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Grainews

PRACTICAL PRODUCTION TIPS FOR THE PRAIRIE FARMER www.grainews.ca

Farmers say some low-quality grain grades inconsistent

Grain quality has taken a beating from hail, moisture and disease. Now some farmers report facing uneven wheat and durum grading at the elevator

BY LISA GUENTHER

PHOTOS: LISA GUENTHER

The Canadian Grain Commission received over 10,000 samples for the 2014 Harvest Sample program, up from 7,300 in 2013.

Some farmers are still hurting from a poor growing season and harvest at elevators this winter, as they struggle with inconsistent grading.

"The condition of this year's durum crop leaves a lot to be desired," Jim Wickett said.

Wickett farms near Rosetown, Sask., and sits on the Western Standards Committee, which makes recommendations to the Canadian Grain Commission (CGC) regarding grain grading standards and specifications. Wicket said less than four per cent of durum was grading No. 1, according to information from the CGC and CWB's Bruce Burnett.

Wickett cautioned that there's no way of knowing whether each grain sample sent to the CGC's Harvest Sample program represent a 4,000-bushel pile or a 10,000-bushel pile, so the CGC has to extrapolate numbers. But Wickett said over the years "they've been pretty darn close doing that."

Harvest was long and drawn-out for one Saskatchewan farmer contacted for this story (he asked his name be withheld from the paper, and *Grainews* agreed to do so for this story). Hail, frost, excess spring moisture and root disease all took a toll in 2014.

As harvest began, "lentils were yielding really well, but the durum was looking quite sad and we knew we were going to have some issues marketing at least some of it," he wrote via email. He said he didn't have many issues selling lentils — one buyer even took some lower-quality lentils without a discount.

But durum was another matter. The farmer sent durum samples to three grain companies. He also sent samples to SGS, a third-party that grades grain for a fee.

"Results that came back from all of the grain companies were all over the map — fusarium and vomi numbers were incredibly inconsistent, along with HVK (hard vitreous kernels) numbers differing by over 50 per cent," he wrote. One company would grade a bin a three, while another company would call the same bin a five, he wrote.

"SGS provided HVK on all samples which were higher than any of the grain companies," he added.

The Saskatchewan farmer also sent 2013 durum, which he said was clearly a good two. Companies graded it a four or five, he wrote.

Wickett has been participating in the CGC's Harvest Sample program for about four years now. The program provides a free, non-binding grade on samples provided by farmers, along with data on the new crop for international customers.

This year Wickett had a handle on what his better crops should grade, so he sent in samples for the crops with more fusarium.

He said grades assigned by CGC and elevators have been "fairly consistent" over the years.

"I mean, there's been times where something might be a three and someone else is a two. I've never had real drastic swings. I have heard of those," Wickett said.

Fusarium is moving into durum-growing areas, Wickett said. And farmers lack a little bit of knowledge in the grading department, he added.

"We might look at a sample and think: 'Eh, it's not that bad.' And once it's finally examined a little closer with a grading eye, you start picking out some of the things," said Wickett.

Brian Otto, who farms near Warner, Alta., also sent grain to the Harvest Sample program. He said the elevator gave him the durum grade he was after, "but it took a little bit of a struggle to get it. And it's all about grain samples to the Grain Commission."

The local elevator graded Otto's durum a three. Otto and the elevator sent a sample to the CGC for a binding grade, under the Subject to Inspector's Grade and Dockage program. In the end, he got a two. Otto said many farmers are running into the same problem.

"They're grading really hard this year," he said. At interview time, Otto and the elevator had sent a representative sample from his spring wheat to the CGC for a binding grade as well.

Otto doesn't worry that seeking a bind grade will jeopardize his business relationship with his local elevator. The elevator guy he deals with understands, he said. And farming is a business, he added. "Once you start dropping grades in durum, your price drops substantially. So you have to be careful there."

Another Saskatchewan farmer had a different experience with the Harvest Sample program. She drew samples from three different grain bins of Canadian Western

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STAMPEDE **BY JERRY PALEN**

"His legs are too short."

LEEANN MINOGUE

In the last issue of *Grainews* we ran a story about farm research levies. That was just the first in a series of articles about the organizations representing Prairie farmers.

In this column: the Western Grains Research Foundation. You're funding that. Your money gets to the WGRF in two ways. We'll start with your levies.

WGRF LEVY FUNDING

I'm sure you remember all the details about this from the last issue, but here's a quick review.

When you sell wheat in Western Canada, $0.48 per tonne is deducted from your grain ticket. This is the wheat and barley checkoff. Of that $0.48, $0.03 is spent on administration, $0.15 goes to the Canadian International Grains Institute and $0.30 finds its way to the WGRF.

Barley is similar. When you sell barley, your checkoff is $0.56 per tonne. Of this, $0.50 goes to the WGRF. Another $0.03 per tonne goes to the Canadian Malting Barley Technical Centre, and $0.03 is used for administration. (Unless you're selling your barley in Alberta. In that case, you only pay a $0.04/tonne wheat and barley checkoff. You're funding research through your Alberta Barley Commission levy.)

In 2013, the WGRF took in $10.7M in total wheat levies and $1.2M in barley levies.

The wheat and barley checkoff has only been in place since the summer of 2012. Before that, the Canadian Wheat Board deducted money from your grain sales to fund the WGRF, Cigi, and the CMBTC.

Here's a key fact: the wheat and barley checkoff is temporary. It's only in place until July 2017. After that, it's not clear how the WGRF will collect wheat and barley research funds. Some of the new wheat and barley commissions may increase their levies and transfer money to the WGRF.

The wheat and barley checkoff is refundable. See wheatbarleycheckoff.com to learn how to get your money back.

If you don't get a refund, you can use Revenue Canada's Scientific Research and Experimental Development tax credit. For 2013, the CRA has decided that you can claim 68 per cent of your wheat checkoff and 71 per cent of your barley checkoff for the tax credit (based on the share of funding spent directly on research.)

THE WGRF'S ENDOWMENT FUND

Separate from these levies, the WGRF has a little mad money socked away. More than $100M, actually. They call it an endowment fund.

This fund has been building since 1981. That year, $9M was transferred from the Prairie Farm Assistance Act when some federal ag programming was discontinued. This money belonged to all farmers, so it was socked away in a research fund that could benefit all farmers.

In 2000, the Canadian Transportation Agency decided that railway overpayments should also go to the WGRF. At the end of each year, if CN or CP have charged more than they should have under their revenue caps, they pay that overcharge to the WGRF's endowment fund.

Again, this is money that belongs to all farmers. Of course, you don't see your contribution in your farm books. Your local elevator paid the railway to move your grain. Presumably, if the rail freight rate had been lower, your cheque would have been bigger. So, while railway overpayment money belongs to farmers, it's impossible to calculate your individual contribution. You can't get a research tax credit; you can't call the WGRF and ask for a refund.

Most years, railway overpayments don't amount to a lot of money. (Well, not if it was divvied up among all farmers.) For the 2013-14 crop year, CN will pay $5.2M to the WGRF. That is, CN collected $5.2M more than it should have under its revenue cap during the 2013-14 crop year; every farmer who shipped grain on a CN line made an extra contribution to the WGRF. (CP was under its revenue cap in 2013-14.)

In the 2012-13 crop year, CP charged $186,859 above its revenue cap. This also went to the WGRF.

Most years this number sneaks by when nobody's paying attention, but you probably remember the 2007-08 crop year, when the total railway overpayment was $66.6M.

WHO'S RUNNING THIS PLACE?

In my last column, I offered up a lecture, telling all of you that since you're paying levies to so many farm organizations, you should get actively involved, maybe even become a board member.

Being a board member at the WGRF would be fascinating. You'd be the first to know about all kinds of new research, and you'd have a chance to set research priorities.

But, getting yourself on the WGRF's board is a little more complicated than becoming a board member with most levy-collecting groups. This is going to be a two- (or three-) step process.

First, you need to know that there are three classes of WGRF members. Class A members are farmer organizations. Only Class A members get seats on the board of directors. There are 18 farm group members, so there's an 18-person board. Class B is for government members — there's just one: Agriculture and Agri-Food Canada. Class C is for industry members.

So, to get on the WGRF board, you'll need to get yourself appointed as the representative of one of the 18 member farm organizations. Typically, you'd have to get elected to the board of directors of one of these groups, then convince your fellow board members to appoint you as the WGRF representative.

In some cases, you'll have to jump an extra hoop. For example, a board member of the Saskatchewan Canola Growers would need to become that group's representative to the Canadian Canola Growers Association. Then, she could become the Canadian Canola Growers' representative to the WGRF.

These are the 18 Class A WGRF members:

- Saskatchewan Flax Development Corporation
- Alberta Federation of Agriculture
- Saskatchewan Wheat Development Commission
- Prairie Oat Growers Association
- Western Pulse Growers Association
- Keystone Agricultural Producers
- Canadian Canola Growers Association
- Western Winter Cereals Association
- Western Canadian Wheat Growers Association
- Saskatchewan Barley Development Commission
- Alberta Barley Commission
- Canadian Seed Growers Association
- Alberta Wheat Commission
- B.C. Grain Producers Association
- Western Barley Growers Association
- Manitoba Wheat and Barley Growers Association
- National Farmers Union
- Agricultural Producers Association of Saskatchewan

I didn't include the names of the representatives from each organization because this is prime AGM season, and some may be changing right now.

You likely noticed that not all of the associations represented on the WGRF's board are research organizations. Policy groups like Manitoba's KAP and the National Farmers Unions are also WGRF members.

WGRF RESEARCH SPENDING

Like a married couple with separate bank accounts, the WGRF keeps its levy spending apart from its endowment fund spending.

Wheat levies are spent on wheat research. Same with barley. But money in the endowment fund, which came from *all* farmers, is spent on research into *all* types of crops.

In mid-November, the WGRF finalized its 2015 research budget. This must have been a long meeting — they'll be spending $18M on research in 2015. (I notice that's $1M per person at the table, but I'm sure that's just a coincidence.) The post-meeting press release said they're co-funding with 30 different organizations on more than 125 research projects, worth over $22M (including other organizations' contributions).

That kind of spending is sure to yield a lot of useful information. You're funding it. Be ready to use it.

Leeann

Wheat & Chaff

PHOTO CONTEST

GIVE US YOUR BEST SHOT

Mark and Heather Cunningham sent us this terrific photo of their new dog. They said, "He is a Komondor. His name is Spike and we were introducing him to our flock of 50 ewes in hopes of him wanting to protect them in the future. Our two boys, Chase (9) and Austin (10), are very excited about this new dog — he's very friendly!"

Mark and Heather farm near Kelsey, Alberta.

Thanks for sharing the photo! We'll send you a cheque for $25.

Send your best shot to leeann.minogue@fbcpublishing.com. Please send only one or two photos at a time and include your name and address, the names of anyone in the photo, where the photo was taken and a bit about what was going on that day. A little write-up about your farm is welcome, too. Please ensure that images are of high resolution (1 MB is preferred), and if the image includes a person, we need to be able to see their face clearly.

Leeann

FARM SAFETY

Keeping tractor attachments secure

It was a November day just like another other November day in rural Manitoba. The sun was shining, the sky was full of southern-bound Canadian geese, the air was crisp and there was work to be done. However, for one Manitoba man, this day was his last. A 36-year-old Hutterite man was killed when a bucket of a front-end loader detached, crushing and killing him. He had been working on a fence with another worker.

An incident occurred on a rural Manitoba road last fall when a farmer driving a bale-spear-equipped tractor suddenly lost the attachment, resulting in a near roll-over. The farmer was able to maintain control of the tractor; however the bale spear attachment punctured a tire causing thousands of dollars of damage.

Unfortunately, these incidents are not uncommon.

Buckets and other attachments are essential on many farms. A quick coupling system is a great way to save time and energy, enabling operators to quickly change from one loader attachment to another, but they can become unintentionally released.

Unintentional release of the attachment can sometimes be caused by the failure of the automatic locking pins after coupling or the failure of the operator to manually engage the locking pins. This exposes workers to possible injury if gravity isn't enough to maintain the attachment position. Quick moves by the front-end-loader, driving at any speed, a bump in the road or even gradual movement could all cause the equipment to detach and fall, resulting in damage to equipment or injuries to a bystander.

So, what can we do to prevent these attachments from unintentional release? First and arguably the most important is know the equipment. Understanding the equipment's capabilities and limitations before operating is essential to good safety. Other good safety practices are:

- Make sure all quick coupling systems are free from debris and hazards like mud or manure. Remove and replace damaged or excessively worn parts.
- Ensure that the attachment is compatible. Much like a square peg in a round hole: it may work for some time, but then suddenly swing open, releasing the bucket or other attachment.
- Make sure that locking pins are present and in good condition. Some older coupling systems don't have the recommended safety locking pins. If appropriate, obtain and install retrofits recommended by the manufacturer, including locking pins and other devices.
- Make sure all locking mechanisms are engaged.
- Visually inspect the coupling system to verify that the attachment is secure, all locks are fully engaged and the centre of the attachment matches up to the coupler.

It's important to verify that the attachment is connected properly every time the attachment is changed.

All machinery is different and needs to be individually assessed. The above is general guidance and not meant to replace a discussion about specific pieces of equipment. Please refer to your manual or contact your manufacturer for more details regarding the safety of your machine.

One of the easiest and most effective controls that can be exercised around machinery is a policy for workers, children and bystanders around machinery. Ensure that workers, children and bystanders are clear of the work.

An old safety rule, but one that saves lives over and over again, is one of no riders. A bucket or other attachment is not designed to carry passengers, no matter how slow the machinery is travelling or how safe the operator and passenger feel it is. It isn't safe. There have been many deaths attributed to runovers and crushes because of extra riders.

Remember to discuss the safety procedures with any worker who will be operating the machine or working near the machine.

Verifying the attachment is correctly coupled, ensuring that machinery is free of hazards, keeping bystanders, workers and children away from working machines might cost time and even some money; but will lead to a better, safer and more productive farming operation.

For more information about how you can increase the safety on your operation, contact the Canadian Agricultural Safety Association at info@casa-acsa.ca.

Canadian Agricultural Safety Association — www.casa-acsa.ca.

You might be from the Prairies if...
By Carson Demmans and Jason Sylvestre

You have ever gotten into a fist fight with an Easterner over how to pronounce the letters W-A-N.

AGRONOMY TIPS... FROM THE FIELD

2014 weather; 2015 agronomy

Whether it was a late start, an unusually wet growing season or possibly even September snow, there was a lot of weather in 2014 that most of us would rather forget. But let's not do that too soon. Last year's weather could have lingering consequences that extend into 2015's cropping plans.

For one thing, the weather resulted in poorer crop quality across much of the Prairies. So for those anticipating using farm-saved seed in 2015, seed testing should be considered essential because of the increased risk of seed-borne infections. Armed with lab results, you can make an informed decision on whether farm-saved seed or certified seed fits your need. (In either case, a seed treatment should be a priority.)

If you go the farm-saved route, be sure to test your seed for germination and vigour, which could have taken a hit along with reduced seed quality. Knowing your seeds' germination results, you can calculate seeding rates that will improve the density of your stand.

Of course, the risk of higher soil-borne diseases should also be a consideration after last year's weather. Rotating crops is the best solution, but you might need to consider the use of fungicides too.

This agronomy tip is brought to you by Rob Klewchuk, technical lead, Western Canada for Syngenta Canada Inc.

WEATHER LORE

When the North Star twinkles

A twinkling North Star
Will probably bring rain.

When stars twinkle and some fade entirely to black, it is an indication of unstable air between us and the star(s). The stars are the same as they have always been but the unstable air prevents us from seeing them clearly. The greater the instability, the twinklier the stars, the greater the likelihood for rain or snow.

When on a bed of black,
the stars to flicker,
Soon you'll be looking
for your rain slicker.

Shirley Byers' book "Never Sell Your Hen on a Rainy Day" explores over 100 weather rhymes and sayings. It is available from McNally Robinson at: www.mcnallyrobinson.com.

Cover Stories

GRAIN MARKETING

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FARMERS STRUGGLE WITH GRAIN GRADES

Red Spring. She then sent samples from all three bins to the Harvest Sample program and three local grain companies.

Grain companies and the CGC came up with very similar protein levels, she wrote. But fusarium counts varied between 0.8 per cent and two per cent for one sample.

"That's a spread from No. 2 to feed," she wrote. The CGC had the highest fusarium level in all three samples, she added.

HARVEST SAMPLE PROGRAM NUMBERS UP

The CGC received over 10,000 samples for the Harvest Sample program this year, said Daryl Beswitherick, program manager of quality assurance standards and reinspection with the Canadian Grain Commission. "Last year we were about 7,300. And typically we're about 9,300."

Mildew and frost were two of the biggest grading factors this year, Beswitherick said. And both those factors are subjective, rather than objective, grading factors. For subjective factors, the CGC creates standard samples, which are sent to grain companies.

"And so then it's a comparison. You hold two samples side-by-side and you compare them. Does one have more frost than the other? Does the degree of frost, the degree of mildew, is it harder in one than the other?"

Stephen Vandervalk farms near Fort Macleod, Alta. He wants to see grain grading modernized and visual inspections ended. "You cannot tell me that somebody who is looking at it visually is grading the same at eight o'clock in the morning as five in the afternoon," he said.

"Not only that, you have these guys who go for a two-day course and they're sitting there grading your grain. That has to go. We need to have machines (and laboratory tests) that do it," Vandervalk said.

The major grain companies were asked about training and grading practices, but did not respond to interview requests.

Beswitherick said it typically takes four years for the CGC to train someone to grade grain bound for export. Some might do it in three years, he added.

Asked whether there was any talk of creating industry standards for graders' training at primary elevators, Beswitherick said no. When the CGC was modernized, there was some discussion about it, he added. But the grain companies wanted to handle their own in-house training, he said.

"It's pretty expensive through the Grain Commission," Beswitherick said. He added that elevator companies' quality assurance staff do work with the Canadian Grain Commission.

Vandervalk also wants to see the grain companies buy grain on the same specs they sell it so farmers can get full value for their grain. Grain companies don't always sell based on the Canadian Grain Commission's regulatory grades, he said.

Beswitherick said grain companies can sell based on regulatory grades — such as No. 1 CWRS — or on the customer's specifications.

"And they can blend. …There's nothing illegal about blending grain, as long as you're not blending feed grains into food grains," said Beswitherick.

But there are rules around buying and selling grain. The *Canada Grain Act* specifically prohibits people from, for example, taking or claiming excess dockage.

However, enforcement in the primary elevators seems to rely on farmers' complaints.

"The Grain Commission is not going out and auditing procedures done at primary elevators," said Beswitherick. The Subject to Inspector's Grade and Dockage program protects farmers, he added.

Right now the CGC doesn't have the ability to levy fines against grain companies, Beswitherick said. The Commission can pull a primary elevator's licence if the company isn't following regulations, he said.

Proposed amendments to the Act outline monetary penalties that could be levied against companies for violations, he said. But which offenses would draw fines still need to be settled by the Commission's management, he added.

Part of the Canadian Grain Commission's role is to maintain grain quality for international customers. To that end, the Commission inspected all grain leaving a terminal elevator, Beswitherick said. While a vessel is loaded, the Commission takes a sample every 2,000 tonnes and analyzes to make sure it meets grades or specifications, he said.

What happens when a shipment doesn't meet specifications depends on how the vessel is certified. If it's certified on an incremental basis, every 2,000 tonne increment must meet specification, Beswitherick explained. Shipments that don't meet specification can be off-loaded or certified to reflect the grade of each increment.

Since November 2012, grain companies have been able to certify shipments by composite. A composite sample is created by combining samples drawn from a shipment.

"So they are allowed to be over on certain increments, but the composite at the end of vessel must meet specification," said Beswitherick. Loading composite-certified shipments is more efficient than incrementally-certified shipments, he added.

Kernels infected with fusarium have a white or pinkish fibrous mould in the crease area. Fusarium damage is an objective grading factor, meaning specific tolerance levels are laid out in the Official Grain Grading Guide.

KNOW WHAT YOU'RE DELIVERING

SGS gave the unnamed durum grower some U.S. grades for his durum, and he ultimately turned to southern markets. He is trucking 60 per cent of his durum to the Northgate port, southeast of Estevan, Sask., at a cost of $1.50 per bushel for trucking. Despite that cost, he said he's still putting $3 per bushel in his pocket.

"How is this possible? How can my durum be so undesirable here and so welcome 600 km away?" he wrote. He wondered if grain companies were reluctant to purchase grain due to rail service.

"To fill up the terminal with lower-margin grain doesn't make sense especially when every farmer in the area is desperately trying to get in line to deliver. There is no need to compete for the grain here," he added.

Wickett said he tries to steer people towards the Harvest Sample program. "It's an awful good and free service and sure gives you a pretty good snapshot, I think."

Otto said he's not trying to slam the elevators. But farmers who don't get their grain graded in advance leave themselves open to whatever the elevators grade it.

"But if you know what you're shipping, then you have a leg to stand on to negotiate with them. You can't negotiate if you don't know what you're delivering."

Lisa Guenther is field editor for Grainews based at Livelong, Sask. Contact her at Lisa.Guenther@fbcpublishing.com or on Twitter@LtoG.

Proposed changes to the *Canada Grain Act*

In December 2014, the federal government introduced changes to the Canada Grain Act to Parliament. The amended legislation hasn't been passed yet, but there are some practical implications for western Canadian farmers.

Right now farmers can only ask the Canadian Grain Commission (CGC) for a binding decision on grade or dockage when delivering to a licenced primary elevator. If passed, the amended legislation would also give farmers the right to a binding decision on grade and dockage at licensed process elevators, grain dealers and container-loading elevators.

Currently, licenced grain companies have to put up security to pay farmers if they fail. But sometimes grain companies don't have enough security. The proposed changes would replace this system with a producer compensation fund, stocked by licensed companies.

Each company's contribution would depend on its risk profile and the volume of grain it handles. The fund would be between $5 million and $10 million, chief operation officer Gordon Miles told reporters. Feed mills may also be included, but consultation is needed, Miles said.

Other proposed changes include:

- Creating a new class of licence for container-loading elevators.
- Clarifying that the CGC acts in the interests of the entire grain industry, farmers and all Canadians as an unbiased regulator.
- Boosting fines and developing a system of monetary penalties for violations of the Act.
- Creating a process for stakeholders to get a review of certain CGC decisions.
- Adding authority for the CGC to require people to sign a declaration about grain they are delivering to a licensee.
- Allowing licensees to refuse deliveries of unregistered varieties.
- Providing authority for the CGC to monitor and test grain in eastern Canadian elevators — only to be implemented after consulting with stakeholders.

Lisa Guenther

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Features

CROP PRODUCTION

Palmer amaranth is a looming concern

This aggressive, herbicide resistance weed has been travelling north, and may be in our fields soon

BY JULIENNE ISAACS

Prairie farmers may soon have a new problem Palmer amaranth, an aggressive, invasive weed species native to the desert regions of the southern United States and Mexico, is spreading into the Northern Plains. A few patches of the weed were spotted last year in Aberdeen, South Dakota; North Dakotans are on high alert.

According to Richard Zollinger, a weed scientist at North Dakota State University, the weed has been chosen as "weed-of-the-year" to increase awareness about its potentially devastating impact. A fact sheet produced by NDSU claims that Palmer amaranth has one of the fastest growth rates known — over two inches per day. It is extremely aggressive and can exploit even small canopy openings. Female plants can grow to over 10 feet tall with a five to six inch stem girth and seed heads over one foot long.

Most species of Palmer amaranth are resistant to herbicides, and weed populations spread extremely quickly, as each plant can produce at least 100,000 and up to one million seeds.

In the U.S., according to Zollinger, HR (herbicide resistant) Palmer amaranth can cause 78 per cent yield loss in soybean and 91 per cent yield loss in corn.

Neil Harker, a research scientist with Agriculture and Agri-Food Canada, says HR Palmer amaranth has become a major problem in the U.S. due to prolonged overuse of herbicides with the same mode of action. Another contributing factor, he says, is the country-wide distribution of animal feed containing cotton contaminated with HR Palmer amaranth.

"It will not be long, perhaps two or three years, before Canadian growers have herbicide-resistant Palmer amaranth, since it is already found in the neighbouring States of Ohio and Michigan," says Harker. "South Dakota also has HR Palmer amaranth, so it may be in Manitoba soon after North Dakota gets it."

Harker says crop scouting is crucial to curtailing the weed's spread early in the game. "Initially, the weed will likely be present in small numbers. At that time, growers should hand-weed it and burn the plants before seed set and seed shatter, and take any other efforts necessary to prevent it from spreading."

Many U.S. cotton growers are resorting to hand-removing Palmer amaranth escapes in-field.

Harker says non-herbicidal weed control methods should be employed whenever possible, including higher seeding rates, crop rotation, use of perennial forages and winter cereals, early-cut silage, and chaff removal through baling.

"When herbicides are used, rotate modes of action and employ tank mixtures with at least two effective modes of actions on target weed species," Harker advises.

A Purdue extension fact sheet titled "Palmer Amaranth Biology, Identification and Management" recommends growers practice deep tillage, which will bury Palmer amaranth seed below its preferred emergence depth. "In a heavily infested field, this practice can reduce the Palmer amaranth population up to 50 per cent," claim the authors, Travis Legleiter and Bill Johnson.

"Deep till only once, because the buried seed will remain viable up to five years and will redeposit in the top layer of soil if you deep till again within that time," it says. "Long-term no-till producers must weigh the weed control benefits of tillage against the economic and soil-structure benefits of their no-till system." The fact sheet also recommends harvesting infested fields last.

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

PHOTOS COURTESY OF NORTH DAKOTA STATE UNIVERSITY. FIND INFORMATION ONLINE AT AG.NDSU.EDU.

Left: Female Palmer amaranth plants can grow to over 10 feet tall. **Right:** Note this Palmer amaranth seedling's long leaf stems.

Features

SPECIAL CROPS

Re-building buckwheat production

Buckwheat is difficult to grow and hard to market. But there is money to be made when things go well

BY PATTY MILLIGAN

PHOTOS: REJEAN PICARD, MANITOBA AGRICULTURE, FOOD AND RURAL DEVELOPMENT

Buckwheat requires cross-pollination. Even with self-pollinating varieties farmers will experience much higher yields if they place hives on their fields. Buckwheat is not as expensive to grow as wheat or canola.

Buckwheat is a curious crop. It's not new or exotic; it was planted in Western Canada as early as 1925. It's familiar to most Canadians in its various forms — pancakes, soba noodles, or groats (also known as kasha) to name three. There is high demand for it on the Japanese market yet only a smattering of farmers across the Prairies plant it. 2014 saw about 500 acres sown in Alberta, very few in Saskatchewan, and less than 5,000 in Manitoba.

Historically, Manitoba has produced about 70 per cent of Canada's buckwheat crop, while Ontario and Quebec grow the other 30 per cent between them. In the late 1970s, national buckwheat production peaked at about 150,000 acres. Average production in Manitoba hovered between 20,000 to 30,000 acres over the next two decades or so, then dropped steeply in 2007. Several factors have contributed to buckwheat's downfall:

- Viterra, a major contractor, terminated small or special grains contracts.
- China's buckwheat supply, lower production costs, and geographical convenience have eroded Canada's share of the Japanese market.
- Farmers have turned to more lucrative crops such as canola and soybeans.
- Farmers faced difficult growing and harvesting conditions — including floods.

Despite its long history on the Prairies, buckwheat wavers on the edge of being a feasible minor crop in Western Canada.

BUCKWHEAT IS TRICKY TO MARKET

According to Rejean Picard, farm production advisor specializing in buckwheat, with Manitoba Agriculture, Food and Rural Development, North American buckwheat is the highest quality in the world. Yet it can't go head-to-head with Chinese buckwheat, which, despite its bitter taste and the foreign material often found in it, sells for one-third less than North American buckwheat.

Japan is the largest customer for Canadian buckwheat. In Japan, only new crop buckwheat is used to grind into flour to make popular soba noodles. If the buckwheat has been stored, the flavour and colour of the noodles are affected. Farmers can't keep buckwheat over a year, nor can they mix new and old crop.

Manitoba's inland location makes accessing the Japanese market hard for growers. Distance is not the only issue; the service offered by the railways creates difficulties too. Lorne Kyle, president of Springfield Mills in Oakbank, Manitoba, which ships food-grade buckwheat to Japan, once had a carload of buckwheat that took 49 days to reach the coast.

Cereal grains in buckwheat can lead to a loss in grade. They can be difficult to clean out because only one herbicide is registered for use on buckwheat. There is also a shortage of cleaning facilities that are able to handle buckwheat post-harvest and bring it to a level of cleanliness that the overseas market requires.

Getting the weight on buckwheat is a challenge for growers, says Lorne Kyle. Food-grade buckwheat must reach a minimum of 46 pounds/bushel. Lighter buckwheat, say at 42 pounds/bushel, won't make food grade but it can go to the birdseed market. Unfortunately, Kyle says, that market "comes and goes." If birdseed is not an option, farmers have to sell their crop for cattle feed.

Though buckwheat can be used for human food, livestock feed, green manure, and honey production, the domestic demand is small. Marta Izydorczyk, research scientist, and program manager for barley and other grains with the Canadian Grain Commission, has spent 10 years researching the value of buckwheat as a food. "It is such a good crop. Everything is there. It has bioactive components such as rutin, proteins that are more nutritious than cereal grains, and it's gluten-free which, at this time, is buckwheat's best 'hook.'" But food processors are not picking it up. Rejean Picard believes that "the taste remains an issue."

BUCKWHEAT CAN BE TRICKY TO GROW

Buckwheat can be a challenging crop. Pedigreed seed is available from just three growers: Springfield Mill, Fisher Seeds and Durand Seeds, all in Manitoba. Buckwheat is susceptible to frost which has an impact on both ends of the growing season. It requires cross-pollination. Even with self-pollinating varieties farmers will experience much higher yields if they place hives on their fields.

Buckwheat has a shallow tap root system and a hollow stem so it is susceptible to lodging. High-nitrogen soils, winds and rain, and desiccation all damage the crop. Buckwheat doesn't mature uniformly so shattering can be an issue during harvest. Because producers may choose to combine buckwheat at a higher moisture level in order to reduce shattering, drying is often necessary. Buckwheat can be stored at 16 per cent moisture. Yields can be highly variable — anywhere from five to 40 bushels per acre.

The biggest hurdle that buckwheat producers must overcome is a lack of options when it comes to weed control. Just one herbicide — Poast Ultra — is registered for use on buckwheat. It's not recommended for Manitoba and it only controls grassy weeds. Lorne Kyle pinpoints two of the most troublesome broad-leaf weeds that growers cannot easily clean out of buckwheat: round-leaf mallow and wild radish. Since one seedpod can drop seven to eight seeds, keeping pedigreed seed weed-free is very difficult. Two products have been identified for use on buckwheat but, Rejean Picard says, they are not yet licensed. "We continue to look for potential new herbicides that may be effective for buckwheat."

GROWING BUCKWHEAT IS CHEAP

Both Kyle and Picard point out that buckwheat is not as expensive to grow as cereals or canola. Buckwheat needs less nitrogen than most cereal grains and it is also able to retrieve phosphorus from the soil very efficiently. Generally, less herbicide is applied. "With some moderate fertility and weed management, producers can make some money," Picard says. Last year's yield was unusually high at 40 bushels/acre; growers in Manitoba usually average 17 to 18 bushels. Prices have been as high as $15 to $16 per bushel, but right now they are in the $11 to $12 range. On average, growers plant about 80 to 100 acres of buckwheat. "If yields are in the high 20s to low 30s," Picard says, "There's some money to be made."

Buckwheat crops can thrive under the growing conditions on the Canadian Prairies. It does well on marginal land and no special equipment is required. Because it is sensitive to frost, it's usually planted in early June, so growers can easily fit into the schedule alongside other crops that are planted earlier. There are no registered seed treatments for buckwheat, but because it is sown late and comes up quickly, that is generally not an issue.

Buckwheat crops can thrive under the growing conditions on the Canadian Prairies. It does well on marginal land and no special equipment is required.

Picard describes buckwheat as "a very competitive crop." If it has an edge, it's a good smother crop. Picard encourages growers to do everything they can to give their crop that "edge" so that weeds are less of a problem. With a dearth of effective herbicides, growers may turn to other management techniques for weed control. For instance, experiments have shown that growing buckwheat in wider rows can be effective since farmers can cultivate between the rows. Farmers must choose their fields carefully before planting. Because of the late sowing date, they have time to deal with weeds pre-planting. Buckwheat has very few disease and insect issues.

Typically, buckwheat doesn't reach maturity until mid-September. Usually the time to swath is when the 80 per cent of the seeds formed have turned black or dark brown or if a heavy frost has burned through the canopy. "By the time it's cut and harvested," Picard says, "you're well into October." The good thing is, according to Kyle, is that if it's not a heavy frost, the green seed will continue to mature and still make food grade.

With some adjustments, producers can easily fit it into their rotation.

BUCKWHEAT'S FUTURE UNCERTAIN

Buckwheat research programs have been reduced or eliminated. Currently Mancan Genetics is the only buckwheat breeding company in operation. Because it's a small crop, Kyle feels the industry doesn't have an impact on the government. Picard is hopeful nonetheless. "New farmers are interested. I get a couple of calls a week year-round." Izydorczyk believes that buckwheat's star can rise again as long as there is a coordinated effort between farmers, scientists, and processors. She thinks growth should be focused on expanding North American markets, increasing the number of food processors and food products, tying into the gluten-free movement, and developing a western Canadian brand.

Izydorczyk says, "There is no downside. By expanding the domestic buckwheat market, we diversify our diets and our farms." "But," she cautions, "We cannot wait for some kind of a miracle. We have to work."

Patty Milligan is a freelance writer based at Bon Accord, Alta.

Features

TIP OF THE ISSUE

Grazing corn a good option

Many farmers have found grazing corn to be a good way to maintain cattle health and saving money

BY BREEANNA KELLN

Ranchers looking to save costs associated with traditional drylot feeding systems are making the switch to grazing corn to keep beef herds healthy in winter months. There are many different winter grazing systems available to producers, including grazing standing whole plant corn. And, studies show producers won't be sacrificing herd health for cost savings.

ASSESSING COSTS BY THE NUMBERS

The winter feeding period for beef cattle in Western Canada is typically 200 days per year, making it costly to supply feed nutrients to pregnant beef cows. The cost for winter grazing cows, including yardage, may range from $0.70 to $1.40 per day, which is substantially lower than feeding stored forages — with no extra expenses related to corral cleaning, manure handling and facilities maintenance.

SELECTING GRAZING CORN HYBRIDS

Approximately 65 per cent of the energy source in corn can be found in the grain. That means it's vital for producers to select a hybrid with good ear production for grazing corn.

Producers should also be sure they're selecting hybrid that are best suited to the corn heat unit ratings in their area. Ideally they'll want the crop to freeze at the R5 stage, roughly the same time they would typically silage it. This will help to increase palatability.

CONTRIBUTING TO HERD HEALTH

Older or younger cows may need time to adapt to a winter grazing system. Producers will need to know and manage the cow age by limiting winter grazing to their main cow herd.

Animals see no negative health impact, as they remain walking and physically active during the winter months, when they would traditionally be less active in a corral. Studies have shown that fall and winter grazing animals can result in improved cow body condition, postpone the onset of weight loss, and decrease costs.

In addition, winter systems can have a positive effect on nutrient cycling and soil health of the grazed land. Once the ground is frozen, producers will see fewer losses from trampling feed into the mud, and soil compaction remains a non-issue, as long as the herd is removed from the field before spring thaw.

For more information about choosing grazing corn hybrids, growers should talk to their local seed dealer.

Breeanna Kelln is an area agronomist with DuPont Pioneer.

Features

CROP PRODUCTION

Getting into growing grass

Growing grass seed can fit well into a rotation. Here are seven tips for beginning grass growers

BY PATTY MILLIGAN

Terry Andersen seeds about 25 per cent of his 2,700 acres at Anderseed Farms near Bon Accord, Alta., to grass primarily for reclamation. He first planted grass seed in 1992 because he was told that he could make more money with it than with grain. While prices haven't always been good, Kowalchuk confirms that they've been strong of late due to short supply.

Norm Klemmer, with Ag-Vision Seeds, agrees; many of Ag-Vison's growers have included grass seed in their rotations for over 30 years.

Andersen didn't get into growing grass seed the way most farmers do. When he started, he was working full time as a production field person for a grass seed company and he didn't want to be giving advice to producers about growing grass seed when he'd never actually grown any himself. Andersen also appreciates the agronomic benefits including a staggered workload over harvest and an expanded rotation.

By planting grass, growers split up the fall workload since most grasses ripen while cereal grains are still green. Andersen is usually combining grass between the third week of July and the second week of August.

Growing grass seed fits well into the rotation. It helps control diseases such as clubroot because it usually occupies a field for four years — with one idle year to establish the crop and three years of production. If you establish good growth, keep out the weeds and invasives, it might even be longer than four years. Norm Klemmer points out, "Some will last eight or 10 years." As the stands get older, Andersen observes, "the fields look uglier. They don't head as good and you get more weedy contaminants, more root rot."

Grass seed production can improve soil, adding more organic matter. From year to year, the residue has to come off the field because it tends to inhibit the next year's seed production. Andersen bales it and sells most of it as a low-value feed. After four years, he tills the field under; earlier if there are weed issues. Some farmers burn it off.

FIRST BIG CHALLENGE: WEED CONTROL

Starting out with grass seed was difficult for Andersen. He thought he had planted his first crop — Canada wild rye — into a weed-free field, but soon couch grass and quack grass were a big problem. That first year, he walked the fields with a backpack, spot spraying the weeds.

Andersen has come to learn that weed control is the biggest challenge when it comes to growing grass seed. He urges farmers to know the crop history of their fields before they plant a perennial grass.

Foxtail barley is the biggest problem for Andersen, followed by quack grass. He doesn't have a good solution. While it's possible to spray out the broad leaf weeds, and there are options for some grasses and wild oats, there's nothing to control foxtail barley and quack grass. Some invasives are taller so they can be wicked out, such as twitch grass and wild foxtail. Some, such as fescue, are Roundup resistant. For some farmers, Terry Kowalchuk points out, wild oats can be a challenge. Diseases aren't as urgent an issue according to Andersen: "Certainly some grasses get mildew and all grasses get rust but it's not usually at a level that's economic to spray."

SECOND BIG CHALLENGE: MOVING GRASS SEED AROUND

Andersen's first year combining turned out to be difficult. "Canada wild rye is a nasty seed with a really tough awn on it. I had a lot of trouble keeping it in the combine. It wanted to go just right through."

Some of the bigger market grass seeds are dense and flow just like grain. Many of the seeds that Andersen grows, primarily bromes, are tiny and light and don't move easily. "They just don't behave," says Andersen. For seeding, they have to be blended with fertilizer. During harvest, they plug the combine.

Moving them anywhere — from combine to truck or in and out of the bin — is an issue. Andersen plans much more carefully. "You can't combine tough and think, 'I'll just dump this into the bin and dry it.' Grass seeds do aerate well but you've got to be well set up. You've got to plan ahead, get it into that flat-bottom bin with aeration first thing because you don't want to have to move it around."

For cleaning, Andersen used to take his seed to a facility about an hour away. When that person retired, and he could find no other facility nearby that cleaned the type and range of grasses that he grew, he set up his own cleaning facility. He chuckles, "These things get forced on you."

TIPS FOR BEGINNING GRASS SEED GROWERS

1. ***Start with just one thing.*** You want to go slowly and just do your learning.
2. ***Grow a forage grass first.*** The forages are more straightforward and reliable, less finicky. The acreage is much bigger and so is the market.
3. ***Pre-select fields carefully.*** An accurate vision of how the land was managed regarding perennial weeds is crucial.
4. ***Connect with a seed company.*** First of all, don't grow grass seed on spec. Identify and secure their market before planting. Second, seed-buying companies that contract production have field agrologists, and Kowalchuk believes they can be a huge resource for growers, offering guidance about growing specific grasses.
5. ***Get good advice for combine settings.*** New growers risk losing a lot of seed or, conversely, keeping everything thus making the seed harder to handle and causing huge inconvenience and cost if it needs to be shipped somewhere to be cleaned. Guidance from the contract company's agricultural fieldman to set up the slow speed fan kit is crucial for a successful harvest. Alberta Agriculture also provides detailed information about combining grass seed here on its website. To find it, go to www.agric.gov.ab.ca and type "harvesting grass seed" in the search box.
6. ***Grow enough volume.*** Klemmer urges farmers to plant "enough seed to make a load out of it. We won't deal with 200 or 300 bushels." Small volumes aren't just a problem for the seed companies, they're also bad for the grower. Like Andersen says, "You don't want to be paying to send a part B-Train somewhere."
7. ***Be patient.*** Perennial crops are slower to establish; they're slower to get to market. Andersen warns, "You can't grow grass seed if you need the cash on October 30th of the year you combine it. It's a longer-term investment."

Patty Milligan is a freelance writer based at Bon Accord, Alta.

BY JONNY HAWKINS

Country Chuckles

"Have you seen the old goat? I need it found before and mischief happens"

BY JONNY HAWKINS

Country Chuckles

"You felt tightness, burning, then a pop? Looks like you pulled a calf."

Features

CROP PRODUCTION

Grass seed industry has solid niche

Not everyone seeds forage, but moving into grass seed production may be beneficial for some

BY PATTY MILLIGAN

At least 8,000 years have passed since humans first started harvesting grasses. In that time, cereal grains have become quite different from their grassy ancestors. They still have enough similarities though, that farmers can incorporate grass seed into their cereal and oilseed operations fairly easily. For instance, there's no need for specialized equipment. They still have enough differences though to present growers with a few challenges, including weeds, seed size and flowability.

While the grass seed industry on the prairies is small, it has carved out a fairly solid niche. Terry Kowalchuk, Saskatchewan Agriculture's provincial forage crops specialist, estimates that 40,000 acres of grass were planted in Saskatchewan this year for seed, mostly for forage blends. There are about 300 growers primarily based in the Nipawin area of northeast Saskatchewan.

According to Manitoba Agriculture, Food and Rural Initiatives, forage seed is produced on over 100,000 acres in Manitoba, "which is approximately 30 per cent of the Canadian total for forage seed acres." Those numbers — which include legumes — also include 50 per cent of the timothy seed and 90 per cent of the perennial ryegrass seed.

> It's not for the feeble

FORAGE, TURF AND RECLAMATION MARKETS

While forage markets dominate the Canadian scene, grass seed can also be grown for turf, the largest market, and for reclamation, the smallest. Though there is very little overlap between the grasses destined for each of those markets, the companies that deal with grass seed seem to juggle all of them.

In Alberta, Terry Andersen, of Anderseed Farms near Bon Accord, Alta., estimates that less than 2,000 acres are probably taken up with native grasses for reclamation. Forage is significantly more with possibly 10,000 acres in brome. The turf market is huge; Andersen estimates that there is probably 20,000 acres in pedigreed fescue — and equal amount of common.

According to Calvin Yoder, forage seed crops agrologist with Alberta Agriculture and Rural Development, Alberta generally has 40 per cent of Canada's acres of forage seed production with about 70 per cent of those acres in grass seed. He says it is difficult to keep track of total acres because the majority of grass seed produced in Alberta is common. Creeping red fescue is the most widely produced grass — grown entirely in the Peace Region of Alberta and B.C. and mainly exported to the U.S. and Europe for turf seed. The second most widely grown grass seed is timothy followed by bromegrass, and wheatgrass.

OVER NINETY SPECIES

Making general statements about grasses is next to impossible. Norm Klemmer, with Ag-Vision Seeds, a forage and turf seed company that works with 270 or so growers in Carrot River, Saskatchewan, makes it clear, "When we say 'grass,' we're referring to more than 90 species that are all as different from each other as wheat is from flax." Kowalchuk agrees that giving overarching advice about grasses is difficult: "Some grasses can be quite technical with their own production manuals and specific growing requirements."

Over the course of two decades, Andersen has grown about 25 different grasses on his farm, maintaining a balance of about 80 per cent native grasses for reclamation and 20 per cent forage grasses. While he changes it up a bit each year, he maintains a core group of seven to eight kinds. He's actually stayed with one of the first grasses he ever started with — tufted hair grass.

Choices of grass species will depend on the availability of seed. Good quality seed for one of Ag-Vision's most commonly grown grasses — crested wheat grass — has been hard to find. Klemmer emphasizes that farmers must start with seeds that meet the standards.

Soil conditions may also determine a grower's choices; some grass species can withstand salinity, alkalinity, and acidity, so a grower might want to choose a grass that will do well on land where other crops don't.

Growers will find information on all aspects of growing specific grass species through their provincial department of agriculture or through any of the grass seed companies. There are several regional companies as well as Prairie-wide companies, which include Pickseed, Northstar Seed and BrettYoung.

Moving into grass seed production may be beneficial for producers. It's also crucial for the industry. Norm Klemmer points out, "Lots of our producers have grey hair and some have no hair at all." He estimates that 30 per cent of Ag-Vision's growers have retired in the last six year. "We'd like some younger guys. But they've got to be dedicated." Because, Klemmer says of grass seed production, "It's not for the feeble."

Patty Milligan is a freelance writer based at Bon Accord, Alta.

Features

FORAGE PRODUCTION

Funding for forage research

The Canadian Forage and Grasslands Association has concerns about forage research cuts

BY JULIENNE ISAACS

According to Agriculture and Agri-Food Canada, the Canadian alfalfa processing industry "has gradually matured over the past four decades to rank in the world's top five largest exporters of alfalfa pellets and alfalfa cubes."

But Doug Wray, chair of the Canadian Forage and Grassland Association (CFGA), says forage research dollars have dropped dramatically over the last 20 years, leaving the forage and livestock industries the worse for wear.

One of the factors, Wray argues, is that industry gave little pushback to cuts in forage research. "The connection between producers and plant breeding, for instance, where it takes 12 to 15 years to develop and release a new variety, was not there," he says. The beef and dairy industries focused on the animal side of research so there was little advocacy for forages from those quarters.

However, this trend has recently begun to turn around. Beef producers with an interest in pasture management have joined forage associations across the country, Wray says.

These groups were provincially isolated, with no industry checkoff dollars, until five years ago, with the formation of the Canadian Forage and Grasslands Association, which exists to provide "a national voice for all Canadians who produce hay and forage products and for those whose production is dependent upon forage/grassland production."

Wray says there is a direct link between forages and healthy soils. "The best soils around the world developed under grassland prairies and large herds of herbivores," he says. "Astute producers are recognizing they can improve and enhance the health and productivity of their land through well managed forages both in grazing regimes and in rotations with annual crops."

Because land is a huge investment and a limited resource, the economic driver farmers are facing is the question of what land use will profit their business the most and be sustainable long-term, Wray explains. Compared to cash cropping, running livestock is more demanding day-to-day and the yield potential of canola, corn and wheat has skyrocketed over the last two decades, while that of perennial forages has stayed roughly the same.

So for many farmers, it makes sense economically to shift forage acres to cash annual crop production.

However, Wray is positive about farmers' investment in forages in Canada. "There are leading edge producers demonstrating management strategies that make forages rewarding financially and sustainably by improving soil health and productivity," he says. "They are charting the course for the future. Some soils are losing their productivity and forages will be the way back."

ALFALFA RESEARCH: A SYSTEMS APPROACH

Martin Entz, a research scientist at the University of Manitoba's Plant Sciences Department, says that much of the alfalfa research underway in Canada is being done in systems, because the "nuts and bolts" of growing alfalfa are well-understood and well-documented in scientific literature and extension research publications.

It makes more sense to look at alfalfa in systems, because that is how the crop is being used. "For example, we've seen a real shift toward winter grazing in Canada and in the U.S. so we're using alfalfa differently than we did before," he says.

Entz' research focuses on alfalfa in organic systems, for which it is a critical rotation crop. One of his key studies is the Glenlea long-term crop rotation study, which has reached its 23rd year. "We have two main crop rotations there conducted under both organic and conventional production — one contains alfalfa in rotation and one does not," Entz explains. "Within that organic alfalfa-wheat-flax rotation we look at the effect of composted manure on alfalfa. That's the big story for my research program — looking at how we use the alfalfa to control the weeds in the organic system."

Entz' is not the only forage research project underway in Canada.

According to Sidney Friesen, manager of research for Saskatchewan Agriculture, the Saskatchewan government is committed to forage research.

He says the Ministry of Agriculture's Agricultural Development Fund (ADF) provides crucial research dollars each year to agricultural research, including forages. Overall, there are currently 33 on-going forage-related research and demonstration projects, to which ADF has contributed more than $2 million.

"In January 2014, the Ministry of Agriculture announced $4.2 million to 27 projects that invest in beef, poultry, swine and forage research," he says.

In addition, the Ministry recently installed a new research chair in forage breeding at the University of Saskatchewan. "In April of this year Dr. Bill Biligetu was hired to start working on the development of improved high-yielding and high-quality forage crop cultivars which will reduce the cost of production for producers, thus increasing economic returns," Friesen says.

The Ministry of Agriculture has begun a new round of Agriculture Development Fund applications including forages, with successful projects to be announced in 2015.

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Features

FARM MANAGEMENT

Dig the right size dugout

Here are four things to keep in mind when you're planning your next dugout

BY MICHAEL FLOOD

Water, along with soil and sunlight, is one of the indispensable ingredients on a farm. Every farmer across the Great Plains of North America lives in dread of drought and knows that high irrigation costs can cut into their bottom line. Here on the Canadian Prairies we're a bit more fortunate than many Americans farmers — our farms are often part of large provincially-administered Irrigation Districts which provide a plentiful supply of low cost, high quality water, much of it sustainably sourced from rivers and lakes rather than pumped out of rapidly diminishing ground aquifers.

Still, the water is not free and is subject to possible interruptions. If you'd like a little extra peace of mind in future (and what farmer wouldn't!) you'll want to consider creating a ready supply of water on your property: a dugout.

A dugout is a large water container excavated below ground level that traps rain and snowmelt. Farmers in Canada have been using them for over a century; over a quarter million are in place across the Prairies. They can range in size from hundreds of thousands to millions of gallons of storage capacity and, connected to a pump, can provide ready water to see you through years of drought.

Below are a few things to keep in mind when sizing a dugout for your property.

1. WHAT ARE YOUR WATER NEEDS?

A dugout supplies water to make up any shortfall on your farm. Calculating how much water you need a dugout to provide each year can be a complicated business: you'll need to total up all the water you get from sources like your Irrigation District, as well as streams, ponds, and wells. Then you subtract all the water you use in a year. This will vary based on a number of factors like the amount of precipitation your region typically receives, the evaporation rate, as well as the crops you are growing, any animals that need to be watered, and your own household needs. That will let you know how much shortfall you need a dugout to cover.

2. HOW LONG DOES IT NEED TO LAST?

Dugouts of even modest size require a lot of excavation, so you want them to last a long time. Because a dugout is exposed to the environment it will gradually fill with plant life and silt, costing you as much as 10 per cent of your initial capacity each year. Eventually it will turn into a shallow pond. A good round number to aim for is 10 years of shortfall coverage. This will cover many years of drought. So if you needed a hundred thousand liters of water a year for 10 years that would be a million litres

3. HOW MUCH SPACE DO YOU NEED?

It seems like this would be a simple enough calculation. Say you calculate that it would be useful to have a million liters of water storage capacity on your farm. A cubic metre of water is equal to thousand litres, so a million liter dugout would need a volume of a thousand cubic metres. You could store all that in a dugout 25 metres deep, eight metres long and five metres wide.

It's not quite that simple. Recall above that the dugout will fill with plant life. This will in turn reduce the storage capacity, as will silt buildup. To counter this you'll need to make your dugout 10 to 20 per cent larger to make sure it lasts as long as you expect it to.

Guides to dugout construction recommend digging deeper dugouts whenever possible and making sure they have very steep sides. This slows the buildup of plant life in them as well as reduces the amount of ground area you need to sacrifice (after all, an area of your farm covered in water is part you can't use for growing crops). Deep dugouts with smaller top surfaces also lose water every year to evaporation and make more water accessible during winter because less is lost to freezing, an important consideration if you use your dugout to water animals.

4. HOW MUCH CAN I SPEND?

Dugouts are major excavation projects, removing hundreds or thousands of cubic meters of soil. This can be expensive. Make sure to get multiple quotes to make sure you get the best rate. Deeper dugouts are more expensive, but can also last longer. The final question comes down to how much it would cost to make up the shortfall on your farm by other means, like purchasing more irrigation water, digging a well, or some other method versus building a dugout.

There are helpful guides to sizing dugouts on the Alberta Ministry of Agriculture and Rural Development's website. Visit agriculture.alberta.ca and search "quality farm dugouts" in the search box. The pages you'll find there include a guide to all aspect of dugouts, from their history to tips for constructing them, as well a worksheet to calculate your water needs.

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Features

NEW CROPS

Quinoa: the new ancient superfood

With growing demand, Northern Quinoa plans to triple its contracted acreage for the 2015 growing season

Quinoa (pronounced KEEN-wah) is high in protein, has no gluten and performs well on dry soils.

BY ANDREA HILDERMAN

Quinoa has been cultivated for thousands of years. During that time it has been variously revered as sacred, relied on to feed a people and it has also been misunderstood and under-appreciated. Quinoa can be grown in many geographies given the right conditions, but its origins are high up in the Andes Mountains of South America.

There is only one quinoa processor on the Prairies: Northern Quinoa Corporation. The company was created in 1994 by a farming family, the Dutchesons. "In the early '90s, Dad began to experiment with quinoa on the farm," explains Dutcheson, Joe's eldest son and general manager at Northern Quinoa. "He'd learned about it at a diversification and special crops meeting. Quinoa caught his eye because it was frost tolerant and we'd had issues with frost damaged crops in east central Saskatchewan. Because Dad also worked as a pharmacist in the winter, he was intrigued by the nutritional benefits of quinoa compared to conventional grains." Back then, NASA had even researched quinoa for long-term space mission provisions and found it to be the perfect astronaut staple because it is the only plant that contains all the essential amino acids.

Joe Dutcheson continued with his quinoa trials and found a variety that worked well on the Canadian Prairies. In 1994, Joe and a handful of other farmers and businessmen incorporated Northern Quinoa Corporation. But it wasn't until 2010 that quinoa caught the consumer's fickle eye and took off in popularity. That occurred for a number of reasons, but was not at all hampered by the fact that quinoa was featured on the Oprah television show and others.

Since then, demand has grown rapidly. The United Nations Food and Agricultural Organization (FAO) named 2013 the International Year of Quinoa in recognition of the ancestral practices of the Andean who have preserved quinoa in its natural state as food for present day and future generations. This promotion of quinoa is part of an ongoing FAO strategy to encourage the continued cultivation of traditional or forgotten crops as a way of contributing to food security.

Which leads us to today. Global production of quinoa is estimated at 550,000 acres, the bulk of that in Bolivia and Peru. "Prairie production is the largest in the world outside South America," says Dutcheson. "Our contracted acres hovered around 1,000 for a number of years. In 2013, we contracted 1,500 acres, 5,000 in 2014 and we are ramping up to 15,000 in 2015, a pretty steep growth curve for us."

QUINOA 101

Quinoa (pronounced KEEN-wah) is not a true cereal, rather it's a species of goosefood (*Chenopodium*) related to spinach and beets. It produces masses of seeds that can be harvested very much like a grain and processed like grains, and it's been exploited by humans for thousands of years as a result. "We can mill, flake and puff quinoa just as we would any other grain," explains Dutchshen. "It can be cooked like rice and a big part of its sustained popularity is its very versatility in North American or western kitchens."

Most of the quinoa available in North America still comes from Bolivia. There, it is typically grown on salt flats, growing where when other plants won't. It's a large-seeded, white variety that, according to Northern Quinoa, tastes rather bland.

Joe Dutcheson began selecting for traits like earlier maturity, increased seed set, heat tolerance and even plant height, resulting in the variety NQ94PT receiving Canadian registration in 2014 after a decade of research.

GROWING QUINOA

New growers contracting with Northern Quinoa are advised to start with 50 to 100 acres in the first year. "Quinoa is more difficult to grow that a conventional cereal," says Colin Dutcheson, field agronomist with Northern Quinoa. "While it has been grown traditionally on poorer land up in the Andes or in Bolivia, we advise our growers to put it on their best land." The key to getting a good crop of quinoa is to seed it into a clean, firm seedbed. "Quinoa is a

Features

FORAGE PRODUCTION

FORAGE RESEARCH

PHOTO: LEEANN MINOGUE

Researchers seeded plots of several forage varieties at the Indian Head Agricultural Research Foundation farm in the summer of 2014.

poor competitor against weeds," he explains. "Additionally, there are no chemicals registered for use in quinoa. Quinoa is a special crop and requires special attention."

The crop should be seeded early, and it will likely be the last crop harvested. "You may read it takes about 110 days for quinoa to mature," says Colin Dutchshen. "Our experience is that will often stretch to 120-130 days and we advise growers to take this into consideration. However, it is frost tolerant and frost can actually be beneficial in bringing the plants to full maturity." Other tips to successfully grow quinoa include:

- Never seed quinoa after canola. Volunteer are a problem and the seeds are difficult to mechanically separate.
- Preferably, seed quinoa into summerfallow or after oats, peas or beans (oats are also gluten-free, like quinoa). Northern Quinoa prefers not to have quinoa seeded after wheat to ensure their product is gluten-free.
- Quinoa responds well to good fertility.
- Plan to seed soybean or another legume after quinoa.
- Yield can range from 300 to 2,000 pounds per acre, however, expect average yields in the neighbourhood of 1,000 pounds per acre.
- No special seeding or harvesting equipment is required.
- Quinoa will not tolerate heat blast stress at flowering, so most acres are near or north of Highway 16 for that reason.

"We work with growers over the winter as we contract our acres," says Colin Dutcheson. "As well, we visit every grower twice in the growing season, usually after seeding and before harvest, and we are always available to answer questions and share our experiences with the crop."

New growers who are interested in trying quinoa can find applications on Northern Quinoa's website www.quinoa.com. In March, selected growers will be offered contracts. Growers interested in learning more about quinoa can visit Northern Quinoa's website for information about its field days in both Saskatchewan and Manitoba.

Andrea Hilderman has her master's degree in weed science and is a member of the Manitoba Institute of Agrologists. She writes from Winnipeg, Man.

Features

CROP PROTECTION

Get that seed out of the ground

Seed growth specialist Nick Petruic has 5 tips for getting your seed off to the right start

BY LEEANN MINOGUE

Nick Petruic is a seed growth specialist for Bayer, based at Avonlea, Sask. He likes to remind his customers that it doesn't matter how much nitrogen you've put on or how weed-free your field is if your seed doesn't get out of the ground. Petruic has five tips for getting your seed off to the right start.

1. TREAT YOUR SEED

For consistent results, Petruic advises, "treat your seed every year."

With today's lower grain prices, farmers are going to be thinking twice about each non-essential expense. Petruic thinks seed treatment is still a worthwhile investment. "They have been consistently providing positive return back to the farmer."

Researchers warn against using the same herbicide year after year, for fear of giving weeds a chance to build up herbicide resistance. Petruic says this doesn't necessarily apply when it comes seed treatments. "Resistance is not going to build up because [the product] dissipates throughout its life cycle."

The treatment only stays in the ground for a short time. "They're not going to be there in July," Petruic says.

2. ONLY USE CLEAN, TESTED SEED

Petruic advises getting your seed tested at an accredited lab, for both germination and vigour.

If you have some disease in your seed, check your provincial regulations to find out the acceptable levels before you use it. "It's going to vary from province to province," Petruic says.

3. USE THE RIGHT TREATMENT

Before you treat your seed, make sure you know what diseases you're treating for. "Not all products are created equal, and they're not all going to solve the same disease issues," Petruic says.

4. CHECK YOUR CALIBRATION

Petruic advises farmers to make sure the seed treatment system they're using is properly calibrated.

One of the key things to know is your seed flow rate. "How many bushels per minute that your auger is going to move?" Petruic asks. Once you know your seed flow rate, match it with your product application rate. "Then you can adjust your application method to get proper coverage."

"If you're going to put the time and effort into doing it, spend a little time and money at the beginning."

In Saskatchewan, Petruic says, most farmers treat their own seed on-farm. Alberta has a higher commercial treat rate. With the recent increase in soybean acres in Manitoba, more commercial seed treaters are springing up. While they are mainly going into business to treat soybean seed, "they're going to branch out," Petruic expects.

5. GET GOOD TUMBLING COVERAGE

Finally, Petruic says, "get a good secondary mix." That is, good tumbling coverage of the seed. To get this, "slow down that auger as much as you can."

It's important to make sure that each seed is completely coated with the treatment since, as Petruic says, "Any miss is a pathway for a pathogen."

WHEN IN DOUBT CALL A REP

This advice is all general, not specific. That's because, as Petruic says, "every farmer is going to have an operation that's a little bit different from his neighbours." There really is no one-size fits all approach.

If you're in doubt, make sure you get the most from your investment in seed treatment by getting more information from your local rep or agrologist. "That's our job. We're here to help farmers make this work," says Petruic.

Leeann Minogue is the editor of Grainews.

STORM seed treater

Bayer Crop Science and Ag Growth International (AGI) teamed up to build the STORM seed treater that first hit the commercial market last year.

Chris Larsen, AGI's seed systems sales rep for Western Canada, says first-year buyers were satisfied. "People loved the simple operation and accuracy." Basically, Larsen said, "It turned a less desirable job on the farm into an easy job."

Last year, AGI sold out its limited production run of about 150 units. This year, they're manufacturing 175. These will sell for a retail price of $37,450, from Co-ops, Flaman, UFA and a few independent retailers.

Larsen says the real benefit to the STOM storm is that it's self-contained, an safe for farmers to use. "You're never exposed to the products."

While more of Larsen's customers have purchased these units for their own use, "It's very mobile, portable, and easy to tow down the road. For the right guy, it's an ideal machine to do some custom treating."

There are videos of the STORM treater in action at www.aggrowth.com.

Leeann Minogue is the editor of Grainews.

PHOTO: AG GROWTH INTERNATIONAL

STORM seed treaters will retail for $37,450 for the 2015 seeding season.

Features

CROP DISEASE

Soybean sudden death

Sudden death syndrome has not yet been found in the Canadian Prairies, but vigilance can't hurt

BY MICHAEL FLOOD

Soybeans are one of Canada's major pulse crops. As new shorter-season varieties are developed, the soybean-growing area is increasing.

All the more reason to be vigilant for new and emerging threats like Sudden Death Syndrome.

Sudden Death Syndrome (or SDS) in soybeans is a relatively new fungal disease, first discovered in Arkansas in 1971. In the past four decades it has spread throughout the American Midwest and up into southwestern Ontario. Already it is one of the leading causes of soybean loss in the United States. It can also occur in conjunction with the soybean cyst nematode, a tiny parasite that also lives in soil. When both occur together the effect can be devastating, in some cases leading to near total crop loss. SDS has not been reported in the Canadian Prairies though warmer winters and migration via intermediate host plants may enable it to take root and become a problem here.

THE SYMPTOMS OF SDS

The disease is caused by *Fusarium verguliforme*, a persistent fungus. Its early symptoms are not detectable until the plant has begun growing above the soil. The first signs are mottled and mosaiced leaves, followed by the yellowing of the leaf veins and the death of the whole leaf. In cases where the fungus is growing strongly the leaflet will drop off completely, leaving only the leaf stalk attached.

These symptoms, while distinctive, can readily be mistaken for brown stem rot or chemical burn, two common afflictions of soybeans. In order to tell whether you have SDS, you'll need to examine the lower stem and tap roots. In SDS infected plants, the lower stem will exhibit a tan to light brown discoloration (compared to a healthy plant) while the pith will remain white or cream colored. In brown stem rot the pith will be darkened. In chemical burn and brown stem rot the leaflets tend to remain attached.

One very distinctive symptom of SDS, though one that is hard to catch, is located on the taproot's surface near the soil line. If you dig up a plant affected by the fungus when the soil is moist there may be small, light blue patches on the taproot — these are the fungal colonies of the *Fusarium verguliforme*.

The fungus is difficult to diagnose definitively, as it is hard to culture in a laboratory from diseases plant samples as colonies grow only on the roots and stem to a few inches above the soil. These colonies are the key reason SDS can spread so far as they are moved about in a field by irrigation and rain.

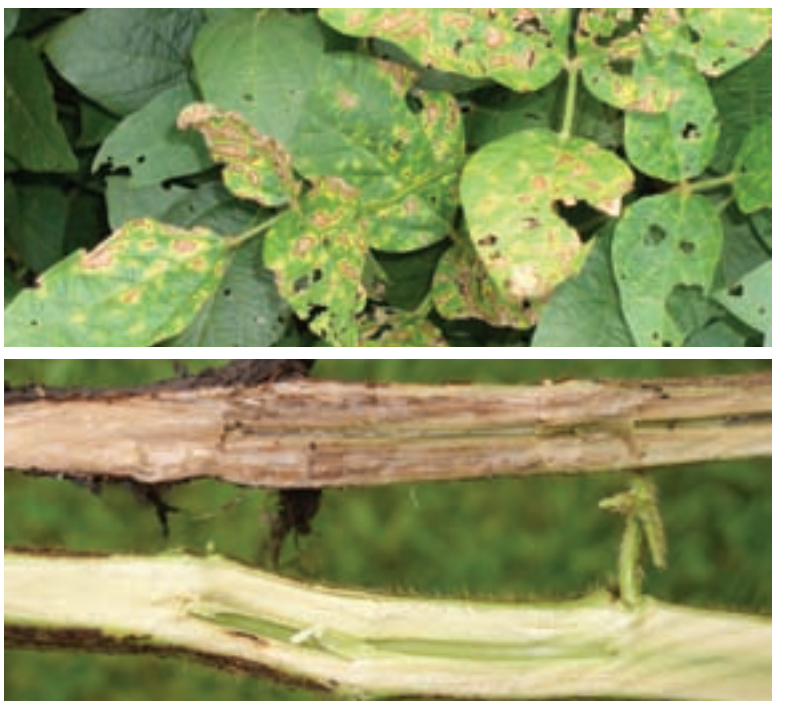
SDS is a major problem in the fields where it is present. The worst part is that there are only limited management options: though there are varieties of soybeans less sensitive to SDS, the resistance is only partial. Fungicides applied as seed treatments have only limited effects, and those applied to growing plants have no effect on the disease because the fungal infection is restricted to the roots. The spores of the fungus survive on crop residue and in the soil. Worst of all, it can survive wide soil temperature fluctuations (including subzero temperatures) as well as through droughts.

THE GOOD NEWS

Now that all sounds pretty bad, and it is. However that doesn't mean nothing can done about an infection in your field once it gets started. If you have SDS you'll want to plant later in the season, as *fusarium* is most active in the cool, wet soil of the early planting season. Tilling to improve water permeability may also restrict the fungi's growth, as it thrives in wet, saturated, poorly drained soil. Crop rotation can be helpful: , rotate through corn and wheat before returning to soybeans. Removing infected residue and leftover plant parts after harvesting will reduce the infections ability to overwinter and reducing incidences in the future.

Though not yet present in Manitoba, Saskatchewan, or Alberta it is important to stay vigilant for this disease. If you suspect SDS is present in your fields, report it immediately to your local Ministry of Agriculture office.

Michael Flood (www.michael-flood.com) is a business writer and columnist. You can reach him at michael@michael-flood.com.



PHOTOS: COURTESY OF PIONEER HI-BRED

Top: The first signs of soybean sudden death syndrome are mottled and mosaiced leaves, followed by the yellowing of the leaf veins and the death of the whole leaf. **Bottom:** When plants are infected with sudden death syndrome the lower stem will exhibit a tan to light brown discolouration.

Features

CROP ADVISOR'S CASEBOOK

Yellowing soybeans a mystery

BY RYAN TURNBULL

An experienced hand at producing canola, wheat and barley on the sandy loam soils of his 4,200-acre farm east of Dauphin, Man., Brent was brand new at growing soybeans. Just after Labour Day, Brent gave me call to talk about a concern he had with his soybean crop as he prepared for harvest.

"I think the plants in some parts of the field might be ripening faster than others," he said. "I don't know if this is normal or not, so I'd appreciate it if you could come out and have a look."

After arriving at the farm, I was shown the plants in Brent's soybean field that appeared to be ripening much more quickly than others. Their leaves were turning yellow and brown, and in some extreme cases, looked crispy and even burnt.

I scanned the field for a pattern for the affected plants, and it appeared the yellowing was greatest at the approach and headland areas. The field was generally fairly level, but wherever there were small ridges or hilltops, some yellowing was occurring there as well.

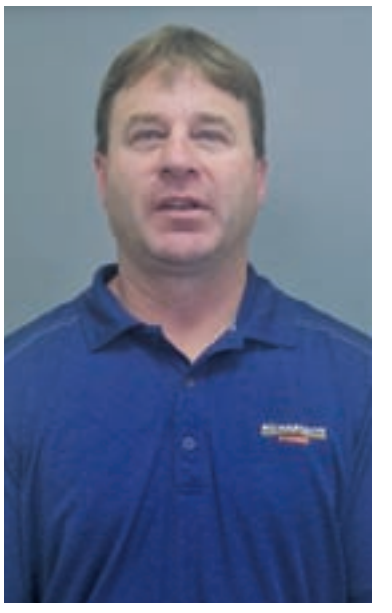
I checked for insects but could not detect any aphids or spider mites that might be causing problems. Brent told me he hadn't applied any fertilizer to the crop, since soybeans can fix their own nitrogen and previous soil tests confirmed adequate levels of other nutrients.

I had seen this kind of issue with soybeans before, and had a pretty good idea was going on in Brent's field. I took plant tissue and soil samples in both the affected and unaffected areas, and subsequent testing confirmed my suspicions.

Some soybean plants appeared to be ripening much more quickly than others. Their leaves were turning yellow and brown, and in some extreme cases, looked crispy and even burnt.

Do you think you know what's responsible for Brent's yellowing soybeans? If you do, send your diagnosis to *Grainews*, Box 9800, Winnipeg, Man., R3C 3K7; email leann.minogue@fbcpublishing.com or fax 204-944-5416 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.

Ryan Turnbull is an Area Marketing Representative with Richardson Pioneer Ltd. in Dauphin, Man.



Ryan Turnbull is a sales agronomist with Richardson Pioneer Ltd. at Dauphin, Man.

CASEBOOK WINNER

The Casebook winner for this issue is Eric Neilson, environmental and extension co-ordinator for the Battle River Research Group, a non-profit research group based in east central Alberta. Congratulations Eric, we'll renew your *Grainews* subscription for a year and send you a *Grainews* cap. Thanks for entering.

Leeann Minogue

CROP ADVISOR'S SOLUTION

Chloride deficiency bleaches canaryseed heads

BY OLIVIA DENOMIE

Peter called me in early August to alert me to a serious problem in his canaryseed field. The mixed grains farmer at Claire, Sask., was alarmed to see the tops of the plant heads throughout his canaryseed field were all turning white, and he was worried the crop was going to be a "total disaster."

He asked me to come out to his farm to have a look, and as I walked through the canaryseed field I could clearly see that the top one-third of the plant heads were going white. The heads were also not filling properly.

Peter informed me that he'd first spotted the discoloured heads only a few days previously. I observed that the symptoms were now evenly distributed among plants throughout the crop, ruling out insect damage.

I was told growing conditions had been close to ideal that spring and summer, ruling out weather as a possible culprit, and a discussion of Peter's herbicide program revealed no clues either.

However, the fact that the bleached canaryseed heads were evenly spread throughout the crop led me to suspect that a nutrient deficiency was to blame. I ordered plant tissue tests that revealed the canaryseed was low in potassium but more importantly, was also low in chloride.

Due to ongoing research, chloride is known to be directly associated with filling in canaryseed. If the crop is under stress or experiencing high yield pressure, more chloride is required for the plants to fill sufficiently. The canaryseed crop at Peter's farm, like most others in the region, was undergoing unusually high yield pressure that season.

In addition to a chloride deficiency, the extreme bleaching in Peter's canaryseed was likely caused in part by blasting. Even though growing conditions had been close to ideal and there was little evidence of this problem in other crops, canaryseed is a shallow-rooted crop and more prone to floret blasting than other crops grown in the area.

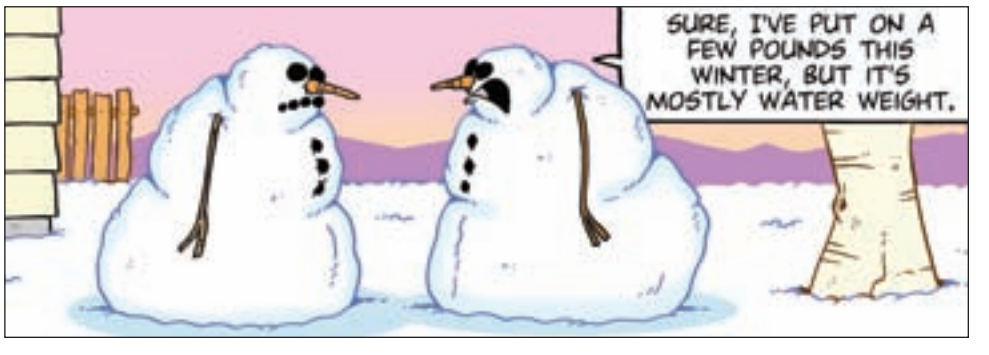
At this point in the season, Peter's canaryseed crop was close to harvest and there was little to be done to correct the problem. There are no foliar options for chloride since this kind of application can cause leaf damage.

Going forward, the best and most practical way for Peter to avoid a chloride deficiency in his canaryseed would be to add more potash — which is about 47 per cent chloride — to his fertility program. Soil tests can help canaryseed producers like Peter determine their chloride requirements each cropping year, and develop their fertility programs accordingly.

Olivia Denomie is an area marketing representative with Richardson Pioneer Ltd. at Wadena, Sask.

Tundra

Tundra



Features

CROP PROTECTION

Viable substitutes for neonicotinoids

Some groups are calling for bans on neonic pesticides. Get the scoop on alternatives for your farm

BY MICHAEL FLOOD

In September Ontario Premier Kathleen Wynne mandated Ontario's Minister of Agriculture Jeff Leal to start working to reduce the use of neonicotinoid (also known as neonic) pesticides in the province after 2016. The reduction may include bans or severe restrictions on approved uses. Several countries across the European Union have suspended use of several common formulations of the pesticide on maior crops

The bans in Europe have already had effect: German rapeseed farmers reported higher than normal losses due to insect damage last year, their crops having previously been protected by neonics. Whether restrictions will bring back the bees remains to be seen.

In Alberta, Saskatchewan, and Manitoba, neonics have not yet been suspended or restricted. Research into the effect of the pesticide on bee populations is not complete, though a growing number of voices in the environmental movement and the beekeeping industry have been calling for outright bans on many commonly used neonics as a precaution. While a ban in these three provinces is by no means imminent, additional scientific findings could push agriculture ministries to issue restrictions within the next three to five years.

A ban or even restriction on neonics would be very hard on grain farmers, particularly those who struggle with the prairie grain wireworm. *Grainews* decided to investigate whether there were any alternatives. For help, we asked Scott Hartley, a specialist in invertebrate pest management at the Saskatchewan Ministry of Agriculture.

Hartley confirmed that there are, strictly speaking, no chemical alternatives to neonicotinoid seed treatments, at least in terms of effectiveness. Organochlorines like DDT are no longer available due to their persistence in the environment and affect on animal life. Organophosphates are still available but can be toxic to human beings — there are many reasons why neonicotinoids were favoured over those earlier pesticides. Their ability to control infestations of larvae under the soil, preventing them from damaging nitrogen-fixing parts of growing plants or young leaves, has made them very valuable.

One thing Hartley pointed out is that the restrictions in Europe are primarily of foliar sprays rather than of seed treatments. Foliar spraying is much more likely to affect pollinators like bees, particularly when sprayed on crops that produce flowers attractive to the pollinators, or when the spray is blown by the wind off of the farm. Seed treatments are more likely to stay put and harm only the insects against which they are targeted, which is reason to hope that they will not be restricted.

If you're using neonicotinoids and are worried about restrictions, one thing you can do to be prepared is to study all the material available about the specific pests you are facing in your area. The variety of insect lifecycles and vulnerabilities means that it is not possible to issue blanket recommendations; you need to know the threats to your crop, and keep an eye on developing threats.

To take the prairie grain wireworm, for example, which is the most destructive wireworm pest on grain in Western Canada, the Alberta Ministry of Agriculture recommends a number of non-pesticide based control methods like crop rotation and shallow cultivation in addition to pesticides. Crop rotation is not as effective against flea beetles, however. The beetles overwinter in many different plants both on and off fields and are capable of long-range migration making it difficult to attack them with anything other than chemical means. One avenue you can research is whether you could be seeding varieties that are resistant to your current insect problem.

Finally, you are not powerless against a ban or restriction. You can make your voice heard through the Grain Growers of Canada and other industry associations, making sure that the government officials know that you use neonicotinoids responsibly and only because there are no other effective options.

Neonics are not in imminent danger of restriction, but their use could one day be limited. Regrettably there is no ready alternative at hand, but vigilance and knowledge about pest control can make a lot of difference.

Michael Flood (www.michael-flood.com) is a business writer and columnist. You can reach him at michael@michael-flood.com.

PHOTO: LISA GUENTHER

Restrictions on neonicotinoids have come about out of fears that the chemicals are contributing to the collapse of bee populations around the world.

Features

NEW CROPS

New special crops round-up

Hemp, quinoa, fababeans, camelina, hairy vetch, carinata and guar bean. Get the inside scoop

BY ANDREA HILDERMAN

Some farmers love growing the latest "new" crop. Others drive by them in their neighbours' fields and wonder what they are.

There is no definitive list of "special" crops. Many crops we think of as "new" are actually very old. Some that are "special" in one area are standard in another. This is not an exhaustive list of special crops that Prairie farmers have been growing in recent years, just a run down on some of the crops you might be running into down your gravel road. Some on this list will seem like old news to you. Maybe there are some on your "maybe I should seed this" list for 2015.

HEMP

Hemp is of course famous, or infamous, for its resemblance to Cannabis, the drug. Hemp is part of the Cannabis family, however, it produces little or none of the drug its cousins are known for. Hemp has deep roots in Canadian agriculture (it goes back to 1606), and has been used for both food and fibre.

Health Canada has strictly regulated commercial hemp production since 1994. By 2013 there were 66,671 acres licensed for cultivation. Health Canada does not release the numbers until after harvest, so 2014 acres are not yet known, but some believe there could have been more than 100,000 acres in 2014.

Hemp seed is very nutritious, considered by some to be one of the so-called "superfoods." It contains all nine essential amino acids, both omega-3 and omega-6 essential fatty acids and is also high in magnesium, iron, potassium, fibre and a variety of antioxidants and phytochemicals. We see a range of hemp products in the store, including things such as Hemp Hearts (packaged raw, shelled hemp seeds), nutrient bars, dips, salad dressings and more.

Hemp is seeded mid-May to mid-June at 25 to 35 pounds per acre. Bin run seed is not permitted by federal regulations. Hemp requires about 110 days to mature.

The key to getting hemp off to a good start is to seed it into a clean, firm seedbed that has been pre-tilled or sprayed. Hemp does not like wet feet. Once emerged, hemp is a very competitive crop that quickly forms a dense canopy choking out weeds. At maturity, it reaches five to eight feet in height. Industrial hemp can be straight cut with a draper header and the newer varieties are much easier to thresh than in the past. After harvest, it requires drying to nine per cent moisture for storage.

QUINOA

According to Saskatchewan Agriculture special crops specialist Dale Rizula, quinoa is going off the charts. "Ever since quinoa was featured on Oprah, its popularity has grown," says Rizula. "That very public clap-on-the-back to quinoa was all consumers needed to jump on the band wagon, and farmers are winners in that it provides them another crop in the rotation."

Quinoa (pronounced KEEN-wah) is often referred to as an ancient grain, but it is really a species of goosefoot, not a true grass. It is more closely related to beets, spinach and tumbleweed than to wheat. It is high in protein, has no gluten and performs well on dry soils. As for taste, some rave about its great taste and others liken it to sawdust.

Quinoa was originally cultivated by the Inca in South America, high up in the Andes, and was considered sacred, but now is cultivated in many areas of North America. It works in many areas of the Prairies, but especially in areas where heat stress in the summer is less likely.

Jeff Kostuik is a diversification specialist with Manitoba Agriculture, Food and Rural Development and he is seeing more interest than usual in quinoa. "We started dabbling in quinoa as a demonstration crop in 1997," says Kostuik. "Recently, interest has definitely picked up giving this niche crop quite a boost. Pricing has gone from 20 to 30 cents per pound to 75 cents per pound."

Along with this increased demand and higher pricing, there is some quinoa breeding on-going at Agriculture and Agri-Food Canada to develop varieties better suited to Prairie production.

NorQuin is a processor in Saskatoon that specializes in Canadian grown quinoa and is the only contracting agent on the Prairies for the crop. Find more information about NorQuin online at www.quinoa.com.

FABABEANS

Fababeans are grown for both human and animal food markets. The human food market is primarily in the Middle East and Mediterranean area where fababeans are a traditional part of the diet. The human consumption fababean is often referred to as a tannin faba, whereas a zero-tannin or low-tannin faba is required in the animal feed market.

Fababean is a smaller seeded relative of the Chinese broadbean, but it is a large bean. They require a long growing season, 110 to 130 days, to achieve their maximum potential yield. The plant has an upright growth habit and can reach up to almost five feet. It can make an excellent silage for both beef and dairy cattle. The seed is high in protein and can replace soybeans in the ration.

Fababean does best in agricultural areas that receive good moisture and are relatively cool. Much like quinoa, it does not like heat, especially combined with dry conditions. It is a good option for irrigation. It is the most efficient nitrogen-fixing legume available in Western Canada and can be very useful in the rotation to break various pest cycles.

CAMELINA

Camelina, or False Flax, has become an oilseed of interest on the Prairies primarily driven by the bio-diesel industry. It can also be used in fish feed, human consumption oils and bio-lubricants. It has very a very stable oil with high levels of omega-3 essential fatty acid and Vitamin E.

There was a high level of interest in 2005-06, when camelina acres peaked, in using camelina in jet fuel. A U.S. company received U.S. military funding to take this project further, but when some U.S. and Canadian farmers didn't receive any or all of what was owed to them, they were left with a bad taste.

Since then, Three Farmers, a farmer-owned food company in Midale, Saskatchewan has been producing camelina oil and marketing it nationwide (find out more at www.threefarmers.ca).

Agriculture and Agri-Food Canada also has a joint Camelina breeding program with Linnaeus Plant Sciences Inc. out of Saskatoon. The goal of this program is to breed for qualities that suit industrial oil markets like lubricants, motor oils, hydraulic fluids and polymers including increased oil content and larger seed size.

Camelina is a member of the Brassicaceae family. It's an annual or winter annual, short-season crop. It responds similarly to Polish canola and mustard and yields somewhat similarly too. Research in Saskatchewan shows that it might be possible to seed camelina in the fall, but further study is needed.

HAIRY VETCH

Hairy vetch is a nitrogen-fixing legume native to Europe and Western Asia. This new crop is a favourite of Scott Chalmers, diversification specialist with Manitoba Agriculture, Food and Rural Development at Melita, Manitoba. "Hairy vetch is impressive because it doesn't compete with other crops for resources," explains Chalmers. "It can be successfully double-cropped or intercropped with winter wheat or sunflowers to choke out weeds and fix nitrogen." Chalmers also noted that hairy vetch appears to share nitrogen with the companion crop through root rhizosphere exudate associations.

Hairy vetch needs to be planted in the fall if it is to produce seed the following year; it will only produce vegetative growth if planted in spring. Chalmers is doing trials intercropping hairy vetch with sunflowers. "So far, it appears to be neutral to profits even taking into account the price of the seed," says Chalmers. "What was really interesting was

Features

that it left 60 pounds of nitrogen in the soil versus only 12 pounds in the sunflowers-only plot." Chalmers is also looking at the potential to produce hairy vetch seed in a winter wheat crop. "We need to understand if we can support a hairy vetch seed industry in Manitoba," says Chalmers. "It looks at this point as if we can, and very profitably as well."

The vegetative growth can be hayed or ensiled just like alfalfa, but the seed can be toxic to animals.

"There's more research to be done with hairy vetch," says Chalmers. "At this point, it does look like it has a good fit in a number of situations. We think it will work very well for organic producers as well."

CARINATA

Brassica carinata is an Ethiopian mustard that can grow on marginal lands and is finding a use in bio-fuels because of its high oil content. Agrisoma Biosciences is commercializing carinata for use in jet fuel. The first flight using jet fuel produced from carinata occurred in 2012 and research and development continues. Agriculture and Agri-Food Canada has a carinata breeding program with the goal of improving yield, disease resistance and other factors to make it successful for Prairie farmers.

Carinata agronomy is similar to that of canola and mustard making it a relatively easy crop to adopt into the rotation. It is well suited to those areas of southwest Saskatchewan and southern Alberta where canola is not a reliable performer. An important distinction between carinata and canola that may have greater importance in the future is the fact carinata is immune to blackleg and clubroot.

GUAR BEAN

Sometimes a crop comes along that just doesn't work… maybe more often than not. Guar bean is one of those. Just as consumer demands for healthy foods can drive production, so too can industrial demand.

The fracking oil industry uses guar gum extensively — the guar gum turns water into a very thick, viscous gel. Pumping high viscosity water down a well fractures the subsurface rock and releases the oil and natural gas trapped there. Additionally, sand is mixed with the high viscosity water and gets pumped into the fractures. When the pumping is stopped, the sand grains, known as proppants in the fracking world, hold open the tiny fractures in the rock and allow the oil and gas to continue to flow out of the rock and into the well.

Guar beans are annual legumes that are grown in India and Pakistan, and more recently, Texas. It's a long season crop suited to hot, dry climates. Diversification specialists tried growing guar bean obtained from Texas in Manitoba — with spectacularly unsuccessful results. The seeds took three weeks to emerge and then remained in the cotyledon stage for three weeks. Six weeks later hardly a plant could be found among the mess of weeds that proliferated. Needless to say, it's unlikely that Prairie farmers will be able to supply the fracking industry with the guar gum they so desperately need, but it's interesting to understand how new crops can come to be tested for Prairie production.

Andrea Hilderman has her master's degree in weed science and is a member of the Manitoba Institute of Agrologists. She writes from Winnipeg, Man.

PHOTOS: COURTESY OF MANITOBA AGRICULTURE, FOOD AND RURAL DEVELMENT

Camelina can also be used in fish feed, human consumption oils and bio-lubricants.

Brassica carinata is an Ethiopian mustard that can grow on marginal lands and is finding a use in bio-fuels because of its high oil content.

Fabaabean does best in agricultural areas that receive good moisture and are relatively cool.

Hairy vetch is a nitrogen-fixing legume native to Europe and western Asia.

Features

CROP PRODUCTION

Three things to know about fababeans

Fababeans are making a comeback in Alberta. Here's what you need to think about before you grow them

BY LISA GUENTHER

Clubroot is driving a renewed interest in fababeans among Alberta farmers, says Harvey Brink, a farmer in the Bentley, Alberta, area. Farmers need another crop to add to the rotation, he says, "because having a short rotation with canola, that just doesn't work because of the clubroot."

Carol Holt, a business agronomist with Parkland Fertilizer in Wetaskiwin, Alberta, agrees clubroot is part of the reason for the growing interest in fababeans.

Farmers are "looking for something that stands, fixes nitrogen, and fits in their rotation," Holt says.

Brink says farmers have better markets now than the last time they seeded fababeans.

"Back in the '80s, nobody knew anything about them and how to deal with them," he says. "But now that we need another alternative crop because of clubroot, we've got to find other markets and other alternatives."

Farmers also have better fababean varieties today, says Holt. "We've also got some better herbicides and weed control. And we're learning how to deal with them."

GET THEM IN THE BIN EARLY

When it comes to growing fababeans, Brink says "my biggest fear is frost in August. They don't even handle frost at all in the end of August, beginning of September. And so we want to have them mature before then if we can."

Frost vulnerability means fababeans aren't a good choice for every part of the Prairies. Holt says farmers need frost-free days until mid-September if they're planning to sell into the edible markets.

"You could probably grow them in the Peace, but your risks of getting them off without a frost increase dramatically. So I think it depends year by year," says Holt.

This fall, farmers between Leduc and the No. 2 Corridor in central Alberta were slammed by frost before many of the fababeans were desiccated, says Holt. "And when you do get a frost, you get fababeans that basically turn black."

Holt says Alberta farmers knew the frost was coming and many did desiccate their fababeans beforehand. But immature beans were still hurt, she says.

Brink's fababeans were hit by frost and snow this fall, too. But he opted for a zero-tannin variety known as Snowbirds. High-tannin varieties can be sold for human consumption, but not livestock, Brink explains. Snowbirds can go into either market.

"And that's what you need because this year we basically had a wreck on beans because of the frost and snow," he says. Brink plans to use his fababeans in his feedlot.

Both Holt and Brink say fababeans should be seeded as early as possible, and definitely before May 15.

North-facing slopes should be avoided, Holt says, because they get less light and heat.

Seeding depth plays into how the crop matures, too. Brink seeds fababeans an 1-1/2 or two inches deep. Any shallower and the large seeds might not get enough moisture during the three weeks the seedlings are emerging from the soil, leading to two different crop stages in the same field, he explains.

Lygus bugs also threaten fababean growers' bottom lines. The pests leave black spots on the seed during feeding, Holt explained in an earlier interview.

Eight per cent total damaged seed is the standard tolerance level for seeds destined for the Egyptian market, Chris Chivilo wrote in an email. Chivilo is president and CEO of W.A. Grain & Pulse Solutions.

But fababeans are only vulnerable to lygus bug damage while the pods are soft, Holt said.

"Once they turn into leather, the fababeans are really no longer prone to lygus damage," said Holt this summer. "So getting them in early, getting that bean to be produced and hardened prior to the lygus bug really doing the damage, would be the best practice."

Farmers thinking about using fungicide on fababeans should keep in mind any yield bumps aren't significant enough to pay back the application, Holt says. In fact, Holt discourages growers from applying fungicides because the crop may stay green longer.

THINK LIKE A PEA GROWER

Brink recommends treating fababeans as peas. The less residual nitrogen the better, he adds.

Avoid manured fields, Holt says. Too much residual nitrogen means the fababeans will get too lazy to fix nitrogen, she says. And the plants may also stay in the vegetative state and not pod, she adds.

"They become a really expensive silage crop," she adds.

Brink also suggests picking a clean field, and notes the chemistry is the same as peas.

"We highly recommend getting some Edge on so you've got some broadleaf control that isn't Group 2 for your weed control," says Holt. Edge is a Group 3 herbicide, also known by the common name ethalfluralin.

Both Holt and Brink have been pleased with the inoculant Cell-Tech. Cell-Tech isn't registered specifically for fababeans, but Brinks says the chemistry is the same for peas. Holt recommends having inoculant and seed lined up by the end of January.

In an email, Holt wrote that although fusarium is a problem for peas in her area, she hasn't seen any root rot in fababeans yet. But as fababean acres grow, Holt thinks species-specific diseases will show up.

Australian researchers reported root rot caused by aphanomyces in the journal *Australian Plant Disease Notes*. Some varieties seemed to have resistance, the researchers noted, while others were susceptible.

The Alberta Pulse Growers website recommends high quality seed and seed treatment to manage seedling blight and root rot in fababeans.

"EVERY YEAR IS A LEARNING YEAR"

Brink has been growing fababeans for four years now. He says "every year is a learning year" with the crop. Asked where he goes for information, Brink says, "I just kind of hear bits and pieces and try to put things together."

And Brink's drive to put things together has led to an interesting observation about his CPS wheat. When he grows the wheat on fababean stubble, he's noticed higher protein levels.

Brink seeds canola after the wheat because it takes a couple years for the fababean stubble to break down, he says. He hopes working fababeans in his rotation will bump canola yields, and says so far canola yields are "pretty good."

Farmers shouldn't look at fababeans as a one-year thing, Brink says. "You've got to plan your rotations afterwards and I think you can have a benefit."

Brink is willing to answer questions about growing fababeans at 403-748-2777.

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Choose a variety

If you're looking for more information about choosing the best fababean variety for your area, take a look at the pdf version of a presentation given by Bert Vandenberg last winter.

Find it at: www.saskpulse.com/uploads/content/Bert_Vandenberg_Lentil_and_Faba_Bean_Varieties.pdf

Lisa Guenther

Features

Fababeans in northeastern Sask.

The fababeans pictured here belong to Brett Casavant, who farms near Tisdale in north-eastern Saskatchewan.

2014 was Casavant's first year growing fababeans. He grew a low-tannin variety called taboar. Casavant says they yielded around 70 bushels per acre, including dockage. He says they might wash out to the low to mid 60s once dockage is accounted for.

"It is nice to find an alternative to peas, which don't take the moisture very well, but are very good for the soil. And nice to break up our crop rotation," says Casavant. Casavant found the fababeans fared well through a soggy June and proved easy to harvest. And he's looking forward to the nitrogen payback next year.

But fababeans may not be a perfect fit for Casavant's region.

"The problem for northeast Saskatchewan with (fababeans) is that they're a long-season crop. They're not like a pea, a short-season crop. So you've got to get them in early, in my opinion. And you've got to hope (there's) not an early frost."

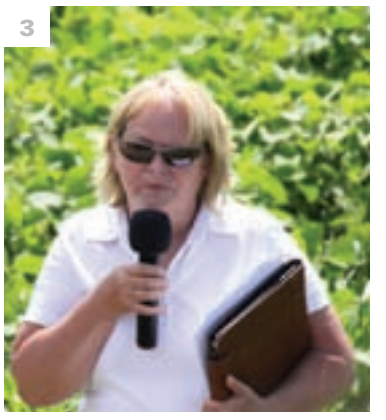
Frost nailed Casavant's fababeans this year. He hasn't heard the final word on grading yet, but he thinks the crop will be feed. And he's not sure how well he'll be able to market them if they do grade feed.

Casavant says he's looking at Snowdrops, another low-tannin variety, for next year. Snowdrops are rated 104 days to maturity, compared to 107 for taboars. Snowbirds are also rated at 104 days, according to a University of Saskatchewan presentation on the Saskatchewan Pulse Growers website.

Whether Casavant does seed fababeans again remains to be seen. He says he may try them again, but he's not sure he'd seed "a huge amount" of acres to fababeans. He'd need to put some serious thought into it first and "I'm not sure where I stand on that," he says.

Lisa Guenther

PHOTO: DEBBIE FURBER, FIELD EDITOR, *CANADIAN CATTLEMEN*



PHOTOS: LISA GUENTHER

1. Alberta farmer Harvey Brink (in the red hat) talks fababeans in a fababean crop during Cavalier Agrow's Showcase Plot Tour in northwest Saskatchewan this summer. **2.** Alberta farmer Harvey Brink shares his experience growing fababeans at Cavalier Agrow's Showcase Plot tour in northwest Saskatchewan this summer. **3.** Carol Holt, business agronomist with Parkland Fertilizer in Wetaskiwin, Alta, talks fababeans at Cavalier Agrow's Showcase Plot Tour in northwest Saskatchewan this summer. **4.** Fababean plot near Meota, Sask. Local farmers showed a lot of interest in the crop during Cavalier Agrow's Showcase Plot Tour on July 30, 2014.

Columns

REPORTER'S NOTEBOOK

Building new farm leadership

Farmers need a strong voice, but getting new farmers into leadership roles is easier said than done

BY LISA GUENTHER

Farmers need a stronger voice in the supply chain to balance the commercial system.

That's what Dr. Brian Oleson told delegates at Fields on Wheels in December. Oleson specializes in co-operatives and marketing at the University of Manitoba.

Oleson saw the Canadian Wheat Board as the farmer representative in the supply chain, he told delegates. In an interview at the conference, Oleson said farmers have lost their voice in the supply chain.

He's not suggesting farmers try to turn back the clock. But in an industry dominated by railways and grain companies, farmers do need to make sure the grain handling system can move the increasing production in the future, Oleson explained.

"It's absolutely critical," he said.

When I asked how farmers can come to enough of a consensus to do this, Oleson acknowledged it wouldn't be easy. But farmers need to take a close look at their farm organizations because they're not part of the value chain right now, he said. Farmers need to take this seriously and "make sure (farm organizations are) as strong as possible in terms of carrying their views and their interests."

I think the first step is just getting people involved. Get potential members to a conference. Make sure both green and veteran members benefit from programs and have the chance to serve — you want to keep the experienced people engaged, too.

Many farm organizations offer leadership programs of one sort or another. The Agricultural Producers Association of Saskatchewan launched a six-month leadership program in 2014 for young farmers. My reeve, Tom Brown, has been filling me in on it (a farmer in our area was one of the successful applicants). And this is just the latest of many rural and farm leadership programs. In fact, the agriculture community starts prepping future leaders from the time they join 4-H.

Serving on a board might be the best leadership experience of all, especially if it's an effective board. I've been on a few myself, and I think I've learned some stuff. Long-serving secretaries and treasurers are worth their weight in gold, for example. Each person on the board has a set of strengths, and the board will be more effective if everyone can apply those strengths. And it's worth looking to the general membership for help with special projects or committees. Leadership doesn't rest only with board members.

A DEMOGRAPHIC SHIFT

Farmers are not only busy. There are fewer and fewer people to fill those board positions. A May 2014 Statistics Canada report found the number of farmers dropped from 390,875 in 1991 to 293,925 in 2011. In that same 20 year period, the number of farmers under 55 years of age plunged from 265,495 to 152,015.

Statistics Canada notes this demographic shift isn't unique to agriculture. Canada's population is aging. So perhaps there is some comfort in the fact that the agriculture sector is not alone.

What this future farmer scarcity means I'm not sure. Will remaining farmers be more unified on policy issues, or just as deeply divided as they were 20 years ago? Faced with a smaller talent pool to draw from, will some farm organizations be forced to fold, and if so, which ones? Readers probably have stronger, better-informed opinions on that last question than me.

Farmers face a cross-road of sorts these days as they decide where to direct their efforts. The good news is that things seem to be on track, or not too far off the tracks, anyway.

At Field on Wheels, Brian Oleson told me farmers are already doing a large part of the work needed to make their voices heard.

"It's just a matter of as being involved and understanding the importance of it, I think, rather than leaving it to someone else."

In other words, now is the time to get involved.

Lisa Guenther is field editor for Grainews based at Livelong, Sask. Contact her at Lisa.Guenther@fbcpublishing.com or on Twitter @LtoG.

LEADERSHIP IS LIKE BOXING

Building leadership ability is like boxing, minus the punching

A few weeks ago I was at our local boxing club. The coach was talking to the kids about strategy in the ring. Boxing builds character, he told them, because you need to be patient and watch for a chance to make your move.

Building leadership ability is similar (but without the actual punching). It takes time to develop skills. It requires patience and commitment. It can be a real slog sometimes, and you might wonder if it's worth it. But then, one day, a big issue pops up. If you've put in your time at the gym, you'll be ready to make your move. If you've been sitting on the couch, it's going to be rough.

Recruiting new blood to farm organizations is easier said than done, I'm sure. Young farmers are busy with farming and family. One or both spouses might have off-farm jobs. Volunteering for a board is a tough sell.

BY JONNY HAWKINS

Country Chuckles

"Emily Chickenson"

Columns

KELLY'S AGEXPERT TIPS AND HINTS

Tracking inventory with AgExpert

Entering deferred sales and sales and purchases linked to inventory with AgExpert Analyst

KELLY AIREY

As the year comes to an end after a busy harvest, there are many purchase and sale transactions to enter that will automatically update your previously linked inventory accounts. These includes grain sales, calves sold to market, or maybe you've decided to invest into some bred cows before year end!

All of these purchase and sale transactions will adjust your inventory when recorded. In previous articles, we have talked about how to link your purchase and sales accounts to inventory, and how to enter production, births, and opening balances. Now we will go over the steps needed to enter the purchase or sale, and what reports we need to look at to ensure our inventory quantities are correct.

If you have decided to defer the payment of a grain sale to the new year, then the sale needs to be recorded as a receivable transaction. You will still enter all the details in the transaction including the quantity of grain that has been sold, so when recorded, the dollar amount is recorded as a receivable, and the quantity is reduced in your inventory.

RECORD A CATTLE PURCHASE

To record a cattle purchase leaked to inventory:

- In AgExpert, choose Transaction > Transaction Entry
- Transaction type: withdrawal
- Date: date of transaction
- Bank account: account where the money came from
- Reference: cheque number
- Description: supplier name
- Total: dollar amount from your account
- Type: EX (expense)
- Account: Cow purchases
- Quantity: number of head purchased. *Note:* if you are linked for AgriStability, another screen will pop up, asking which AgriStability Grade the cattle were sold in. I will cover AgriStability in a future article.

Now, you can choose "record transaction."

To view the inventory report, choose: Inventory > Detail > Current fiscal year > page view. Under your "Cows" account, view the purchase transaction. *Hint*: To view in more detail, click on a specific report line to drill down to that transaction report. Click on the blue audit number to the left to edit the transaction.

RECORD A CATTLE SALE

Tip: Before entering a sale I always check the inventory report to ensure there is enough in inventory to sell! If not, you may need to add production. Or, last year's ending estimates may have been low, and you will need to adjust opening inventory. You may also need to transfer quantity between accounts. For example, what were "Replacement Heifers" may now be "Bred Heifers." These adjustments can be made in the inventory adjustment screen. Just select: Inventory > Inventory Adjustment > Select the appropriate account > Quantity Tab. These adjustments were described in my December article.

To record a cattle sale with deductions, and linked to inventory:

- Choose Transaction > Transaction Entry.
- Transaction type: Deposit
- Date: Date of transaction
- Bank account: The account the money was deposited into
- Reference: Cattle sales invoice number
- Description: Customer name
- Total: Net dollar amount of the cattle sale
- Type: IN (income)
- Account: Feeder Heifer Sales (or appropriate sales account)
- Quantity: Number of head sold
- Amount: gross dollar amount of sale.

Next, create as many expense lines as you need to record all deductions, for example, yardage expense. *Tip*: To create a new line click on the green "+" sign on the right side of the screen. Or, simply hit the tab key to move into a new line.

After you enter the expenses, your expenses your transaction should be balanced to the net dollar amount you entered in the total. Once it's balanced, select record and view the inventory report as mentioned above.

DEFERRED GRAIN SALES

To record a deferred grain sale, with deductions and linked to inventory:

- Click Transaction > Transaction Entry
- Transaction type: Receivable charge
- Date: Date of transaction
- Customer: Customer who purchased your grain
- Reference: Grain ticket number
- Description: Automatically fills in with customer
- Total: Net dollar amount of the grain sale
- Type: IN (income)
- Account: Canola sales (or appropriate account)
- Quantity: Number of net tonnes sold
- Amount: gross amount of sale

Next, create expense lines as needed to record deductions such as freight and elevation, storage, or levies. When the transaction is balanced, select record.

There are two reports you can check now. First is your inventory report to ensure the grain has been adjusted from your inventory. Second is the accounts receivable report to ensure the outstanding dollar amount been recorded to your receivables list.

In the next issue: Preparing for year end.

Kelly Airey is a producer and Ag Consultant in Western Manitoba. She offers software setups & training, and discounts on software purchases. Contact Kelly at kelly.agconsulting@gmail.com or (204) 365-0136.

Columns

CAN'T TAKE THE FARM FROM THE BOY

Communications in winter

Winter is a good time for reflection, but spending too much time alone on the farm can be dangerous

TOBAN DYCK

A cluster of three cords dangles flush with the bottom edge of our tandem's front fender. Each one is connected to a block heater. We only need to plug in a couple to get that diesel engine running in winter. But not a single one is connected. Not anymore. Farming is over for 2014. We hauled our last load of soybeans to market a couple of weeks before Christmas, and the wheat still sitting in our bins will most likely remain there until 2015. What about the snowblower? Have you hooked that up yet? Nope. But I will. Relax, everyone.

It's in our workshop — the northeast corner, to be exact. Our Farm King snowblower spends its summer at the end of a row of implements and other stuff pressed against the shop's north wall. I don't see the Willys jeep in that row anymore, but it's there, a part of the scenery about 20 feet west of the Farm King and just east of where we keep our bulk oil. The shop is heated by a waste-oil burner my father invented a couple decades ago, and with all the things it permanently stores, there is still enough space for tools, a miscellany of farm vehicles/ATVs, and any one of the farm's larger machines.

About 100 feet, maybe 150, south of the workshop is our machine shed. Our large machines hibernate there, sheltered from the ravages of wind and sun. King among them is the combine, which is parked in the southeast corner with its auger swung out about halfway so we can park our tandem behind it. All in, cozy and unplugged, the machine shed has room for about six large machines.

If you're still with me, and you're on foot, watch your step leaving the machine shed — there'll be a bit of ice to deal with. Follow the road west then take the north side of the fork. Bins are bins; you've seen thousands in your lifetime. And, yes, the dyke is still on our property, but following it north then west along the tree line will take you to the edge of our property.

You'll have seen a bunch of machines, bins, homes, implements, barns, and other things we own, and you'll have done so on our property — all 45 acres of it — located about 2-1/2 miles from town. There are lots of things to see and do here.

This column is not meant as a list of things we own. That would be foolish, and pointless. Instead it's a portrait of ownership, vastness, and isolation, the combination of which is more interesting than not. And please, bear with me as I attempt to make a connection between things that you cannot see or touch — things that don't directly put seed into the ground. You'll have to trust me.

Lynne Truss's book *Eats, Shoots and Leaves* has an intentionally interesting and telling title. I'll let you come to appreciate its complexities on your own. *Hint*: it has to do with commas, language, meaning, and the importance of knowing how to communicate clearly. The title could have something to do with a panda bear eating a snack. Or, heaven forbid, it could have something to do with murder.

I taught a creative writing course at the local Red River College campus in the fall semester of 2014. Our last class was a couple weeks before Christmas. It ran on Tuesday evenings, and it was a blast. The class was four women and myself. You didn't attend. I get it. Such a pursuit — writing — is not for farmers, men, or people with an interest in "gettin' 'er done," you might think. This column may not successfully convince you otherwise, though I desperately wish it would.

A day spent working with your hands, on things you own, on your own property, miles away from anyone with an opposing view, can be quite soulful, productive, and fun. It's your property and you'll do what you want. You'll meet no one who will correct your racial slur or call you out for a misused phrase or misspelled word. But the lack of opposition and distance from those who'd care is not an excuse. Clear, correct communication is clear, correct thinking. And understanding this you'll also realize that respectful communication, behind closed doors or in public, is closely tied to respect, in general.

If I were a bolder person, I'd tell you all to take the winter to read and write, daily. Then I'd tell you that doing so would not only make you a better communicator, but a better farmer. Then I'd gather what remains of my depleting confidence, and tell you to watch what you say and how you say it, having convinced you that words, their usage and their meanings, have implications beyond your farm's boundaries.

Whiskey, chopping wood, and hard, filthy work do not sit in contrast to the appreciation or practice of good writing and clear communication. They're inseparable friends.

There's additional responsibility living miles from people who think differently than you. Not unlike when one party (cough, Manitoba's NDP, cough) stays in power for too long, allowing itself to become lazy, apathetic, and in some cases, wrong.

You can get away with clinging to ridiculous notions, while standing in our workshop or driving a tractor, far from the ears of people who may disagree. Difference and diversity are easy to avoid out here on the farm. Please keep that in mind.

Toban Dyck is a freelance writer and a new farmer on an old farm. Follow him on Twitter @tobandyck or email tobandyck@gmail.com.

Columns

OFF-FARM INCOME

2014 in review, and on to 2015

Using selling rules can pay off, even when oil prices and related stocks go through big changes

ANDY SIRSKI

I'm happy to say that in 2014 I learned a lot about making money with stocks and keeping it. Often it's a lot easier to make money than to keep it, so I'm glad I'm advancing both skills.

Selling right was one big education for a lot of readers this year. Sadly many investors did not sell right and so their portfolio likely dropped in value when oil and oil stocks dropped.

Most farmers have built in selling rules for what they produce. Yes, crops can be forward contracted year around but deliveries aren't filled until after harvest. Calves get sold when the grass dries up or when the cattle producer needs space for a new crop of calves. Feeder hogs and cattle get sold when they grow to their market weight. Very few investors have such built in sell signals so we have to create our own.

The big lesson was selling oil stocks near the top. Many oil stocks went up in price as we went into summer, sort of walking along with the price of oil. Then the price of oil started to drop and so did the price of stocks. The supply of oil became a political football and the price of stocks became side victims of that and then tax loss selling pushed prices lower as the year came to a close.

It would have been hard to imagine back in June 2014 that decisions made by OPEC members thousands of miles away would affect investment portfolios. But that's what happened when OPEC decided not to cut production at its November meeting. Members wanted to keep oil prices low for several reasons. First they wanted to squeeze Russia's, Iran's and Venezuela's cash flow.

Next they wanted to slow down or shut down drilling in shale country in the U.S. because that oil was starting to create surpluses and reduce the U.S.'s need for OPEC's oil. In the past OPEC had a global cartel. OPEC used to control supply to help control prices. OPEC countries have lots of money and low production costs.

Stop losses and tax loss selling helped drive the price of oil and natural gas shares down. In the meantime, I hear China stopped putting oil into storage, and the U.S. stopped buying oil from Nigeria so 40-odd oil tankers were loaded with no place to go.

Oil stocks dropped. Companies like Imperial oil dropped 10 to 12 per cent while stocks like Crescent Point dropped from $47 to $21 per share. Companies with any significant debt could go bankrupt and default on their loans and threaten to hurt some lenders.

Anyone who used selling rules saved their portfolio.

By now you should know if prices rebounded like a V or have gone sideways like a big dish after tax loss selling was over.

OIL AND NATURAL GAS

The price of oil and natgas stocks could rebound some after tax loss selling but the price of oil going forward will depend more on how much production is cut and less on tax loss selling.

Tax loss selling is a repeatable event. Usually the stocks that were up and came down become the victims.

Some sectors are favoured more during some seasons than others and share prices go up as we come into the favoured season and then down as the season ends. These are repeatable events. Car companies, energy companies, gold and silver beer and chips, techies and many other sectors and their stocks go up and down with the seasons. Those ups and downs were camouflaged somewhat during a bull market but in flat market those ups and downs get amplified. Some seasonal stocks drop a lot when out of season and hence using wise selling rules can preserve the value of a portfolio.

There are also major events that can be game changers that can help or hurt stocks. Buying these as a sector moves up can help us win while selling stocks when a sector starts to fall can preserve a portfolio. The big blow up in Japan's nuclear reactors changed the uranium industry for years. Stocks like Cameco have still not recovered but instead go up and down in a trading range.

The coal industry has been hurt by President Obama's stand on so called "dirty coal." While the export coal industry still sells a lot of coal outside the U.S., having the president continuously speak badly about coal has hurt the domestic industry.

Security stocks like TASER have the backing of the President; those companies can thrive in such an environment. While being in favour and out of favour might not be repeatable events, when they do happen we would be wise to be on the right side of the new trend in prices.

This is why I look at a chart of the 10-day moving average (DMA) and the parabolic sar when I look at a stock. If the price has fallen below the 10 dma and the parabolic sar is above the price, odds are the price of the stock will drop. When the price of a stock has gone above the 10 dma and the parabolic sar is below the price, odds are the price of shares will go up.

Holding a stock through these ups and downs might be okay for some but others who want to farm volatility can make money and keep it if they are prepared to learn a few things and work at it.

Andy Sirski is mostly retired. He publishes an electronic newsletter called StocksTalk where he tells what he does and why. He likes to sell covered calls to bring in cash and stresses how to use selling and buying rules. If you want to read StocksTalk free for a month send an email to Andy at sirski@mts.net.

Columns

SOILS AND CROPS

Thinking ahead: the next drought

After five wet years, its hard to remember that things will likely change in the future. But they will

LES HENRY

PHOTO: LES HENRY

This slough on my farm had an EC (Electrical Conductivity) of 3,335 S/cm. Not the stuff you want to irrigate with, but a once or twice shot of two or three inches would cause no trouble.

Caution: before reading this piece please know that it is just thinking on paper. The objective is to plant the seed of an idea in the head of folks who are capable of making the equipment to make it all happen.

Reality forces us to think in the moment. The natural human tendency is to think that current conditions are the norm. But, the reality with weather and farming is that the only certainty about the future is uncertainty.

In many parts of Manitoba and Saskatchewan we have now had five "irrigation" years in a row. In recent years my Dundurn neighbours that irrigate from Blackstrap Lake have mostly moved the pivots to farm under. While many of us relish the irrigation supplied by Mother Nature, many excesses of water have also occurred. In many areas of the world excess water drains off in streams that lead to rivers that lead to big rivers that lead to an ocean. The glaciers left us with many areas with little or no external drainage. The excess simply fills the potholes (sloughs).

Sloughs that were bone dry in 2002 are now full and some overflowing. In 2002 I had zip for water in any slough on my Dundurn farm. Now on NW22-32-3W3 I estimate there is enough water sitting in sloughs to provide an inch or two of water to all of the cultivated acres. A large slough in an adjacent RM has several hundred acre feet of water. The locals suggest that the last folks to see that much water in the slough were the Indian people.

Handifacts in Henry's *Handbook of Soil and Water* tell us that it takes 22,615 gallons of water to put one inch on one acre. So there is a lot of water sitting. Some of it slowly soaks in but in some sloughs with pressure underneath the water mostly sits there until it evaporates. In wet years that can take a long time.

But, we have no idea when the current wet cycle will end and dry years return. I often look at that water and wonder how we could use it to advantage when the need arises.

A SOLUTION

Farmers and irrigation equipment suppliers are an innovative lot. Portable, tractor-mounted slough pumps already exist. Big gun irrigation systems that irrigate significant areas already exist. What about marrying the two concepts to arrive at a system that could take the unwanted water from the slough and apply it to significant acres next to each slough?

Some caution would be required. Some sloughs that can appear very clean can be nearly as salty as the ocean. Many sloughs have a significant salt load that would preclude their use on a continuing irrigation basis. We assume that with extra runoff sloughs will be very fresh. Not always true. (See my article "Faith, snuff and slough water" in *Grainews*, September 9, 2013.

The photo of the barley crop shown on this page comes from the Univerisity of Saskatchewan Goodale Farm. The well that provided the water is a flowing well. The pressure is the fundamental cause of the soil salinity.

One or two applications with that EC 3,200 S/cm water will do no harm. But, each inch of such water applies 700 pounds per acre of salts. So, if used very long the excess salts would have to be leached with excess water. In this case, and in most cases leaching is not an option so the water is *not* suitable for sustained irrigation. But a few inches of that water in a drought year could be a real game changer.

It takes 22,615 gallons of water to put one inch on one acre

Such an idea would apply only to rolling land where the sloughs are deep. In flat land like Regina Plains a 50 acre slough may only have a foot or less of water — not practical to access.

Further caution: the use of slough water for crops will only be of value for a short term anyway, perhaps two years at most. After any length of drought the sloughs go dry all by themselves.

So, there you have it — a bit of thinking on paper. Maybe all a big pipe dream.

J.L.(Les) Henry is a former professor and extension specialist at the University of Saskatchewan. He farms at Dundurn, Sask. He recently finished a third printing of "Henry's Handbook of Soil and Water," a book that mixes the basics and practical aspects of soil, fertilizer and farming. Les will cover the shipping and GST for "Grainews" readers. Simply send a cheque for $50 to Henry Perspectives, 143 Tucker Cres, Saskatoon, Sask., S7H 3H7, and he will dispatch a signed book.

Columns

FARM FINANCIAL PLANNER

Untangling the farm tax knots

For a two-generation family actively farming a big spread, transition poses tax issues

BY ANDREW ALLENTUCK

MONTHLY INCOME STREAMS	
PHIL: CPP	$800
MARY: RRIF	$4,000
MARY: land rent	$2,600
PHIL: shareholder loan	$4,000
Land rent	$10,280
Total income:	$21,680

In southwestern Manitoba, a couple we'll call Phil, 63, and Mary, 58, have farmed grain for the last four decades. For Phil, the farm is a continuation of a family tradition with his parents and his brother. For 40 years, they have plowed all profits back into the farm. Today, they farm 4,000 acres they own and another 1,000 they rent. Phil's son Harold, 33, and son-in-law Fred, 31, work on the farm as well. Phil and Mary are lucky that their children want to continue the operation.

Phil is feeling the effects of 40 years of farming and wants to cut back his work. Harold and Fred want to do more work on the farm. In fact, they have recently bought a $1 million farm with borrowed funds. The family is prosperous, their farms successful. But the very success of their operations has created a web of interlocking interests that has to be deconstructed in order to provide for a smooth and tax-efficient transition of ownership to the new generation.

The problem is to untangle these complicated arrangements so that Phil can enjoy his $8 million net worth in the farming operation. His equity is restricted by the partnership arrangement and the farm's need for working capital. If Phil were to sell his interest today, it would trigger a huge tax bill of millions of dollars. The problem comes down to getting out without unbearable costs.

Farm Financial Planner asked Don Forbes and Erik Forbes of Don Forbes Associates Inc./Armstrong & Quaile Inc., to work with the family. Don sees the problem as being resolved in stages.

The best way to unravel the ownership interests in the farm is to terminate the present partnership, Don Forbes suggests. If the partners want to maintain a high level of tax deferability, then each partner should transfer his part of the farm equity to new individual operating companies. Each partner would then receive a mix of common and preferred shares and shareholder loans for the contribution of capital.

After four individual operating companies are created, then the former company owners should negotiate a joint venture agreement to operate the farm and split proceeds according to a pre-arranged plan. Land rent should be paid on all land farmed as a cost of production for the crops which are planted. Note that a joint venture agreement does not have the unlimited liability of a partnership.

Phil and Mary want $100,000 after tax a year in retirement. The farm can't produce that income and satisfy other obligations. So they will have to charge rent to be extracted from the operation. The ways to do that are complex but, if done right, they are tax efficient.

The rental income plan can be tied to a farm succession plan with a rent-to-own concept for Harold. He would take title to farm land with an agreement that fair market rent be paid to Phil and Mary. That title would be backed by a promissory note take back so that Phil and Mary would not be affected if Harold and his wife have a marital breakdown and division of property. Without the promissory note take-back, Harold's wife could participate in the appreciation of the land in future and would have to be compensated in any divorce settlement, Erik Forbes points out.

Phil could also cash in his equity in the farming operation. After transition to the individual companies is completed, Phil will have $4 million of equity in machinery, buildings, inventory and working capital. Phil can take $4,000 a month tax-free from his shareholder loan for living expenses. Additional sums can come from arrangements he will make with his three other partners.

The apportionment of land, buildings, working capital and tax planning for all of this should be done by a third party management consultant or an accountant. The interests of each party should be disclosed and divided impartially by the third party to avoid future squabbles, Don Forbes says.

To get $100,000 a year after tax, Phil and Mary will need diverse income streams. The figures shown in the table above are monthly income sources from which they can obtain cash flow.

If Phil takes $4,000 a month from his shareholder loan, he would need only $120,000 before tax to provide $100,000 after tax, Don Forbes says. Corporate retained earnings can be distributed as taxable dividends with substantial tax already paid.

Phil and Mary have significant off-farm investments. Mary has $604,000 in spousal mutual fund RRSPs. She has another $540,000 in a non-registered account. These assets can generate $4,000 a month at a 3.5 per cent annual return. But some tailoring needs to be done. Bonds and bond funds as well as the bank account should be generated from within the RRSP and equities should be held in taxable accounts to make use of the dividend tax credit.

The Farm Land Capital Gains Tax Exemption will help Phil and Mary cut their tax bills. It can be used to raise the book value of the farm to market value when property is transferred to Harold. Phil and Mary will each be eligible for $800,000 of capital gains exclusion for a total value of $1.6 million immune from tax. The effect of the exemption is to lower the total tax cost of the transition dramatically. But there is more involved than just tax management.

Training Harold and Fred to run the farm and giving the incentive of growing equity in the joint venture is vital. As they take over, Phil and Mary will diminish their roles in the farm. Planning for this transition is vital, Don Forbes says. Moreover the joint venture agreement could be amended to free up money which would otherwise be lost in taxes. That money can be used to buy out the equity portion of holdings of Phil and Mary. After all interests are paid, their corporations can be amalgamated with Harold and Fred's corporations, Don Forbes explains.

"Phil and Mary have done the right thing, that is, anticipating the problems in generational transfer and taking independent advice on how to make it work efficiently," Don Forbes says. "If they take our advice and obtain independent counsel on farm valuation and asset value and if they take legal advice on asset protection, they can have their retirement with a six figure after tax income, a plan for farm succession, and a continuation of the family farm."

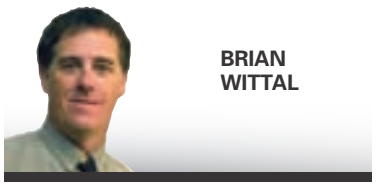
Andrew Allentuck's latest book, "When Can I Retire? Planning Your Financial Life After Work," was published by Penguin Canada in January, 2011.

Columns

UNDERSTANDING MARKET BULLS AND BEARS

Market macro review for 2015

World grain supplies, politics, economics and weather can all have an influence on the price of your grain



BRIAN WITTAL

In this column we'll look at some macro issues that can and likely will influence grain markets in 2015 and beyond.

WORLD SUPPLIES

- Bumper crops in the U.S.
- An average crop on top of a bumper crop last year in Western Canada.
- Normal to above average production in the EU, but quality problems this year.
- Russia/Ukraine production down due to acres not farmed in conflict region. Concerns over winter crop damage and question about how many acres will be seeded next spring with rising inflation and a falling Ruble.
- South American crops look like bumper crops, with current growing conditions.

WORLD ECONOMIC SITUATION

- China's economic growth has been in a slow down for the past three years, down from what some were calling unsustainable highs.
- India's growth has been slowly climbing. India's economy is destined to surpass China's.
- Japan's economic growth has been flat or down for the last 10 years.
- Russia's economy is in turmoil with rising inflation and a crumbling currency.

WORLD GEOPOLITICAL SITUATION

Russia/Ukraine tensions seem to be at a stalemate but the cold of winter may be keeping things under wraps. Disruptions in grain or fertilizer exports from this region could impact world prices for these commodities. To date, shipments from these regions are at or above normal yearly levels, but any escalation of tension as we head into spring could have adverse effects on access to world fertilizer supply and price. Russia has increased interest rates from 10 to 17 per cent to help shore up a deflating Ruble.

CURRENCIES

The U.S. dollar is on the rise. If this persists it would pressure grain prices lower. A lower Canadian dollar will help support our grain prices but makes buying inputs and machinery more expensive.

The Chinese Yuan is drifting lower, reducing China's ability to buy, which is part of the reason for China's economic slowdown.

The Japanese Yen remains slow. The Japanese government has devalued it in an effort to re-stimulate the economy, with limited success.

The dramatic fall of the Russian Rubel is causing inflation and concerns of rising food.

FERTILIZER COSTS

Fertilizer prices are currently ranging from two to 10 per cent higher than a year ago. Prices are expected to remain level to down slightly through the winter with no real expectation of a big spring increase, as grain prices remain at five-year lows.

Winter transportation delays could be a wild card again this year. Russia is the world's largest producer of fertilizer products, so if there is a disruption in shipping this spring, we could potentially face supply shortages and price hikes.

OIL PRICES, FUEL PRICES

Oil prices have hit dramatic lows. This can have a negative economic impact on the world economy. The price of oil is dropping but diesel fuel has not followed suit. The ever-growing volumes of commodities moving by rail and the logistics problems from last winter have pushed the demand for truck freight to all time highs.

However we freight it, diesel is the fuel of demand so I don't see prices dropping anytime soon. However recent industry reports claim that there should be a price adjustment of $0.10 to $0.20 per litre for to diesel in the New Year, so watch closely and be prepared to top up your tanks.

How will tumbling oil prices impact economies in the oil producing regions of the world? How might this benefit the major consuming countries? If they can spend less on fuel needs will they spend more on other consumables and or food stuffs? With grain prices at four- to five-year lows this would be a good time to stockpile if they are able to afford to do so.

WEATHER

El Niño seems to be well on its way to putting an end to the drought that has plagued the west coast region of the U.S. the past two to three years. The U.S. central and midwest are experiencing a very dry and cold winter which brings fears of potential winter kill.

South America is experiencing good growing conditions with timely rains and warm weather as they head into their traditional rainy season.

Winter conditions across the EU and FSU region are dry and cold, so potential winter kill is a concern there as well.

So what do we make of all of this information? Many variables and unknowns may influence grain prices, and there is no clear picture as to what may happen. The best thing you can do is stick to your marketing plan. Get your numbers in place, do your projections and determine your breakeven prices for the coming year, then set your pricing goals.

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).

EQUIPMENT COMPARISONS

Field fuel and service trailers

Grainews compared features on the different fuel transporters out on display at Canada's Farm Progress Show in Regina last summer

BY SCOTT GARVEY

The large fuel capacity — and consumption — on much of today's farm equipment requires a new approach in order to keep those thirsty giants fed. To meet that need, several manufacturers have introduced the field fuel and service trailer concept. Along with a large-capacity fuel tank, each brand has tagged a variety of associated service features onto the frame designed to help with field repairs.

Instead of buying a dedicated truck to handle these tasks, the trailer allows farmers to get more use from their three-quarter or one ton truck. Just hook onto the trailer when you need to provide fuel or field service, then unhook it.

Although the basic design of most trailers is the same — fuel pumps and some storage at the front, a large, low-slung tank behind that and on some models a tool compartment at the rear — the exact specifications vary a little between brands.

We surveyed a sample of the field of trailers on display at Canada's Farm Progress Show in Regina in June to see how they stack up. Here is a look at the trailers we spotted on the show grounds and how their specifications compare.

THUNDER CREEK

Thunder Creek displayed its double-walled, 990 U.S. gallon (3,748 litre) trailer that is available with a 435 (1,249 litre) DEF tank.

The 990-gallon version on display at the show rode on eight-bolt hubs connected to tridem axles with torsion suspension under eight-inch frame rails. A tandem-axle version is also available, which doesn't have a rear utility compartment. The fuel tanks are constructed of 10-gauge steel and the outer secondary tank has 110 per cent of the capacity of the inner primary in order to fully contain any leakage. It has an empty weight of 2,944 kg and a GVWR of 8,165 kg.

Standard transfer capacity with the 12-volt pump is 15 gallons per minute (GPM), that jumps to 25 with the optional gas-powered pump. A 25-foot hose length is standard, with an optional 50 foot choice. For DEF a nine GPM electric pump is standard and there is a gas-powered pump option here too.

For other service jobs, a front toolbox is available to add to the 1.2 cubic metre rear box. And you can stuff a welder-compressor-generator system in that rear compartment for even more capability.

Base price range, depending on the exact model is: US$22,480 to $34,625.

Website: ThunderCreekEquip ment.com.

MERIDIAN MANUFACTURING

Meridian's Fuel Express trailer is available in three models, the basic, the Platinum Pro and the Platinum Pro Plus, each with increasing option levels.

All three carry 3,750 litres (825 Imperial gallons) with the option of a 208-litre DEF tank, or two DEF tanks for a total capacity of 416 litres. The second DEF tank could also be used to carry a third liquid.

A 12-volt transfer pump with 35 feet of hose is standard on the basic model. A 6.5 horsepower gasoline-powered pump rated at 40 GPM and 50 feet of hose is available on the Platinum and Platinum Pro. And buyers can opt for a digital inline fuel meter to keep track of fill amounts.

"The nice feature with our tank versus some of the others on the market is if you don't order it with DEF and two years down the road you need it, you can just bolt the tank on. We have a built-in space for it," says Ken Pierson, oil and gas manager at Meridian Mfg. Group. "It makes it really nice that you can add it in later."

The low profile design creates a low centre of gravity for stability during travel. The forward compartment has 64 cubic feet of space for the pump, battery and DEF tank, and the option to install a front tool box if the trailer is equipped with only one DEF tank. Meridian says the Fuel Express is registered with Transport Canada as a UN Standard Mobile IBC (CAN/CGSB-43.146-2002).

The diesel tank is bolted to the frame and cushioned by rubber gaskets. Underneath are two 7,000 pound axles equipped with electric brakes. That increases to three on the Platinum Pro Plus model. And to keep it looking nice, the Fuel Express is protected by a baked on powder coat finish.

The rear utility box can be filled with a variety of equipment options, such as a welder-compressor-generator.

"The basic unit starts out at $25,900," says Pierson. "When we go to our Platinum edition, it's $29,900. When you go to the Platinum Pro, which would give you the utility box with nothing in it, would be $36,800."

Website: www.meridianMFG.com.

DUO LIFT MANUFACTURING

"They're U.S. DOT compliant, Transport Canada compliant and United Nations compliant," says Paul Hottovy, director of sales and marketing for Duo Lift Manufacturing, about that company's offering. "As far as we know we're the only manufacturer in North America that meets all three of those criteria."

Every component of the trailer has to meet UN standards, Hottovy explains. This means the diesel trailers could potentially be used in emergencies abroad or within North America.

Trailers are available with a fuel tank capacity of 500, 750, or 1,000 U.S. gallons (1,892, 2,839 or 3,785 litres). DEF storage tanks are 50 or 100 gallons (189 or 378 litres).

The options list now includes a 120-volt heater blanket that wraps around the DEF tank. "So that gives a functionality from 40 F to -10 F. Because diesel exhaust fluid can freeze," says Hottovy. "But many of the modern tractors that are used in the winter need to still have DEF pumped into them next to their diesel fuel."

Price range: US$15,000 to $35,000.

Website: www.duolift.com.

HITCHDOC

HitchDoc offers its HFC (standard) models with 500, 750 or 990 U.S. gallon (1,892, 2,839 or 3,748 litre) capacity. All three models ride on tandem, torsion axles. There are 3,500 pound axles on the smallest version and 6,000 pound axles on the larger two. Total GVWR for each of the trailers is 7,000, 12,000 and 12,000 pounds (3,181 and 5,454 kilograms) respectively. Empty weight is 2,700, 2,900 and 3,100 pounds (1,227, 1,318 and 1,409 kilograms).

All standard trailers include a rear platform for mounting equipment or a utility box. The mid-sized model is upgradeable, owners whose needs change can replace the 750 gallon tank later on with a larger 990 gallon version or add a DEF tank.

Recently, the company added the uprated XL Series to its line, which includes an upgrade to tridem axles and offers a wider range of field service capabilities. Behind the 990 gallon tank there is a rear storage or tool compartment and a short rear deck to act as a workbench. That rear compartment can be filled with welder-compressor-generator. It also offers a 300 gallon (1,136 litre) DEF tank. On the three other HFC trailer models you can choose a 60 or 100 U.S. gallon (227 or 378 litre) stainless steel DEF tank.

"On the standard units, the 990 gallon trailer can have no DEF, 60 gallon or 100 gallon DEF tanks," says Todd Botterill of Botterill sales, HitchDoc's Western Canadian distributor. "The 750 can have no DEF or a 60 gallon tank. The 500 offers no DEF tank as standard. This is because the DEF tank compartment gets lower to match the lower profile of the tank, reducing DEF capacity. The 500 gal unit only has a 20 foot diesel hose, and no reel (because there is not enough room for it)."

"On the XL trailer the DEF tank area can have a 300 gallon DEF tank, up to 3, 100 gallon tanks, or a 100 gallon DEF tank and up to two toolboxes," he adds.

On all models a 110-volt DEF heater package is available to keep the fluid flowing in cold weather. The DEF pump includes a 15-foot transfer hose, that can be extended to 25 feet as an option.

Fuel transfers through a standard 25 GPM, 12-volt electric pump or an optional 40 GPM gas pump with electric start. A solar panel charging kit is available as an option for electric pump models. A 35-foot diesel transfer hose with auto shut-off nozzle is standard.

"HitchDoc uses an IBC tank, meaning that it requires re-certification every five years as opposed to every 12 months like many other trailers," adds Botterill.

Prices range from US$13,335, plus freight, customs and taxes, for a basic 990 trailer, to US$43,875, plus freight, customs and taxes, for a fully loaded 990 XL, like the model displayed at the show.

Website: www.HitchDoc.com.

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

Get a video look at a trailer

The *Grainews* e-QuipTV video crew was on hand during Canada's Farm Progress Show in Regina in June, and they took a close look at the features of a typical field service trailer. To see the video go online to grainews.ca and click on the e-QuipTV heading under the "videos" link. Or go directly to http://www.grainews.ca/video/canadas-farm-progress-show-episode-3.

Scott Garvey

PHOTO: SCOTT GARVEY

PHOTO: MERIDIAN MFG.

PHOTO: LISA GUENTHER

PHOTO: SCOTT GARVEY

1. Thunder Creek offers a double-walled 3,748 litre model with a long options list. **2.** Duo Lift offers three trailers with 1,892, 2,839 or 3,785 litre capacities. **3.** Meridian Manufacturing offers a 3,750 litre trailer available in three models with different option levels. **4.** HitchDoc introduced its XL Series trailer in 2014, which offers a 3,748 litre tank, tridem axles and room for field service tools.

RULES OF THE ROAD

Farmers pulling fuel trailers must comply with additional regulations

Because fuel trailers carry large quantities, producers need to be aware of their additional legal obligations when pulling them

The appropriate dangerous goods placards, similar to this one, must be displayed on farm fuel trailers transporting more than 450 litres of fuel, according to Transport Canada.

BY SCOTT GARVEY

With over 3,700 litres of diesel fuel capacity in the largest field fuel and service trailers, transporting that much dangerous cargo (and diesel is a dangerous cargo) is an entirely different ballgame compared to hauling a small slip tank in the back of a pickup truck. The small-amount dangerous cargo exemptions that apply to slip tanks that don't exceed 450 litres won't let farmers pulling fuel trailers off the hook when it comes to complying with transport regulations.

To help you avoid a costly fine on the roadside, we asked those in the know at Transport Canada exactly what farmers hauling diesel in fuel trailers need to be aware of. Here are the questions we put to them and their exact answers:

THE QUESTIONS

Q1: Which specific Transport Canada regulations are applicable?

The *Transportation of Dangerous Goods (TDG) Regulations* apply to anyone handling (loading, unloading), offering (preparing) for transport, or transporting any dangerous goods. Diesel fuel is considered dangerous goods in the *TDG Regulations* and all parts of the *TDG Regulations* apply. More information is available at: https://www.tc.gc.ca/eng/tdg/clear-menu-497.htm.

Q2: What construction standards apply (to trailers), e.g. single or double-wall tank construction?

Containers used to transport dangerous goods such as fuel are referred to as the means of containment and must meet certain safety standards as prescribed in Part 5 of the *TDG Regulations*. Part 5 requires that anyone handling, offering for transport, or transporting dangerous goods must use containers in accordance with Canadian General Standards Board (CGSB) or Canadian Standards Association (CSA) standards. Along with the *TDG Regulations*, the standards indicate what containers are permitted for dangerous goods and prescribe the requirements for how they are used and maintained.

A container designed to carry 3,785 litres of diesel fuel must currently comply with either safety standard CGSB 43.146 or CSA B621. An amendment to TDG Regulations coming into force on July 15, 2014, will add an additional safety standard — CSA B626-09. There will be a six-month transition period for the standard. This will result in a total of three different safety standards that a 3,785 litre capacity tank used to transport diesel fuel could be constructed to meet. *The TDG Regulations* **do not** require double-walled tanks for transporting diesel fuel.

Q3: Do the trailers need to display a Transport Canada certification label?

Markings applied to a standardized means of containment to indicate compliance with a safety standard are called certification safety marks. These marks identify container type, construction standards, the manufacturer, date of the last inspection or test and by whom, as well as the limits on how it can be used. Certification safety marks can be a design, symbol, device, letter, word, number, abbreviation, or a combination of these. Only facilities registered with Transport Canada are allowed to manufacture, assemble, re-qualify or repair a standard means of containment. Transport Canada issues a Certificate of Registration to each registered facility and also issues a registered mark that must be applied to each container that the facility works on.

Periodic inspection and testing (re-qualification) is required by the safety standards for most types of means of containment. A container subject to periodic re-qualification must not be filled nor refilled unless it is within its specified retest period.

In addition to the certifica-

BY JONNY HAWKINS

Country Chuckles

"...And on top of that she's my best producer."

NEW MACHINERY

Piling it on

The AB18K Large Square Bale Spear, new to John Deere's Frontier equipment line, can move multiple large square bales in a single trip. Two spear sizes can handle and stack 3- or 4-foot bales. The welded components are made of high-tensile, heavy-gauge steel and should provide years of dependable use even under tough field conditions, according to the company. The AB18K is compatible with John Deere's H480 Series Loader.

Scott Garvey

PHOTO: JOHN DEERE

tion safety marks on a means of containment or a means of transport, Part 4 of the *TDG Regulations* requires safety marks to be displayed that identify the hazard of the dangerous goods being transported. These are commonly called placards and are displayed on each end and each side of a large means of containment with a capacity greater than 450 litres.

Q4: What are the penalties for owners if trailers don't comply?

It is an offence under the *Transportation of Dangerous Goods Act (TDGA), 1992* to apply certification safety marks to a tank containing diesel fuel or fuel trailer that does not comply with the applicable safety standard. Transport Canada Inspectors may use enforcement tools in order to ensure compliance. Some examples of enforcement tools include: a Detention Notice; a Notice of Direction Not to Import or Return to Origin; a ticket or prosecution. Section 33 of the *TDGA, 1992* provides for offences and punishments against those who fail to comply with the *Act* and the *TDG Regulations*. Every person who commits an offence is liable on indictment, to imprisonment for a term not exceeding two years, or is liable on summary conviction, to a fine not exceeding $50,000 for a first offence, and not exceeding $100,000 for each subsequent offence.

Q5: Does a driver need to have a valid transportation of dangerous goods training certificate?

Any person who handles (loads, unloads), offers (prepares) for transport, or transports dangerous goods must be trained in accordance with the requirements of Part 6 of the *TDG Regulations* or operate under direct supervision of a trained person holding a valid training certificate. Anyone loading, unloading, preparing for transport, or transporting a tank containing diesel fuel or a fuel trailer must ensure that the proper dangerous goods documentation is prepared and accompanies the shipment. Information on training requirements is available on our website (www.tc.gc.ca).

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

NEW EQUIPMENT

JD introduces new forage harvesters

The green brand replaces its previous 7000 Series SP forage harvester line with an updated 8000 Series SP

BY SCOTT GARVEY

One of the new products John Deere's marketing reps were proud to introduce to dealers and the farm media this past summer at a convention in Milwaukee, Wisconsin, was an updated line of self-propelled forage harvesters. The new 8000 Series replaces the previous 7000s and offers more built-in technology.

The new five-model line covers the 380 to 626 horsepower range. This time all models are powered with Deere's own engines. The 9-litre diesel provides the drive for the two smallest, 380 and 430 horsepower, models. From there the 13.5-litre Deere engine takes over.

And the brand incorporated some new features into the 8000 Series to ensure operators can not only find out as much as possible about the feed going through the machine, but easily manage its operation.

"The 8000 Series builds upon the best features of our popular 7000 Series Self-Propelled Forage Harvesters," says Shaun Fritchey, marketing representative, John Deere Ottumwa Works. "This new series integrates cutting-edge crop analysis and documentation with an innovative machine design to provide superior efficiency, reliability and crop quality."

Deere has matched its DuraDrum cutter heads to the machine horsepower ratings and also offers KernelStar technology for corn-silage processing. The AutoLOC (automatic length of cut) feature lets the operator dial in the precise cutting length based on the exact forage conditions. In addition, the new machines offer Deere's Harvest Lab and HarvestDoc technologies. And of course there are also the brand's other software applications linked to its online FarmSight platform that provide ready access to equipment and agronomic information.

To help cut costs, Deere claims the 8000 Series models are up to 18 per cent more fuel efficient than their predecessors.

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

PHOTO: SCOTT GARVEY

On display at the company's Milwaukee media event, JD's 8000 Series SP forage harvesters offer new technology and a fuel efficiency bump.

KEEP IT GOING

Classic Case on display

Rare 1971 "Golden Demonstrator" model at Canada's Outdoor Farm Show

PHOTOS: SCOTT GARVEY

Left: This 1971, 970 Golden Demonstrator on display at Canada's Outdoor Farm Show in Woodstock, Ontario, in September showed only 5,642 hours on the tach. **Right:** An example of Case's advertisements in the early 1970s

BY SCOTT GARVEY

Anyone who ventured into the centre of Case IH's display at Canada's Outdoor Farm Show in Woodstock, Ontario, in September was rewarded for their efforts with a real surprise. The company had chosen to display a few classic Case and International Harvester tractors surrounded by examples of it's new equipment. And the most unique tractor in that group of classics was a nearly perfect example of a very rare 1971, 970 Case Golden Demonstrator.

Owned by a private collector, the 970 was displayed with a copy of its original factory build sheet proving it did, indeed, leave the factory as an original Golden Demonstrator, or Black Knight as they were also known.

This tractor has lived a relatively leisurely life, with on 5,642 hours showing on the tach.

Although standard production 70 Series models were initially painted "Desert Sand" (tan), limited edition Demonstrators were given the unique black and gold paint scheme as a marketing tool to draw attention to the new design, which was introduced in 1970. Case wanted farmers to get behind the wheels of the demonstration models, try them out and exprience the comfort for themselves.

These were the first models from Case to make a serious effort at creating a comfortable environment for the operator, with air conditioned and quiet — or relatively quiet for the time — cabs. Case's advertising in the day claimed the cab was "as quiet as your living room with the kids at school."

Efforts aimed at operator comfort on the previous 30 Series Case models, which were discontinued in 1969, were limited to adding a padded seat with suspension and painting the name "Comfort King" on the side panels.

According to the *Farm Equipment Guide*, the cabbed 970s debuted with a price tag of US$19,490. Using the Bank of Canada's inflation rate calculator, it would cost today's equivalent of about CAN$115,560, not accounting for the difference in exchange rates.

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

PROJECT CJ3A

Our restoration project moves to the body shop

Attention turns to the main body sheet metal on our longterm Jeep rebuild

BY SCOTT GARVEY

We've rebuilt the suspension, driveshafts, axles and brakes, installed a new clutch and even fixed a bullet hole. Now, we can begin to see the finish line off in the distance as our Jeep restoration, Project CJ3A, works toward completion. It's finally time to turn our attention to the main body tub. Once this is repaired we move into the paint shop and then, thankfully, final assembly. Project CJ3A has been sitting in the workshop for several months and we're getting anxious to see it finished.

We knew the Jeep body was in rough shape, but when we removed the fuel tank, which is under the driver's seat, and the toolbox that is the base for the passenger seat, there wasn't much sheet metal between us and the ground. Fred Flintstone might have been happy with a vehicle that had no floor, but not us. The body tub was well and truly a basket case. It required days and days worth of work to save it.

We considered just ordering a completely new body (roughly US$3,000). Somehow, though, that didn't seem right. We wanted to restore the Jeep, not replace it. So in true *Grainews* style, we traded hours of labour for reduced parts costs. We set to work cutting out the rotten parts of the body and replacing them with shiny new steel. We ordered some new, preformed repair parts and hand fabricated others.

As we cut out the rusted floor we had to be careful not to take out too much metal at once. That would have risked losing the correct shape of the body, meaning we'd lose the proper dimensions because it could deform without enough support.

That would be a disaster, because the rebuilt body would then end up twisted and the body mounting points wouldn't match the chassis. Therefore, we were careful to leave some structural components in place as we cut others out for replacement. Although, the severe rust meant the structural body parts were already feeble at best — even before we fired up the plasma cutter. Replacing one part at a time helped minimize the risk of distortion and paid off in the end, leaving our restored body with the correct dimensions.

To double check everything was true, we test fitted the body on the chassis before we fully welded in the floor structural supports. And as we suspected the whole thing needed a little tweaking to get all the bolt holes to line up. That wasn't surprising, because we were using aftermarket replacement parts on a 60-plus-year-old vehicle. There was bound to be some deviation from the original factory specs. Once everything was right, we fired up the welder and burned all the parts permanently into place.

In all, we had to hand form a dozen or more sheet metal patches to weld in after cutting out sections of the body that looked like Swiss cheese. Some of them involved complex shapes, so it was a time consuming process.

We ordered two new floor pans from our parts supplier. We could have created them ourselves, but because so much of the original body was rusted away and someone had jerry-rigged repairs in the past, we didn't know exactly how engineers originally intended them to mate with the rest of the body. Getting properly formed replacements gave us that information, making their cost money well spent.

After all the new sheet metal was welded onto the body, we turned our attention to covering the weld joints with body filler to ensure the paint will look smooth and even over the repair. But we only want a very thin layer of that, and only where we absolutely need it. Filler isn't meant to be a replacement for metal.

A couple of days of block sanding left the repair joints looking smooth and even. Then we rolled the body into the paint shop. We'll show you how that went next time.

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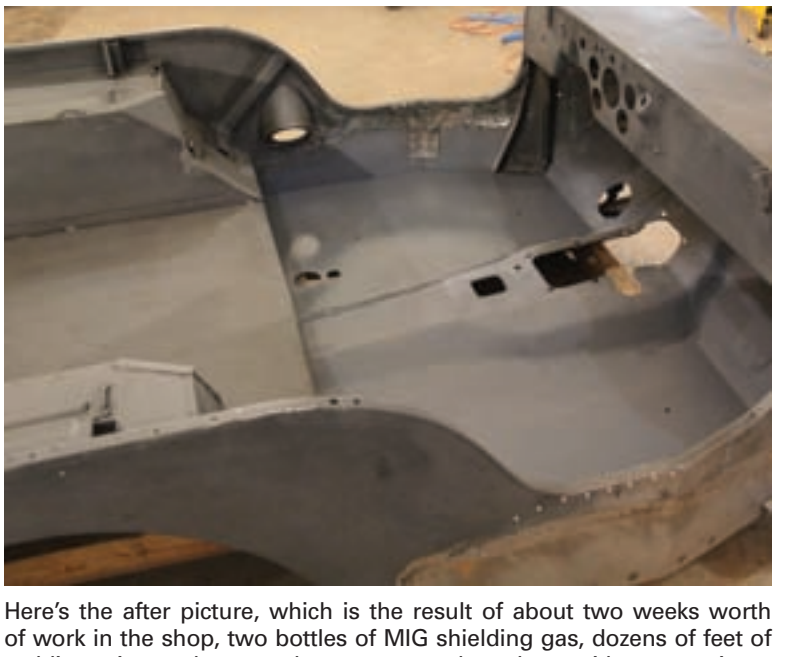
PHOTOS: SCOTT GARVEY

What we started with. Once we removed the fuel tank and under-seat tool box, there wasn't much left. Most of the floor panels and body support frame were rusted so badly there were large holes. The entire body was unsafe.



Here's the after picture, which is the result of about two weeks worth of work in the shop, two bottles of MIG shielding gas, dozens of feet of welding wire, and over a dozen new patches along with some primer. The floor is in and soon the body will be ready to move to the paint shop

The repair sections we welded in were a combination of hand fabricated patches made from 18-gauge sheet metal and replacement panels from a parts supplier.

Before permanently welding the body support brackets in place, the body was test fitted back on the chassis to ensure all the mounting points lined up.

Cattleman's Corner

WILDLIFE PREDATION

Wolves force rancher to change calving season

BY LEE HART

For the past few years B.C. rancher Werner Stump has been calving out his commercial cow herd in November — mostly indoors — weaning calves in the spring, then putting them on grass and feed at home for the summer, with plans to market them in October — primarily because of wolves.

Stump, whose family has been ranching at Malakwa, east of Sicamous for more than 40 years, says they use to run calves with their mothers in a more traditional summer and fall grazing season until losses due to wolf predation became too great.

"The last year we had calves out on summer range with their mothers we estimated our losses due to wolves at about 10 per cent," says Stump. "About the only option we had if we wanted to keep going and prevent losses was to switch the calving season and keeps calves at home."

Stump, along with his parents Kurt and Hermine Stump, run about 200 head of Simmental/Angus cross on their ranch in the Shuswap area of B.C. Their farm headquarters is on the valley bottom and cattle are trailed to summer grazing on Crown land, consisting mainly of native and some tame grasses on logged cutblocks at higher elevations.

Predation losses were minimal for many years, but then as wolf numbers began to increase, so did calf losses.

While it takes more management and increases production costs, Stump switched to fall calving. The farm headquarters is in a high-snowfall area, so the herd is kept close in with most cows calving in the barn. The calves remain inside for one to two weeks before being moved with their mothers to a feed yard.

"In this part of the country, with high snowfall, we are feeding from November to May," says Stump. The cow herd begins calving in November and is fed through until May.

Calves are usually weaned in June and put on pasture at home, while the cows are moved to summer pasture on Crown range. The calves remain on pasture and then are provided supplemental feed in late summer and early fall before being shipped in October.

He says while it is not an ideal system, it is workable. Calf losses due to predation have been eliminated, and although the wolf population is still plentiful, they don't seem to bother the cow herd.

Lee Hart is editor of Cattleman's Corner based in Calgary. Contact him at 403-592-1964 or by email at lee@fbcpublishing.com.

PHOTOS: LEE HART

Top: Calves on the Stump farm east of Sicamous, B.C. on feed in early October just prior to being shipped. Range for the cow herd is at the top and behind the mountain in the background. The country can grow grass, but it is also good habitat for wolves. **Left:** Werner Stump on one of the new cutblocks that will be used for summer pasture. The story on developing that pasture will be featured later this winter in *Grainews*.

BOOK REVIEW

Book gives the facts about wolves

HEATHER SMITH THOMAS

History and folklore handed down through many centuries illustrate the cruel reality of wolves. People in most countries still have a healthy respect and fear of wolves since these big carnivores are a competing predator who doesn't hesitate to eat us as well. But during the past century in North America there has been a deliberate attempt to create new fairy tales about wolves as noble creatures, essential to the "balance of nature" and in need of protection from humans.

A recently published book, note *The Real Wolf,* is a compilation of facts, history, science/biology of wolves and the economic impact these predators are making in rural communities. The purpose of this book is to explain how people have been misled about wolves, and to provide an encyclopedia of facts and resources, history and real life stories about wolves.

Ted Lyon (a Texas trial lawyer with a love of the outdoors and wildlife) and Will Graves (who became interested in diseases carried and spread by wild canines and wrote *Wolves in Russia: Anxiety Through the Ages)* collaborated with several other writers to put this book together. The main goal is to separate fact from fiction about wolves and show the flaws in the Endangered Species Act in the U.S. — and the falsehoods upon which the U.S. Fish and Wildlife Service based their actions when they turned Canadian wolves loose in the central Rocky Mountains of Idaho and Wyoming.

One reviewer says that what began at least 100 years ago as a deliberate attempt to change the minds of children cannot be reversed in one book, but as far as correcting the new fairy tales about gray wolves, *The Real Wolf* is a strong first step. "It should be required reading for all wildlife managers and biologists."

Several researchers and scientists contributed to this book, including Dr. Valerius Geist, a leading ethologist (studying the behavior of animals) and professor emeritus University of Calgary; Dr. Tom Bergerud, the world's leading authority on caribou; and Dr. Matthew Cronin, a research professor of Animal Genetics at the University of Alaska in Fairbanks.

THE CRUEL SIDE OF NATURE

In the first chapter, Ted Lyon includes interviews with ranchers. Montana rancher Justin O'Hair told Lyon about a young Angus calf he found with its entrails hanging out, and a wolf 100 yards away. Often the ranchers in his area simply find an ear tag but no carcass. Wolves also maim their victims in some attacks, without eating them.

In Chapter 6, Dr. Geist, one of the world's leading experts on wolves, described an episode in which his neighbour's cattle crashed through fences while trying to escape a wolf. "I found two cattle killed and eaten by wolves; a third was severely injured around the genitals, udder and haunches and had to be put down. I saw docked tails, slit ears and wounded hocks on the dairy cows. Our neighbour's hired man saw a wolf attacking a heifer with a newborn calf. He raced out and put the calf on his quad. As he raced to the barn, the wolf ran alongside, lunging at the calf, right into the barn! A predator control officer was called, and 13 wolves were removed within a mile of our house."

The increasing boldness of wolves in his neighbourhood spurred Geist to look for other situations in which wolves lost their fear of humans. "Two wolves in June 2000 severely injured a camper on Virgas Island just off the coast of Vancouver Island. These wolves became tame before the attack — they nipped at the clothing of campers, licked their exposed skin, and ate wieners from their hands," said Geist.

A later chapter reports the results of research on five New Mexico Ranches showing the dramatic increase in losses after wolves moved into the area. One rancher could not afford these losses, sold his remaining herd and went out of business.

The Real Wolf consists of 21 chapters, looking at the history, politics, science, economics and legal battles involved in the wolf issue, along with stories from people directly affected by wolves. The facts in this book are backed up by 460 references, footnotes and links to sources for readers to double check or expand on the details.

DIVIDED VIEW ON WOLVES

Idaho's Governor "Butch" Otter wrote the epilogue for *The Real Wolf* and says there have been very few issues during his 40 years in public life that have provoked the raw passion of so many people from around the world. "I was deluged with some of the nastiest, most disparaging and truly hateful letters, emails and phone calls from well-meaning but badly misinformed folks, who saw wolves only as big, beautiful dogs harmlessly pursuing their majestic lives in the trackless wild." These people argue that wolves are an essential and misunderstood part of the Rocky Mountain ecosystem and claim that they should roam freely in the Idaho Wilderness.

"The problem is that wolves don't stay put," writes Otter. "Their enormous range, high reproduction rate, and insatiable hunger for ungulates inevitably draw them out of the woods to interface with man. As their numbers spiraled far beyond expectations, so did the conflicts, and so did my determination to manage wolves as we do any other species — with an eye toward the bigger picture, of a balanced ecosystem that includes man. It is my sincere hope that *The Real Wolf* will help open some eyes to problems with the Endangered Species Act — a once well-intentioned but incredibly flawed law that undermines the real interests and values of conservation by placing the well-being of humans and their livelihoods far down the food chain," he wrote.

Heather Smith Thomas ranches with her husband Lynn near Salmon, Idaho. Contact her at 208-756-2841. Heather wrote one of the chapters for The Real Wolf , telling about ranchers' experiences with wolves, the losses they've suffered, and the emotional toll this is taking on ranchers and rural communities.

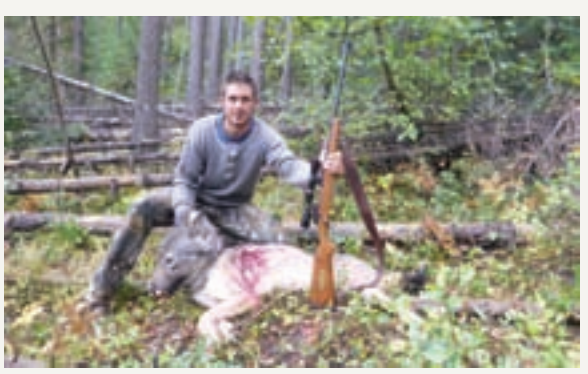
The Real Wolf, is a compilation of facts, history, science/biology of wolves and the economic impact

Western wolf numbers stable or increasing

There doesn't appear to be any particular shortage of the gray wolf in Western Canada, and in fact in some regions it would be argued there are too many. Livestock producers in different parts of the country report varying degrees of losses due to an increasing number of wolves.

Recent published numbers for wolf populations across Western Canada estimate there are about 8,500 wolves in B.C. (although one source reported that could range from 5,300 to 11,600 wolves).

In Alberta it is estimated there are about 7,000 gray wolves, with the population increasing, in Saskatchewan the population is stable estimated at about 3,000 wolves, and in Manitoba the population is again said to be stable with between 4,000 and 6,000 wolves.



B.C. hunter Bryce Bostock bagged this wolf east of Cranbrook last year and the hide later became a wolf rug. Even with an estimated annual harvest of about 1,400 wolves, provincial biologists say the wolf population is increasing.

Keepers & Culls

Left: Batstone isn't a big lake, but with stocked Okanagan rainbow trout it provides many visitors with a successful day of fishing. **Right:** Jim O'Connor, owner of 7 1/2 Diamond Ranch near Merritt, B.C. now enjoys guest ranching.

Saskatchewan rancher lands on his feet in B.C.

LEE HART

Again I have demonstrated I will go to any lengths to get the facts of a story. Last fall took me to a small lake in the B.C. interior on a journey to find out what happens to Saskatchewan ranchers when they move away from the Prairies.

It was on the dock at Batstone Lake that I met former Saskatchewan rancher Jim O'Connor who left the homestead near Sceptre, Sask. 30 years ago to see what ranching was like in B.C. He and his wife Heather established the 7 1/2 Diamond Ranch, about half-way between Princeton and Merritt.

The O'Connors ran about 1,000 head of yearlings on the bunchgrass Crown range of the Thompson-Nicola region for many years. Word is a highway construction project cut through the area a few years ago, requiring Jim to sell some of his property and leading him to downsize the ranching operation.

Today, they still run about 200 head of yearlings, but have turned the remaining ranch property into a guest ranch, complete with guest cabins and a private lake with some pretty good fishing for rainbow trout. You can learn more about it at www.guestranchbc.com.

I landed there with some fishing partners on a trip organized by Kelowna fishing guide Rod Henning. Henning takes fishermen on a wide range of fishing experiences throughout the Okanagan and we were on the mountain lake fly fishing excursion — more details at www.kelownafishing.com. Henning, who has an arrangement with O'Connor brings fishing parties to the calm and productive waters of Batstone Lake.

Batstone is a tea-colored, creek fed lake, only about 10 to 12 acres in area, with a maximum depth of 33 feet, but with plenty of freshwater shrimp to support a healthy and growing population of Kamloops rainbow trout. It is all catch and release, so you put everything back, but it is still fun to be out there on a beautiful fall morning, drifting along in the peace and calm waiting for the inevitable strike.

We all had success in landing a few fish, and then if was off to the ranch saloon for a great catered Greek lunch. But there was no rest for the wicked as later it was off to learn what Okanagan Valley farmers could possibly do with 10,000 acres of grapes, but more on that story another day.

If you're looking for a little getaway that's not far from home check out the details on either the websites above. And if you make it to the 7 1/2 Diamond Ranch you can catch a few fish, and discover that when you are ready there is life after cattle.

Lee Hart

HAVE YOU TRIED KURA CLOVER?

A reminder that there is a wide range and increasing amount of useful information on the ForageBeef.ca website. For example, here is an excerpt from a recently posted report on worked completed a few years ago by University of Saskatchewan researchers Bruce Coulman and Jim Romo on the potential of kura clover for rejuvenating a pasture. You can go to the foragebeef website for more details.

"Kura clover (Trifolium ambiguum) is a persistent legume which is able to spread under heavy grazing because of its rhizomatous growth habit. It is considered to be more drought tolerant than other pasture legumes such as birdsfoot trefoil (Lotus corniculatus L.) and white clover (Trifolium repens L.). Numerous studies in the northern United States and Eastern Canada have demonstrated the excellent persistence and high nutritive value of kura clover. Despite these advantages, kura clover has not been widely utilized due to the difficulty of establishing this species and the high cost of seed. Prior to the present study, kura clover had not been evaluated in the semi-arid climate of Saskatchewan.

"The overall objective of this study was to evaluate the adaptation, yield and nutritive value of kura clover in mixtures with spring or fall planted perennial grasses at two locations in Saskatchewan.

"The study was conducted at Saskatoon under rainfed conditions and at Outlook under irrigation. Two commercially available kura clover cultivars, Rhizo and Endura, were seeded in pure stands and mixtures with smooth (Bromus inermis Leyss.), hybrid and meadow brome (Bromus riparius Rehm.), and diploid and tetraploid crested wheatgrass (Agropyron cristatum L.).

"The grass and clover mixed stands were either seeded together in the spring, or the grass was fall dormant seeded into spring seeded kura clover. "Establishment of kura clover was generally good in all treatments at Saskatoon, with the few gaps in the plots filled in by the spreading rhizomes by 2005. At Outlook, establishment of kura clover was poorer; however, by 2005, the kura clover plants had filled in many of the gaps in the plots by spreading rhizomes.

"Pure-stand dry matter yields of kura clover ranged from 4.5 to 6.7 t/ha, with no differences in yield between the two cultivars. In alfalfa trials of the same age at these sites, mean yields were 6.5 to 10.1 t/ha at Saskatoon, and 11.1 to 14.4 t/ha at Outlook. Thus, the yield potential of kura clover is considerably lower than that of alfalfa.

"Crude protein concentrations of pure stands of kura clover were highly variable, ranging from 10.9 to 21.2 per cent, even though all were all samples were similar in maturity. NDF concentrations were also variable, ranging from 20.9 to 37.9 at cut 1 and 22.5 to 33.6 at cut 2. ADF ranged from 15.8 to 20.5 at cut 1 and 17.3 to 23.5 at cut 2; these are very low values relative to other legumes.

"Pastures or crop rotations would benefit from the traits reported for Kura clover. The long-lived legume persists under grazing while other legumes do not. Because of its rhizomatous growth habit, Kura clover is able to spread after planting and under heavy grazing pressure. Nutritional value of this plant is excellent and often higher than other legumes. Kura clover may also be more tolerant of drought than white clover or birdsfoot trefoil…"

The researchers noted the crop does have some limitations, but for adventurous pasture managers out there, it may be worth a look.

HAY QUALITY AND PRICE IN MANITOBA

John McGregor, an extension support specialist with the Manitoba Forage and Grassland Association, presented a report in late December on the quality and price of hay in Manitoba after a challenging year for hay production.

"With parts of the province having experienced excess moisture and flooding, the Manitoba government announced a feed purchase and transportation assistance program," says McGregor. For more information on these programs, read about the 2014 Canada-Manitoba Forage Shortfall and Transportation Assistance Initiative at http://news.gov.mb.ca/news/index.html?item=33210&posted=2014-11-12.

HAY QUALITY

"Landmark Feeds and Central Testing Labs were kind enough to provide me with some summary information on forage tests this year. Looking at some of the data one can see the difficulty that producers had in taking a first cut of hay, average first-cut alfalfa hay had a relative feed value (RFV) of 116 compared to silage and baleage which averaged 146. Second- and third-cuts were 146 and 160. Baleage and silage were 10 points higher which is what you would expect to gain with a shorter curing period.

"Alfalfa/grass first-cut averaged 98 RFV with second- and third-cut RFVs similar to alfalfa. Not unexpected as these cuts normally contain a high percentage of alfalfa. Grass hay had RFVs of 91 for first cut and 114 for second cut.

Looking at feed test results and averages, in general feed quality isn't that bad.

Unfortunately the numbers are averages and therefore for every good sample there is an opposing poorer sample. When purchasing hay this year buyers need to be aware of this possibility and have their feed tested to ensure that their livestock are receiving adequate levels of nutrition to meet their needs.

HAY PRICES

"Looking at forage prices (in December) there does seem to be a little change to hay prices.

"This may in part be due to seasonal change or it may be due to other factors.

"The western portion has alfalfa in the seven to nine cents/lb. range; alfalfa/grass is in the five to 5.5 cents/lb. range and beef hay (grass) has moved up and is priced at 3.5 to five cents/lb. depending on quality. Native hay is priced at 2.5 to three cents/lb. Good demand for hay by producers holding back calves for expansion is keeping prices steady.

"Prices seem unchanged in the Interlake region with alfalfa in the eight to 12 cents/lb. range; alfalfa/grass ranging from 3.5 to 5.5 cents/lb. and grass hay at 2.5 to five cents/lb. Mostly producers are procuring grain type products such as grain corn, cracked corn, pellets to stretch out feed supplies. There are some listings for hay but prices are not listed.

"The eastern area continues to report a hay surplus. Dairy hay is at eight cents/lb. and higher, alfalfa/grass hay on Kijiji is advertised at 3.5 to 4.5 cents/lb. and beef grass/hay has moved up and is now listed at 3.5 to 5.5 cents.

"The Central portion has dairy quality hay on Kijiji advertised at seven cents/lb., up from last month's 5-6 cents. Other sources have alfalfa/hay at five cents/lb. and beef hay at three to four cents/lb."

McGregor had assistance from Linda Fox, Alistair Pethick, Darren Chapman, Alvin Plett and Curt Bossuyt in collecting and compiling this information.

The Dairy Corner

DAIRY CORNER

Dairy herd needs clean, fresh water

PETER VITTI

Once the threat of heat stress is over and autumn quickly turns into a long Canadian winter, we tend to forget that water is still important for the health and performance of high-milk-producing dairy cows. After all, water makes up 65 per cent of their bodies and milk is 87.5 per cent water. Producers should make a conscious effort to clean all water troughs and other waterers periodically and providing high-quality drinking water to cows on the milk-line.

Leave it to Mother Nature, who says there is absolutely no substitute for good drinking water for dairy cows in winter. She dictates that a mature dairy cow must drink a lot of water, which provides about 90 per cent of the cow's overall water requirements for vital functions as well as supports good milk production, while a small remainder comes from moisture found in her lactation diet.

Although, the actual amount of water depends on the dairy cow's age, health status, body size, and milk production; water consumption by most milk cows during a typical lactation cycle can be estimated with relative accuracy in two major ways: (1) provide four to five litres of water for every one kilo of dry matter feed consumed or (2) provide three to 3.5 litres of water for every litre of milk produced.

A typical water consumption chart for lactating dairy cows is as illustrated:

While supplying water is the first step, producers must then accommodate the natural behaviours and preferences of cattle to encourage frequent drinking visits for optimum water consumption.

AT WATER TROUGH 30 MINUTES PER DAY

University research observations have shown that dairy cows spend approximately six to eight hours per day at the feed bunk, and a nominal total of 20 to 30 minutes per day drinking water. They also demonstrated that most dairy cows prefer to do the majority of their drinking time, right after exiting the milking parlor. Cows have been shown to consume about 50 to 60 per cent of their daily water intake within an hour after each milking.

These facts highlight that good design and placement of any water system should help optimize water consumption by the lactating dairy herd. For example, in a free-stall loafing barn, it is recommended that at least two feet of trough space be provided per 20 cows and at a height of about 24 to 30 inches off the floor. The tank should also have enough depth that allow cows to submerge their muzzles by a couple of inches.

Furthermore, a freestall trough should be placed near the milking parlour exit and within 20 metres of the feed bunk or at the cross-alleys in the barn. Tanks should also have a recovery fill rate of about 30 to 40 litres per minute. Since most troughs are metal (plastic ones are becoming popular), each tank should be occasionally checked to be free of stray voltage.

Along with the planned-out accessibility, drinking water for lactating dairy cows must be high quality and good tasting. Although, much water of questionable quality (re: high salinity) is often non-life threatening, it can still have a negative effect upon other aspects of otherwise well-balanced dairy nutrition, namely; decrease normal feed digestion and/or lower essential nutrient uptake for optimum milk production. As a result the potential for good milk production might be lost due to ignoring or failing to take appropriate corrective action.

Water samples from incoming water sources should be taken on a seasonal basis (including winter) to determine actual water quality entering the dairy barn. Proper sample bottles and procedures for collecting water samples should be obtained from the provincial agriculture office or the commercial labouratory that perform water quality tests. This collection should be then be tested for the earlier mentioned TDS, pH, mineral concentrations and bacteria contamination. Once, these analyses are completed and reviewed, appropriate action can be taken if water quality problems are identified.

Even if no water quality problems are discovered, a typical water analysis sheet is written confirmation that a clean source of water is available for that particular dairy herd.

WATER CONSUMPTION BY DAIRY MILKING CATTLE*

	Level of Milk Production (kg milk/day)	Water Requirement (l/day)
Milking cows	13.6	68 - 83
	22.7	87 - 102
	36.3	114 - 136
	45.5	132 - 155
Dry cows	—	34 - 49

*Source: Omafra, 2007

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.

BY JONNY HAWKINS

Country Chuckles

"Where Evaporated milk comes from."

Cattleman's Corner

ANYONE CAN START FARMING

The fine balance of managing copper

Sheep and goats and cattle do not have the same copper needs

DEBBIE CHIKOUSKY

We have had several new producers this winter trying to convince us it just isn't true that sheep cannot be fed copper. Apparently they are doing it without any problems. Since we are coming into lambing season it is a good time to address these ideas.

It needs to be clear that sheep and goats and cattle absolutely do not have the same copper needs. Over the years I have personally known two sheep producers who faced copper toxicity in their flock and it was devastating both financially and emotionally. Both times it was due to feeding a product that was supposed to be for sheep but the feed mill had mixed it wrong. The sheep were fed the product for several months with no ill effects. Then there was a weather stress. Immediately the flocks started to experience death loss. The feed was tested and discontinued but the damage was done. There was little the university or veterinarians could do and it took several months and much financial/emotional hardship before this settled. Therefore our management recommendations reflect a healthy respect for this condition.

BASIC REQUIREMENTS

Generally, sheep require about five ppm (parts per million or mg/kg) of copper in their total diet. Sheep absorb copper from their diet in proportion to the amount of copper offered, not according to their dietary needs. Excess copper is stored in the liver. The storage level in the liver can take months or even years to reach a toxic level (more than 1,000 ppm DM). Toxicity can occur at levels above 25 ppm. However, dietary molybdenum levels also affect copper requirements and there are areas of Manitoba where high or low molybdenum levels can be an issue. If in doubt it is best to contact the local agricultural extension office or the provincial sheep specialist in your province for this information.

If molybdenum is high in feed, a special mineral mix can be ordered with a nutritionist's prescription. Molybdenum forms an insoluble complex with copper to prevent copper absorption. If molybdenum levels are low (less than 1 ppm), sheep are more susceptible to copper toxicity. If molybdenum intakes exceed 10 ppm, copper deficiency may occur on diets that would normally be adequate. Sulphur further complicates the copper: molybdenum relationship by binding with the molybdenum.

Copper toxicity in sheep usually results from the accumulation of excess copper in the liver over a period of a few weeks to more than a year with no clinical signs. This usually occurs when sheep are fed a product that is made for cattle or specifically for goats. Cattle need about 10 times more copper than a sheep. When a sheep is under any kind of stress the liver will allow a sudden release of copper stores to a rapid breakdown of red blood cells. Affected sheep are lethargic and anemic. They may grind their teeth incessantly and experience extreme thirst. Membranes are very pale and may appear yellow, as jaundice sets in. Urine is a bloody colour. Death usually occurs one to two days after the onset of clinical symptoms. At post-mortem, tissues are pale to dark yellow and the kidneys are a very dark colour.

OTHER COPPER SOURCES

Copper can be added in places other than feed or mineral mixes. In recent years, copper oxide wire particles (copper boluses) have been recommended as an anthelmintic (agent causing parasite death) for sheep and goats. Researchers are also re-evaluating copper sulphate drenches as a deworming agent. Copper has anthelmintic activity and has been historically used as a deworming agent in sheep; however, its use was discontinued because of toxicity issues. This is the situation with many "natural dewormers." They can control parasites, but in effective doses they can increase the risk toxicity to the animal.

Copper deficiency in sheep can occur, although it rarely happens. It bears mentioning only because of the fact that soils in some areas are very high in molybdenum. Fresh grasses are poor sources of copper in comparison to hay. Acid soils increase copper and lower molybdenum in forages. Liming can increase molybdenum in the forage and alter the copper: molybdenum ratio. Where two or more of these three elements exist together on a farm, in quite 'normal' concentrations, they will act synergistically to bind out copper from a diet.

PHOTO: DEBBIE CHICKOUSKY

These healthy sheep have a proper amount of copper in their diets, but producers are cautioned to be leery of feed additives with copper supplements.

EFFECTS OF DEFICIENCY

Copper deficiency in ewes during mid-pregnancy may lead to swayback in lambs. This is due to a lack of copper during the formation of the neural tube. In young lambs, a copper deficiency may result in a poor fleece without its natural "crimp" which has been described as "steely wool." Poor growth, anaemia, and increased susceptibility to bacterial infections can also be seen. Caution should be used in diagnosing a copper deficiency in sheep due to delicate balance of this mineral. Soil testing is highly recommended if a deficiency is suspected. The local agriculture office can help with this. There is also an online resource for water and soil testing in Canada at: www.certifiedorganic.bc.ca/rcbtoa/services/soil-testing-services.html.

A common inquiry is if people can house their goats and sheep together. We do not recommend it. Keeping our sheep housing separate for the winter months works the best for us. Over the years we have seen a lowering of fertility in our bucks if housed with our rams. We have seen does with kids that presented copper deficiency symptoms when housed with ewes. We do graze them on the same pastures but they are kept in separate night pens so they have access to their own mineral mixes.

Every season brings with it a new bunch of things to learn. Our wish is that people don't have to learn things the way others have — the hard way. Minimizing the financial and emotional impact of mass death loss is a goal.

Debbie Chikousky farms with her family at Narcisse, Manitoba. Visitors are always welcome. Contact Debbie at debbie@chikouskyfarms.com.

CALF MANAGEMENT

Sask. beef producers given a 21-day calving challenge

A new record book great for recording information, also offers calving tips

BY SHIRLEY BYERS

"Cow herd reproduction is the most important factor affecting the profitability of Saskatchewan beef producers," says Travis Peardon, livestock specialist with Saskatchewan Agriculture.

When it comes to contributing income, cow herd reproduction is five times more important than growth rate and 10 times more important than carcass quality. Calves born in that first 21-day cycle will be about 50 pounds heavier at weaning than calves born during the second cycle and 100 pounds heavier than those born during the third cycle.

To inform producers of the importance of aiming for and attaining that 60 per cent birth rate in the first cycle, Saskatchewan's 21-Day Calving Challenge was launched at the Canadian Western Agribition in Regina last November.

"What we're asking producers to do is figure out their calving distribution for each of the cycles," says Peardon. "If they're 60 per cent or higher in that first 21 days they're doing a good job of managing their herds. If they're lower than 60 per cent they'll maybe take some steps to improve those numbers."

Producers will already have a calving book that they carry around in their pocket during calving season. This year they're being offered a free pocket record book with a few added features.

"It's similar to any calving book, the difference being we actually lay out formulas for producers to figure out their calving percentages for each cycle," says Peardon. "It's also has tons of great information. We basically brainstormed every topic we get asked as livestock specialists and we included 100- to 200-word summaries of each of those. So it's not only a calving book but hopefully it's somewhat of an education piece for producers as well."

The book includes short articles on such topics as Injection Techniques for Beef Cattle, Hybrid Vigour — Benefits of Cross Breeding, Feed and Forage Sampling Procedures and Myth Busters: Dispelling Commonly Held Beliefs About Beef Cow Management and Feeding.

And for producers who aren't attaining that 60 per cent birth rate in the first 21 days, there are a couple of pages of explanations, information and contacts for further assistance.

Producers who sign up for the 21-Day Challenge will be entered in a prize draw. Three mineral companies are donating some of their product. To participate in the contest, producers can fill out the tear away entry form at the back of the book and send it in to enter the draw for one of three $1,000 vouchers for mineral supplement for their cow herd. The deadline for mailing or dropping off entries at the Ag Knowledge Centre, 45 Thatcher Drive East, Moose Jaw, Sask. S6J 1L8 is June 1, 2015. But Peardon says producers who are not finished with calving on that date will not be excluded. "They can still fill in what information they have available and still enter by June 1."

Travis Peardon

To obtain a copy of Saskatchewan's 21 Day Calving Challenge book, contact your Regional Livestock specialist or call the Agriculture Knowledge Centre toll free: 1-866-457-2377.

Shirley Byers is a freelance writer and editor, based in Sask..

Cattleman's Corner

NEW CAREERS

Cowboy life fuels Kim Rose's creativity

BY EDNA MANNING

A long career as a Saskatchewan rancher and a cowboy travelling the rodeo circuit provided Kim Rose with the raw material that became invaluable for his second occupation as a Western artist years later.

Rose's award-winning art depicts what he loves best: riding the range, the beauty of the Western landscape, and the people and animals that have shaped who he is today.

"In fact, many of the subjects featured in my paintings are from real-life situations I've been in and people I've known," says Rose.

Rose grew up in Saskatoon, but spent a great deal of his youth on his uncle's grain and cattle farm near Imperial, looking after a herd of Charolais cattle. The freedom and wide-open spaces of country living grew on him and he soon found himself a full-time cowboy, working the rodeos and ranches in Saskatchewan, Alberta and B.C. During the winter he played semi-professional hockey.

"Horses have always been a part of my life. I worked on many ranches in Alberta, including the Circle 5 Ranch where we'd run horses back and forth to Texas," he says. "I was on the chuckwagon circuit — rode on the world tour. On the side, I did some steer-digging and bucked some horses at rodeos across the West.

"It's transient — you go where the work is, whether it's calving season or haying season. I had a horse, a trailer and a truck. What else do you need?"

Rose spent his free time carving, painting and drawing, generally giving away his work to those who expressed a liking for it.

Rose quit ranching after the BSE crisis hit the livestock industry in 2000. His ranching partner retired and Rose started working at the stockyards in Saskatoon.

"We were loading bulls one day for a sale in July, 2003," he says. "I penned a couple of bulls that had started fighting. There was some equipment failure and they hit the gate, which broke, catching me underneath. I got run over by these 2,500-pound critters. It's easy to talk about when you say it quickly like that, but when you're underneath them, it's bad."

Rose spent months in the hospital recovering. Though Workers' Compensation helped for a time, he knew he'd have to find a different line of work. During this time friends encouraged him to try marketing his art. "My first thought was, 'who would buy it?'" he says.

He followed the advice, however, and sold two originals at his first show, which was held at the Gallery on the Bridges on the same floor of City Hospital in Saskatoon where he was still recuperating from the accident. "Nurses would bring people to see the art and point out that I was the 'artist-in-residence' at the gallery, so to speak. It was interesting," Rose says, chuckling at the recollection.

PHOTO: SHIRLEY BYERS

Cowboy Kim Rose at work in his art studio as he captures moments of career and life on canvas.

LIFE-CHANGING RIDE

After returning home from the hospital, the prospect of many months of physiotherapy left him feeling down some days.

"One day a rancher friend from the Prince Albert area pulled up with a couple of horses in a trailer and told me we were going up to Eagle Creek to do a 20-mile ride," says Rose. "I said, 'Yeah, right!' But he put me on that horse, strapped my leg in and we did the ride. I was able to do the whole trip there and back. It was one of those times when it changes the way you think. I realized life wasn't over yet."

Rose returned to painting with renewed enthusiasm, honing his skills and developing his techniques. Initially working in acrylics, he soon branched off into watercolours, which he prefers today.

"There's a luminosity in watercolour that, if you do it right, is beyond comparison. If you do it wrong, it's mud. That's the challenge with this medium."

Rose finds great enjoyment in the creative process. "When a good idea comes together on a board, there's always something special that happens in my head and my heart," he says. "After the painting takes on some form, the rest is just hours of work, like anything else."

ON THE ART CIRCUIT

He now began to follow the cowboy circuit in a different role — as an artist. He attended cowboy poetry gatherings across the West and traveled to shows and competitions at the Calgary Stampede and Canadian Western Agribition in Regina, selling paintings, winning awards and reconnecting with old friends. In July 2004 he received first place in the watercolour class at the Calgary Stampede's Western Showcase of the Arts and a third place ribbon in division for wood carving.

In 2009 he began construction of his studio and gallery on the farm near Pike Lake, where he and his wife Karen and their two daughters, Ella and Sophie Jo live. Rows of awards and ribbons attest to his success, not just as a painter, but also as a carver. "I've been carving paddles for a long time — it's another way to express creativity," he says. "I also like the native West Coast art — the look appeals to me as well as the tradition behind it."

The inspiration for Rose's art is never far away. "I look out the living room window and I see a painting. I'll drive down the road and there'll be a horse standing on top of a hill, or maybe a couple of goats, or a magnificent sunset. I don't have to go far to find inspiration."

Rose has always been a fan of Charlie Russell's Western art. "When you look at one of his large paintings, it's like looking out a window into the old west back in 1895.

"Maybe the cowboys are a little farther off the road than they used to be, but they're still there. That's why I do what I do," says Rose. "I lived a good part of it; I know the lifestyle, the horses and the people in it.

"I have no regrets. I love this lifestyle here with my family; the freedom to just walk out the door and be in the country. It's worth something."

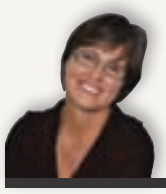
For more information, visit www.kimwrose.com. Two other artists are represented in Kim Rose's Gallery — a woodturner named Jim Lapointe and Kevin Hastings, a wildlife artist who works in graphite.

Edna Manning is a Saskatchewan-based freelance writer.

SEEDS OF ENCOURAGEMENT

Booze abuse on the farm

What needs to change in the addiction department on your farm in 2015?



ELAINE FROESE

How does one start to convey the sadness sown by a life of addiction? For transparency, let's get a few things on the table before going too far.

I grew up in a farm family where my parents worked very hard, long hours, and some would say were "workaholics." My sister died at age 23 going home from my farm to hers when her car was smashed by a drunk driver. My close friend whom I'll call "Jane" was married to a farmer who loved booze, but found a new path to health, reconciled their marriage, and sadly he died too young. I don't drink alcohol, and never have because I love to dance with a clear head and be in control of my behaviour.

Now you know my backstory, let me share my concerns as a farm family coach about booze abuse on the farm.

Many people have addictive personalities, and if they don't abuse alcohol, it may show up in other forms like perfectionism or working too much. I am not a psychologist or counsellor, but I have been coaching long enough to pick up some red flags in conversations that lead me to ask tough questions.

I've found two books, recommended highly by the adult child of an alcoholic, and I suggest you run to buy them if you are suffering with the effects of addiction.

It will never happen to me… growing up with addiction as youngsters, adolescents, adults, by Dr. Claudia Black. This edition also deals with other addictive disorders such as drugs, money, food, sex, and work. The other helpful resource is *Adult Children of Alcoholics*, by Janet Geringer Woititz.

Why bother reading these books? They last. They linger. They can be shared with other family members. You can create your own learning experience in the privacy of your home to figure out how to get outside help for your situation.

My friend "Jane" had no trouble firing off a list of helpful insights, which I will share here:

You need to understand that this situation of "things are not working" did not happen overnight. It has taken years for this co-dependency to develop and become a way of behaviour. You are tired of walking on eggshells. You catch yourself saying, "it is my job to fix the person with booze issues." You are taking on what is not yours to take on.

Some people never get to the realization that something needs to shift, but you have likely been given some "wake-up calls" to pay attention, what Jane and I would call "divine intervention," so that you cannot put your head in the sand anymore. Some folks choose unhealthy ways to cope, like isolating themselves from friends, and they do feel powerless. It is difficult to reach out beyond the family for help, but you need to find help for yourself through a group like Al-Anon, and for the booze abuser.

During the new month of the new year 2015 you'll find many stories about making goals or resolutions for a change in behaviour. My question is, "What needs to change in the addiction department on your farm this year?" Is it time for you to call for support for living with an alcoholic? Might you be ready to leave for a time to have a "redemptive separation" until the unwanted behaviour is extinguished with new habits? These are hard choices, but I have seen them work in farm families.

Sometimes we choose to avoid the struggles, but hard times and storms tend to mould us into resilient people who come out on the other side much stronger and wiser.

Consider what you really want to live a healthy and happy life on your farm.

What choices are you responsible for?

What assumptions are you making?

What path might be waiting to be explored that you have resisted exploring?

What is the best thing that could happen if the abuse ended?

Who do you need to call today? Perhaps it is time to seek counselling or therapy to help you deal with your anger, pain, and grief.

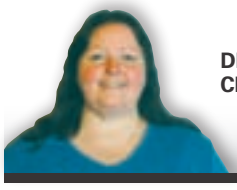
Be open as a friend and neighbour to hear the stories of farm families that are looking for answers to dealing with abusive habits on the farm. Learn who the helping folks and professionals are in your region. Let's all work towards healthier spaces to work in agriculture, and happier family teams.

Elaine Froese, CSP, CAFA, CHICoach writes from her farm in southwestern Manitoba. Her coaching expertise is only a phone call away at 1-866-848-8311. Cosy up this winter with one of her three books available at www.elainefroese.com/store.

FROM THE FARM

Coping with stress

Whether it's from calving season or exam time — here's some tips



DEBBIE CHIKOUSKY

If there is one word that can strike terror into the hearts of people it is exams. Like any other stressful event in life, if a person takes some time for preparation they really aren't all that bad. It is a matter of being able to meet the physical, mental and emotional challenge of the test. For livestock producers baby season would be the equivalent to exam week. For our family it stretches out for months due to our multi-species operation, therefore, utilizing these tips is very important for us making it through to the other side as healthy as possible.

The first step to minimize test anxiety is to identify whether it exists or not. The following are some of the signs that may indicate a problem:

- Mental blank-out;
- Racing thoughts and difficulty concentrating;
- Negative thoughts about past performance, consequences of failure, or how everyone else is doing;
- Knowing the answers after the test, but not while taking it;
- Nausea and/or cramps;
- Faintness and sweating;
- Headache and dry mouth;
- Increased breathing rate and fast heartbeat;
- Tense muscles.

Looking back on our first calving season there was a lot of anxiety. The first step in stopping the anxiety is knowledge, so I learned about every possible disastrous calving event that could happen. Once normal cow labour was identified I could make a checklist and memorize it, and if the cow deviated from that I could call a more experienced person for advice. This same procedure can be used by any student taking a test.

Sleep deprivation also increases test anxiety, so staying up all night cramming for an exam is not helpful. Studies have shown that lack of sleep can contribute to memory loss and lack of concentration. This is also a problem for livestock producers. Our family has combated this with taking shifts and again, knowledge. When a person is confident that everything is fine then they can rest. When the shift changes, the person who is being relieved needs to let go, shut off their mind and sleep. This ability comes with the knowledge that their replacement is capable.

As well as being mentally prepared we must be physically prepared. Research shows that the right food and drink can minimize stress and keep us healthier, so to minimize test anxiety, eat on a regular basis, including breakfast. Choose protein-rich foods such as eggs, nuts, yogurt, and cottage cheese. Good breakfast combinations might be whole grain cereal with milk, eggs and toast with jam, porridge, oatmeal, or muesli. It is a good idea to eat small meals to keep from feeling sluggish during a stressful time.

Other dietary choices considered to be brain foods are fish, walnuts, blueberries, sunflower seeds, flaxseed, dried fruits, figs, and prunes. Although unproven, many consider fruit to provide excellent brain fuel, which can help you think faster and remember more easily. Try cantaloupes, oranges, strawberries, blueberries, or bananas. In terms of vegetables, raw carrots, bell peppers, brussels sprouts, spinach, broccoli, and asparagus are good choices.

To maintain mental clarity, foods to avoid are ones made of white flour, such as cookies, cakes, and muffins, which require added time and energy to digest. Do not have turkey as it contains L-tryptophan, an essential amino acid which makes you feel sleepy. Also, avoid certain combinations such as protein-rich and carbohydrate-rich foods eaten together. These substances require added time when they have to be digested together. When eaten alone, carbohydrates make you feel more relaxed than alert. Avoid foods that are high in sugar, such as chocolates, desserts, and candies, as they will send you off on sugar highs and lows which are undesirable.

Hydration is very important to maintaining mental clarity. Brain-boosting beverages do NOT contain sugar or caffeine, and fruit juices can cause the same sugar spikes as soda pop so drink cautiously.

Once the first birth of the season is over the anxiety should lessen. This exam is better than high school algebra because we get our grades instantly, and the passing mark is when the new addition is up and sucking and the momma is well and healthy herself.

Stay healthy, enjoy the season and maybe some of this information might help your house survive school exams also.

Debbie Chikousky farms at Narcisse, Man.

POSTCARDS FROM THE PRAIRIES

Life's secrets, according to you...

People of the world, tell me this — What's the greatest lesson you've learned in life thus far? Part Two

JANITA
VAN DE VELDE

My greatest lesson? Don't let life get in the way of living. This was recently cemented for me when I headed out to Kelowna to be with my friend. But I waited too long — rather than getting out there in time to hold her hand and tell her that I loved her, I was there for her funeral.

She was one of those once-in-a-lifetime kind of people. She was someone who made the world better just by being in it. After she got sick, I remember thinking: "I've got to get out there one of these days..." But one of these days never happened — instead, life happened and I missed my window. What I forgot about was her propensity to keep her pain to herself, to not let others know how bad things were, and to keep smiling and shining right to the end. She didn't want you holding any of her pain, and she didn't want you treating her any differently because of it. If I could have a do-over, I'd be out there holding her hand. And if she was standing in front of me now, here's what I'd want her to know:

Hi, beautiful you. You've always been one of my favourite people on this planet. You knew that right? I can only hope I told you. You filled every room you entered with joy and light and goodness. And I don't think anyone ever left your side without feeling like a better person. You refused to judge people for their flaws. You would find the good in every single person you met. Do you know how rare that is — the ability to pull up a chair next to anyone and find that one single thing that makes them feel special and loved? I realize now to say it was a gift would make what you were seem trite, because what you were was a choice you made every single day, and that takes incredible discipline and focus. You made the choice to always let good trump bad.

I wish I could have been there to see you one last time — to hold your hand, to kiss and hug you silly, and to tell you how ridiculously beautiful you were, inside and out, to hear that booming laugh of yours and bottle it for a lifetime, and to tell you that you were one of the sweetest and kindest people I ever had the privilege of meeting. They say that it's hardest to say goodbye to those who were the easiest to love — and you my friend, were incredibly easy to love. I loved you. So much. You were a gift from God. Thanks for being my friend.

Here forthwith are your remaining responses to the greatest lesson you've learned in life thus far.

Don't take your blessings for granted.

Forgive. The results are magical.

The greatest lesson I've learned in life is to be kind to myself… not just the idea of it, because we all walk around with an idea of it, but to actually use it as a means of living. To say no, set boundaries, laugh, give myself time… the deeper, patient type of kindness that comes with some experience and practice.

Patience. But I still hate waiting for stuff…

That power and control are not the same thing.

If you don't take care of who and what you have, you won't have anyone or anything worth taking care of.

That if you find your true love, you have more than anything else you could ever want. You cannot live on love, but you'll be a lot happier than most that are just living on money.

Too many to choose from… although most of those lessons came from my most embarrassing moments.

That we have the choice. No matter what is happening, we have some choice in how we deal with life. So choose the bright side, the positive side, the good thoughts… you might as well.

The only thing I really need in my life is my husband and kids. Family is everything. I also love this line from "Rent": "Forget regret, or life is yours to miss."

Never take anything for granted. My youngest was diagnosed with two heart defects last year after being sick for months, and had surgery three months later… and that experience has changed my life.

Never take anyone for granted… we are here today, gone tomorrow.

Follow your gut. It's always right.

To teach is not to speak, rather it's how you live your life.

As humans we are too quick to criticize and remarkably slow to praise.

The greatest lesson I've learned in life is that most of our problems are a storm in a teacup in comparison to what others are dealing with.

Your time is finite and precious, so make the most of it and enjoy. By extension, find someone who is going to enjoy it with you, who enriches your life, not takes away from it.

That you have to forgive the past and not dwell on things that can't be changed, and enjoy each day and live one day at a time.

Don't be too serious. Life is pretty short.

God is the only true judge.

All you need is just a little patience.

Always keep your ego in check, remain in the present and do not dwell on the past. These things can destroy a good foundation of integrity and accountability.

Always be honest.

What others think of me is none of my business — while I was busy trying to figure that out, I disappointed the ones I love most.

Take time to help others and make the world a better place to live.

That life is not fair, that bad things do happen to good people sometimes, but that you have no control over it so there is no point in worrying about it. I am still working on that last part.

It all happens for a reason. You may not happen to know the reason for a few years, but it's all part of the course. You learn so much along the way, and that makes you the person you are.

Love everyone. Even when you don't feel like it.

Janita Van de Velde grew up on a farm near Mariapolis, Man. She holds a bachelor of science degree in agricultural economics from the University of Manitoba, and has worked for a financial institution since graduating. She lives in Regina, Sask., with her husband Roddy and their children Jack, Isla and James. Her first novel, Postcards Never Written, was the recipient of the Saskatchewan Reader's Choice Award and also listed by CBC as one of the top funny books in 2009. She donates a portion of proceeds from the sale of her book to World Vision to help those less fortunate. For more information, or to order her book, visit her website at www.janita.ca.

LOVE HEARING FROM YOU

Do you have a story about a farm or home-based business? How about some household management tips? Does someone in the family have a special-diet need? Share some of your meal ideas.

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Please remember we can no longer return photos or material. – Sue

Shopping locally goes to a new level

What began as a one-time rural-area shopping trip is now a year-round tour company

BY CHRISTALEE FROESE

The buses could be carrying anyone… hockey players, schoolkids, sightseers, but this 56-seater is filled with pink-scarved women sporting fuchsia shopping bags.

They come from all over Saskatchewan to shop in rural stores — drug stores to flower shops, boutiques to hardware stores.

"People tend to think that what is in the city is better, but I was hoping to see the opposite and, yahoo it's wonderful!" said Women on the Go participant Brooke Sittler of Saskatoon.

Sittler is one of over 1,200 women who waited to purchase one of 300 tickets for last year's annual rural shopping tour. The history of the winter event, and the Women on the Go tour company, has its roots in the small rural community of Montmartre, Sask. located one hour east of Regina.

In 2006, Montmartre resident Renate Selinger initiated a rural shopping trip with friends, visiting several area towns to support local retailers. The trip became so popular that by 2009 a bus was chartered, officially launching the Women On Wheels (WOW) shopping tour that departed from Regina, taking shoppers to Montmartre, Kipling, Wawota and Carlyle.

The participating businesses in each town jumped on board to host the shoppers on the last weekend in November and first weekend in December, offering free photos with Santa, making cheesecake for the tour participants, or hiring a professional singer to serenade the visitors. And then there were the Montmartre volunteers who made scarves for all the shoppers, creating the signature fashion statement for the tour.

Not only are the women treated to great deals in each participating store, but also surprises along the way. One year, they were pulled over by horse-riding "bandits" while another tour featured a stranded hitchhiker who turned out to be a performer.

Marie Anne Fournier, who has featured live music, gingerbread lattes, prize draws and hot chocolate shooters at Sisters' Boutique and Bistro in Montmartre, says that while people might assume their shopping choices would be limited in rural towns, the exact opposite is true.

"Some people think there's not much in their communities, but there's lots to see and show and offer, and people want to see our unique little stores and hear our stories about local singers, local designers and local characters," said Fournier.

PHOTO: CHRISTALEE FROESE

Montmartre elf Donna MacPherson provides a treat to Pink Scarf Express participant Brook Sittler last December.

By 2012, the trip was becoming so popular that six buses were chartered and many more individuals opted for the U-drive package, delivering 300 to 400 women to participating stores. It grew to such an extent that it was decided to turn over what had been a volunteer effort to someone who could run it as a for-profit business venture.

Cheryl Hughes of Fort Qu'Appelle stepped in to turn the overwhelmingly successful one-time event into a year-round tour company called Women on the Go Tours.

"I was in a rut looking for a change when my friend, Marie Anne Fournier, offered me the opportunity because she felt there was a demand for this type of business year round," said Hughes.

Hughes now books chartered trips in every season to every corner of the province — from the Magical Mystery Tour at Manitou's Danceland to an overnight trip to Saskatoon's Shakespeare on the Saskatchewan to a quilt shop hop, a couple's trip to Forget, a Cypress Hills escape and a Saskatchewan Badlands tour.

"I love seeing the response of guests to what rural Saskatchewan has to offer," said Hughes.

"We have some very creative people in our rural communities. Secondly, our landscape is so diverse, and we have so much beauty right here in our backyard! Lastly, we have a rich history that we overlook or are ignorant of. I know more about American history than I do about Saskatchewan history.

"Our tours are for women with a thirst for knowledge about our province, women with a desire to rediscover what Saskatchewan has to offer, women with a sense of adventure and women looking to expand their circle of friends."

For more information about upcoming Women on the Go tours, visit http://womenonthegotours.com.

Christalee Froese writes from Montmartre, Sask.

EXTENDED OUTLOOK FOR THE PRAIRIES

Weather Forecast for the period of January 25 to February 21, 2015

Peace River Region

January 25 - 31
Expect a few colder days this week with higher windchills. Milder air and blustery winds usher in some snow and drifting on 2 days.

February 1 - 7
Variable weather as mild and cold air collide. Occasional windy conditions. A few bright days intersperse with snow and a chance of rain.

February 8 - 14
Fair bright days alternate with heavy snow. Temperatures fluctuate but tend to the mild side.

February 15 - 21
A few mild and dry days. Otherwise, normal temperatures with some snow and a slight chance of rain.

Southern Alberta

January 25 - 31
Expect a few colder days this week with higher windchills. Milder air and blustery winds usher in some snow and drifting on 2 days.

February 1 - 7
Variable weather as mild and cold air collide. Occasional windy conditions. A few bright days intersperse with snow and a chance of rain.

February 8 - 14
Fair bright days alternate with snow and rain. Temperatures fluctuate but tend to the mild side.

February 15 - 21
A few mild and dry days. Some thawing. Otherwise, normal temperatures with some snow and occasional rain.

Saskatchewan

January 25 - 31
Mostly cold and settled weather with higher windchills. Milder southeasterlies bring snow and blustery winds on 2 days.

February 1 - 7
Bright skies and cold temperatures interchange with snow and a chance of rain in south. Some heavier snow in north. Windy. Blowing snow.

February 8 - 14
Slight thawing in south. Mild windy days alternate with cold air and some snow and blowing. Seasonal in north with 2 milder days and snow.

February 15 - 21
Mostly fair but scattered snow and drifting on 2 or 3 days. Blustery. Cold to mild temperatures.

Manitoba

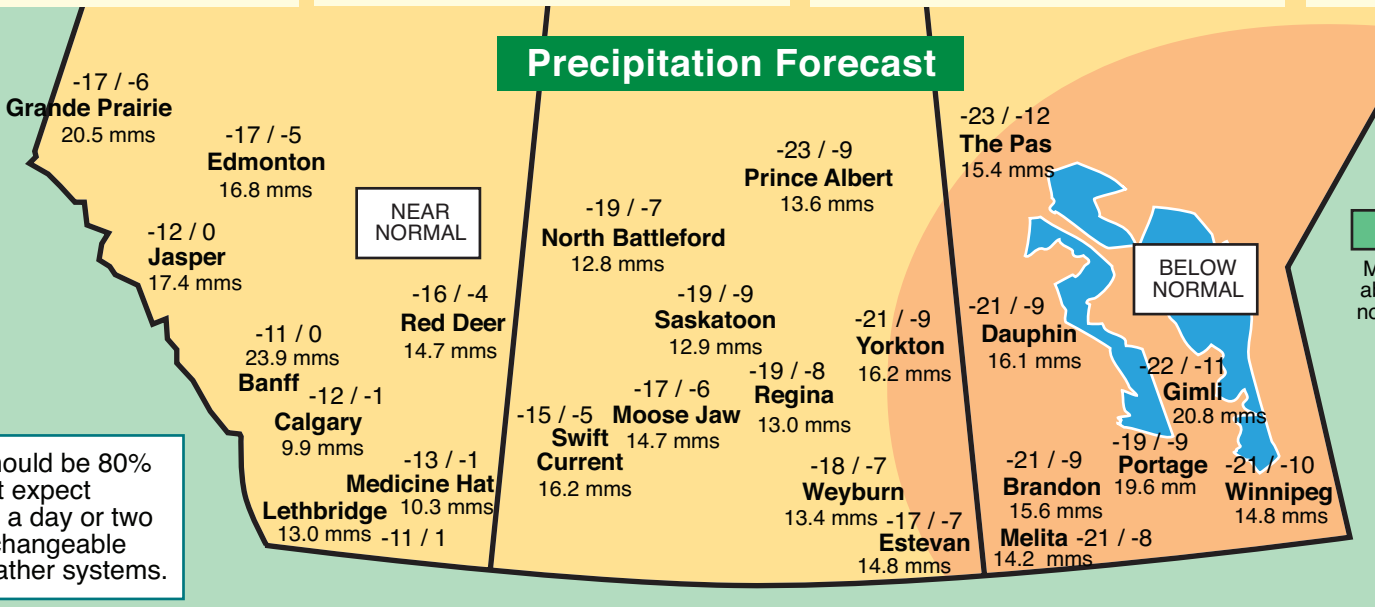
January 25 - 31
Cold air under settled conditions. Expect some light snow and drifting on a couple of days.

February 1 - 7
Seasonal to cold under generally fair skies, but expect snow and blowing snow. Clear and cold in north.

February 8 - 14
Bright skies and seasonal temperatures, then some snow and blowing snow. Windy at times with higher windchills.

February 15 - 21
Seasonal and fair on many days, but milder, windy conditions bring snow and minor thawing on a couple of days. Cold with some snow in the north.

Precipitation Forecast



Precipitation Outlook For February

Much above normal	Above normal	Normal	Below normal	Much below normal

Forecasts should be 80% accurate, but expect variations by a day or two because of changeable speed of weather systems.

Temperatures are normals for February 15th averaged over 30 years.
Precipitation (water equivalent) normals for Feb. in mms.

SINGING GARDENER

Tomato talk, moon folklore, and starting strawberries from seed

Plus — fellow gardeners — share your ideas for making a difference and helping others

TED MESEYTON

Spoken words are like the air but the printed *Grainews* page is always there. When seed catalogues arrive I, Ted, am in my element. Hello again good people and welcome aboard my imaginary train leaving the station. Chug along with me if you will on another journey of words down the green and growing garden rail path. It's so very good to have you on board.

Last summer while touring gardens, I came upon a sign (picture shown on this page) that said: Get R Done, so I'm reminding you to try your luck at winning a packet of tomato seeds.

What else is on today's agenda? Well, I'll share some handwritten thoughts within a Christmas card from a gardener at Weyburn, Sask. Have you ever started strawberry plants from seeds? Yours truly has and I am delighted! I'll tell more with a picture to boot.

ISN'T IT WONDERFUL

… to again notice the days getting longer and the sun already stronger? Have you been flipping pages of seed and nursery catalogues and maybe placed an order yet? Seasonal and year-round nurseries, greenhouses and garden centres are all abuzz planning what they'll sow and sell this year and there's always something new. Their seed racks are plum full to the top. Bedding plants of many flowers, veggies and herbs are already seeded or shall be soon. Some places even have butterflies and music. There's something really magnetic about that delightful earthy smell found only in places where plants are growing. That's their calling card. No wonder gardeners are drawn back year after year, time and again.

Wouldn't it be wonderful if a million Canadians who've never gardened before decide to take it up in 2015? Green thumbers are gifted at helping change things for the better both locally and across our fortunate country. We depend on the earth for survival. You the gardeners, have amazing ideas in your heads that can make a huge difference and help others. Send them to me to share with our family of *Grainews* readers.

JUST BECAUSE

… it's still winter doesn't mean that plants and gardens are far from thought. Those same two words "Just Because" also remind me of a song by that title recorded back in 1947 by 120 bass accordion player Frankie Yankovic. It was his first recording and sold a million copies. A year later Frankie and his group did it again with "Blue Skirt Waltz." It too sold over a million copies. The moral of this mini story is: You never know when your star will shine. Hang in there all you "working for pay" accordion players, including my trained Brandoni accordion player son Chris.

IT'S THE LAST CALL TO — GET R DONE

As a youngster I recall a staff lady at the local bus depot who spoke really well over the public address system. She had a pleasant, easy-to-understand voice. How I wished then I had the opportunity to say what she did. As I recall, one of her announcements went something like this. It's the last call for the westbound Greyhound bus to Calgary. Passengers are now boarding for Brandon, Regina, Moose Jaw, Swift Current, Maple Creek, Medicine Hat, Calgary and points farther west to Vancouver — Bus departs in five minutes. All aboard please!

OK that's from the past and now I move forward. It's my turn to speak via this page as my imaginary microphone. It's the last call for readers to get on board for a chance to win one of 16 draws for a packet of either Flin Flon, or Ferris Wheel, or Ganti or Italian Heirloom tomato seeds. Sixteen names will be drawn on Valentine's Day and a package of tomato seeds mailed to each. Winners' names will appear in a future Singing Gardener column. To enter, send your complete name and mailing address to:

Tomato Seed Draws
Ted Meseyton
The Singing Gardener
Grainews
PO Box 9800
Winnipeg, Man. R3C 3K7.

PHOTOS: TED MESEYTON

Got your entry in yet? You might win a package of Flin Flon, or Ferris Wheel, or Ganti or Italian heirloom tomato seeds. Look under GET R DONE on this page. Ted will make 16 draws on Valentine's Day.

SPEAKING OF TOMATOES

Good to hear from Betty Graham of Weyburn, Sask. Here are some excerpts from what she wrote inside a Christmas card.

Hi Ted: Keep up the great work! SE Saskatchewan was a swamp this year (2014) but pretty good gardens; all but the corn — not enough heat. Great tomato crops. The Tasti-Lee's (seeds from Dominion Seed, Georgetown, Ont., L7G 5L6; phone 1-800-784-3037) were excellent and no blight. This year I grew a small cuke that's called Salt and Pepper that I would recommend to your readers. Really produces, full of juice, used it for relish. Also great taste for eating fresh. Got the seed from Veseys. We put lime on the garden. Seems to stop blight on tomatoes. Happy gardening and all the best in the coming year. Question: Do you have any secrets for starting cabbage? They go spindly on me no matter what. I've tried different fertilizers but no luck. Happy gardening and all the best in 2015. Mrs. Betty Graham, Weyburn, Sask.

Ted's observations: Conditions described may be as a result of too much heat, too much plant food, weak and insufficient light. Indoors, use seed starter or soilless mix. Some brands have granular fertilizer added, sufficient for up to six months in which case no feeding is required. Otherwise, sparingly use diluted plant food no stronger than half-strength. If planting medium is overly rich in nitrogen, it causes problems such as leggy, spindly growth spurts. Sow seeds indoors under bright light six mm (one-third inch) deep and as thinly as possible. (It saves transplanting time later on and allows for air circulation which is critical.) Once seedlings are up, place in full sun to light shade. Cabbage grows well in cool weather. Hardened-off plants can withstand a mild frost, and in such case mist them with water early in the a.m. next day. Personally, I like to seed cabbage outdoors in a cold frame, or in a sunny microclimate spot up against a basement window or against a sunny wall with overnight protection when required. Lastly, planting cabbage according to the moon should be considered. Here are best dates for this spring: February 27 and 28; March 1, 22, 23, 26, 27 and 28; April 3, 4, 5, 6, 7, 19, 20, 23, 24 and 30; May 1, 2, 3 and 4 — 2015.

FOLK MOONLORE SAYS

… when the new moon falls on a Saturday, the following three weeks will be mostly windy and wet, nine times out of 10. Some future new moon dates in 2015 are: January 20, February 18, and March 20. So when's the next new moon on a Saturday? Look to April 18, 2015. Do gardeners and farmers want three weeks of mostly windy and wet weather at that time of spring? Folklore claims 90 per cent accuracy but this could be the one year out of 10 when it won't be windy and wet for three weeks.

I've been singing my original "Weather Song" during recent personal appearances with son Chris accompanying me on one of his 120 bass Brandoni accordions. Chris is also really skilled at playing the accordion and piano together at the same time and it's quite a sight to see. Let me ask. Are you needing to book a top-notch accordion player for videos, festivals, studio recordings, commercials, jingles or other events? Chris the Accordion Guy can be reached at chrisaccordion@mts.net or contact myself. One thing for sure, lyrics from my "Weather Song" that hold true are: Whether it's wet or whether it's dry, on some kind of weather, we can surely rely.

STARTING STRAWBERRIES FROM SEED

I, Ted, did it last year and am more than pleased with results. Planted hybrid Toscana strawberry seeds from Dominion Seed House. (DSH address is on this page under subhead: SPEAKING OF TOMATOES.) Seeded Toscana outdoors; some against a fence and more on a raised bed. Didn't know what to expect. Plants grew amazingly fast once seeds germinated. Much to my delight, were the large and attractive deep-pink flowers. Best part of all was the plump, deep-red strawberries that followed and all in the same season. If you ever decide to grow strawberries from seed, try Toscana. Dominion Seed House also has a second pink-flowered hybrid variety called Tarpan. Both strawberry varieties are suitable and adapted for growing in hanging baskets and pots. That's great news for urban gardeners and those with limited growing space.

Fisetin is a plant compound found in strawberries and present in only very small quantities. How small? Scientists suggest you'd need to eat three dozen strawberries daily to get a sufficient dose. The good thing, decided by researchers, is that fisetin shows strong potential to help protect the brain against Alzheimer's, dementia and age-related memory loss. Fisetin is also found in some other home garden-grown fruit and veggies and I'll tell more, next column.

Ted holds a hybrid Toscana red and tasty, conical and perfumed strawberry in hand, flanked by an exceptionally attractive deep-pink flower. Best news is Toscana plants were started from seed and it all happened during a single growing season.

This is Ted Meseyton the Singing Gardener and Grow-It Poet from Portage la Prairie, Man. Lucky the gardener or farmer with something authentic such as an old-time wagon or buggy wheel to greet visitors at the garden gate or driveway. It's a welcoming sight. If you've got one, or something different, original or special to you, let's hear about it regardless of its age. Give a description, some history, or better yet, also send a picture. My email address is singinggardener@mts.net.

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