revised version to follow afterward.

"Hi Ted, I enjoy your column & read it first. Cecil is my husband & Kelly our son. I know Cecil & Kelly were fixing on a cultivator one August & after making some adjustments



PHOTO: COURTESY W.H. PERRON

**Améthyste artichoke produces purple, uniform, heavy, tight heads with multiple secondary buds on an upright spineless plant that can take up to 100 days to reach maturity.**

they would make a trip out to the field. After a few trips the cultivator was fixed. Later in the fall, they went to work the field & discovered there were next to zero weeds growing in the cultivator passes they had made in August. Just as a joke, I said, 'Maybe you worked it the right time of the moon.' We don't even remember the date they were in the field. Mary L. Reimer, McKague, Sask."

Next, the revised version to above story follows and content has been edited due to length.

"Hi Ted, Thanks for your reply. You may use our names in the column. Cecil corrected my cultivator story. They were trying to find the pinhole leak in the tractor radiator. The cultivator had four-inch spikes, so not something you would use to kill weeds. In the end it didn't seem to matter if they had the cultivator in the ground or just scuffed the surface so the dirt flew up & covered the weeds. All this was done north of the house & shelterbelt so never noticed what had happened. The weeds weren't even the size you would normally work. How wonderful that you were able to learn the moon information from a fellow gardening senior. In Lois Hole's 2001 Spring Gardening magazine her son wrote an article titled Urine Trouble Now. I will mail a copy to you. We wish you a long, healthy life in all respects so you can share your knowledge with others. Our gardening friends from years gone by were on to something to make a great garden & crop. The

modern farmers are spraying on products to increase the yield. Those farmers & gardeners before us already knew what to do. Mary asks: My brother-in-law in Alberta has difficulty getting artichoke seeds to germinate. Do you have any suggestions? Sincerely, Mary L. Reimer."

## WHAT'S TO KNOW ABOUT ARTICHOKE

To facilitate germination try the paper towel method. Take a sheet of paper towel and fold it in half. Spread eight or 10 artichoke seeds near the crease at the top of folded dry paper towel but not touching each other. Carefully roll the paper towel in the form of a jelly roll and place bottom open end in a clear glass half-filled with water. Rolled seeds are placed at the top end and should face upward into the air. Moisture will quickly be absorbed from the bottom end in water working all the way to the top end. Make sure the glass is always kept at least half-full of water. Place glass in a warm, sunny window and check seeds starting about the fifth day to see whether any have germinated. If not, roll back to original form and return to the glass half-filled with water and continue to monitor every couple of days. Artichoke seeds need a temperature around 20 C (70-75 F) and will take five to 10 days or more to germinate. Once seedlings have sprouted, handle carefully with tweezers and plant them in soilless potting mix. Feed with a weak fertilizer solution at least once a week.

The following information is from Ontario Seed Co., at Waterloo, Ont. N2J 3Z6, phone 1-519-886-0557, (not a toll-free number) email seeds@oscseeds.com, website www.oscseeds.com.

"First-year artichokes are small and few in number but suitable for harvest. Higher-quality artichokes come in the second and third year. Therein lays the gardener's greatest challenge. Artichokes will not survive or will have difficulty surviving Canadian winters."

Dormant roots can be overwintered indoors in a cool area above freezing, similar to how you would store dahlias. You might also wish to experiment with heavy mulching over a few plants left outdoors. West Coast Seeds at Richmond, B.C. says, "Before frost, cut back artichokes to 15 cm (six inches) tall and mulch with soil, straw or leaves to keep the roots from winterkill freezing. Uncover in April."

## SOME SEED VARIETIES AVAILABLE

OSC has a variety called Improved Green Globe. Plants produce deep-green buds with a slight purple tinge. The artichoke flowers are best harvested at five to nine cm (2.5 to four inches) in diameter. The fleshy base of the flower scales and the firm centre are the edible portions. Plants can reach 1.5 m (4.5 feet) in one year.

Here's a source for two other varieties. Contact W.H. Perron, Laval, Que., H7P 5R9, phone toll free 1-800-723-9071, www.whperron.com, for seeds of either or both of the following:

Imperial Star artichoke is described as the home gardener's choice. A high-quality, very uniform selection producing six to eight artichokes of seven to 10 cm in diameter. Hybrid Améthyste is a purple artichoke with uniform heavy tight heads. Upright plants are spineless, and produce multiple secondary buds.

## THE FISHERS' POEM

Don't know whether you'd call these fishing secrets or not. If it's a cool day, wait until air and water have been warmed by the sun. When

fishing on such a day, the best time is from about noon to 3 p.m. If you raise cattle or live in a rural area, take note of the following: If cattle are grazing, then fish will likely be biting as well. When one is feeding, the other will be also.

Warm, cloudy, overcast days suggest good fishing weather. How so? Fish have no eyelids and are bothered by strong, bright sunlight. A dull day draws fish to feed near the surface. When wind is in the right direction (see the poem below) and your bait is to their liking, you're almost certain to end up with a good catch. Discarded parts of fish and their inners can be soaked in water for an hour or two to make a nutrient-rich slurry to feed plants. Afterward, bury the fish parts to enrich garden soil.

## N. E. W. S. POEM

Here it is! A north — east — west and south wind poem for fishers to learn.

*When the wind comes  
in from the north,  
Neither man nor woman  
should go forth.  
Alas when wind is from the east,  
'Tis said that fish bite the  
very least.  
When wind blows in  
from the west,  
Most any fish bites the very best.  
When wind is free coming  
from the south,  
It blows the bait into the  
fishes' mouth. GN*



*This is Ted Meseyton the Singing Gardener from Portage la Prairie, Man. Dolly Parton said: Find out who you are and do it on purpose. Thomas Merton said: Courage comes and goes. Hold on for the next supply. Patience is not very different from courage. It just takes longer. My email is singinggardener@mts.net.*

## THE HAPPY GANG

Received a great handwritten letter with picture that takes readers way back to the mid-1940s. It comes from Ruby Hirsch at Bow Island, Alta. and she writes: "Dear Ted, About two years ago we corresponded about the 'HAPPY GANG' that we used to listen to on the radio (CBC) in the '40s. I was in my early teens then.

I found this picture in my collection recently and I would like you to have it. I do not have a computer so I do things the old-fashioned way. Keep up the good work in your column.

Take care and God bless. P.S. My husband Edmund and I celebrated our 60th wedding anniversary on November 15, 2016. Sincerely, Ruby Hirsch."

Ted says: First let me send a belated happy 60th anniversary to Ruby and Edmund. May both of you celebrate many more anniversaries together in future. When their grandsons come to the door, Ruby welcomes them and says, "There's my happy gang, come on in."

Thanks to Ruby for the Happy Gang picture which appears on this page. Ruby mentioned it was found

among some quilting material, possibly from the '40s. Each daily radio broadcast began with three knocks on the door. Bert Pearl's voice would ask, "Who's there?" and the gang would answer in unison: "It's the Happy Gang," and then Bert answered, "Well come on in."

**This historical picture from the 1940s shows a total of 26 persons in the Happy Gang family with their own "pappy" and master of ceremonies Bert Pearl in the back row on the far right side.**



PHOTO: COURTESY RUBY HIRSCH

## TILLAGE

# Two new implements from Bourgault

Bourgault has designed these new tillage tools to work in difficult field conditions

By Scott Garvey

**F**armers don't need reminding that getting crops seeded and harvested in the last few years in many areas has presented some unusual challenges, due to extreme weather. With that in mind, Bourgault has introduced two new tillage implements it claims can help quickly get fields back into condition for seeding: the SPS 360, which it calls a soil prep system, and the XR 770 eXtended Range Harrow.

The SPS 360 is designed to cope with high moisture conditions in fields and leave them ready for seeding with just a single pass. A primary tillage tool built with a 6-inch by 4-inch heavy-duty frame, the SPS 360 is capable of working at 7.5 to 8.5 m.p.h.

It integrates four different ground-engaging systems. First, a row of 20-inch notched, straight coulters placed on 12-inch spacing can cut and size residue. They can be lifted and locked out when not required. Second, heavy-duty shanks with a 1,000-pound trip force are able to penetrate even hard soils. They are arranged immediately behind the coulters to minimize problems with residue collecting on them.

Behind the shanks are sections of three or four-bar har-

rows with adjustable tooth angles. And finally, 14-inch, spiral rolling baskets leave a firm field finish. The basket down force is adjustable.

SPS 360 machines can be ordered in 40- and 50-foot working widths, and they are available for delivery this spring but only in limited numbers.

The XR 770 eXtended Range Harrow also debuts this year. According to the company, it has improved capabilities compared to regular harrows. It can work in more extreme field conditions and leave a smooth, finished surface. It can also cope with high amounts of field residue.

The XR 770 is a redesigned harrow bar with seven rows of 22-inch tines, and each 10-foot harrow section has 26 inches of vertical travel. One feature that sets it apart from many other harrow bars is the hydraulic in-cab Adjustable Down Force (ADF) system, which ensures even pressure across the entire toolbar regardless of field contours.

It builds on the design of Bourgault's auto-fold system and double-acting cable design used on the brand's 7200 Series heavy harrows. 70- and 90-foot models are available in limited release for the 2017 season. **GN**

Scott Garvey is machinery editor for Grainews. Contact him at Scott.Garvey@fbcpublishing.com.



The SPS 360 from Bourgault is designed to be a one-pass system capable of dealing with difficult field conditions.



Air systems, compatible with Bourgault's 6000 and 7000 Series air carts, are also available for the SPS 360.

PHOTOS: BOURGAULT

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## CROP PRODUCTION

# Testing cereal seed before spring seeding

Test results show low quality in cereal seed submitted to labs for 2017 planting

By Lisa Guenther

**D**urum in Saskatchewan has been a “complete disaster” for the third year running.

That was Bruce Carriere’s grim assessment at the Bayer Seed-Growth Solutions Expo in Saskatoon this spring. Carriere, president of Discovery Seed Labs in Saskatoon, said Saskatchewan durum growers usually have a year carry-over of seed.

“They used that last year,” he said.

Early estimates predicted a drop of 20 to 25 per cent of durum acres in Saskatchewan because of the lack of good seed. He’d recently heard that number might be higher.

Carriere said average Sask durum germination is 71.4 per cent. “The vigour is down in the low 60s. Sixty-two per cent of the durum germs are under that 85 (per cent germination) mark.” Normally about nine per cent of the durum falls below the 85 mark, he added.

Barley’s average germination was higher, but 20 per cent of Saskatchewan’s samples fell below 85 per cent. Carriere said germination was falling off because of chipping and sprouting. Vigour came in at 69 per cent. High moisture from last fall’s harvest was behind the falling germ and vigour, he added.

Saskatchewan farmers planning to grow malt barley might have trouble lining up good varieties if they hadn’t done that by March, he added.

Wheat seed isn’t looking great, either. There are large geographies lacking seed at that 85 per cent germination level, said Holly Gelech, manager of business development at BioVision Seed Labs in Sherwood Park, Alberta.

Gelech and Carriere both noted high disease levels in submitted cereal samples. Gelech saw a spike in storage fungus, specifically aspergillus and penicillium, this year. “Now this is something we typically don’t see unless a grain or seed goes into the bin during high moisture and is not monitored.”

But the big problem this year is fusarium. Generally, more samples are testing positive for graminearum than usual, and seed lots tend to have more severe infections than previous years.

Seed labs also test for other fusarium species, and report those numbers as fusarium totals. Carriere explained poor harvest conditions lead to high fusarium totals. Saskatchewan’s durum samples ranged from zero to 92 per cent total fusarium infections, and the average was 18.9 per cent, topping the recommended 15 per cent limit for seeding.

“Those numbers are a little scary,” he said.

The bottom line is that with all the disease out there from last year, “the land is now re-inoculated for 2017,” said Gelech.

## SHOULD YOU USE THAT SEED?

Gelech had several suggestions for farmers trying to decide whether to use their farm-saved seed. The first step is to send in samples in the fall for germination tests and to find out what types of fungal pathogens are present. She also suggested a cool stress test for farmers planning to seed into cool soils.

Farmers should then go through the provincial benchmarks to

decide whether to use that seed. Guidelines vary by province, and Alberta has legislation regarding fusarium-infected seed. A certified grower will only sell seed that meets the 85 per cent germination benchmark, Gelech said.

In a normal year, the guideline for most Saskatchewan rural municipalities is to treat and use anything with zero to five per cent graminearum infection. But that’s not a hard-and-fast rule, Carriere said.

“If I have a 95 germ, and 6.5 per cent graminearum number, I’m probably going to use it. Especially this year. You’d be hard-pressed to find much better,” he said. Saskatchewan durum growers will have to be a little more flexible with total fusarium numbers as well, he added.

If a seed lot is simply too diseased to work with, Gelech suggested figuring out what quality is like in the region. While many areas are short on good seed, there are other areas

“that are actually quite good this year,” she said.

Farmers can also carry over that seed until 2018. Doing so should drop disease levels by about half, said Carriere. Carrying it to spring 2019 should drop disease by about half again, he added. But he cautioned that when seed has a severe graminearum infection, the germ can also fall. Gelech said that farmers

Continued on Page 34 ►

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PHOTO: FILE

If any fusarium is detected in seed, Bruce Carriere recommends using a seed treatment, regardless of the soil conditions.

► Continued from Page 33

should also consider whether seed will store well, and whether drying might have affected the germ.

Before spring seeding, Gelech recommended reconfirming seed quality with germ testing and vigour testing, if applicable. She also suggested a TKW test.

Carriere also warned that farmers shouldn't use fuzz count as a guideline for seed. There's no correlation between fuzz count and the percentage of seed infected, he said.

**PROTECTING THE 2017 CROP**

Carriere recommended farmers use a seed treatment if any fusarium is detected, no matter the soil conditions.

In 2016-17, BioVision ran a trial with over 100 submitted wheat samples from across Western Canada. BioVision split each sample into bare seed and treated seed. The bare seed had an average germination of 89.6 per cent. Custom-

treated seed saw a five per cent germination bump.

Gelech said they also did vigour tests on the treated and untreated seed, to mimic field conditions. Bare seed germ was 87.6 per cent, while treating seed bumped the germ to 91.2 per cent.

Cereal growers can also try to improve fungicide application timing. Carriere suggested increasing seeding rates to reduce tillers. Tillers flower at different times than the main stem, making it more difficult to stage the fungicide.

Gelech suggested farmers find a nearby weather station, or get their own, and follow models that predict disease development. Fusarium head blight infects susceptible crops during flowering, if conditions are moist.

"If you have a relative humidity of 80 or 90 per cent, that's dynamite for pathogen development," she said. **GN**

Lisa Guenther is field editor for Grainews based at Livelong, Sask. Follow her on Twitter @LtoG.

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