

# CountryGuide

Strategic. Business. Thinking.

EASTERN EDITION / COUNTRY-GUIDE.CA / FEBRUARY 14, 2017

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Custom farming works for Troy Monea. Will it work for you too? ▶ 22

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# How many farmers do we really need?



**Probably we don't 'need' nearly as many farmers as we have today, but only if you ignore the way that farmers' business skills are transforming the world of agriculture**

There are some three million truck drivers in the U.S. today, and another 200,000 in Canada.

Except, their jobs depend on their employers not using the self-driving technology that is already in use on farms all across North America.

While we're all fixated on all the disruptions that Donald Trump is creating, most of us seem to be mere bystanders to the equally large disruptions that technological advance is causing, or is about to cause.

I tend to veer away from doomsayers, but it's worth an hour of your time to type "artificial intelligence" into Google sometime and then wander about in the kind of extremism that the foes and friends of the Donald are quite at home with.

But also check out someone like Andrew McAfee, an economist at MIT who puts great effort into toning down the rhetoric, but who still insists that it's time we all started thinking seriously about how to live in a world where, suddenly, intelligent technology is putting white-collar workers out of work, not just truck drivers.

Farmers have long felt that they are special cases in this debate with their tireless argument that if we hope to feed the world, we must base our decisions on science.

We as a society can somehow figure out how to distribute the food in order to prevent starvation, farmers tend to believe, but only if we have access to the tools we need to grow the food in the first place.

As more jobs come under threat from artificial intelligence, I suspect,

we'll continue to see farmers on the one hand clamouring for better access to technology, while other professions, unions and even whole industries rush to adopt new rules or regulations that put the brakes on that new technology.

But even in agriculture we tend to underestimate the power of technology. Despite the fact that technology has been uninterrupted in its success at whittling down the amount of time it takes to farm an acre, and although it has been equally successful at enabling an uninterrupted increase in average farm size, we tend to think these trends have pretty much reached their limits.

So, let's ask the question again: how many farmers do we really need?

But before you reach for the Prozac, let's also take another look at what MIT's McAfee is telling us. Technology isn't only a threat, he says. It also puts more power into the hands of innovative entrepreneurs.

It's why I don't believe that Canada will ever be farmed by six farmers, because not only are today's farmers better capitalized than ever, they are being led by farmers who are better than ever at protecting and enhancing that capital. More than ever before, they excel at being innovative without putting their farms at risk.

Now, the big question is, how can we ensure the next generation is even better than today's at these essential business skills?

Are we getting it right? Let me know at [tom.button@fbcpublishing.com](mailto:tom.button@fbcpublishing.com).

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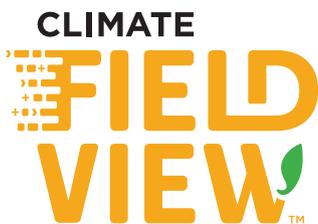
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# More new tractors from McCormick

The Italian brand adds both low- and high-spec utility models

BY SCOTT GARVEY / CG MACHINERY EDITOR

**F**or several years now, ag machinery has been all about technology. But the more advanced our tractor design becomes, the more push-back we see from a segment of the market demanding machines without all the newest features and technology. After all, tractors have been doing farm chores since the early part of the last century without computer control, and many buyers, especially those looking for utility and mid-horsepower models, believe a more basic level machine is still the right choice — and cheaper too.

As a result, all brands have broadened their offerings in recent years to cater to both the high- and the low-tech market preferences that have emerged, particularly in the 80- to 160-horsepower range.

So, at the Farm Progress Show in Iowa last year, when AGCO introduced its expanded line of lower-spec but still capable Global Series tractors in that size group, it wasn't alone. Not far away on the show grounds, Italian tractor builder Argo was also debuting lower-cost additions to its McCormick brand as well, with its new X7 Pro-Drive Standard models.

In all, McCormick's X7 Pro-Drive Standards add three new models to the existing X7 line. These tractors are

“reduced specification” versions with 135, 152, and 159 rated engine horsepower. (Overall, the combined offerings in the X7 Series span the 131 to 181 horsepower range.)

For the time being, the X7 line is the largest of McCormick's updated X Series models available in Canada. Over the past few years, the brand has gradually introduced other new X Series models across its product range, such as the X5 and X6, replacing older designs. Look for that process to continue when the brand eventually introduces a North American version of the larger 264 to 310 horsepower X8 models some time in the not-too-distant future, probably late 2017.

As “economy” models, the new X7 Pro-Drive Standards will offer a shorter list of available options to appeal to what brand marketing reps calls “the price-sensitive market.” But in the corporate press release announcing the tractors, McCormick was quick to point out that the driveline components in these new lower-spec models are the same as those used in the other X7 models, “The meat of the tractor has stayed the same,” reads the company press release. “Only the bells and whistles have changed.”

That means the X7 Pro-Drive Standards get the

The new Pro-Drive Standard tractors add lower-spec “economy” models to the existing X7 line.

PHOTO: MCCORMICK





Above: The Pro-Drive Standard models get the same cab interior and control layout as the other models in the X7 Series.

PHOTO: MCCORMICK

Right: Until North American versions of the X8 line — shown here making their debut at Agritechnica 2015 in Germany — are available in Canada, the X7 line remains the largest of the brand's newest X Series designs to compete in the Canadian marketplace.

PHOTO: SCOTT GARVEY



same 4.5 or 6.7 litre BETAPOWER diesel engines and power-shift transmissions, which offer four power-shift gears and six synchronized ranges with fully automatic shifting.

Pro-Drive Standard models maintain the same control layout inside their cabs, too, along with the ability to include additional mechanical hydraulic remote valves. And, surprisingly for an “economy” model, the Pro-Drive Standard models get a closed-centre hydraulic system with a variable displacement pump that can push out 123 l/min. To ensure the steering wheel doesn't get jerky when there are large hydraulic demands from an implement or attachment, the steering system gets its own dedicated 44 l/min flow.

At the rear, the tractors can be equipped with both standard and economy 540 and 1,000 r.p.m. modes. Economy PTO settings allow the engine to spin at lower rpm while maintaining shaft speed to reduce fuel consumption when handling lighter loads.

Having covered off the lower-spec market with the Pro-Drive Standards, McCormick also introduced new higher-spec models, which offer premium features, for the other end of the market spectrum. The two X7 VT-Drive tractors offer 140- or 175-rated engine horsepower

through a 50 km/h-capable CVT transmission. (They were actually introduced a few months before the Pro-Drive Standard versions.)

The CVT gives the operator four adjustable ranges and four operating modes. Although the Pro-Drive Standard and VT-Drive models get similar base specifications, there are notable differences.

The VT-Drive models can be fitted with up to five rear remotes, which is a jump up from the limit of four on the Pro-Drive Standards. But the hydraulic flow rate remains the same at 123 l/min. The lower-end line's rear PTO options come standard on the VT-Drive models. And the steering system comes guidance ready on the higher-end versions.

One other noticeable difference is at the rear three-point hitch. Lift capacities are much different. The VT-Drive tractors get a 9,300 kg (20,500 pound) rating, making them better suited to handling mounted implements. The Pro-Drive Standards can only muscle a significantly lower 6,300 kg (14,000 pound) lift. But if all you need to move is round bales to feed cattle, that's more than adequate.

To improve its corporate performance and ability to deliver new models along with product support in Canada, McCormick's North American operations have recently been united. Previously U.S. and Canadian operations were separate. Now, a single brand entity will service both countries. According to Taylor Grout, North American marketing and product manager, that should allow McCormick to improve its service delivery on this side of the Atlantic. **CG**

# What do your customers care about?

Check out the mainstream books, films and other media that are shaping what consumers think about what you do

BY HELEN LAMMERS-HELPS

**G**luten-free, organic, GMO, free-run — these just hint at the kind of vocabulary being tossed about by consumers today. Packed with good intentions and a little knowledge, such notions are warping the demand for food products, and they may be laying a path for legislation.

Never before has there been so much being written, said and shown about food. Through TV, blogs, TED talks, podcasts, social media, celebrity chefs, movie streaming services, and good old-fashioned books, consumers are constantly getting told what to think about our food supply.

Some of it's good. Some of it isn't. Either way, though, it shapes public opinion and drives food choices.

To help keep up, *Country Guide* asked food trend watchers to share the books, documentaries and other sources of information they think have done the most to influence popular opinion on food and food systems in the past decade.

Delving into these sources, you'll have a better appreciation of where your customers are coming from.

This is only a sampling, but it's enough to open our eyes. For availability, see the note below.

## DOCUMENTARY FILMS

### Fed Up

Narrated by TV celeb Katie Couric, this 2014 film looks at the fattening of America, pointing the finger at how the lobbying power of "Big Sugar" blocks attempts to apply restraint.  
www.fedupmovie.com  
Available on Netflix.

### Food, Inc.

The 2008 American documentary film that looks at how production agriculture and the food industry have changed over the past 50 years.  
www.takepart.com/foodinc  
Available on Netflix.

### Just Eat It: a food waste story

A 2014 Canadian film that shines a spotlight on the food waste issue.  
www.foodwastemovie.com  
Available online at www.knowledge.ca/program/just-eat-it



### Food Chains

A 2014 American documentary about agricultural migrant labour in the United States.  
www.foodchainsfilm.com  
Available on Netflix.



### GMO OMG

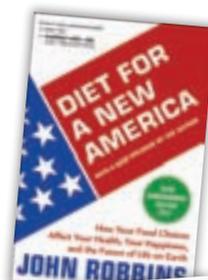
As you can guess from the title, this 2013 documentary explores the health and environmental risks of genetically modified organisms (GMO) and the implications of GMO labelling.  
www.gmofilm.com  
Available on Netflix.



## BOOKS WORTH READING

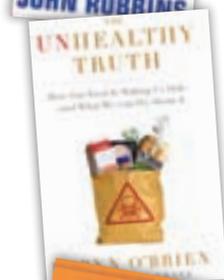
### Diet for a New America: How Your Food Choices Affect Your Health, Happiness and the Future of Life on Earth

By John Robbins (2012) — In this update of his 1987 book, Robbins examines the moral, economic and emotional cost of American food choices (also on DVD).



### The Unhealthy Truth: One Mother's Shocking Investigation into the Dangers of America's Food Supply — and What Every Family Can Do to Protect Itself

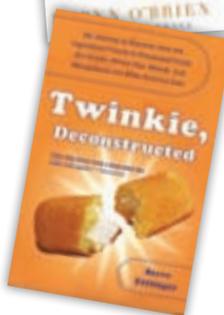
By Robyn O'Brien (2010)  
www.robbynobrien.com



Mother of four, Robyn O'Brien chronicles her journey to understand what triggered her infant daughter's food allergy and the discoveries she makes about the American food system along the way. O'Brien has been likened to food's Erin Brockovich.

You'll also find O'Brien's podcasts on her website and through iTunes.

O'Brien also summarizes her journey in a TEDx Talk which can be viewed here: [tedxtalks.ted.com/video/TEDxAustin-Robyn-OBrien-2011](http://tedxtalks.ted.com/video/TEDxAustin-Robyn-OBrien-2011).



### Twinkie, Deconstructed

This 2007 book by Steve Ettlinger is a result of his quest to understand the ingredients in packaged foods prompted by his young daughter's question: "Daddy, where does Polysorbate 60 come from?" [www.twinkiedeconstructed.com](http://www.twinkiedeconstructed.com)

### What to Eat

This 2007 book by Marion Nestle claims to cut through the jargon to help readers make informed and sensible food choices. [www.foodpolitics.com/what-to-eat-an-aisle-by-aisle-guide-to-savvy-food-choices-and-good-eating/](http://www.foodpolitics.com/what-to-eat-an-aisle-by-aisle-guide-to-savvy-food-choices-and-good-eating/)

### The Conscious Kitchen: The new way to buy and cook food to protect the earth, improve your health and eat deliciously

This 2010 book by Alexandra Zissu is intended to be a practical resource to help people make good food choices. [www.alexandrazissu.com/az-blog/the-conscious-kitchen/](http://www.alexandrazissu.com/az-blog/the-conscious-kitchen/)

### Clean Food: A Seasonal Guide to Eating Close to the Source

(Revised edition, 2012) By Terry Walters  
The Clean Food cookbook contains recipes for healthy meals that are “closer to the source.” [terrywalters.net/](http://terrywalters.net/)

### Wheat Belly: Lose the Wheat, Lose the Weight, and Find Your Path Back to Health

By William Davis, MD (2011)  
While highly controversial, there is no doubt this book by a cardiologist has influenced the wheat-free movement.

In addition to the books and documentaries, there are some individuals who have been influential on the food scene.

\*Mark Bittman, cookbook author and former New York Times food columnist, has promoted Meatless Monday, a global food movement active in 44 countries. [www.meatlessmonday.com/the-global-movement/](http://www.meatlessmonday.com/the-global-movement/)

\*Jamie Oliver, world-renowned chef and food campaigner, is on a mission to end childhood obesity by promoting healthy eating, good government food policies, and food literacy. [www.jamiesfoodrevolution.org](http://www.jamiesfoodrevolution.org)

\*Closer to home, chef Michael Smith, with his focus on simple, fast, healthy family meals and his work with Canadian pulses (lentils, dried beans, chickpeas), is making an impact. [www.chefmichaelsmith.com](http://www.chefmichaelsmith.com)

Note: Books may be available through your local library as e-books, audiobooks or in print. Local libraries may also have films on DVD. If the local library system doesn't own a book, they may be able to access it for you through an Inter Library Loan. Many documentaries are available online through sites like iTunes, YouTube or through video streaming services such as Netflix (which currently allows you to sign up for one month free). TVO, PBS and CBC and other networks may be air them or make them available through their websites.



Science writer Michael Pollan has become a household name when it comes to food. You'll find his many books listed on his website at: [michaelpollan.com/books/](http://michaelpollan.com/books/).

In his 2007 book, *The Omnivore's Dilemma: A Natural History of Four Meals*, Pollan follows food chains including organic from source to plate, developing an account of what Americans are eating and the health implications.

In *In Defense of Food: An Eater's Manifesto*, published in 2009, Pollan proposes “a new (and very old) answer to the question of what we should eat that comes down to seven simple words: Eat food. Not too much. Mostly plants.” Pollan's documentary, by the same title, is available for a limited time on the CBC website at [www.cbc.ca/passionateeye/episodes/in-defence-of-food](http://www.cbc.ca/passionateeye/episodes/in-defence-of-food).

*Food Rules: An Eater's Manual* (2011) — If looking for a quick read on this subject, this is it.

*Cooked* — Michael Pollan's 2013 book, has been turned into a four-part video series available for viewing on Netflix. Pollan explores the power of the four elements — fire, water, air, and earth — to transform the stuff of nature into delicious things to eat and drink. He charts the development of grilling with fire, cooking with liquid, baking bread and fermenting everything from cheese to beer.

### LOOKING FOR MORE?

Food Tank is a U.S.-based non-profit organization with a focus on spotlighting environmentally, socially, and economically sustainable ways of alleviating hunger, obesity and poverty, world-wide. You'll find a list of food advocacy films and books on their website at [www.foodtank.com](http://www.foodtank.com).

#### Films

[foodtank.com/news/2013/09/twenty-six-films-every-food-activist-must-watch](http://foodtank.com/news/2013/09/twenty-six-films-every-food-activist-must-watch)

#### Books

[foodtank.com/news/2016/05/food-tanks-summer-2016-reading-list](http://foodtank.com/news/2016/05/food-tanks-summer-2016-reading-list)

# Fill the youth gap

Here's how to inspire and recruit the next generation of ag employees

BY BECKY PARKER / NUFFIELD SCHOLAR

“**W**hat do you want to be when you grow up?” It's a common question that adults ask young people. Popular answers include pro athlete, doctor or lawyer, or you might just get a shrug of the shoulders and an “I don't know.”

Unfortunately, careers in agriculture and food rarely make it to the top of these lists. But perhaps this is because youth have a difficult time identifying careers in agriculture beyond “farmer.”

The popular perception of a career in agriculture is that it is in the field or in the barn, working long hours in tough conditions for low pay.

Indeed, there is enough reality in this common perception to make it tough to sell the idea of building a satisfying, rewarding career in agriculture.

In fact, negative perception is one of the factors which contributes to the serious shortage of the agriculture labour in Canada.

## IDENTIFY THE ISSUE

If you work in the agri-food sector you have probably heard the numbers from the Canadian Agriculture Human Resource Council (CAHRC). The current gap between the supply and the demand for agri-food workers is 59,000, and the result of that gap is that \$1.5 billion in sales are foregone each year.

And it's getting worse. CAHRC estimates that within 10 years the Canadian agri-food sector could be unable to find workers for 114,000 jobs.

Perhaps most scary is that these numbers only reflect the situation in primary production. The labour shortage is pervasive across the food system, impacting the productivity and profitability of agribusinesses in this country.

It is not just farm workers we require. The sector needs food scientists, salespeople, meat cutters, robotic engineers... you get the picture.

## FOCUS ON GEN Z

So what can be done to tackle the issue? Temporary foreign workers will need to be an ongoing source of labour for the agri-food sector. However, there is another group that we should be focusing our recruitment attention on: Gen Z.

You have probably heard of the Millennials, but



maybe not Gen Z. So pay attention. These are the youth who are born between 1993 and 2011. They make up 22 per cent of the Canadian population and will be entering the workforce over the next 20 years.

Many Gen Zers are sitting in high school classrooms right now, ready to make their career decisions. The question is, how do we direct their attention to careers in the agri-food sector?

It is a question I have been asking for the last two years as a 2015 Nuffield Canada Scholar, partly thanks to funding from the *Country Guide* family of publications.

## SEARCH FOR SOLUTIONS

The premise of a Nuffield Scholarship is to investigate agriculture around the world in order to identify approaches and strategies that can be applied to industry issues. As a Nuffield scholar, I had the incredible opportunity to travel internationally to research my selected topic: agriculture career education.

My travels took me across Canada, as well as to France, Scotland, England, New Zealand, Australia, Jamaica and the United States.

Not surprisingly, many other countries around the world are also experiencing labour shortages in agriculture. Indeed, some of the countries I travelled to, such as the United Kingdom and Australia, were facing the same perception issues that we have here in Canada. Youth are quick to name “farmer” as their prime example of an agri-food career, and the urban/rural divide continues to place pressure on the image of agriculture by affecting what young people think it means to work in the sector.



### FIND THE “AH-HA” MOMENT

At the beginning of my scholarship, I was warned that “ah-ha” moments could arrive unexpectedly, and that they could have a major impact on how I viewed my topic. One of those moments hit while I was in Australia.

After a series of back-to-back meetings in the heart of Sydney’s CBD (Central Business District), I was walking downtown amid a crowd of hundreds of business people. I wondered: how many of them know that dozens of agribusinesses are centred right next to the big investment firms and ad agencies?

If people don’t know these businesses exist, why would they ever think of working for them?

Shortly after, I passed a giant three-storey Apple store. I immediately thought “that is a place where young people want to work.” It’s visible. It’s edgy. It makes you want to see yourself there.

I started to shift my thinking to marketing, considering how companies like Apple and Google build a loyal customer base while also becoming a desirable place to work. It turns out there is a formula for building brand loyalty, and it applies as much to selling ag careers as it does to selling iPhones.

However, for the formula to work, the agri-food sector needs to play a major role, using its three steps (exposure, engagement, and influence) to encourage youth to select a career in agriculture and food.

### STEP 1: INCREASE EXPOSURE

Given the limited (and sometimes inaccurate) perspectives that young people have of agri-food careers, the first step must be to increase their exposure to a wide variety of agriculture careers.

One of the ways this is achieved is through activities like Career Competitions. A pilot of this was facilitated by AgScape (Ag in the Classroom — Ontario) in September 2016, in collaboration with AgCareers.com and Canada’s Outdoor Farm Show (see photo above). I was thrilled to see this program come to life here in Canada since it is modeled on the New Zealand Young Farmers’ Get Ahead Day, which I saw during my studies.

Ag businesses can easily participate by partnering with organizations like AgScape, local fairs and ag education committees to run a career station at this type of activity. It is incredibly valuable for students to see a real life example of people working in exciting ag careers, and it is a wonderful avenue for agribusiness to showcase some of the lesser-known occupations within their organizations.

### STEP 2: PROVIDE ENGAGEMENT OPPORTUNITIES

Once students have had their minds opened to the diversity of careers in agriculture and food, it is important to

CONTINUED ON PAGE 12

## Consider Nuffield

A Nuffield scholarship helped me help our industry. It could help you too

BY BECKY PARKER

In the agri-food sector, we often focus on growth. We think about the growth of our crops and livestock, the growth of our profit margins, the growth of our customer base and brand recognition, and more.

However, sometimes we forget to focus on the growth of ourselves.

If you are passionate about your business, committed to the future of Canadian agriculture, and looking for a personal growth challenge, you should consider applying for a Nuffield Scholarship.

Speaking from experience, here are three of the biggest impacts a Nuffield Scholarship will have on you:

### 1. APPLY YOUR PASSION

Applying to Nuffield is about seeking information on a topic of personal importance and interest. Do you have an issue on your farm that you want to address? Is there a challenge facing your industry? A Nuffield Scholarship is your chance to explore that through international travel. Think about the difference you can make for Canadian agriculture through applied research.

### 2. OPEN YOUR MIND

Nuffield is about a global experience. There is nothing like talking to farmers and agribusiness people from other countries to highlight the similarities and differences agriculture faces around the world. You will be challenged to look at things from a global perspective and to consider approaches and solutions you may never have considered before. You will grow professionally, and you will grow personally.

### 3. BUILD YOUR NETWORK

If you talk to anyone who has completed a Nuffield Scholarship, you will hear that it opens doors. You will have the opportunity to become friends with people around the world, many of whom will open their homes to you and help you on your journey. Nuffield is also a key to open the doors to new business contacts who are eager to share their knowledge and learn from your experiences.

If you have questions, reach out to the past and present scholars to hear their experiences.

Don't miss this opportunity! Nuffield Scholarship applications are due each year on April 30.

Find out more at [www.nuffield.ca](http://www.nuffield.ca).

provide them with the opportunity to try that career out. Hands on learning experiences are among the best ways for youth to assess whether they may be interested in a career in agriculture.

The ag sector needs to do a much better job of offering hands-on opportunities for high school students. Experiential learning can take the form of job shadows, co-op terms, or summer employment. These are low-risk ways to give students a chance to try out a career.

Farms and agribusinesses should connect with local high schools and let them know that they are happy to welcome youth through their doors. Imagine the possibilities opened up by having a high school student on a ride-along, or in a lab setting for the day. Then imagine the opportunities missed by never opening the door.

### STEP 3: OFFER POSITIVE INFLUENCE

Most people can think of one or two people who have influenced their career. If we are going to inspire youth to pursue careers in agriculture and food, we have to be effective ambassadors for ag careers and grasp the opportunity to mentor those potential future employees.

It is important to provide a positive influence to those who have shown an interest, through in-person chats, emails, or formal mentorship programs.

It is also important to keep an open mind if someone does not have agriculture experience. Look beyond technical training and abilities to focus on soft skills such as teamwork, initiative and communication. As a mentor, give youth a chance to develop and apply their soft skills. These are attributes which are useful in all types of careers, whether someone is an employee, a leader, or an entrepreneur.

All three of these steps require action. However, they are all feasible. Our labour shortage affects businesses big and small in the food system, so everyone needs to step up to engage Gen Z to fill the gap.

(Note: The full Nuffield report is available at [nuffield.ca](http://nuffield.ca) by searching under Scholars/Reports tab for Becky Parker. Connect with Becky on Twitter: @becky\_parker\_2, Instagram: @lessonsoftheland Blog: [www.lessonsoftheland.com](http://www.lessonsoftheland.com).) **CG**

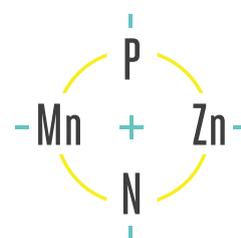


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# Making ethnic markets pay

In Toronto alone, consumers are buying \$400 million a year of imported ethnic vegetables. Could it make sense to grow them here?

BY LOIS HARRIS

**E**damame, okra, bitter melon, quinoa, Chinese long eggplant — all these are edible crops that you'd have had a hard time finding on the country's store shelves 50 years ago, let alone growing in Canadian fields and greenhouses.

They're still crops that few Canadian farmers know about, and that even fewer have considered growing.

But maybe that's about to change.

Research into crop varieties and production systems is already underway to help speed such a change. But it will also take a change in farm thinking about whether the opportunity is big enough to justify the cost of breaking into the unknown.

The sector is still extremely small. In Ontario in 2015, for example, only 2,900 acres were planted to specialty crops, with a farm gate value of about \$15.5 million.

Yet that's enough to convince enthusiasts that "ethnocultural" crops can be successfully produced, and that they are on the cusp of becoming lucrative money-makers for growers across the country.

"Opportunities are definitely there to increase production, if growers do their homework to fill niche markets," says Evan Elford, the new crop development specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs.

Elford says that, while there has been a recent upswing in interest, specialty crops have actually been researched and investigated in Canada for 40 years.

"When you look at bok choy and Napa cabbage, they've been around for decades," Elford says.

Such specialty crops are defined as "a broad category of niche crops not included in major grains, oilseed, industrial or horticultural crops," Elford says. "They are considered non-traditional crops that may be new to the region, or are underutilized native species, while others are re-emerging crops previously grown in the province."

Today, three of the most promising new-to-Canada vegetables to come from the Vineland Research and Innovation Centre are okra, Chinese long eggplant and Indian round eggplant.

## VINELAND TRIALS

The modern impetus for investigating the crops was a University of Guelph study that determined there are 800,000 Canadians of South Asian descent in the Greater Toronto Area, and they are spending as much as \$33 million a month on these kinds of vegetables, almost all of which are imported.

The research strategy is to replace at least some of the imports by developing vegetable varieties that local farmers can grow in Canadian climates.

"The whole objective is to find out if these vegetables could be adapted to Ontario and Canadian conditions," says research scientist Viliam Zvalo.

Zvalo was brought into Vineland's "Feeding Diversity: Bringing World Crops to Market" program in 2014 and has had great success in figuring out the best ways to grow the three crops.

In fact, in 2015, six larger commercial growers and several smaller ones planted 80 acres of the Asian eggplants and okra — mostly in Ontario, but in pockets in Quebec, British Columbia and the Maritimes, as well.

**Ravi Maharaj, ethnic fresh category manager for Sobeys says his customers are hungry for the vegetables. "We grew the program by 50 per cent this year over last, and had no problems with the suppliers or selling the product."**



**EGGPLANTS OF THE FUTURE**

“Twenty-four million kilograms of eggplant were imported into Canada in 2014,” Zvalo says, adding that the number dropped in 2015 by two per cent, and he speculates that local production was responsible.

In order to thrive, these eggplants must grow on black plastic mulch on raised beds to warm the soil in early spring. Drip irrigation is also a must — and was especially needed during the hot, dry summer of 2016.

Field production of the crop is good, but the greenhouse is much better, yielding 35 kilograms per square metre, which rivals pepper yields. The greenhouse season is also much longer — starting in January and ending in December. Grafting the eggplant on tomato rootstock increases volume by 95 per cent and reduces the disease threat to nearly nil.

Currently, 30 to 35 per cent of eggplants sold in Canada are ethnic, and Zvalo believes that the future is in the ethnic varieties, since they are smaller and easier for consumers to prepare.

With a potential for \$5,000 to \$9,700 per acre in profits, Asian eggplants are an attractive option for growers, as well.



Research is making quick strides in learning how to make production of ethnic vegetables, including these eggplants, commercially viable in Canada, says Vineland’s Viliam Zvalo.

CONTINUED ON PAGE 16

OKRA MAY BE EVEN MORE PROFITABLE THAN EGGPLANT, WITH PRICES AVERAGING NEAR \$2.65 PER POUND



Ravi Maharaj, the ethnic fresh category manager for Sobeys, says his customers are hungry for the vegetables.

“We grew the program by 50 per cent this year (2016) over last, and have had no problems with the suppliers or selling the product,” he says.

The keys, according to Maharaj, are the demand from South and East Asian consumers, and the freshness of the local product.

“You can get local product picked, packed and on the shelves in three to four days,” he says. Imports take five to eight days and get stressed from being put on ships from Costa Rica, the Dominican Republic or Honduras and then transferred to trucks at Miami before reaching their final destinations in Ontario grocery stores.

The Su family started experimenting with Chinese eggplants as part of their personal garden three years ago. When that turned out really well, they decided to start growing them commercially.

“We are a small operation, so we have to grow what no one else wants to,” says Henry Su. He and his parents grow green and yellow zucchini, Chinese eggplants and, most recently, jalapenos on 30 acres of sandy loam soil in Norfolk County, Ont. They’ve been growing eggplants on 10 of those acres for two years.

During the summer harvest, Su drives a truckload of produce every midnight to the Ontario Food Terminal where buyers pay a “decent price” for his specialty eggplants.

“We can’t compete on quantity, so we have to have the quality,” he says, noting that while the family would like to expand their acreage, they don’t want to get so big that they can’t keep an eye on everything every day.

**OKRA — FINICKY BUT PROFITABLE**

Okra is a much more labour-intensive and finicky crop to grow, but if successful, farmers can get fantastic returns on investment.

“You need to get the right number of plants per acre and spacing is critical,” Zvalo says, adding that harvesting the pods at their best means picking plants every day

during the season — in August and September. Labour — needed for the entire growing season — is a big cost for okra growers.

But the cost of growing it can be offset by the market price that okra commands. While okra yields are about half the eggplant levels, at 20 tonnes per acre versus 35 to 40 tonnes, the price differential is more than double, with okra getting \$2.65 per pound versus a pound of eggplant at \$1.10.

Six million kilograms of okra are imported into Canada every year. Research trials and commercial operations are growing the crop in British Columbia, Quebec and Ontario — mostly where the highest ethnic populations reside — but there have been experiments in the Maritimes and Manitoba, as well.

The crop can be lucrative, if the conditions are right like the summers of 2015 and 2016, and as long as proper management techniques are used. One grower with a farm near Montreal had five acres of okra in 2015 and sold the crop for about \$36,000.

Both Elford and Zvalo caution that anyone looking to grow ethnocultural crops should really research the marketplace, and line up buyers before even thinking about planting. Both have or are developing online tools to help growers better understand the risks and benefits of growing these crops:

OMAFRA Specialty Croppportunities is an online guide to the agronomics, business management and marketing of dozens of specialty crops. It also has a regularly updated blog with information about workshops, meetings, growing tips and advice. [www.omafra.gov.on.ca/CropOp/en/index.html](http://www.omafra.gov.on.ca/CropOp/en/index.html).

Production Calculator is a new online calculator that Vineland Research and Innovation Centre will roll out early this year. It will provide both cost and revenue expectations for okra and eggplant crops. Costs include everything from pre-planting through fertilizing and pest control to harvest. Revenues are forecast on pessimistic (low), expected (medium) and optimistic (high) yields. All estimates are based on real-life examples. **CG**

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# Watching for bears

Saskatchewan's Franck Groeneweg defends his farm against factors that prevent him changing as fast as he needs to

BY LEE HART / CG FIELD EDITOR

**F**ranck Groeneweg is a young, progressive agri-businessman from central Saskatchewan, and like most of his neighbours, he accepts the fact the only constant in life and in farming is change. "There is always going to be change, and I try to embrace it," Groeneweg says. "I look at it and ask, what is the opportunity here? Something is different or changing, so how can I use this to my advantage?"

But Groeneweg was born on a family farm in France and then farmed and worked a few years in Iowa before coming to Saskatchewan in 1992.

And part of what he learned along the way is to watch for bears.

It's true that these bears aren't exactly your usual, four-legged bears. Rather, the 39-year-old admits, for him "bear" is a euphemism for the kinds of fears and hazards, real or perceived, that can get in between a farmer and the key decisions they need to make.

"I have always remembered what this older farmer in Iowa told me several years ago," says Groeneweg. "When you're young, you don't see any bears in the bushes. But as you get older, you start to see more, and perhaps one day there is a bear behind every bush."

Nor was that Iowa farmer talking about real bears. Instead, it was all about a way of thinking that he wanted to pass on to the young Groeneweg. Don't give in to your fears. Don't let them become bears. Take charge of them.

As Groeneweg talks, it's apparent that he has survived a couple of minor bear attacks, and that he is no worse off because of them. Probably he's even a little wiser after the encounters, and a fair bit better at farming.

The Groenewegs also have a better sense of balance, as he and his wife Kari and their four young children look over their 7,500-acre operation, called Green Atlantic Farms, with a focus on opportunity, not a pre-occupation with their fears.

But that doesn't mean there's nothing to guard against, and his experience with tile drainage makes an instructive, point-by-point case study of his overall management philosophy.

Big on Groeneweg's screen, after his dozen-plus years of farming in Western Canada, is the changing pattern of weather in central Saskatchewan. When they first bought land near Edgeley, about half an hour northeast of Regina, most growing seasons were generally considered dry.

"Then we had a wet growing season in 2009 and we figured, well, this is probably a one-year thing," says Groeneweg. "Then in 2010 it was wet again, and the same in 2011. And now it is 2016 and for the most part we've had more moisture the past six or seven seasons. I don't know if I am a climate change doubter, that may be another discussion, but I have to ask if this is a longer-term cycle. We could be dry next year, but then again we could see another 10 years of this."

After the first two or three higher moisture growing seasons, Groeneweg considered adapting to the change in weather patterns. He was familiar with tile drainage systems from his years in the Iowa corn belt. So in 2011 he bought a tile plow and put it to use.

Unlike parts of Eastern Canada and the U.S. where tile drainage is applied to the whole farm, Groeneweg considered it a water management tool he could apply to specific problem areas of his farm. "On a quarter section (160 acres), it is pretty typical here to have several low spots on the quarter — perhaps 30 to 40 acres — that hold water," he says. "These areas have the potential to be the most productive land. So our approach has been to use tile drainage to remove this standing water."

Groeneweg believes in the benefits of using tile drainage, but he is also very aware of the need to keep the bigger picture in mind. "I see this as proper water management," he says. "It is not like we are intending to drain land and send this big gush of water over to Manitoba. It is using a well-planned system on these problem areas where water is carried away in a trickle."

Tile drainage is new territory for Saskatchewan, so regulations need to be developed to accommodate the practice. And as a director of the Saskatchewan Farm Stewardship Association, one of Groeneweg's interests is to help guide the regulatory process.

"We can't secretly install these systems and hope no one finds out," says Groeneweg. "We shouldn't hide it. There is nothing wrong with proper water management. We need to understand the benefits and develop the appropriate regulations."

Really, there are only two options. The wet areas could be left to become weedy and perhaps saline. Or they can be managed to produce crops that use moisture.

He likens it to the evolution of conservation farming practices such as zero till and direct seeding over the past 25 years. In the early days there were people



**“ I also need to pay attention to what is happening in the rest of the world,” Groeneweg says. “The crops may not be the same as I am growing here, but what can I learn from their experience?”**

who believed in tillage and were reluctant to accept the concept of continuous cropping and direct seeding.

Many farmers actively opposed it, and it took time for that to change.

But, says Groeneweg, if Western Canada is into a higher moisture growing season cycle, new water management practices need to be considered. “If Phoenix started running into winters where they were consistently dealing with two-foot snowfalls, someone is eventually going to buy a snowplow,” he says.

While the sometimes excessive moisture comes with its share of problems, Groeneweg also sees it as his responsibility as a farmer to look for ways to turn it into an opportunity.

“If we can do what we can to properly manage the water, we have potential to become very consistent producers of 70-bushel canola crops,” he says. “If we make the best use of our resources — the moisture and most productive land — with proper management, then it becomes a win-win for producers as well as society.”

#### **CHANGE IS UNDERFOOT**

Groeneweg also talks about the somewhat complex role of crop selection and rotation in adapting to change and managing risk on the farm.

A typical rotation on his farm has included spring wheat, durum, canola, flax and fababeans. He has tried growing grain corn, and hemp was fairly successful but it is a crop that struggles with marketing issues — he can grow it but the market isn’t consistent.

“Just because you can grow something doesn’t mean you should,” says Groeneweg. “You have to be profitable.”

Now, newer changes affecting rotation include increasing levels of herbicide-resistant wild oats (and concerns over herbicide resistance in general). Wild oats resistant to Group 1, 2 and Group 8 herbicides are common, and wild oat resistant to glyphosate could be around the corner, he says. “It is a warning we heard over the past several years and I’m as guilty as anyone else,” he says. “But with herbicide-resistant wild oats, we weren’t sure how to deal with it. And now it is a real problem.”

Groeneweg says he is using newer tools such as Avadex and Edge (older chemistries that have found a new role in recent years) but that adds another \$15 per acre roughly

**CONTINUED ON PAGE 20**

## Interest grows in tile drainage

With a succession of wet growing seasons across Western Canada, tile drainage is moving to the front burner for more farmers, researchers and ag businesses.

It's hardly a stampede, but it's getting more thought after recent wet years.

One person fielding more questions is Joel Classen, an owner with Northern Plains Drainage based in Elie, Man., a company with its roots in specialty crops. "The biggest shift," Classen says, "is we are seeing more grain farmers asking about tile drainage."

Now, Classen is probably dealing with 15 to 20 new clients per year, mostly grain farmers, looking for equipment or systems to treat problem areas ranging from between 100 to 300 acres.

Interest also comes from higher land prices. It becomes a better option to invest in draining wet areas rather than looking to buy more land.

Avery Simundsson, a project leader with the Prairie Agriculture Machinery Institute (PAMI) in Portage la Prairie, Man., says interest in tile drainage is definitely on the rise. She points to a recent Manitoba farm conference where a tile drainage session was packed with producers looking to learn more.

One of her first projects with PAMI has been to do a literature review of tile drainage systems, and she, along with others, say one of the key issues with tile drainage may be to develop appropriate regulations. "Once you start moving surface water around, everyone gets concerned," Simundsson says.

In Manitoba, for example, water and drainage issues are handled on a local municipality basis, so there can be a wide range of regulations. Specialists in Saskatchewan say there are no specific regulations for tile drainage, so any projects are reviewed on a case-by-case basis by the provincial government, but if interest in tillage drainage systems continues, it appears likely that all provincial jurisdictions will be looking to develop appropriate regulations.



## Should he aggressively add acres? Should he look at farming elsewhere? For him, Groeneweg says, the key is to excel at managing change in the field while he works out his answers

to input costs, which racks up to about \$100,000 bill on his farm. At the same time he tries to restrict his glyphosate to a pre-seeding burn-off.

With weed issues and a weakening wheat market, wheat is getting moved to the back burner of his rotation. Fababeans have a good fit since pulse markets are decent and it's a crop that can handle moisture fairly well.

Soybeans are another crop showing more potential in his area. He could grow more canola, but pushing that rotation has its consequences too with the potential for higher disease pressure. "Ideally you should be following a four-year rotation with canola, but we have cut that to three years," he says.

His plans are to include more pulse crops such as fababeans and peas in rotation and reduce wheat acres, and maintain flax and canola. "Herbicide-resistant weeds are a new challenge, a change, so how do you manage that and also consider proper agronomics, and at the same time consider you have to grow a crop you can market for a fair price to remain profitable — it can be a real juggling act."

Groeneweg says from a crop production standpoint his best risk management tool is to use good agronomic practices and pay attention to what is

happening not only in Western Canada but other parts of the world.

"It is important to have good research locally, provincially and in Western Canada," he says. "I also need to pay attention to what is happening in the rest of the world... the crops may not be the same as I am growing here, but what can I learn from their experience?"

Groeneweg says his farm will always need to change. While their children are still quite young, he has to think whether they will be interested in farming. That opens a whole other box of questions. Should he expand the farm base near Edgeley, look at farmland in Alberta or Manitoba or some other part of the world?

Does he want to have a 20,000-acre land base? If yes, he knows it would come with its own set of challenges.

And the questions continue.

"And the advice varies too," Groeneweg says. "Some people say you shouldn't put all your eggs in one basket, while others say it's better just to have one basket, but watch it closely. So there is always something to think about."

"We can do the best job we can today and look at the opportunities that change provides. And as the next generation comes along we'll have to look at the options then." **CG**

Here's to the farmer who's willing and able,  
Who's at every meal, but not at the table.

Here's to the farmer who cares for the earth,  
Who loves every creature and knows their true worth.

Who wears many hats with honour and pride,  
With love for their business that shines from inside.

Who respects what they do and how to get through it,  
Constantly learning the best ways to do it.

Who's open and honest and willing to share,  
With nothing to hide, anytime, anywhere.

Here's to the farmer, who's in every bite,  
Feeding the world and doing it right.

Canada's Agriculture Day is February 16th and FCC is proud  
to celebrate our wonderful industry.

Here's to the farmer. Here's to Canadian ag. Here's to you.



# CUSTOM BUSINESS

Custom operators like Troy Monea are under pressure to boost customer service and to intensify their business management. In this game, there's less and less room for the uncommitted

BY JOHN GREIG / CG FIELD EDITOR



PHOTOGRAPHY: ANTHONY HOULE

**T**he same stories get told over and over again. For instance, when Troy Monea was growing his busy custom farm business near Falun, Alta., he reached out to a potential competitor.

“They had got so big so fast, I didn’t know how I could compete,” Monea recalls. “I couldn’t offer what he was offering, so I went over one day and said, ‘This is what I’ve got. I’m not competition, but if you’re into a bind or a breakdown let me know.’”

A few weeks later, that other custom operator did have a forage chopper break down, and Monea was able to step in to help. Today, they work back and forth regularly and keep in communication constantly.

It turns out custom operators are pretty good at sorting out who’s serious about the business.

Similarly, about four hours south, when Sean Stanford started his custom spraying business four years ago, he too found that co-operation was more important than competition.

Stanford, who farms and custom sprays near Magrath, a half-hour south of Lethbridge, went to another established custom operator, about 30 km away, and looked for advice. “I told him my business plan,” he says. “I told him I didn’t want to compete with him, I wanted to run alongside him.”

“I told him I would not undercut prices and would not out-advertise him,” he adds, but it’s clear the two had already seen enough of each other that day to make a decision, and they’ve made it work ever since.

“If I’m too busy I will send some work to him, and if he’s too busy he’ll send some to me,” Stanford says. “We’re not in a business relationship, but we have a good friendship.”

Lurking behind it all, however, for both Stanford and Monea and for their partners, is the strategic recognition of just how vital great customer service has become for today’s custom farming businesses.

The days when custom operators only had to be good with a wrench are long gone.

It’s the same in southern Ontario, where Nick Lenos operates a custom farming operation near Villa Nova, a half hour south of Brantford with his brother Shawn and father John. Like Monea and Stanford, the Lenos family believes that in today’s rapidly evolving agriculture, the successful custom operators will be the ones who really are dedicated to their customers.

For Lenos, it’s the most important differentiator. “The customer takes precedence over your own land,” says Lenos. “Other growers in the area do custom work as well, and their land comes first.”

For those who want to be serious about the business, customer service means more than just showing up with the sprayer at the right time, although it does mean that too. Unlike farmers who manage their farms within boundaries they own and control, the custom operator has many people to please, and they also have to deal



## **For Monea, as for the other operators in the article, success takes business discipline, and solid customer relations**

with the weather happening on the farms of all of their customers.

But even this emphasis on customer relations has to be part of a larger package. It’s also essential, for instance, for custom operators to hone their accounting and their HR management skills far beyond what’s necessary on many farms.

All this means their daily decisions are filtered through the usual production lenses used by farmers (seeding and planting rates, fertilizer and spray details and rates, scouting, harvesting and logistics), plus their internal business demands, plus their focus on customer relations.

At Lenos Custom Farming, though, it starts with a clear focus. They aim to treat the land they work for other people as their own.

“If you see something in the field, you stop and pick it up. If there’s a tree down you let the customer know. You try to keep up with what’s happening in their fields,” says Lenos.

“When a customer needs to get wheat in, we’ll go past other fields so that we can get it in for them.”

The Lenos operation works some of Ontario’s most challenging soils in a 30-km radius of Villa Nova, covering much of Haldimand and Norfolk counties. Soil there can range from heavy clay to blow sand, which means in order to serve their customers, they maintain a large equipment inventory. That’s an extra financial burden, but they try to

**CONTINUED ON PAGE 24**



supply complete crop production custom work, from tillage and planting to spraying and harvesting.

Lenos Custom Farming started with John in the 1970s. At that point he was a dairy farmer, but also started offering some custom farming services, as he also enjoyed working with equipment. In the 40 years since, the business has grown significantly to include Shawn and Nick, as well as a full-time employee and two or three more seasonally.

## BUILD ON COMMUNICATION

Having open communication with customers is important for the business to run well, says Lenos. That involves communications from the custom operator to the farmer and back. When weather is variable, finding the right field to work that day can help efficiency.

“It all stems back to communication,” says Lenos. “You have to ensure you get the job done.”

Monea requires three days notice for spraying at G&T Custom Harvesting. But if a rig is in the area and they can work it in, they will.

Monea finds that his customers still want to see him at some point during the day. Complaints about employees are lowered if the customers have had some interaction with him. They know he is still in charge.

Farming is different from industries like oil and gas, Monea says. There, a company president might have no direct contact with customers, and their role may be all about logistics and price. But that’s not going to cut it if you want to excel with a custom operation.

“If I’m not there with that relationship and trust that’s been built from the beginning, it hurts me,” Monea says. Even a half hour is enough, he says.

There are busy times in custom farming, and they often all come at once when a crop reaches a certain maturity at the same time in the same area, or when disease or insect pressures reach a threshold calling for treatment across broad acreage.

“It feels like we’re busy for a month in the spring, then there’s a lull and a week of bugs in canola and everybody wants it on the same day,” says Stanford, of Twisted Iron Farming, in southern Alberta. “The sprayer can sit for two weeks, then we’re going to 20 hours per day for three weeks to get caught up.”

Being able to tell a farmer who wants their insecticide on now that they have to wait two days is tough. Long-term relationships and trust make it easier.

Telling them the truth is the key, says Monea. That might sound simple, but it has been part of his business growth.

“I know people who were upset about custom operators,” he says.

“They would ask when they would be coming, and the operators would say they’d be there tomorrow, instead of telling the truth, that they were backed up three to five days.”

“One of biggest things that makes us successful — we will make sure we are on time. We will book a little less to make sure we get to them.”

Custom farm operations tend to divide into two camps: farmers who spread their equipment costs over more land by doing some custom work, and those who are custom farm operators first.

Stanford at Twisted Iron Farming is in the first category. He and his wife Amberley run about 400 acres, not enough for a full-time farming career. Stanford works during the off-season as a mechanic in Lethbridge, but devotes himself full-time to custom spraying and his own acreage during the crop production season.

About four years ago he learned the local Crop Production Services (CPS) outlet was getting out of custom spraying. “I saw an opportunity to jump in. We bought our own sprayer and then asked them to send people our way,” he explains. Word of mouth advertising and relationship building also helped at the start.

He runs his Apache AS10-10 hard during the growing season, aiming to cover about 20,000 acres each year. Most of his customers are smaller, between 500 and 1,000 acres, but customers of that size value his service since they are unable to justify purchasing a high-clearance sprayer.

## COMPLEX RECORD-KEEPING

Attention to detail is important for Stanford, and has to be for every custom sprayer, he says. Keeping track of the details requires dependable record-keeping systems.

In Stanford’s case, his wife Amberley looks after the accounting for the farm and the spraying business, but Stanford has to be able to hand her a stack of accurate record sheets at the end of the day.

Customers then get field record sheets. “Everyone has a paper trail and my butt’s covered,” Stanford says. “Without someone to full-time keep up the books, I would be drowning in paperwork. Having someone who is computer savvy and keeping it up is a lifesaver.”

The need for records is even more important now that so much data is created by cropping equipment, with data that needs to be shared with farmers.

In Monea’s business, his wife Holly also manages the books for the large operation. She was a bank account manager until deciding to switch to the business full time, where her role is crucial to managing their growth. They are now looking at whether they need more office staff, including a dispatcher for the numerous pieces of equipment they have on the fields in central Alberta.

The backbone of Monea’s custom farming business is silage harvesting, although the business has changed in the past 10 years as the number and size of feedlots and dairy farms has grown in his area.

Monea says he was running a round baler at 10 years old. “We were taught safety first and foremost. I was not unsupervised for very long.” But it gave Monea a taste of the business that became his career. He had an early passion for farming, and remembers reading seed guides and keeping up on crop trial data at 12 years old.

The Monea’s farm just under 5,000 acres, some owned, some rented, and look after seeding about 12,000 acres, including their own, and spray between 35,000 and 40,000 acres, including their own. They harvest custom silage for cereals and corn and also have a custom trucking business. They mostly haul grains, mainly canola to the Cargill crush plant in Camrose.

Troy bought out his father in 2002 and now is the sole owner and president of the company.

## OUTSIDE HELP

Custom farm operators, like most farmers, have help they rely on outside of family. In Monea's case, that's 10 full-time employees, accountants and a supportive banking system.

Managing employees is one of his largest challenges, in part because with 10 employees, there is always some turnover.

"We are fortunate that we've had many people with us for many years but, still, the limitations come on the human side, not the equipment," says Monea.

Even in an area of Alberta where laid-off oil and gas workers are plentiful due to the downturn in the oil economy, it's still difficult to find people who want to work.

"There are two different classes of wages, two different ethics of work," he says. He finds some employees are all about the wage. Others are about doing meaningful work that they like.

Monea tries to go the extra mile, helping out his employees who farm. Some can borrow a truck to move grain. Others can borrow equipment.

One employee bought an air seeder and Monea put a tractor on it and gave him some customers. Now that employee has built up his own customers, which means Monea essentially created a competitor, but he has no problem with it.

Monea, by the way, says technology has greatly reduced employee error, including maps in sprayers and the shutoffs in the equipment. "The risk of wrong application and mishaps is hugely downgraded with technology," he says.

## TRUSTED SUPPLIER

Being a trusted supplier to a farm is even more important when commodity prices drop. That has made the past few years, with low grain prices and more recently, cattle and hog prices, a challenge. Most custom operators are also farmers, so they know where the pain is coming from for farmers.

"We are still charging the same rates we were four or five years ago... and I hate it," says Monea. He would like some of the increased efficiency of equipment to drive less cost to his customers, but those larger and more efficient machines have also doubled in price, especially for large self-propelled harvesters and combines.

Monea says the capacity increase has matched the price increase for harvesters, but the doubling of the price of combines is harder to take as the capacity has far from doubled.

"We haven't changed our prices since we started," says Stanford. "Fuel price is up 20 to 25 cents per litre since we started, but we've kept the billable price the same. We all know these are tough times."

Larger and more efficient equipment has helped the Lenos family, but they are keeping equipment a bit longer. They also do most of their own repairs in-house. "These are big costs but you can't push them onto the customer. You can't put combine rates up \$5 every year."

Instead, you need to be the farmer's best partner and supply a service they can't match with the equipment they can afford to buy. In an era of growing precision advantages in farming, that's an argument that sells.

"The biggest thing is the relationship with your customer and knowing their needs," says Lenos. "You can work through a lot of good times and a lot of tough times when you understand their businesses." **CG**

## It's business. But is it still a farm?

BY JOHN GREIG

Are custom farm operations just farms by another name?

Not according to government and taxation rules, which may be something you don't discover until it's too late, and the government is classifying you as a custom operator business and no longer a farm.

Make sure you maintain your qualified farm property designation, say David Engdahl and Shea Ferster, accountants, business advisers and partners with MNP in Saskatoon.

"I can't stress how important it is to maintain that qualified farm property status," Engdahl says.

Custom farm businesses are treated like any other non-farm business. That means there can also be implications for succession planning. For example, shares in a farm corporation can be rolled over and gifted tax-free to children or grandchildren, which can't happen in other non-farming corporations.

Engdahl says the custom operators he works with separate their businesses, so that the farming that they do will be managed as a farm, with the tax advantages of a farm, and the custom farming business will be run separately.

A second major area of difference between farm business and custom farm operations is that farm businesses are taxed on a cash basis, while other businesses are taxed on accrual basis. That means, for instance, that farms can time a grain cheque for the best tax outcome.

In non-farm businesses, income is taxable after the work is performed.

Expenses can be the biggest challenge when the business is split between a farm and a custom business. Say a grain buggy tire goes while you are in one of your fields. The tire blew while doing work for the farm business, but most of its wear may have been while running the roads and fields for the custom farming business. How do you apportion the expense?

Another challenge is accounting for equipment. Custom farmers usually use acres to determine whether the machine is used more for their farm or custom work businesses.

However, other measures like hours may be necessary. Engdahl uses a bunk silage pack tractor as an example of a piece of equipment that runs for hours, but covers little acreage.

Other important factors include making sure you have the proper liability insurance coverage for running the roads and working other people's land as a custom operator. Farm insurance packages won't cover it. And in some provinces custom operators will qualify under workplace protection legislation, while farms may not, or may be under different levels of regulation.

# Beyond the family

It takes smarts and determination to use your farm to help a new farmer get their start, but the rewards can be deeply satisfying

BY ANGELA LOVELL

**F**our years ago, Tom and Margaret Towers were facing a dilemma that's becoming increasingly common for farm couples as they move into what are politely called their senior years.

The Towers knew they couldn't continue to manage alone forever, and they also knew they wouldn't want to leave the farm near Red Deer, which they'd spent a lifetime creating.

And while their children love having a connection to the farm, they were away pursuing successful careers.

"Our kids are doing other things, but the land is important to them and we wanted to keep the land in the family," says Tom, who established Tamara Ranch in 1967 with his wife, Margaret, about a mile from his great grandfather's original homestead.

"We needed to find somebody who could manage the place," says Tom. "But it was important that they had the same philosophy as us."

It wasn't only the kids they were thinking about. Like others, they were thinking about themselves too, and about their lifetime's commitment to the land.

Surrounded by large-scale grain farms, the Towers figured that if they sold their land it would be swallowed up, becoming just another cluster of undifferentiated fields in a much larger crop production enterprise, and they couldn't bear to think that the things that made their land special might be lost, or that all the work they had put into building soil health, improving the grasslands, increasing biodiversity and retaining natural habitat might be undone.

"We love our land. We've been on it for 50 years," says Margaret. "But what were our options? We wanted to stay on the land, but we didn't know how to still make an income off the land without selling or renting it."

## NEEDING LAND TO RELY ON

Meanwhile, not too many miles away, Blake and Angela Hall were struggling to find a long-term land rental agreement that was stable enough to allow them to grow their grass-fed beef business.

After a year of university, Blake was having a hard time finding the right direction for his life. He had spent a couple of years participating in youth volunteer exchange programs in Canada and Burkino Faso, and had set two goals for himself; to learn how to build a house, and to grow food. "I figured there was probably no harm in learning those two skills whether they led me into a career or not," says Blake. "I was 20 years old, and not tied down by family or debt."

Blake spent a summer in Ontario with the CRAFT (Collaborative Regional Alliance for Farmer Training) program that taught him about growing food, and decided to stay in Ontario to start a carpentry apprenticeship. He obtained his journeyman's certificate five years later, but it was that first summer on the farm that stirred a passion for agriculture.

When Blake moved back to Alberta in 2011 he bought his first small herd — 30 head of mixed pregnant cows and young steers. He also took a meat cutter's course at Olds College where he met his future wife, Angela, another "townie" with no farm experience, who Blake describes as his happy farming accomplice.

## A FATEFUL MEETING

The Halls and Towers crossed paths in 2012 when Blake answered Tom's ad on Kijiji for grass-finish type cattle. When they got together, Tom and Margaret immediately sensed and liked Blake's outlook, even though he'd grown up in the city.

"We were really impressed with this young man, and we started chatting about what he wanted to do with these cattle, and



what he wanted out of life," says Margaret. "We could see his love for the land and the passion for what he was doing. He wasn't just playing at farming, he was really serious."

The cattle were such good animals, Tom wondered why Blake was selling them, and when he answered that he needed to pay his winter feed bill, Tom and Margaret wanted to help. They purchased some of the female cattle and agreed to keep the calves to sell back to Blake.

From there it was a natural progression to ask Blake if he wanted to bring his herd to the ranch and manage it. "We could see that he needed some permanence, somewhere he could put his roots down, raise these animals and keep his business going," said Margaret.



Tom Towers, I, was looking to retire, but wanted to ensure their farm would live on. Blake Hall wanted to farm, but didn't have the equity. With the help of legal agreements, an outside facilitator, and a commitment to open communication, each is reaching their goal.

The Towers suggested a long-term plan to manage 400 acres of their land and also offered to let Blake and Angela move into the modular home on the next quarter on a rent-to-own basis.

### THE AGREEMENTS

The Towers and Halls each sign a yearly Farm Services Agreement, which provides mutual protection for all parties and is an umbrella cover for all of the enterprises that operate independently on the ranch.

Tom and Margaret signed an additional five-year Scope of Work (SOW) agreement with Blake and Angela which covers the day-to-day activities that they share on the ranch. "This working agreement gives us the

ability to bring Blake into the family operation, and allows him to become a part of it rather than a renter. We, in turn, have the confidence of a long-term relationship with the ability to mentor and impart what we have learned over the last 50-plus years," says Tom. "We share similar philosophies and can work toward shared goals for the overall progress and success of Tamara Ranch."

Importantly, the SOW provides Blake the opportunity to ranch with no fixed costs in land or mortgage payments.

Blake runs his cattle with the Towers cattle on 400 acres and pays them an animal day rate while they pay him a per-head day rate for looking after their cattle. This year, the grazing herd comprised 150 head

of cows, calves, yearlings and fats, of which Blake owns about 60 per cent. They share costs for hay, straw, salt and mineral based on percentage of ownership of the herd.

"Blake buys our fat beef at a fixed hanging rate, and markets all the fats, including his own, through his company Prairie Gold Pastured Meats," says Tom. "He pays us a percentage of gross on lamb and pork sales."

The Towers custom graze a neighbour's yearling replacement heifers and breed them for him, for which they're paid on a per-head-per-day basis. They reimburse Blake for the management of them, which includes daily moves and health care. Tom and Margaret

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For Angela and Blake, just as for Tom and Margaret, success hinges on their openness and mutual respect. “We have all got to be financially sustainable,” Tom says. “You need transparency.”

still manage the remaining 640 acres which grazes cattle from a local Hutterite colony.

The Towers could just rent their land, but would lose the ability to sustain it in the manner they’ve worked towards for the 50 years they’ve owned it. “The simple rent from the farmable land would pay us about what we are getting from the cattle sales and grazing,” says Tom.

## HIRING A FACILITATOR

Even though Blake and Angela hit it off immediately with Tom and Margaret, they were still cautious about jumping in with both feet. “It’s often the human element that leads to a breakdown in the partnership, whether it’s family or not, so we really took our time to decide,” says Blake, who ended up taking the same holistic management course that the Towers had taken in the ’90s.

“I’d seen a lot of farms that were successful, their marriages were intact, they had good family lives, and their common thread was holistic management,” Blake says.

Over that winter the two couples agreed it would be a good idea to hire a facilitator to help them with goal setting and to develop a strong communications strategy, something they knew would be important if their relationship was to grow and flourish.

They invited Kelly Sidoryk, a certified

holistic management educator from Lloydminster to come and help them out.

Sidoryk’s role was to help each couple set goals and create their own vision, which she then helped to bring together to form a larger vision that would work not only for the whole operation, but also for all the people involved.

“This is hard work (for them) to do,” says Sidoryk. “It’s harder than building fences or making a financial plan, because you really need to sit down, and be open and communicate your wishes.”

“I really admire the Towers and the Halls for being able to create something unique,” Sidoryk says.

Focusing on goal setting and communication at the start made it easier in the long run, Blake agrees. “That’s when everything is good, and everybody is happy and excited.”

“Inevitably things arise, and you can’t set up a communication framework reactively,” he adds. “As things come up, we’ve got the respect for each other, and the understanding that we can address those things, and it’s been successful so far.”

The communication strategy isn’t anything fancy. It’s as simple as sitting down together over coffee every Monday morning, talking about what’s going on at the ranch, and sharing ideas to tweak the management,

or discuss any small disagreements or grievances that arise.

Blake says he feels lucky to have such a good relationship with the Towers, because he’s seen many of his peers from family farms whose succession planning hasn’t gone anywhere nearly as smoothly, and he’s fairly confident, having met the Towers’ children, that he’ll be able to work with the family for years to come.

Margaret and Tom had no doubt that their son Todd would hit it off with Blake, and vice versa, and they also knew that their desire to see the farm managed according to the ideals that Todd shares with them would hinge on their relationship.

“Todd has always loved the farm, and is totally in sync with what we have done here and the last thing he wants to see happen is the land pass out of the family,” says Margaret. “Todd and Blake are developing a great relationship. They have a similar philosophy, and they truly respect each other.”

Blake and Angela direct market grass-finished beef to private customers in Red Deer and Calgary under their own Prairie Gold Pastured Meats brand. “We have our animals butchered, and we deliver our beef directly to our consumers,” says Blake. “There’s no way that, as a small producer, we could have gotten a start in agriculture if we were trying to get into commodities. With direct marketing we keep our entire margin, and set our own price rather than take whatever price is being given at the auction mart.”

## AT THE BANK

As with many young producers starting out, it’s difficult to walk into a bank manager’s office and ask for an operating loan when you have little or no equity built up to back it. The Halls had to be creative to finance their operation. They run a herd share program — similar to a Community Shared Agriculture (CSA) arrangement, where customers purchase a share in the live animal that will provide their meat. This provides upfront revenue and a reasonably stable cash flow through the season.

“It is really the only way we were able to build the business,” says Blake. “When I was starting I was literally laughed out of lenders’ offices.”

## A FARM ‘INCUBATOR’

Interestingly, Tom and Margaret’s arrangement with Blake and Angela has morphed into a kind of “incubator” system which is helping other young people achieve their farming dreams too. They now also rent a

seven-acre plot of land to Blake's brother-in-law, Mike, who is running a successful CSA venture which employs up to five local people. They also have an agreement with another young couple, Sven and Nikki, who raise pastured poultry on their land in the summertime.

Tom and Margaret know what they are doing goes against the traditional retirement plan of selling off the land or re-mortgaging it to the next generation.

"We are trying to give the next generation of young farmers the opportunity to grow food, and it's amazing how many young people want to do that," says Margaret.

The model of bigger, bigger, bigger isn't able to draw those young people back, she says. "We believe in a re-generative model of agriculture that goes way beyond sustainable, which allows these young people to manage smaller plots of land without having to worry about a big debt hanging over their heads."

The bigger picture should also be kept in view, she adds. "They (Blake and Angela) are

growing food for local customers, creating employment and keeping small, rural communities viable and strong."

### BECOMING MENTORS

Through the process, of course, the Towers have had to accept change, they've had to get to know someone almost as well as they know their own son without having had a lifetime to spend with him doing that, and they've had to learn how to offer advice without smothering. "You have to mentor in a way that you allow the person to feel like they're not being controlled, that they have the ability to make their own decisions," Margaret says.

For an arrangement like theirs to work, there needs to be transparency, honesty, good communication, and flexibility, but you also need to change your mindset, Tom finds. "Farmers and ranchers have survived by being independent thinkers, but with a deal like this, you've got to change your thinking to interdependence."

You also have to be prepared to discuss

some tough issues, he adds, and one of them is finances, which even many farm families dance around. "We've all got to be financially sustainable so we have a lot of those kinds of conversations. We have shared costs, and separate costs, and we have an understanding of what all of those are," Tom says. "You need transparency with finances."

Although Blake would love to own land one day, he accepts it's not likely to happen. "Land prices around Red Deer are so inflated beyond agricultural production value that I just can't see us being able to own this place without me taking a high paying job in town for the rest of my career and that defeats our whole purpose," he says.

Blake knows their relationship with Tom and Margaret is special and that it is because of them that he and Angela can pursue their goals of owning their own home and having financial autonomy while farming full time. But there's something in it for Tom and Margaret too, allowing their agricultural legacy to live on, and giving them a chance to retire as gracefully as they farmed. **CG**



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# Follow the five per cent rule

Incremental changes can have a big impact on your operation

**Y**ou may have heard the saying, “Take care of the small things and the big things take care of themselves.” This is a great piece of advice for life in general, and it also very much applies in the context of running a farm business, where even small changes can have a big impact on output — and on revenue.

The five per cent rule is a philosophy that advocates making small logistical or logical changes to the operation, rather than big, sweeping modifications, and it can often result in a healthier bottom line.

Implementing this rule is easy, but it does require that farmers shift their perspective and adopt more of a management role, where they are working “on” the business rather than “in” the business.

## HOLISTIC MANAGEMENT STRATEGY

Ideally, the process begins at the budgeting and strategic planning stage, when you are developing the big picture plan for the year ahead and modeling various scenarios. Saving money is certainly the goal, but a common mistake can be to immediately, or only, look at cutting back costs or spending, without first considering the longer-term negative impact.

It's the same way that buying cheaper fertilizer or reducing spraying may save you money now, but then reduce your profits at harvest. It's important to take an agronomic approach, look at your plans holistically, and consider how one change can have an impact on another.

Trimming five per cent of your expenses may seem like a lot as a total sum. If that sum was \$50,000, finding that much in savings on one or two big line items such as fuel or inputs will be challenging. But by spreading that amount across all expense lines, including smaller ones, it's no longer such a daunting task. It can also be as simple as reframing the cost per acre to cost per bushel, considering input costs rather than just revenue, or incorporating new habits and ways of thinking.

By taking a close look at each expense line and considering various options or solutions, you'll find that you can usually make better use of your resources to save or even make more money.

## SPENDING MONEY TO SAVE MONEY

Sometimes, spending a little more can help save you more. For example, if your overall plan is to adopt new technology, think about all the areas where you could adopt it throughout your operation, and its impact across the board. It may make sense to spend more on advanced seed that is pest resistant, because it will save you more on other inputs. Before making any decisions, ask yourself: Is this technology something that can help to reduce expenses on smaller line items? If I invest in this, what is the cost and what is the potential savings or return? Is the return sufficient to justify the investment and whatever risk is involved?

When applying the five per cent rule, make sure your overall financial management strategy is cohesive. Break down steps so that the process is not overwhelming, and start with these practical tips:

**Write it down:** Put to paper your goals for each quarter. For example, in the first quarter, finalize your budget. In the second quarter, analyze your repairs and maintenance. Take a course on futures puts and calls for your marketing strategy in the third quarter. And in the fourth quarter, you may want to meet with your accountant on ways to improve things for next year.

**Do the numbers:** Ensure your internal accounting system is on an accrual basis. Compare your actual results to your budget quarterly.

**Prioritize:** Make a list of what tasks need to get done to achieve your goals each quarter and identify what's really important, versus what just makes you busy.

## CONTINUED EDUCATION

Sometimes, small changes can be more philosophical, but still have impact. Many farmers tend to do things a certain way simply because it's the way they learned to do it from their parents or even grandparents. It's important to continually challenge what you know rather than take for granted that it's just “how it's been done.”

Look at processes and ask yourself if it's the most efficient or if there's a better way of doing it. Apply new thinking to your processes, such as looking at your financial results on an accrual basis rather than

a cash basis. This will help you get a more accurate view of your farm business's profitability. Where cash income depends on the timing of inflows and outflows of cash, accrual accounting recognizes revenue when it is earned, regardless of when receipt of the cash from the sale occurs.

Continued education is another area where small changes can yield big results. Whether it's a formal course on futures and options, or whether it's workshops or simply networking with other farmers to gain new ideas or information, continued learning is critical to your farm's success. With so many advances in the industry and global competition, applying what you learn could make a big difference to your bottom line. If you're not keen on courses, hire a consultant or join with a few other farmers and consider sharing a team member who will focus on education and implement it for you.

As I mentioned in a previous article, peer groups are incredible resources and are becoming quite popular in the farming community. Utilize your network to learn from them, compare expenses or costs and identify areas where you can make improvements.

While it's easy to hope for success, hope is not a plan. Even small changes can help ensure your business is sustainable for the long term.

To learn more, visit [www.rbcroyalbank.com/commercial/agriculture](http://www.rbcroyalbank.com/commercial/agriculture). **CG**



**Gwen Paddock**, senior director, agriculture at RBC is a specialist in agribusiness. Since earning her B.Sc. with a major in agriculture economics she has been working with agriculture clients. A farmer at heart, Paddock was raised on a beef cow-calf farm outside Guelph, Ont., and participated in 4-H and Junior Farmers. To find out more visit [www.rbcroyalbank.com/commercial/agriculture](http://www.rbcroyalbank.com/commercial/agriculture)

February 2017

# Soybean *Guide*

## DOING THINGS RIGHT

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## A BUMPY RIDE AHEAD



Of course, soybeans were a Chinese crop thousands of years before anyone dreamed there would one day be a place called Canada.

Or, for that matter, that there would be a place called Washington.

I was thinking about this while reading the news recently, with Chinese communist president Xi Jinping lecturing the U.S. Republican President Donald Trump on capitalism and free trade.

The world seems topsy-turvy.

Strike that... the world IS topsy turvy.

But soybeans have been there before, and I hope you'll keep this in mind while you read your way through this issue of *Soybean Guide*. It's a good thing for us to be nudged by history from time to time into recalling that this really is a miracle crop.

When soybeans first came to Canada, it was as a forage crop. No one imagined that we'd eat any part of them ourselves.

And let's not forget, too, that after Henry Ford, no one really imagined for the longest time that the industrial use of soybeans would ever amount to more than, well, a hill of beans.

The year ahead promises to be bumpy, and I'm the first to admit that I have no idea what the head-

lines in our biggest dailies will be blaring in September, when our combines are rolling into the field and bringing this year's soybean crop home.

Yet at the same time, I'm reasonably confident that those combines will pull off a crop that we would never have thought possible a decade ago.

If there's any industry that should believe in the power of positive change to ride through negative change, it should be agriculture.

And among farmers, it's hard to think of anyone who should be more optimistic about the future than soybean growers, thanks to endlessly growing market demand coupled with equally endless productivity gains.

This depends, of course, on our farmers being world-class, but that isn't much in doubt (a faith that is bolstered by the fact you are reading this).

Do pause, though, to soak in Philip Shaw's advice on the volatility of 2017's soybean markets. The danger is that we could be so relieved that prices aren't in the basement that we miss our chances for profitable sales.

We wish you all well in the year ahead. Am I getting it right? Let me know at my email below.

Tom Button, CG Editor  
[tom.button@fbcpublishing.com](mailto:tom.button@fbcpublishing.com)



The 2016 growing season challenged many growers with dry conditions and poor canopy closure leading to weed management issues.

# The right time for weed control

It's a given that there's a critical weed-free period in corn, yet discussion about its importance in soybeans has lagged

**By Ralph Pearce,  
CG Production Editor**

**I**n the early 2000s, Dr. Clarence Swanton introduced the concept of the critical weed-free period, changing the way growers consider weed management and control measures.

The finding was a culmination of work started in the mid-1990s, and when it was first introduced, the critical weed-free period was defined as the four- to 10-leaf tips stage (V2 to V8) in corn.

In soybeans, it was up to and including the first to third trifoliolate.

Since then, the science has continued to expand. In early 2014, for instance, the critical period for corn was redefined, pushing it as early as pre-emergence since the corn plant is capable of sensing another plant species before it emerges from the ground. That capability could impair the plant's growth potential on a cellular level.

It's interesting then to note that even in a year like 2016, the critical weed-free period in soybeans doesn't seem to generate the same sense of value as it does in corn.

Across much of Ontario and Quebec, drought-like conditions early in the season hurt both herbicide efficacy and canopy closure on soybeans, particularly those seeded to 30-inch rows. Without sufficient canopy closure, soybeans had only herbicide applications to fend off weed growth, and since most chemistries are water-activated, many soybean fields were overrun.

But it underscores another question: why does the critical weed-free period in corn seem to have more importance than its counterpart in soybeans?

For the record, Swanton confirms that the critical weed-free period for soybeans remains at the first to third trifoliolate — but in fact can be identified all the way back to emergence.

“That window will vary in any given year, depending on the growth of the soybeans and the row-width,” says Swanton, a weed scientist in the department of plant agriculture at the University of

*Continued on page 6*



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## IDENTITY RECOGNITION IN SOYBEAN

In the fight against pests, weeds and diseases, and in overcoming stress in crop plants, researchers have tried to identify various traits to lessen any negative impacts. The science being utilized in this search is getting more and more incredible. For instance, the absorption of light of varying wavelengths by weeds, the attraction of certain insects to varying shades of green in edible beans, and the ability of roots to alter their cell morphology in response to flooding are just three of many characteristics that have been studied in recent years.

Research into the critical weed-free period that was first presented in the early 2000s actually paved the way for a newly accepted paper from a team of researchers from the University of Guelph, including Dr. Clarence Swanton. The project sought to determine whether a soybean cultivar displays a measure of identity recognition relative to its neighbouring plants. The research was co-authored by Dr. Guillermo Murphy, Dr. Rene Van Acker and Dr. Istvan Rajcan, and is titled *Identity recognition in response to a gradient of genetic relatedness in commercial soybean*.

OAC Wallace was the commercial cultivar featured in the study, and was compared to other commercial varieties, along with *Glycine soja*, a wild progenitor, and another legume species *Phaseolus vulgaris* or a dry white bean variety. It was determined, stated the authors, that for the first time to their knowledge, a commercial soybean cultivar showed a level of identity recognition response. OAC Wallace showed no response to other commercial soybean varieties yet when measured against its wild soybean progenitor, it displayed increased allocation of energy to its leaves versus the stems. Also compared to a white bean, OAC Wallace showed an increase in allocation to its leaves as opposed to its stems and roots.

The study's introduction notes that little is known about identity recognition in crop species, with only two other studies which looked at the responses in root placement in different crops (rice, soybean and corn in one study, and in wheat in the other).

Where the findings may be pointing, however, is in the direction of competition of plants for nutrients, moisture and sunlight. If weeds begin growing in a crop, it's possible that cultivars with some level of identity recognition will be more successful, since they'll be able to identify their neighbours without competing with them. To that end, identity recognition could become a key in weed removal strategies in the future. It might even help with defining optimal planting conditions and densities for successful production.

More research is needed, but interest is growing, together with hopes these studies may lead to new strategies for controlling weeds.

**"The critical period is about keeping the yield potential protected as long as you can and minimizing any stress."**

**— Dr. Clarence Swanton,  
University of Guelph**

Guelph. "That's the most conservative estimate. In a given year, it could be a little bit shorter or sometimes a bit longer. It's important that growers realize it's a guideline, and that's the length of time that we really need residual control for, or an early post-emergence treatment. For any weeds that emerge after that, it's not a yield equation, it might become a harvest-ability equation."

One other condition from 2016's delayed canopy closure and challenges with herbicide efficacy was the physiological impact on the weeds: they developed a thicker cuticle and became harder to control. Some farmers were left pulling weeds by hand in advance of harvest. Swanton, who also farms and had identity preserved (IP) soybeans in 2016, had to spray a desiccant to harvest his crop.

Asked what it is that makes the critical period in soybeans seem almost secondary to that of corn, Swanton isn't sure.

"I think the critical period in corn comes into play because it's in the ground for a longer period of time, and sometimes, people pay a little more attention to their corn crop," he says. "The critical period is really about two things. It's about keeping the yield potential protected as long as you can, and minimizing any stress during that period. There are other stresses that take over and that you can't control, and utilizing that critical period in terms of weed management is trying to keep that plant on its optimum growth trajectory as long as you can."

### TWO NEW PROJECTS

There are two new and interesting projects underway related to the study of weed management, notes Swanton, and both involve soybeans. One is a recently accepted paper on identity recognition in soybeans (see sidebar). This research asks whether soybeans grow differently in the presence of a soybean cultivar versus a species of edible bean, a wild progenitor or another soybean cultivar.

*Continued on page 8*



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The growth pattern is different between different “neighbours” and somehow, judging by the growth patterns, the soybean plant reacts differently to those neighbours.

The other research that was submitted late in 2016 looked at how a soybean plant actually loses yield in the presence of a weed seedling, and the mechanism by which that occurs.

That preliminary finding was presented and discussed at the 2017 South-west Agricultural Conference last month at Guelph’s Ridgetown Campus.

“We believe we’re at the point where we can start to think about creating a more weed-tolerant soybean plant,” says Swanton, adding that it’s taken 16 years to get to this point but it’s the foundation for some important developments. “The fact that a soybean plant can identify a species growing next to it, I mean, how cool is that? Then we can start to understand that weed species.”

The most important discovery that has helped shift this thought process is that weed species can release what is known as “singlet oxygen,” a super free-radical type of oxygen that is known to cause damage and trigger various activities and reactions in the plant. It triggers oxidative stress, for one, and puts the plant on a totally different growth trajectory.

The discovery of singlet oxygen is a major breakthrough from Swanton’s perspective. It shows that a weed plant can significantly damage the cellular structure of a nearby corn plant without ever touching it. So researchers are asking whether it might be possible to reverse that process, i.e. could we breed corn plants that kill nearby weeds without ever having to touch them?

“It might be possible with what we know to look at this sequence of physiological changes and determine whether we can over-express an enzyme to help us handle the type of damage that’s happening,” Swanton says. “There’s no direct competition for anything — the two plant species are just ‘having a conversation.’”

It’s a new and revolutionary discovery, and yet in discussions about insect or disease resistance, a plant that’s competitive to stress has never been considered — until now.

With the unlocking of this super free radical, Swanton believes it may be possible to counter its expression and the stress it can create. For instance, to



New research indicates a soybean plant can sense the presence of a nearby weed, which can help researchers understand that weed species and its impact.

“The fact that a soybean plant can identify a species growing next to it, I mean, how cool is that?”

— Dr. Clarence Swanton, University of Guelph

combat weeds, it might be possible to breed for a soybean plant that is early emerging, fast-growing, bushy-type with rapid canopy development.

It only looks simple on paper, though. If it were that easy, it would have been done years ago.

But it isn’t a simple process either. In the past, researchers and breeders have tried to look at such morphological traits in order to affect the competitive ability of the plant. Unfortunately, none has been consistent with something a breeder might be able to use.

“The critical weed-free period really opened our eyes to the speed at which a crop plant can lose yield, where there should technically be no competition for resources,” says Swanton. “If I’m saying that a critical period in soybeans begins at V1, that means that shortly thereafter, we begin to detect a decline in yield.”

Yet if the grower has carried out the “right” agronomy — planting, fertilizing and applying chemical treatments — there should be no competition for light, so the crop should be up first, and the weeds — if they’re there — should be below the crop at that point.

From Swanton’s perspective, all of that should mean there’s little evidence of any “competition for resources” in an average year.

That’s the drive behind changing the idea of the competition, he adds. It’s true that weeds compete for light, water and nutrients, but it’s only true under extreme conditions where that happens, such as drought.

Based on his work and that of others, he believes competition is created by an energy imbalance in the plant, and it is this imbalance that disrupts the normal physiology, which then changes the yield potential.

“The work we do is the scientific basis behind the critical period, and it also provides the scientific basis for the basic premise of the early emerging weeds causing the most problems, and why early season weed control is important,” says Swanton. “In the longer term, it’s also potentially the template that will allow us to create a more weed-tolerant plant. It’s not that it won’t lose yield to weeds but it’s going to be similar to the drought-tolerant plants, where the yield loss is slower.” **SG**

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# All on my iPad

This new digital platform seeks to help farmers grow a better crop of anything, including soybeans

By Ralph Pearce,  
CG Production Editor

Variable-rate technology has come a long way in the past decade. Farmers, equipment manufacturers and the precision agriculture sector have seen the evolution of advanced systems that use GPS technology to enhance growers' efficiency and performance in the fields. Progress has been admittedly slow, yet there are those who've made the decision and the effort to incorporate these systems, or significant pieces of them, to enhance production and on-farm management.

But to keep things in perspective, in many ways it's like feeling a sense of triumph having walked 100 miles, only to realize there's still another 10,000 miles to go to reach your goal.

Time is the big challenge for those who want to incorporate variable-rate technology. In particular, it's the time needed to wade through the data and create meaningful prescription maps with enhanced management prescriptions.

Even without new technology, farmers have less time than they want for routine

farm practices, let alone the job of building the familiarity with data management and learning how to operate advanced computer programs.

There are many within the farm advisory sector who insist much of that work is being taken on by agronomists, retailers and advisers, although there will also be those farmers who can do all of that learning and familiarizing themselves with new computer programs, and who want to do that.

However, there's a growing need to simplify the reams of data, the algorithms and the complexity of how all of these properties — soil, nutrients, available moisture, planting depth and so many other aspects — interact with technology. Then of course, the challenge is to take all of that information and create a system that provides a sort of “one-stop” list of comprehensive recommendations.

One of the newer arrivals to help with this is Climate FieldView, a platform developed by the Climate Corporation, which is now available to farmers in Eastern Canada for the 2017 growing season. It was initially launched in the U.S. in 2015 and now covers more than 100 million acres across the U.S. and Brazil, with more than 100,000 farmers signed on. In 2016, the company approached a handful of Canadian farmers to test the system on their own farms, and to provide feedback based on their experiences.

Perhaps the biggest advantage to this technology is that it simplifies the process of co-ordinating existing as well as new data points gleaned from the fields. Whether a farmer has gigabytes of historical data on soybean or corn yields, or wants to just get started, this technology is meant to help.

At its heart is the capability to take data as it's being generated, and upload it to the cloud. From there, the information is broken down according to the directions and goals of the user. If a grower is interested in monitoring plant populations by a specific variety or hybrid, then that's what the system will generate. If they're looking to prioritize



This is one of many possible screen captures from the Climate FieldView platform as it appears on an iPad screen.

IMAGE COURTESY OF CLIMATE CORPORATION



The Climate FieldView service can deliver data on the move, from the cab to the cloud.

**“It’s really hard to get your data all in one spot.”**

**— Denise Hockaday, Climate Corporation**

their in-season scouting efforts to protect their yield before it’s impacted, they can have that as well through advanced satellite imagery tools.

Climate FieldView even has a weather component, which gathers detailed on-site information on heat units or precipitation levels during the growing season. It’s possible for a grower to know the conditions of a field 10 miles away, gleaning details on field conditions to help with decisions on planting dates or sprayer applications.

It’s a powerful tool with a tremendous amount of potential for providing in-field details for better-informed decisions. Denise Hockaday, climate commercial lead with the Climate Corporation, agrees that precision ag and variable-rate technology in particular, have been the subject of a lot of talk and high expectations in

the past decade. She also concedes that the uptake has been much slower than anticipated.

“The big challenge for why the adoption or use of variable rate isn’t as high is that in order to maximize or be able to execute on variable rate, you need the data and insight to create whatever that variable rate will indicate,” says Hockaday. “There may be equipment enabled to do it, but if you don’t know what you’re creating a prescription for, or why, because you don’t have the data or the insight, you can’t do anything with it.”

The learning curve that goes with this trend in variable-rate technology is arguably the steepest ever seen in agriculture. Growers have been told about variable-rate technology for roughly 20 years and some might even have equipment that is VRT-capable. Yet when it comes to put-

ting it all together and rendering comprehensive precision maps, it’s another issue.

“As I think about some of the key pillars that we’re trying to solve, one of them is that it’s really hard to get your data all in one spot,” says Hockaday, noting farmers are using systems that don’t “talk” to each other. “Challenge No. 2 is that there are many different systems. You have to learn how to use each one of them and they are not user friendly. And the other pillar is that data collection is a challenge. People don’t know how to do it and there isn’t an easy way to actually collect that information, let alone bring it to one spot, so we’re trying to tackle all of those pillars.”

The feedback from those who have worked with it in Canada has been posi-

*Continued on page 12*

**“There are many different systems, you have to learn how to use each one of them and they are not user-friendly**

**— Denise Hockaday, Climate Corporation**

## THE FARMER EXPERIENCE

**J**eff Cook, who operates Mapleview Farms just south of London, Ont., was one of the farmers in Eastern Canada who tested a Climate FieldView system in 2016. He found the experience everything that’s described in the company literature: easy to use, comprehensive and seamless.

“We could see where certain hybrids stood out over others, especially across the field,” says Cook. “If we came across some higher-productive areas, we’d see how one variety would perform in those higher-producing areas versus another. And then vice versa, when it came to more challenging areas of the field, we’d see where some of the genetics would outperform the racehorse-type hybrids when it came to corn.”

The Climate FieldView platform was a nice fit for Cook, who used it to compare varieties and hybrids, along with plant populations. He’s also been experimenting with variable-rate populations, so they used check strips in the field as well. The technology allows him more potential for going beyond the variable-rate planting densities.

“I’m excited about the potential for it. We’re hoping to be able to start bringing in application maps as part of the field layers,” Cook adds. “When we do that, we can start looking at different nitrogen rates, or fungicide applications, and then be able to harvest that in the fall, and see how things performed based on some of those applications. We’re also hoping to bring in some soil data to that platform.”

Cook says the system was easy to set up, and he believes it’s possible to start without any data imported, although he did upload some of the data he’s collected from past years, including field boundaries and yield histories. But he also agrees that the more information there is to be imported into the system, the more a grower can get out of it.



tive, and Hockaday believes there’s an increasing appetite for such a system among growers who are trying to solve various issues on their farms. Among those who have used the platform, feedback is reported to be positive, both on its capabilities and its user-friendliness, and Hockaday says she’s had requests for how to use it to plumb more in-depth information from different data sets.

Despite being tested and used extensively in the U.S., where corn and soybeans are the rule, Climate FieldView is not specific to any crop. It is “crop agnostic” as Hockaday says. There’s no restriction on size of the operation either. If a farm is larger, there’s likely more to manage, which might make it more attractive to someone with thousands of acres, but whether a grower has 5,500 acres or 500 acres isn’t actually an issue in terms of making the technology work.

### **SIMPLE IS BEST**

Getting started with Climate FieldView platform is simple. Best is to start prior to planting and to input as much information into the system as you want or have available. The first step is to register an account with Climate FieldView. Then it’s up to the farmer how to proceed; if you have field boundaries to upload, there’s a data inbox tool that an account holder can use by entering the inbox, clicking on “upload” and inserting the files with those boundaries. The same names or structures that had been previously attached to those files will appear.

The next step could include historical information such as planting data or yield numbers, which can be uploaded the same way. Again, it’s not imperative that a farmer have that kind of information on hand before starting. It’s just a matter of the more information, the better, more comprehensive a plan it can generate.

The next step is to get an iPad, if you don’t have one already.

“In that case, it should be a newer model iPad, one with the Lightning adapters, and one with a decent amount of data storage, because the more you want to put in there, the more you want to ensure you have the capacity,” says Hockaday.

Asked by one farmer for her opinion on what to purchase, Hockaday recommended an iPad Pro with 128 GB of capacity. That way, you won't have to purchase a new one for several years.

The next step would be to look at a farmer's equipment data collection. If the farmer has Precision Planting equipment, then it's already compatible and is ready to flow data to the cloud and into a Climate FieldView account. For those who do not have Precision Planting systems, it's possible to install a Climate FieldView Drive in their cabs and ensure the device can send data to the iPad, which can then relay it to the cloud. The drive unit is a small device, easy to install, and is compatible with most tractors and combines. Expanded compatibility is being developed for other equipment types in the near future.

Once the FieldView Drive is connected to their iPad, in-cab data collection can begin.

"As far as looking at yield by field or yield by hybrids across the whole farm or multiple fields, that information is collected automatically and seamlessly at the time of planting," says Hockaday, noting that the same process applies at harvest. "They don't have to additionally or manually add in that information."

It certainly beats what some farmers do, which is hire "runners" whose primary job is to run thumb drives back and forth from the office to the planter in the spring or the combine in the fall.

### WEATHER DETAILS

As for the weather component, this is one of the more comprehensive systems in use right now, relying on data gathered from a combination of sources, including weather stations and Doppler radar. What it isn't is a straight information-gathering tool, one that simply parrots the facts plus forecasts.

The Climate Corporation began as an expert weather service, one with insurance policies that were based on their modeling and analyses. That expertise has been imparted into the Climate FieldView system, including calculations of factors affecting nearby weather conditions. The data are cleaned and then applied on a field-level basis. It's possible to see crop heat units or precipitation levels during a two-month span or over a period of several years.

"Our point with bringing weather into this is that it's information to make decisions, and it gives you field-average weather, so you know what's happening in that field — how much heat has accumulated — which can provide insights on when disease might be popping up," says Hockaday. "It also helps with management decisions: if the fields you're working aren't just around the corner, you can know first thing in the day what happened on them overnight, so that if you've had too much rain, there's no point in going there to try to spray or seed or get on the field. Those are some of the efficiencies that are gained by having this kind of information that's coming through."

### PRICING

In Canada, FieldView is launching at one price for the whole farm, at a cost of \$999. In the U.S., The Climate Corporation has two programs for Field View: FieldView Plus, which costs US\$750 regardless of size, and FieldView Pro, which is US\$1,499 for certain acreages (with corresponding increases for larger farms).

For more information about the Climate FieldView platform, visit [climatefieldview.ca](http://climatefieldview.ca). **SG**



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# Doing things right

Forthright and unapologetic, yet good neighbours, Max and Eric Kaiser take pride in achieving success on their own terms

By Ralph Pearce, CG Production Editor

**T**alk to Eric and his father Max Kaiser for the better part of an hour, and the evidence suggests they've achieved their success on their own terms, using openness, common sense and, yes, perhaps even a little frankness. At the same time, that open and frank approach helps them to learn, stay connected to their neighbours, and represent the best of farming in a way that's truly unique.

It's been a lengthy process in reaching that point; except for eight of his 76 years, Eric Kaiser has always been on the farm. Those eight years were spent at the Royal Military College in Kingston, Ont., and serving in the armed forces. But while some might look at Eric as a voice of reason — even a teacher — he considers himself more a student of the industry, watching and learning — and sharing those lessons — with others, including Max.

"I actually started farming 50 years ago and Max, who was born on this farm, has always been exposed to farming as well, and he's been an active partner for 26 years and now basically owns the farm," says Eric, who graduated as a civil engineer. "We've learned farming first-hand."

The farm is a picture of efficiency and optimum neighbourly relations. The two run a little more than 1,300 acres with about 1,140 of those acres being tillable and systematically tiled. What makes that all the more unique is that the 1,300 acres are all in one location. The farm itself sits on the north shore of Hay Bay, southwest of Napanee, on some of the toughest soil in the province with 80 to 95 per cent silt plus clay, and some glacial moraines at the back of the farm. Those moraines truly reflect the moisture levels of any growing season: if it rains, they'll produce good crops, but if it's a dry year, they won't grow much.

Theirs is a three-crop rotation of

corn, soybeans and wheat, with poultry manure and a multi-species cover crop following wheat.

"Technically, that's a three-year rotation but I call it three-and-three-quarter crops because we don't harvest the cover crop, yet it's a fairly solid establishment and ties up manure," says Max, adding that they've tweaked their rotations slightly in the past few years. "We expanded our land mass but not our livestock, so some of our acres have come out of manure but because of that, we're trying some new things like sunflowers and clover, with the intention of amending our heavy clay soils a little bit."

The focus on their rotation is primarily to feed the 30,000 layers and 120,000 starter pullets raised on the farm. There's also a grain dryer, on-farm storage and a small automated electric mill, so all of the feed for the pullets and layers is made using the corn and wheat harvested on the farm. They buy back soy meal after selling off their soybeans, and they buy a premix that balances the other needed nutrients for the feed ration. They also purchase calcium-ground limestone for their eggshells.

A secondary priority for maintaining their rotation is the utilization of their manure. They need to keep the rotation consistent and have that cereal crop available for nutrient management.

In addition to their cropping and livestock production, the Kaisers have been growing strawberries as part of their operation. But there's a much larger berry farm near Napanee and while they still grow some berries, it's no longer an economically viable part of their business, and Max suggests they may do away with them in another year or two.

## RIGHT NEIGHBOURLY

What's also unique to their operation is the proximity of their neighbours. In fact, they're the only farm in the vicinity, and



**"Nobody else around us is farming... all of the neighbours are looking at us all the time," says Eric (r), above**

they're just metres away from Hay Bay, which feeds into Lake Ontario. As far as the neighbours are concerned, the Kaisers go above and beyond what most farmers do in terms of beautification of their operation. The farm resembles a park, says Eric, and they ensure the outward appearance because, as he states, "Peoples' noses are very close to their eyes. If things look good, they don't smell nearly as bad."

"Even though we've been here a long time, we're the odd one out," he adds. "Nobody else around us is farming, so here we are with a relatively large livestock operation and farm, and all of the neighbours are looking at us all of the time. To maintain that park-like look, we mow all of the grass on the roadsides, all around the two miles surrounding the farm."

Max adds that they've also planted treelines and the sunflowers that are part of their multi-year cover crop blend are the topic of conversation among their neighbours.

Although they're often cited as "dedicated" no tillers, Eric counters that, saying that they actually use a "compromise" no-till system, and that's been done for a number of reasons. The first is their location, along an inland waterway where they're surrounded by non-farming neighbours. Another is that they use liquid poultry manure, which is incorporated in order to maximize the benefits of the ammonium nitrate as well as the phosphorus contained in the manure. If they were to spread it on the surface after wheat, and it dried, they'd

*Continued on page 16*

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An aerial view of the Kaiser farm shows how close they are to Hay Bay — and their neighbours.

PHOTO: TED KAISER



Another aerial view with the farm in the upper right confirms the need for the Kaisers' to be environmentally sensitive.

PHOTO: TED KAISER

lose 50 per cent of the ammonium nitrate to volatilization.

“Phosphorus is a major consideration with runoff being so close to a major body of water, and we don't want to lose phosphorus,” says Eric. “So we incorporate the manure as we spread — it's done simultaneously. We're spreading it about two feet in front of a disc, and it's incorporated as we go, and that gets rid of a lot of the smell, it gets the nitrogen in the ground and gets the phosphorus in the ground, so neither is subject to loss.”

For the record, Eric states they've been no tilling since 2001, a process he says took about 10 years to develop. With heavy clay, he adds, it's not a “forgiving” soil type for driving on in the spring. As much as it's benefited their production, Eric reiterates that it's also a means of staying connected with the neighbours that is of value. Managing the soil, adding

sunflowers to their multi-species cover crop blend — even the value of maintaining their strawberry sales — all have ties into “neighbour relations.”

“The strawberries have been something we've kept long past their economic value because of the public relations value with our neighbours and we also have sweet corn sales direct to our neighbours,” says Max. “All of those little things keep us in contact, keep the communications open, and they seem to appreciate the connection to where their food is coming from.”

That connection also reflects the growing gap between farmers and consumers, a challenge that both Eric and Max accept as another part of their job, although not just as producers. Farmers must also do more as advocates and voices against the pressures being inflicted on the industry.

“We're aware of the pressure and the

requirement to be seen to be sustainable and environmentally sensitive, and agriculture has a lot more to do and is doing it,” says Eric. He mentions Andrew Campbell's ongoing efforts to highlight agriculture on a daily basis through social media as a good example. “There is more awareness of what needs to be done, and we are doing it.”

At the same time, he adds, agriculture isn't standing strong enough against the anti-GMO, natural and organic interests. He doesn't have any issues with individual farmers moving into organic but he does take exception to the way “Big Organic” says their produce is better than conventional — because it isn't, nor is it safer or better for the environment.

## FUNDAMENTALS AND TECHNOLOGY

Part of the Kaisers' success also stems from their willingness to continue learning and growing, not only as producers, but as active participants in agricultural organizations. Eric served with the Egg Farmers of Ontario in the 1970s and he's been involved with the Ontario Federation of Agriculture (OFA), Ontario Soil and Crop Improvement Association (OSCIA) and the Innovative Farmers' Association of Ontario (IFAO). Max served as OSCIA president in 2012 and is now a municipal councillor. He contends that operating a farm places a councillor in a unique position, with an eye on the past and a vision for the future, but with the need to manage for the present.

Asked if they consider themselves innovators, Eric quietly turns that honour aside, insisting they're just learning what they need to do on their farm on a first-hand basis.

“You can't go to one of these conferences and not see several hundred of the best farmers in the province or the country, and not learn something,” says Eric, who admits he's always looking for new insights and directions. “We're likely closer to being early adopters than innovators, but by the same token, we've done some innovation, as well. Our planter is an unusual configuration where we plant all of our crops with one-row unit planter.”

It's a curious blend, a balancing act between a unique equipment design and paying greater attention to the fundamentals, which is a hallmark for Max. He acknowledges that there's a lot of technology that's available to growers today, and much of it can be very well utilized.

“But I also think that there are a lot of farmers who are spread kind of thin, and

they look to technology as if it will overcome not attending to the fundamentals,” he says. “We’re very heavily focused on the fundamentals of soil management — we tend to look at managing the farm in a way that we don’t need precision agriculture because we’re managing every acre, somewhat similarly, even when the soils differ, because we’re looking at the fundamentals first. There’s tile drainage to correct for some of the imbalances, no traffic on the fields, really low pressures, low compaction equipment.”

Max is reluctant to bring in new technology that might take him away from monitoring the soils and the crops — the way he does now. Sitting in the tractor, he maintains that he can see every acre, and this has far more value, he believes, than any digital printout or another individual’s anecdotal comments. He would rather look at the fundamentals and use the technology as it fits within those fundamentals.

As far as advanced technology is concerned, the Kaisers rely on auto-steer for planting and have as many as 20 years of GPS-based yield maps, plus a light bar on their sprayer. Outside of those tools, Max finds there’s more to learn from his soils, his fields and his farm by being “hands-on” with every facet of its operation.

“You do more management from the combine seat than anywhere else,” adds Eric. “Anybody who’s having their combining done on a custom basis is missing a great opportunity to learn.”

Reliance on technology is just one more distraction that Max and Eric talk about that’s affecting the agri-food industry. There’s also the disconnect between consumers and their food sources, which becomes yet another challenge, spilling over and running the risk of becoming government policy and regulation.

“It also comes down to the individual fragmentation of the industry, where it’s eggs versus dairy versus another sector,” says Max. “We’re a fragmented voice across the province and across the country as a whole, but then these regulations come down and each authority says ‘We need you to do things *this way*.’ But then our own egg board is dumping policy on us, the provincial government has a clean-water act and there’s the nutrient management strategy. We have all of these different things — and each one individually isn’t that bad, but we have so many different hoops that we have to jump through.”

It’s to the point where Max spends an average one day per week on the computer to stay on top of new trends, technologies and policies. He’d much rather be farming than working on a computer, which takes his time away from other vital jobs. But even if it sometimes feels as if that computer time is a drain on the business, it’s still essential, he and Eric believe, to be on top of the regulations and external challenges that affect the way they can operate their business.

Although some look to social media for help finding information, both Eric and Max are selective in their reliance on them. Eric says trying to sort through the noise to find the helpful information is the greater challenge for him, while Max puts it all down to time: he doesn’t have enough of it in a day to allow himself to be overwhelmed. To that end, he has roughly 20 people that he follows on Twitter — any more would be too much. **SG**



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# The cold shoulder

Rotation concerns, the arrival of southern pests, and the threat of frost may slow further expansion in Manitoba's soybean crop

By Allan Dawson,  
CG Field Editor

It's been a remarkable run, with an incredible 90 per cent increase in seeded acreage in five years, but there are signs that Manitoba's soybean acreage may be reaching a plateau.

The province's soy acreage reached 1.65 million acres last year, and Manitoba Agriculture's pulse specialist Dennis Lange says there's enough pedigreed seed for two million acres this year.

But in a presentation to the Manitoba Agronomists Conference in December, Lange said soybeans may have problems reaching the three-million-acre mark.

There are a lot of factors, including grain markets, the weather, weeds, insect and disease pests, rotations and competition from other crops, Lange said.

"No. 1 is we are going to be looking at competition from other crops because we only have nine and a half million acres of cropland in Manitoba, so those acres have to come from somewhere," he said.

"To get another million acres (for soybeans) we are going to have to see another big shift in these crops as well.

"Are we going to have tighter rotations if we have two million acres of soybeans? What about volunteer control of such things as (Roundup Ready) canola? That's always an issue with growers."

## FROST DANGER?

Soybeans are a long-season, heat-loving crop and Manitoba hasn't had an early killing fall frost for at least six years, Lange said, expressing concern about soybeans that were still green late in September last fall.

In 2004, a frost in August resulted in a province-wide average soybean yield of eight bushels an acre. In 2005 soybean acres fell 41 per cent to just under 96,000.

If acreage continues to rise as expected, farmers will have to be vigilant, Lange said.

"Rotation, rotation, rotation (is) very important."

In the early years, farmers didn't see a yield reduction from seeding soybeans on soybean stubble. But crop insurance data shows that between 2008 and 2012, planting back-to-back soybeans resulted in yields of 95 per cent of normal.

In contrast, planting spring wheat, barley, oats, flax and grain corn on soybean ground resulted in yields that were 106, 106, 105, 100 and 103 per cent of normal, respectively.

Crop insurance data also shows a

*Continued on page 20*



PHOTO: DENNIS LANGE

Manitoba soybeans have not faced an early frost for six years, but should there be one, growers may be wary of further increasing soy acres.

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jump in back-to-back soybean plantings, which occurred 39 per cent of the time between 2008 and 2012 versus 13 per cent of time between 2000 and 2012.

There are now five municipalities in Manitoba with glyphosate-resistant kochia, Lange said. Farmers need to scout weeds before and after spraying and investigate those that weren't killed.

### NEMATODES AT THE BORDER

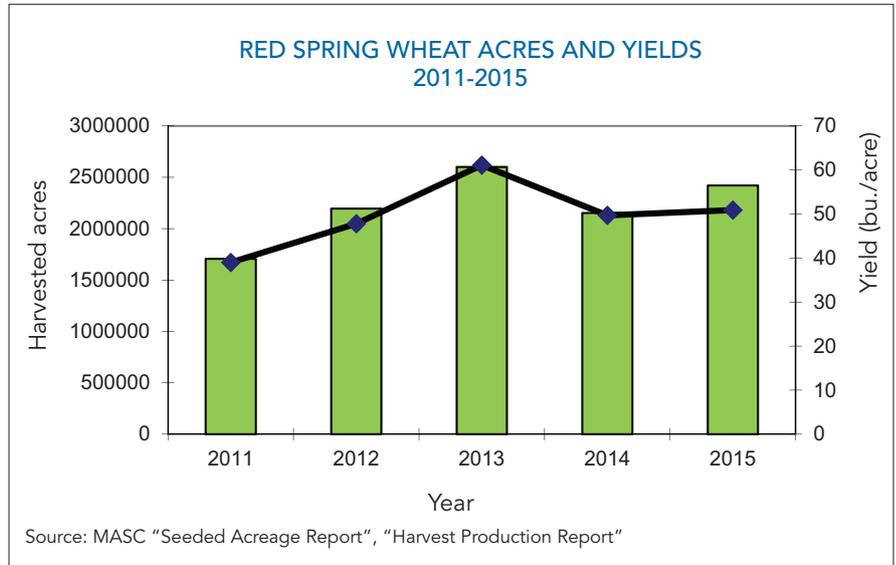
So far, Manitoba soybeans have been relatively free from the pests and diseases that affect crops in longer-term growing areas in the U.S. But while soybean cyst nematodes (SCN) haven't been detected here, they are present just across the border in North Dakota.

"The more soybeans we grow, the more potential there is to see this down the road," Lange said. "Water runs north and it (SCN) is carried in floodwaters so at some point we are going to see it."

Monitoring fertility is important too, Lange added. Research shows adding phosphorus to soybeans, even when soil tests show low levels, doesn't boost yields. If phosphorus is low it needs to be built up when growing other crops, such as cereals, he said.

Soybeans also need to be double-inoculated until seeded twice on the same land in five years, Lange said. "Double-inoculating means liquid (inoculant) on the seed and a granular (inoculant) in the furrow so you have two different forms at different time periods."

Soybeans need 150 to 200 pounds an acre of nitrogen to yield 30 bushels an acre, Lange said. Soybeans will make nitrogen, but first must be exposed to the right bacteria.



**"Iron deficiency chlorosis is something we are seeing more and more of every year, especially as we move further west."**

— Dennis Lange

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*Seed Manitoba*, the provincial seed guide, is a valuable tool for Manitoba soybean growers, Lange said. The 2016 issue has information on 67 glyphosate-resistant soybeans, including maturity ratings — very early, early, mid-season and long season — colour-coded to match a Manitoba Agriculture map.

*Seed Manitoba* also shows data on how tolerant soybeans are to iron deficiency chlorosis, which is made worse by wet soils high in soluble salts and carbonate.

"Iron deficiency chlorosis is something

we are seeing more and more of every year, especially as we move further west," Lange said.

Where carbonate levels exceed five per cent and soluble salts are more than one micromole per centimetre "you're in the extreme range when it comes to iron chlorosis," he said.

Soilborne soybean diseases are likely to increase along with plantings, Lange said. *Seed Manitoba* has data on varieties tolerant to phytophthora root rot.

Research conducted by Manitoba Pulse & Soybean Association has found the most common races are 4, 25, 28 and 3, with race 4 predominant. **SG**

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Soy producers should have multiple opportunities to lock in profitable prices... as long as you can convince yourself to pull the trigger

By Philip Shaw



# Anxious markets in 2017

Soybeans continue to amaze, even in a province such as Ontario where they seem to be everywhere. While at one time soybean production was concentrated in the five southwestern Ontario counties, the crop now stretches from Windsor to the Quebec border and points north. In fact, last year in Ontario, farmers planted and harvested approximately 2.7 million acres of soybeans.

Historically, Eastern Canada has been dominant in soybean production. For instance, along with the acreage in Ontario, Quebec farmers last year grew approximately 790,000 acres of soybeans, and there were also approximately 50,000 acres of soybeans on Prince Edward Island.

Increasingly, though, soybeans are becoming a major crop in Western Canada. Last year, Manitoba farmers grew 1.6 million acres of soybeans, which was up

**Watch the USDA for its March 31 soybean planting intentions report, with an eye to your standing orders and market strategy for 2017**

17.3 per cent from their acreage in 2015. According to Statistics Canada, this represented the ninth straight increase in Manitoba soybean acreage.

Not to be overlooked as well is Saskatchewan, where farmers grew 494,000 acres of soybeans in 2016.

Clearly, soybeans are expanding their horizons and Western Canada is becoming an increasingly important production area. The challenge there will not only be to continue that expansion, but also to add processing infrastructure to keep more of the soybean valued-add at home.

In Eastern Canada, production expansion is probably much more limited in

2017 and beyond. But even here there are many market opportunities that can be captured. For instance, approximately one third of Ontario and Quebec soybeans are non-GMO, which makes them eligible for premium markets in Asia.

The long and the short of it is that when it comes to soybeans, the potential for all production areas continues to be dynamic.

In part, that's because the global market that we are producing soybeans in is so dynamic too.

Here are some numbers that show why. The U.S. is the largest grower of soybeans in the world, currently producing 117.21 MMT (million metric tonnes). Brazil is expected to produce 104 MMT this year, and Argentina 57 MMT.

Total world production in 2017 is expected to be 330.34 MMT of soybeans.

China is the world's biggest importer of soybeans, expected to import 86 MMT of soybeans in 2017.

To put all this in perspective, Canada's total soybean production is 6.46 MMT, or just under two per cent of global output.

With timely planting, good rains and a bountiful harvest in 2017, however, there will be opportunities for profitability even if we aren't exactly a world power in soybean production. Still, we do need to recognize that our soybean prices are constantly affected by the two large growing areas — the U.S. and South America — with their two distinctly different times of planting and harvest.

At press time in the Canadian mid-winter, the South American soybean crop is growing and developing. Any weather-related impact on that crop during our winter will affect soybean futures prices directly.

The record crop that was grown in the U.S. in 2016 has largely affected soybean prices that Canadian producers are

*Continued on page 24*

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receiving in early 2017. Last year in the U.S., farmers produced 4.307 billion bushels on 82.7 million harvested acres, with a record harvest pegged at 52.1 bushels per acre.

Despite this record crop in the U.S., as the calendar year turned into 2017 soybean futures prices were hovering close to or above the \$10 soybean futures value. In fact, on January 12 the nearby futures closed at \$10.46, approximately \$1.70 higher than the previous year. This is somewhat surprising coming off a record crop, but it does reflect record demand for soybeans on a global basis.

Record demand for soybeans continues to support futures prices. For instance, in the U.S. total soybean usage was 4.108 billion bushels in 2016-17 and 3.944 and 3.862 billion bushels for the two previous years. China is projected to import 86 MMT of soybeans in 2016-17 versus 83.23 and 78.35 MMT the two previous years.

Without this robust demand, the record crops in both the U.S. and South

America would likely send soybean futures prices down. However, at the start of 2017 these futures prices are being maintained. Any disruption in supply in South America or the U.S. in 2017 will force the soybean price to rise to ration demand.

As of mid-January 2017, the November 2017 futures price for soybeans was \$10.17. This reflects what the soybean futures market feels the price of soybeans will be at that time. Of course, a key factor to Canadian cash soybean prices is the value of the Canadian dollar, which was fluttering around the US\$0.75 level through early 2017. With the Canadian dollar at these very low levels, cash prices for November 2017 delivery are approximately C\$12.50 as of mid-January 2017, and old-crop soybeans fetched close to \$13 cash in Ontario.

The value of the Canadian dollar ebbs and flows during the year, but with its big effect on the soybean basis, it's critical to watch. The value of the Canadian dollar reflects the demand for our currency on global markets. Generally

speaking, it is inversely related to the value of the U.S. dollar. As the U.S. dollar gets stronger, generally the Canadian dollar gets weaker and vice versa. The challenge for Canadian soybean farmers is to capture healthy soybean basis values at a time when soybean futures levels are satisfying. With volatility being so acute in Canadian dollar trading, cash soybean prices can vary greatly from day to day.

With prices over the \$10 futures level as of mid-January, there is some thought that soybean acres in 2017 may increase substantially in the U.S. For instance, in 2016, at much lower soybean futures levels, American farmers planted 83.4 million acres of soybeans. With present (as of mid-January) November futures values, some forecasters wonder if U.S. soybean acres may approach 90 million in 2017.

If this were to happen, the possibility of another even bigger record harvest in the U.S. would be even greater. The first official estimate will come from the USDA on March 3, when they release their prospective plantings report. Soybean farmers should keep their standing orders or their preferred hedges in mind as that date gets closer.

Of course, there are other possibilities too. The American farmer has always shown a preference for planting corn acres versus soybeans. If the price of corn goes up substantially in the weeks preceding March 31, or the price of soybeans goes down, all bets might be off with regard to U.S. planted acreage.

It is just another piece of the price puzzle that needs to be considered in 2017.

The soybean story of record supply and record demand has been compelling for the last several years. In fact, Chinese demand has always seemed



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insatiable, good enough to continue to devour the world's soybeans. It has relied on a trade environment which has been friendly.

With the inauguration of the Trump administration, the U.S. is adopting a more aggressive tone toward China. This must be watched closely in 2017 for signs it is infringing on soybean trade and prices.

There are other factors to watch as well. While demand for soybean oil has been robust, it always ebbs and flows just like the demand for soybean meal. Palm oil production can affect the demand for soybean oil depending on its supply and the growing season in Southeast Asia. There are many such intricate interconnections between demand and supply, and futures prices can be impacted at almost any moment.

So, does the future look bright for Canadian soybean farmers in 2017? Let's hope so. Canada may be a small player on the world soybean market, but soybean production is a very important part of the agricultural economy in Eastern Canada and has an increasing presence in Western Canada. The various demand and supply components within the market need to be considered when marketing our soybeans. The timing of the South American harvest from February to April does too. Of course, those planted acres and spring weather conditions in the U.S. will weigh on prices as well.

The challenge for Canadian soybean farmers is to market their soybeans where they are comfortable and profitable. In such a dynamic 2017 soybean market, there should be many marketing opportunities ahead. **SG**

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# Thunder Bay pushes the limits

Growers and researchers here are determined to increase their cropping options

By Ralph Pearce,  
CG Production Editor

In every experiment, there's an opportunity for growth. That is the real lesson worth learning, and many producers in the Thunder Bay region are learning a lot about what's possible for their growing conditions.

Much of that learning is thanks to studies being conducted at the Thunder Bay Agricultural Research Station (TBARS), just south of the city, and some is also coming from cropping practices in Western Canada, particularly with the migration of soybeans and corn to the Prairies.

Generally speaking, whatever grows in Thunder Bay and Northwestern Ontario has to stay in the region. There's very little

infrastructure, whether it's storage capacity or food processing or manufacturing, although some farmers are adding storage bins when and where necessary. But the mindset surrounding the specific types of crops that can be grown has changed considerably in the past few years. In 2016, there were 21 different crops tested in the TBARS plots, with another 52 plots testing and comparing fertilizer types and treatments, fungicides, seeding rates or harvest methods.

That interest in pushing the limits on what has typically been a spring cereals-and-forages region has caught the atten-

*Continued on page 28*



MasterGraze corn (left of Dr. Tarlok Singh Sahota) grows at a slower rate than forage Sudan grass (right of Dr. Sahota).

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tion of growers, and some have joined in this opportunity to learn. According to Dr. Tarlok Singh Sahota, TBARS director of research and business, two farmers were successful with flax in 2016, each growing about 50 acres. Three growers tried using plastic mulch to plant corn for the first time, with roughly 350 acres in those instances. And the number of winter rye growers increased from one in 2015 to six, pushing the area for that crop to nearly 400 acres (120 of which were seeded as a cover crop by one producer). Even winter wheat is making a comeback, with one grower seeding 60 acres to AAC Gateway, a hard red winter variety.

Sahota concedes that the lack of infrastructure in the region can limit the uses and opportunities for some crops, but he's encouraged by the curiosity and thirst for knowledge that many growers are exhibiting. Instead of asking why, they're countering with "why not?"

"But the thing is, unless we try new things and we find that they're useful at the research station, farmers won't be able to adapt," he adds. "One of our farmers here seeded galega, a forage legume that performs as well as or better than alfalfa, into about 40 acres, and for 2017, he wants to expand it."

Galega was tested at TBARS by Sahota and has shown good response in the region. He's also fielded questions about it from growers in Alberta and Saskatchewan. For better or worse, there is no more seed available for galega for 2017 seeding (Sahota says a Guelph company procured enough galega seed for 50 acres). Still, that kind of success carries the same message: never stop trying. Sahota maintains that the pipeline has to continue and he does what he can to write briefs and news releases for local media and farm media alike, always trying to keep farmers, ag extension and agri-business abreast of what's happening far from Eastern Canada's agri-food heartland.

Joanna Follings, cereal specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is well-acquainted with Sahota's work and echoes his sentiment about "keeping the pipeline moving." She also cites the infrastructure issue as a key challenge, but is impressed with the level of production and interest in expanding the cropping options, in spite of that challenge.

**TABLE 1**  
**DRY MATTER YIELDS OF MASTERGRAZE CORN BY SEEDING DATES**  
**(INCLUDING PROTEIN VALUES)**

Seeding date	Dry matter yield tonnes/ha	Dry matter yield bu./ac.	Protein
May 15	7.6	121.1	13.1 per cent
May 25	6.8	108.3	14.7 per cent
June 5	9.2	146.6	13.4 per cent
June 15	7.6	121.1	13.4 per cent

Source: Thunder Bay Agricultural Research Station

**"Unless we try new things and we find that they're useful, farmers won't be able to adapt."**

**— Dr. Tarlok Singh Sahota,  
Thunder Bay Agricultural Research Station**

Follings notes there's increased interest in malting barley, given the region's climate, which helps keep disease pressure down. In the past year, the Canada Malting Company has pledged to work with growers in the area to get some of the varieties it prefers growing for its plant in Thunder Bay, instead of defaulting to bringing it in from the West. There's an untapped demand for malt barley in Eastern Canada — of the 300,000 tonnes typically marketed per year in the country, Ontario now delivers roughly 5,000 tonnes, or a little less than two per cent. So there's definitely room to grow.

Winter wheat is also showing signs of renewal. First cultivated in the district in 2006, winter wheat yields have the potential to run higher than spring varieties. It can also act as a cover crop during fall and winter months, and it has the capacity to smother weeds, possibly eliminating or reducing the need for herbicide applications. Another driver for winter wheat varieties was the construction of a pilot-scale flour mill around 2009. It also helps that Richardson International is willing to purchase smaller volumes of grain from the region.

According to Follings, the key for winter wheat's continued upswing lies with the winter survival rate in the Lakehead district.

#### **KERNELS OF SUCCESS**

One of the more welcome and successful arrivals in the region has been corn, specifically MasterGraze corn, a

short-season forage hybrid which has shown the potential for improving milk and butterfat production. The plant only grows to about 155 to 160 centimetres in height and will not do well if left to full maturity. It has a brown mid-rib (BMR) trait and lower lignin concentrations in the leaves and stalks, leading to the potential for lodging in a full-season scenario. It has a wide range of areas suitable for production and has become something of a staple for growers in the U.S., from Florida to North Dakota and as far west as California.

In Northwestern Ontario, MasterGraze can be seeded during the last week of May to the first week of June. It tends to grow slowly in its first month but is generally ready for harvest by late August. In 2015, Sahota says they planted on June 5 and harvested on August 25, and in warmer areas of Northwestern Ontario, the crop could be harvested in 60 days (keeping in mind that the crop heat units for Thunder Bay range from 2000 to 2075). In 2016, Sahota found the MasterGraze hybrid performed well under four different planting dates (see Table 1).

As for post-harvest, the biomass is generally bunkered on a concrete pad instead of being stored in a silo. Its high moisture content (up to 85 per cent, depending on cutting date) means it will leach for up to 10 days after harvest, with total water loss at roughly three per cent.

Sahota also notes that five hybrids for grain production were tested in 2016 — three from DuPont Pioneer and

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two from Pride Seeds — and grain yield differences between the hybrids were not significant. Again, based on what's being done with grain corn hybrids in Western Canada, there's at least an opportunity for production in the Thunder Bay district.

"If Manitoba growers can grow corn, why can't we grow it here?" poses Sahota.

Follings wonders much the same thing and adds that there is interest in testing different practices in the hopes of increasing production.

"Growers are trying to grow corn under plastic mulch to get it in the ground and the soil warmed up," says Follings. "Otherwise, you're not getting enough heat units and the season is so short. The other challenge is if they get a late-spring frost or they could have a challenge where they're going through the growing season and they get a late-summer frost."

Yet that's the same scenario facing growers in Central Alberta and Saskatchewan: in any crop year, late-summer

frosts can threaten canola production. It's actually what's known and developed in Western Canada that Follings believes can help growers adapt in the Thunder Bay region, as well as further west, in areas along the border from Fort Frances to Rainy River, and north to Dryden. Those areas don't take up large tracts of land, but the acres are being farmed there, and there are some growers who are trying everything from edible beans to fababeans.

"If we can continue to do more research and if new varieties are developed that require fewer heat units, then there's an opportunity," says Follings. "It's interesting to hear of companies that are interested in setting up research stations and research farms out west, to look at expanding some of those acreages with those crops. It seems that there's some interest from the private sector to do that, and that could help growers in Northwestern Ontario because they could use some of those genetics." **SG**



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# The question of seed treatments

In soybeans, why is it that seed treatments are a problem for some, but not so much for others?

By Ralph Pearce,  
CG Production Editor

The recent releases of new non-Class 12 seed treatments have provided options for many early season pests in corn fields in the East. Products such as Syngenta's Fortenza and DuPont Pioneer's Lumivia have provided protection against the dwindling availability of neonic-based seed treatments such as Cruiser Maxx and Poncho.

But what about soybeans?

The short-term perspective is that there is nothing available to growers in the way of a seed-applied insecticide registered for use on soybeans — from a non-Class 12 perspective. But there are some who are asking how pressing the need actually is for growers, specifically those in Ontario.

During the 2016 growing season, dry weather and poor herbicide performance were the two more prevalent issues for soybeans. Eastern Ontario has become an almost perennial hot spot for white mould, and the eastward spread of soybean cyst nematode (SCN) from southern Ontario continues.

Beyond that, there seems to be more concern surrounding the lack of comprehensive seed treatments on the corn side

than for soybeans. Undoubtedly, there are reasons for that — namely the North American penchant for corn production. But what also plays a role are the differences between the two crops, both in terms of agronomic practices and the average planting date.

From the agchem industry's perspective, the fight for protection via seed treatments has never ended or even subsided. Syngenta and DuPont Pioneer are involved in regulatory work to get non-Class 12 diamide insecticides registered for soybeans, and that work is ongoing. The insect spectrum won't be the same as with corn, but it will provide some level of protection, which at this point is better than what growers have right now, i.e. a lack of alternatives to neonic-based treatments.

Lumivia and Fortenza, says Stephen Denys, have question marks to be answered concerning their level of control against bean leaf beetle and seedcorn maggot. These products as well have limited activity against aphids.

"We were lucky in 2016 where we didn't have an aphid infestation, possibly

*Continued on page 32*



"Bean leaf beetle populations will probably take a year or two to build up."

— Stephen Denys,  
Maizex Seeds

Regions in the extreme southwestern part of Ontario still have nothing to alleviate bean leaf beetle populations.

PHOTO COURTESY OF UNIVERSITY OF GUELPH/OMAFRA

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**“The government somehow rolled the dice, knowing that a farmer can suffer 30,000 stand-loss of their soybeans.”**

— Mervyn Erb, independent CCA

because it might have been too hot,” says Denys, director of business management with Maizex Seeds, based near Tilbury, Ont. “Bean leaf beetle populations will probably take a year or two to build up, so we’re seeing a massive move in the market because a lot of growers want to avoid the paperwork. We’re seeing a pretty good transition over to fungicide-only seed treatments, so then it’s just a question of when do we start to run into these big insect problems in soybeans?”

### PAST TURNS TO FUTURE

Farmers tend to forget the early 2000s, i.e. before neonics, when Ontario’s soybean crop was devastated by a massive infestation of aphids and, in areas west of London, severe infestations of bean leaf beetle. That year, roughly one million acres of soybeans were sprayed.

It raises the underlying question surrounding seed treatments in soybeans: can soybean yields be stable without a seed treatment?

Robert Moloney and Mervyn Erb, both certified crop advisers from mid-western Ontario, agree with Denys’s comment about being lucky in the past few years, particularly where bean leaf beetle and seedcorn maggot are concerned.

“I think you have to divide the issue — if you’re in the deep southwest with bean leaf beetle, that’s a major issue,” says Moloney, who works with Boyd’s Farm Supply near Fordwich, Ont. “If you are into ‘grub territory’ around Alliston, granted, it’s a minor issue there, but then soybeans aren’t nearly as big a concern for grub damage as in corn. Outside of those areas, is insect damage going to be an issue in some fields, somewhere, every year? Yes.”

But Moloney states that in his 25-year career, he can almost count on one hand the number of true disasters he’s seen in soybean fields as a result of insects. In almost every case, it’s been seedcorn maggot that’s done the damage. In most cases, he adds, much of that could be attributed to less-vigorous seed being planted.

In 2016, he says, the Harriston region in midwestern Ontario was hard hit by seedcorn maggot, and was the exception to the rule, and he couldn’t put it down to less-

vigorous seed in those cases. Interestingly, Moloney says the trend toward cover crops may be boosting concentrations of seedcorn maggots; the higher organic matter levels that result from cover crops creates a “welcome mat” of freshly decaying biomass that attract the flies.

Still, the key to controlling most of the issues affecting production, be it weed, pest or disease management, comes down to timing and the conditions.

“If we’re putting in soybeans in good conditions, our biggest benefit is going to come from fungicides anyway,” says Moloney, adding that for growers in Kent, Lambton and Essex, there’s still the very large threat from bean leaf beetles.

There is also the school of thought that says the genetics, timing and emergence of corn and soybeans are considerably different. Moloney points out that he’s had a grower tell him that he planted 34,000 corn seeds per acre. And Moloney’s done the final plant stand count and found the population was close to that seed drop. That, he says, is an indication of how far the chemical sector and the breeders have come with corn hybrid development. The seed treatments, particularly those that are neonic-based, have done a very good job of protecting the seed after planting. But the genetics have advanced as well. Growers seldom lose 4,000 plants out of 34,000 seeds (roughly 12 per cent), which is close to “enough” in terms of a threshold for replanting.

“In soybeans, and I say this to our growers, we put down 200,000 seeds per acre because there’s so much more that can happen to soybeans to take you back to that 100,000 minimum that you need to get to your maximum yield,” says Moloney. “That’s as opposed to corn where we typically don’t lose that. In soybeans, we’re going to lose a much bigger percentage but we can also afford to lose a much bigger percentage — soybeans can compensate a lot better than corn can.”

The other factor influencing the need for seed treatments in corn more so than soybeans is the fact that we’re planting much earlier now than 20 years ago. “Fit ground” has a different meaning in corn versus soybeans, as does the pest spectrum affecting corn.



Seedcorn maggot remains a significant threat in soybeans, yet there are no seed treatments currently available.

PHOTO COURTESY OF MAIZEX SEEDS

### GAMBLE PAYING OFF

For Mervyn Erb, an independent crop adviser from Brucefield, Ont., the problem lies with government regulations that handcuff most farmers while inspiring others to operate outside of the limits of current regulations. He agrees with Moloney’s assessment about timing and emergence in a corn or soybean crop, but he relates it back to government restrictions.

“The government somehow rolled the dice, knowing that a farmer can suffer 30,000 stand-loss of their soybeans and their yield average might not change a lot,” says Erb, who also farms. “I lost 40,000 seeds per acre in my soybean field, and I had a 52-bushel yield average.”

What makes that more difficult for him, however, is knowing that some growers planted treated seed without a proper assessment and yielded slightly higher. Maybe the profit margins were the same but the bottom line for Erb — and other growers who followed the regulations — is that a portion of the seed they planted didn’t emerge and they lost money on the value of that seed loss. That’s not a level playing field.

Erb also notes that corn is the favourite over soybeans, a fact that’s hard to dispute. More than one grower he works with has stated their intentions to decrease their soybean acres relative to 2016 while bumping their corn acres. The reason? They have more options for protecting corn seed.

“All of a sudden, there’s an indirect effect of promoting corn production,” says Erb. “Because of our dollar exchange and the price of our corn, that might work out. But if they’re promoting corn production, they’re also promoting more nitrogen use and tillage.”

The same can’t be said for soybeans. **SG**

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## WHAT'S NEW IN NEONICS AND THE GOVERNMENT?

In the ongoing struggle between agriculture and the government concerning the use of neonics, it may be a case of one step forward, two steps back. According to Stephen Denys from Maize Seeds, there could be some changes that some might believe to be significant, including recognition from Ontario's minister of the environment and climate change (MOECC) during the annual meeting of the Ontario Federation of Agriculture (OFA), last November. During his address to the gathering, Minister Glenn Murray acknowledged that bee health and the use of neonic-based seed treatments were not linked.

That was the step forward.

But Denys believes the two steps back came shortly after, when the federal government took up the charge with the announcement of a proposed phase-out of crop uses of imidacloprid products. The move does not include domestic uses such as in households and on pets, and is based on a select few water samples and the extrapolation of that data to models concerning invertebrates and crop use across the country.

"It's my opinion that what we're seeing is the province allowing the federal government to become the 'bad cop,'" says Denys, referring to it as a good-cop, bad-cop scenario, with Queen's Park wanting to somehow assume the good cop role. "It's more the data used and the resulting modelling that's causing the consternation, because they're using selected samples from what could be deemed a worst-case scenario versus the many non-detect samples from across the country. Using that as the basis, the outcome of this approach is that they're saying imidacloprids need to be removed from the market but without looking at the composite of all the studies that have been done."

The provincial government has never really stepped back on the bee health issue, he adds, which is not a surprise. But what was encouraging was the government support of a private member's bill to allow certified crop advisers (CCAs) within the industry to

conduct pest assessments, which was one of the key tenets of the original legislation. Furthermore, Denys believes the government now supports the reality of the industry today, which is that a CCA works in the best interests of the grower and the environment. It's part of the code of ethics of the CCA designation and many across the industry have spent considerable time discussing this with government officials.

"People forget what it used to be like, especially politically; there is no memory of production practices past, or the quality or the issues involved," says Denys. "Part of the challenge we face today is the collective memory loss so that when officials are looking at some of these individual studies in absolute terms they're not looking at them against what we used to do. We have had an evolution witnessed by the fact farmers moved on to products they believed were safer for the environment. And that's problematic, because the products we used to use aren't available, so now farmers are left with nothing."

It's not a huge revelation that the factors influencing much of the agricultural landscape are being directed from outside of the industry. Denys notes that discussions surrounding Canada's new Agricultural Policy Framework are becoming geared more to "social license" and less about feeding people, which is a huge concern.

The No. 1 focus in some countries such as China, he states, is their need to produce enough food to feed their people, with all other parameters falling after that. Under the framework being discussed by the Canadian government, being able to feed your own population doesn't even appear on the list of objectives for the government.

Instead of working and helping agriculture with a clear vision, government is caving in to fear, Denys says. He recalls the divide-and-conquer tactics used by the Ontario government on the neonic issue; many sectors were prepared to stand with grain growers, but the government effectively said to stay away. What's interesting now is that the federal government announcements are drawing many crop sectors together, questioning the approach and the science being used as we move forward.



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**PG. 36** Do you need to worry about dicamba drift if you plant RR 2 Xtend this spring? OMAFRA's Mike Cowbrough reports that new formulations reduce the drift risk, but this is still a good time to review your overall drift control.

# CROPS GUIDE

The road to using variable rate can be overwhelming for many farmers, whether you're using it for planting, spraying or managing specific zones in a field.



## Who's to blame?

Variable-rate technology is getting adopted, but not nearly as quickly as many farmers would like. Finally, this may soon change.

BY RALPH PEARCE / CG PRODUCTION EDITOR

**W**hen variable-rate technology first came onto our radars roughly 20 years ago, it was supposed to revolutionize agriculture.

We're still waiting. But maybe not for much longer. In fact, maybe we don't have to wait any longer at all.

The advanced equipment systems needed for variable-rate technology have started to become available in the past five years, to say nothing of the gigabytes of data that can be analyzed and turned into prescription maps.

That's why there's been such a concerted effort to introduce farmers to the Precision Agriculture Advancement for Ontario (PAAO) project.

For the past two years, growers have had access to the project's crop portal, a computer-based system that allows growers to input their own data such as yield maps and

soil test results, some of which they may have collected years ago. As is often the case, the more information a grower is willing to feed into the crop portal, the more comprehensive and relevant will be the prescriptions that can be generated.

Nicole Rabe is one of three individuals from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) working with the team from Niagara College who also helped develop the crop portal. The three-year project is being funded by the Grain Farmers of Ontario, with the initiative to end in October 2017. Rabe concedes that it's been a long road to this point, and she agrees there are several reasons why.

"We started in 2012 when we sat down with equipment dealers, consultants, CCAs and some advanced growers at the Outdoor Farm Show," says Rabe, the land resource specialist with OMAFRA. She also works

with Ian McDonald and Ben Rosser as part of the ministry's contingent with the PAAO portal. "There were maybe 15 people in that room, and we knew of the work at Niagara College, but it was a year-and-a-half by the time the project was approved, and it was a huge pitch to the Grain Farmers of Ontario."

Even four-and-a-half years ago, few people grasped the total concept of data, and it was difficult to set a budget for an idea that was so broad and encompassing. The equipment has been available for variable rate for some time, although its accuracy and manoeuvrability weren't exactly up to scratch in the beginning. An added impediment has been the agronomics of precision agronomy and the fact that farmers don't understand how to implement it fully.

That's why early adopters were making strides, but the middle "mainstream" group weren't gearing up.

"The amount of data being collected on the farm had been forever increasing during those years, but it had idled out somewhere," says Rabe. "It was sitting on a dusty old hard-drive or a thumb-drive or in a binder on the shelf, and we didn't have full-scale adoption in that middle group of farmers."

Rabe knows there are some big promises being made about precision ag, but there's

CONTINUED ON PAGE 32

a lot of confusion too. So, are these systems ready for Ontario and Eastern Canada? Are they ready for the farm? And where is the data going?

Those were concerns even at the beginning of the PAAO project, and they're why Niagara College was brought in. Ontario needed a system that would be rigorous, with a multi-year yield analysis capability. The group also wanted it to be free, at least for now.

"And short of me running around to every tractor and combine with a memory stick, we would have to have a place to safely store any information of co-operators that came on board with a potential project in Ontario," says Rabe. "It was logistical as much as it was about teaching farmers not to be afraid of data, and how to analyze that data, starting with material that they might already have."

They soon ran into another roadblock, however. Farmers excel at learning all sorts of technology and science, but the learning process with precision ag seemed much too slow.

"The precision ag industry right now has made it difficult for farmers to navigate and learn how to get started," says Rabe. "There's so much out there that farmers are probably a little lost. But our project has tried to step it back and say, 'Let's take a look at the field. What can we fix that's an issue?'"

"Before you get started in precision ag, is there a drainage issue? Is there a pH issue?" she asks. "You have to get some of that basic agronomy on that field under control first. Farmers need to examine the amount of variability across the farm, define objectives for managing it and then determine what management or equipment decisions need to be made to support those decisions."

It's a matter of taking baby steps and setting specific goals.

## OVERWHELMING OR AN OPPORTUNITY?

Brandon Yott believes that the farmers who soldiered on and who started climbing up the precision ag ladder will soon start reaping the reward, not just with better production, but with a chance to get into consumer markets that demand transparency.

"Traditionally, you have early adopters, traditionalists and loyalists, but that's changing into just two groups," says Yott, product development and marketing specialist with the Agromart Group, based near Thorndale, Ont. "You have your Fred Below 'believers' who grasp 'the Seven Wonders of 300-bushel corn,' who understand that to make money,

you have to spend money... and then you have growers who'll say, 'Grandpa used Triple 17, so I'm going to use Triple 17.'"

That's creating an either-or market for many farm retailers, and it's forcing them to pick which side they want to support.

"Where's the future?" asks Yott. "When we go into that next industrial revolution, the people who aren't using that data and that have those inefficiencies in business won't be here. If you're really looking at your farm as a business, you're going to drive those inefficiencies out."

Then there's the talk of how variable rate dovetails with calls for accountability and traceability. That could be an important step towards encouraging more usage. Part of the challenge in selling variable rate is its characterization as a cost, not an investment. Many of the services a dealer provides today are part of a per-acre thought process, some of which is blended with fertility or cropping plans. Why get a new costly system when the old one works fine — for less?

Yott has heard some in the industry question the pricing and how it may vary depending on what's being provided. As the cost rises, so does the need for the producer to understand all that's involved and for the service provider to validate the value of the tool versus what others may provide.

"Some people say, 'At \$4 corn, how can you afford precision ag?'" echoes Yott. "But the real question is 'At \$4 corn, how can you not afford precision ag?'"

"In a lot of those cases, we haven't given them the tools, or we haven't been disciplined enough to go in with them in the fall and say, 'Look what we did,' and sit down with those business-minded individuals and say, 'We're going to make your business better.'"

Too much attention, says Yott, has been focused on what's new and shiny instead of what's useful. And that comes back on the dealers, he insists.

"A lot of these guys — what are you giving them? What are you selling them?" asks Yott. "They want ease of business, they want to know they made the right decision, and they want the tools they can show to their banker, to show to the mother at the grocery store — that he's not hiding anything from her, and to know that he has a business to pass on to his children. Precision ag allows you to do all of that, but you still have to want to do it."

## IT'S ALL VOLUNTARY

Paul Raymer points to another hurdle for variable-rate technology: it's all voluntary. Whatever happens to be driving it, be it eco-



**You have to get some of that basic agronomy on that field under control first."**

— Nicole Rabe, Ontario Ministry of Agriculture, Food and Rural Affairs



nomics or a look to future, a lot of it has to do with mindset. The primary task — and sometimes the hardest one — is for a grower to determine where they want to go. Then they have to determine whether precision ag can get them there.

Then the job still isn't done. You have to find the right tool. Is it variable-rate technology for fertilization, or strip till or planting? Raymer adds that there are a lot of different options available to growers these days.

"There haven't been a lot of pressures to get into it," says Raymer, who manages Practical Precision along with his father, Barry. "We have decent climate, good soils, and, relatively speaking, growers are making some decent margins. If they're making the bank happy and the accountants happy, and they see this technology, sure they might have a smartphone, but for them to go and chase that much more, I don't think they see that much incentive."

CONTINUED ON PAGE 34

# Ontario Soil and Crop Improvement Association SOIL CHAMPION

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## Life-long dedication to farm conservation defines Soil Champion

By Lilian Schaeer

Eric Kaiser has spent a lifetime building his Quinte Region farm, transforming 14 former Loyalist settlement properties on heavy clay soil into a large and productive egg, field crop and strawberry business.

And although he says it's still a work in progress, he's justifiably proud of the results.

His efforts have earned him the 2017 Ontario Soil and Crop Improvement Association (OSCIA) Soil Champion Award, which is handed out annually by the OSCIA to recognize leaders in sustainable soil management.

"There is no one practice to farm conservation; everything has a part to play," says Kaiser. "Sustainability has many components, but the preservation of top soil must be the final result."

Today owned by Eric's youngest son Max, Kaiser Lake Farms sits on the shores of both Bay of Quinte and Hay Bay. The challenges of the land, the unique location and Eric's determination not to see erosion sweep his soil into the water sparked his lifelong love affair with conservation.

He farmed conventionally until the mid-1980s, but knew he wanted to evolve into no-till production, which meant systematically tile draining the land as quickly as he could afford to do so.

A long-time advocate of no-till planting, Kaiser says the key is putting a new planter in the field every day. That means replacing missing or worn out parts daily and every winter, pulling the planter into the shop and disassembling every row unit for an overhaul.

"We farm like cash croppers, but we're actually livestock producers so we have manure to spread," he explains, which comes with big soil compaction concerns.

All equipment travels only on the farm's own driveways and grass waterways, and there's not a single piece of equipment on the farm that hasn't been modified and improved somehow to be better suited to their land.



"We're doing the best we can for compaction, which is a big issue especially as machinery keeps getting bigger," he says. "But the livestock are an important part of this operation, and one of our guiding principles is integration of animal and vegetable protein production."

The Kaisers feed their corn and wheat crop to their 30,000 layers and the 130,000 pullets they grow annually, and sell their soybeans to buy back meal for their poultry feed.

Their crop rotation has included cover crops since the 1980s, but became much more diverse after Kaiser met renowned soil scientist Jill Clapperton in 2003, who told him corn, soybeans and wheat on their own were not a rotation. So the experimentation began with field peas, red clover, oats, barley, sudangrass, buckwheat, sun hemp, sunflowers, and tillage radish.

Other organizations like the Soil Conservation Council of Canada and the Quinte Soil and Crop Improvement Association have also recognized Kaiser's work and he's a frequent speaker and participant at events cross North America.

"We never do the same thing every year, but we do the things we think are important for this farm," says Kaiser, who believes the combine to be an essential farm management tool. "When you're combining, you see every acre of every crop. You can see the effect of what you did and

it allows you to plan for the future."

That's the same reason he encourages other farmers interested in soil conservation to just take the plunge and do so – and to do it front and centre on the farm so it can be seen every day. Cover crops and no-till aren't new technologies, he argues, and if they're implemented where they can be watched daily, it will help farmers figure out how to make improvements.

Do you know someone worthy of the title Soil Champion? The submission deadline for the 2018 award is September 1, 2017. For the application form and details, as well as a full length version of this profile, visit [ontariosoilcrop.org](http://ontariosoilcrop.org).



**Grassroots Innovation**  
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Raymer echoes a statement from Rabe that farming has become a 12-month-a-year occupation. When farmers want to be in the field planting or harvesting, some dealer or service provider is trying to get them into variable-rate systems.

“But tell me a grower — and the percentage has to be at least down into the single digits — who doesn’t have a smartphone on their waist or in their pocket,” says Raymer. “That speaks for itself when you look at those devices because they’re simple and fairly nuisance free, and it’s usually instant gratification for what they’re seeking, which other tools in the precision ag umbrella don’t necessarily deliver. The closest thing is the yield monitor.”

### AT LAST, SOME GOOD NEWS

For all of the hurdles, inertia and less-than-sunny realities, the good news is the technology isn’t going away. Right now it may seem like “a pig moving through a snake,” as Raymer describes it. But he agrees with Yott’s contention that the day is coming when it becomes a valued means of proving all the things that have been done on the farm, and providing an assurance to end-use customers.

“We’re just delivering the lay of the land as it is, but it’s really up to any farmer on how to utilize it or how to get the ROI,” adds Raymer. “To them it’s an easy cost they can absorb, maybe not in the first year, but maybe amortized over a number of years on at least one of the crops in their rotation.”

For Rick Willemse, variable rate is a matter of “when” and not “if.” The Parkhill, Ont. farmer developed his own variable-rate algorithm nearly 10 years ago, and it became the model for the PAAO system. He marvels at the fact that one night during harvest, he was in his tractor with the auto-steer activated, he had his Bluetooth headset on with his iPad slaved to his phone, all while working on a Google document with someone 150 km away. In that context, he believes the technology is advancing at a reasonable rate and in the right direction. If he’s critical of anything or anyone, it’s that the companies involved in selling the technology are perhaps trying to sell a little too quickly without considering the impediments and challenges facing the farmer.

“As it is now, the CCAs are looking for reasons to do what they’re doing,” says Willemse, who’s made numerous presentations on his experiences with precision ag and variable rate. “For the most part, in any talks I’ve given I basically tell people that everyone is trying to make it too complicated.”

Instead, Willemse agrees with Rabe and Raymer, saying that growers need to simplify, and move in a direction that’s right for their operations. The spread of the technology is inevitable. What slows it is the time it requires to properly set it up, to familiarize oneself with its workings, and learn more about its strengths and weaknesses.

“To take it to the next level, you have to have the time to process all of that data,” Willemse says. “We’re now doing four to five times what we used to do, and we have our economies of scale maxed out, and every time we find a solution to making things cheaper, it simply makes our profit margin less. So we have to adopt this stuff — or die.”

As an example of what the technology provides, Willemse can be out driving his tractor doing strips at 7 p.m. and know that he’ll be working until well into the next morning. He can do that thanks to auto-steer, whereas 10 years ago, he’d have been done at midnight. Another example is the advent of RTK technology combined with auto-steer. Now he can take a 12-row strip-till implement and match it to a 24-row planter.

A lot of farmers, particularly 55 and older, aren’t adapting to the changes while 20-something newcomers are embracing it, mostly because they’ve been raised on this technology. There isn’t the same learning curve or the amount of time required to become efficient with the tools.

“The technology is evolving and farmers are used to not having things evolve as fast as they are now,” adds Willemse, pointing to no till’s adoption in the 1980s, which took at least 10 years. Adoption of auto-steer has come in roughly four years. “You can see the accelerated advancement in technology in agriculture now. It’s scary what we’re going to have to deal with in five years. For a lot of people, it’s getting ahead of them.”

This technology, he notes, is unlike anything else that agriculture has dealt with. Bt corn hybrids (and subsequent advancements) and glyphosate-tolerant soybeans had easy adoption and learning curves by comparison. But with precision ag, Willemse says it’s something that farmers need to grab hold of and get suited to their farm. Otherwise, they risk being crushed by the pace of what’s still to come.

### WHAT’S AHEAD FOR PAAO

The second year of the three-year run for the crop portal is all but complete; Rabe and the others will spend much of the winter analyzing the numbers from the 25 original participants in the program, all while



**“The people who aren’t using that data and that have those inefficiencies in business won’t be here.”**

*Brandon Yott, Agromart Group*

encouraging more farmers sign on to the portal. There is also an opportunity for participants to engage in validation research for their prescription maps, using check strips or “learning stamps” in partnership with the University of Guelph to check agronomic rates in each zone and do statistical analysis. As Rabe points out, this is groundbreaking in North America.

What happens to the crop portal after funding ends in October is not clear at this point, says Rabe. Will there be another project? She’s not sure but she believes there will be parts that are leveraged and carried forward in some form. She adds that Niagara College’s Dr. Michael Duncan, who helped build the portal, has some potential investors who are interested. His mandate is to work on a functional model for small and medium businesses, make research applicable, involve industry, and mentor students through the process.

“I’m hoping there are some innovative individuals who see the value,” says Rabe. “In the meantime, it’s our job to publish the 25 case studies and come up with some sort of story about how each field did during those years — and what we learned and what we didn’t learn.” **CG**

# Everyone you meet knows something you don't know

**BY LIZ ROBERTSON, M.A.  
CAFA EXECUTIVE DIRECTOR**

**O**pportunities are all around us! How great is that? Everyone you meet knows something you don't know. Every time you meet someone you can learn something — from a stranger in a store lineup to your best friend — all know something you don't. Granted, they may know things that you don't care to know about but you never know where that next gold nugget of info is going to come from.

Anyone reading this magazine is likely doing so to learn something that someone else knows. Prior to the invention of the Gutenberg press in 1440 in Europe, access to information was by in large elusive to the masses. Now, access to information has reached beyond the overload level and we now need to sift through the 2.5 exabytes of data that are produced each day to find those nuggets that matter and make a difference.

To give you an idea of how much info is posted to the Internet in a day or in just 1,440 minutes:

- Over 500 million tweets;
- Four million hours of video posted to YouTube;
- 4.3 billion Facebook messages;
- Six billion Google searches; and
- Over 200 billion emails



Now, find that nugget that you need to help your business!

Fortunately, there is media, like *Country Guide*, to help identify those nuggets of information important enough to share with farm families and businesses. There are also a number of solid training programs in Canada for farmers including, among others, AMI's Advanced Farm Management Program, Farm Credit Canada's Ag Knowledge Exchange and Agri-food Management's CTEAM. There are also Farm Management Canada's Agriwebinars and countless blogs and resources created to help farmers be better at what they do.

Another great resource for learning and guidance are farm advisors: professionals with a technical expertise that they use to help farm families and businesses succeed — members of the Canadian Association of Farm Advisors (CAFA). Just as farmers realize the value in learning from someone else, so do farm advisors.

Most CAFA members are required by their self-regulatory or licensing body to maintain standards of ongoing skill development and through CAFA to further hone their expertise to better provide advice and guidance to Canada's farm families and businesses. In fact, CAFA is dedicated to increasing the skills and knowledge of farm advisors.

CAFA's Farm Update Series are outstanding professional development days for Canadian farm advisors. Series themes so far have been tax, succession and management, with more themes in development. This past year we have hosted Farm Succession Updates in Ontario, Manitoba, Saskatchewan and Alberta with another slated for March 23 in Ottawa — a first for farm advisors in Eastern Ontario! Additionally, two successful Farm Tax Updates also delivered via Agriwebinar across the country and a Farm Management Update last June with the next scheduled for June 8 in Woodstock, Ont.

These updates feature 12 CAFA farm advisors sharing their insight and expertise to the benefit of the advisors present and the industry as a whole — farm advisors learning from each other. The incredible networking that happens at the updates also enables that magical opportunity to learn from someone else you meet during the course of the day.

Everyone you meet knows something you don't know. Join CAFA at our Farm Update Series and find the nuggets that matter to you and your business.

For more information, contact CAFA or visit our website at [www.cafanet.ca](http://www.cafanet.ca)

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March 23, 2017 Farm Succession Update, Ottawa. Finally, an information day in Eastern Ontario focusing on farm succession! Plenty of great insights and a unique networking opportunity. <http://www.cafanet.ca>

June 8: Woodstock, ON: CAFA's ever popular Farm Update. Details announced soon.

# #PEST PATROL

with Mike Cowbrough, OMAFRA

I want to plant Roundup Ready 2 Xtend soybeans this season to control my glyphosate-resistant Canada fleabane. But I keep hearing about the increased risk of drift with the dicamba-based herbicides. Is this fear mongering, or do I need to pay special attention when applying herbicides containing dicamba?

**W**e can learn a lot about the risks of dicamba drift from our neighbours to the south. This past year in the United States, some farmers planted Roundup Ready 2 Xtend cotton and soybean cultivars. Unfortunately the “low drift” dicamba herbicides that were intended for these cultivars had not yet been approved. Presumably, out of desperation to control weed species like palmer amaranth (which is resistant to multiple herbicides), some farmers applied older, more drift-prone formulations of dicamba. This was an off-label application, and given the number of drift-related dicamba complaints, it was applied badly.

During the 2016 season, the number of reported dicamba-related incidents increased substantially. In Missouri alone, 94 per cent of all pesticide-related complaints involved dicamba, where in years previous there were almost none. Fortunately in Ontario, the approved “low-drift” dicamba products (currently Xtendimax, Engenia and Roundup Xtend) are available for use on Roundup Ready 2 Xtend soybeans for 2017. These new products are less expensive than the older formulations of dicamba herbicides, so there is no logical reason why a grower should use anything but the approved herbicides. Since dicamba can cause extremely visual crop injury (Figure 1) with yield losses to sensitive crops like non-resistant soybean at doses as low as 0.125 per cent of the normal field rate (Soltani et al. 2016), applicators must implement specific requirements to reduce the risk of off-target drift.



Figure 1. Dicamba drift on a susceptible soybean crop. Symptoms will include cupping of trifoliolate leaflets, shortening of internodes and a dark green colour.

I reached out to our ministry’s application technology specialist Jason Deveau to glean some tips on how to manage this new technology safely. Deveau worked with

representatives from Monsanto and BASF to summarize critical sprayer application requirements when applying the new formulations/chemistries to Roundup Ready Xtend soybeans (Figure 2).



Figure 2. Labelled sprayer application requirements for the Roundup Ready Xtend Crop System.

COURTESY OF SPRAYERS101.COM

This article is your starting point. There are plenty of tips for pesticide applicators at [www.sprayers101.com](http://www.sprayers101.com).

If you search “drift” on the site, there are several excellent tools and resources to assist you in preparing for the 2017 season. **CG**

Citations:

Soltani, N., Nurse, R.E. and P.H. Sikkema. 2016. Response of glyphosate-resistant soybean to dicamba spray tank contamination during vegetative and reproductive growth stages. *Canadian Journal of Plant Science*. Vol. 96, pp 160-164.



Have a question you want answered?

#PestPatrol on twitter.com @cowbrough or email Mike at [mike.cowbrough@ontario.ca](mailto:mike.cowbrough@ontario.ca).



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Always read and follow label directions. Converge<sup>®</sup> is a registered trademark of the Bayer Group. Bayer CropScience Inc. is a member of CropLife Canada. \*Based on five trials at three different Ontario locations in 2011. Trials were conducted comparing weed control with pre-emerge herbicides in corn. Trials were funded in part by the Grain Farmers of Ontario. The assistance of OMAFRA through the OMAFRA/University of Guelph Partnership is also acknowledged.



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# Krone wants you to buy

Is this the right time for offshore brands to make a play for a bigger chunk of the North American equipment market? Is it even possible for them to get onto your farm?

BY SCOTT GARVEY / CG MACHINERY EDITOR

**A**s he stood in front of a group of more than 100 farm journalists from a wide range of countries, Bernard Krone, president of Krone, a family-owned forage equipment brand based in Germany, wanted us to know why his company had partnered with Lemken, another German manufacturer, to hold an international media event in northern Hungary.

The main reason was simple: both brands wanted to get reporters from across the world into a field to actually see their new equipment at work.

As part of his presentation to reporters at that event last summer, Krone discussed how his firm has navigated the downturn in the global machinery market. In its 2014-15 fiscal year, Krone's revenue from its agricultural equipment division was around 540 million euros (about C\$768 million). Krone said he expected their final 2015-16 numbers to be only slightly lower, meaning the brand was making it through the depressed markets relatively well.

"With only a single-digit decline in sales, we are doing much better than the industry in general," Krone said.

But staying out in front of the pack means paying a lot of attention to markets that have big potential for sales. Like many other equipment manufacturers in Germany, a large percentage of annual sales come from exports. For Krone, that number is roughly 70 per cent, and the bulk of those sales come from North America.

No surprise, then, that I was one of three Canadian ag journalists invited to that field day.

Krone made it clear his brand — like a few others — hopes to grow its presence in the North American equipment market. To help do that, the company is moving its U.S.-based headquarters from Memphis, Tennessee, to a more central location in Shelbyville, Indiana. It's a move Krone says will help it better serve the continental market. At a cost of US\$12.5 million, the new site should be operational by the end of the year.

What exactly does the North American market offer to brands like Krone that are in the forage equipment business? A summary provided by the company's director of sales and marketing, Martin Eying, who also spoke during the Hungarian event, reveals its potential. Of the roughly 30,000 round balers sold globally each year, he explained, about half of them are bought by North American farmers.

Eying also pointed out that the number of manufacturers in China looking to muscle their way into the round and square baler production has increased significantly and is continuing to grow. So European brands like Krone may be feeling a sense of urgency to beat those upstarts to the North American pie.

But pushing aside already established and well-entrenched brands like New Holland and John Deere that currently dominate the forage equipment market in Canada and the U.S. will be no easy task. And it can't be done by sitting on your hands. To try and give itself an edge, Krone has continued to pour a lot of

CONTIUNED ON PAGE 40

An international assemblage of reporters clambers to see the Premos 5000 in-field pelleter in action during Krone's field day in Hungary in June.

PHOTO: SCOTT GARVEY





## Innovative Farmer of the Year, Zac Cohoon, Builds Soil Organic Matter With Compost

*written by IFAO Director, Mel Luymes*



Ontario's Innovative Farmer of the Year for 2017 is Zac Cohoon, who has been adding compost and building soil organic matter for twenty years on his farm near Port Perry. Every year, the Innovative Farmers Association of Ontario (IFAO) chooses a farmer that exemplifies great soil stewardship, progressive thinking and a curiosity to try new farm practices. Cohoon, like past winners and like many other farmers across the province, is the epitome of innovation.

Cohoon farms 1200 acres with his family in the northern Durham region along Lake Scugog. While they used to be in livestock production, they now focus on cropping and grow a rotation of corn, IP soybeans, oats, wheat and some hay across a diverse range of soil types.

"Our 'ah ha' moment was when we ran out of manure," Cohoon explains. Twenty years ago, he began mixing municipal paper by-products with broiler manure to make a better soil amendment and when they closed the barns for good about a decade ago, they began using composted leaf and yard waste mixed with mushroom compost, paper by-products and a small amount of composted food scraps. He lets the piles dry down undisturbed for a few months on bermed clay pads in the field and applies the compost with a vertical beater spreader

onto dry ground after wheat. He then seeds the field to a cover crop to help stabilize the nutrients.

"We've been doing this for twenty years now. When we purchased one particular field it was just eroding sand and we couldn't even produce 10 bushel beans," says Cohoon. "But with the compost, we are seeing excellent results. Soil organic matter has risen by almost 1 percent and the worm populations are there now. This year we averaged 54 bushels off that field."

Of course, compost comes with its fair share of issues. Tomatoes, squash and nightshade weeds have been a challenge with his IP soybeans. The weight of the spreader and product is also an issue. "Compaction from the spreading equipment can be just as detrimental as not using the material at all," Cohoon says. That is why he spreads compost only on his sandy soils and only when the conditions are just right.

As for how he made out in the drought conditions of 2016, Cohoon says he was surprised. "Where we thought we would have the most issues was on the sandier soils, but that's also where we put our compost down so it's actually where the drought had the least impact," he says.

Cohoon was nominated by Matt Porter, his agronomist and a family friend. "Zac is innovative because he wakes up every day and doesn't do the same thing," says Porter. "Every time we do something, we evaluate, discuss, look at success and failures and learn from that."

Last year, the pair tried broadcasting winter wheat after soybeans and lightly incorporating the seed with a Lemken high speed disc. Porter claims that wheat grows better when it isn't in rows and the root network better protects the soil from compaction and rutting when applying early season nitrogen.

investment dollars into R&D and infrastructure, despite the sluggish equipment market.

“During the period 2010 to 2013, we invested around 50 million euros (about C\$70.8 million) in new buildings, new production lines and new technology,” said Krone.

One of those new technologies is the company’s Premos 5000 in-field pel-leter, which could take forage harvesting in an entirely new direction, although it’s unlikely the Premos will have a big impact on the market on this side of the Atlantic in the near future. But it does exemplify the kind of out-of-the-box thinking the firm is throwing into R&D

Astonishingly, the engineering team that created the Premos 5000 had an average age of only 27. Those young guns have proven they aren’t just looking at forage equipment from a me-too perspective.

“With our Premos 5000 harvester that was introduced at Agritechnica, we once again demonstrated there are new directions where we can go,” Krone continued. “You may rest assured that Krone will be good for a surprise or two in the future.”

Of course, having enough R&D funding to allow engineers to spend time on creative projects depends on strong sales revenue. Yet Krone thinks that kind of funding will continue to be there, despite the downturn in global equipment sales.

“The agricultural machinery industry is going through tough times at the moment,” he acknowledged. “But, this was the case before. To that extent we are positive about the future. The market will recover. We expect this process to occur around mid- to late 2017. Thereafter, we foresee farmers and contractors beginning to catch up on investments they’ve been postponing. That’s our expectation based on experience.”

A November report from CEMA, the organization representing ag equipment manufacturers in Europe, doesn’t paint a very optimistic picture of the market potential for most of 2017. But it agrees, Krone may be right.

“In line with expectations, 2016 demand for farm machinery in Europe is set to end up with a drop,” it reads. “Even though the expectations for 2017 are not very positive, the CEMA Business Barometer is slowly recovering from its record low level. This might be a sign that further positive market developments could occur later in 2017.”

Quoted in the Association of Equipment Manufacturers’ November market



**But will the Trump administration keep the daring new designs of European farm equipment makers out of the hands of Canadian farmers?**

**Germany-based forage equipment manufacturer Krone held a joint field day this summer along with partner company Lemken outside of a small village in northern Hungary.**

PHOTO: YVON THERIEN

analysis report, AEM’s Benjamin Duyck, director of market intelligence, provided some insight into the market on this side of the globe from the perspective of U.S.-based brands.

“The ag equipment industry continues to suffer from a global ag downturn in large part due to low commodity prices,” he said. “While some countries might benefit from their higher commodity production levels, the U.S. manufacturers are watching from the sidelines as a strong dollar is making them less competitive in the global marketplace. Of course, the strong currency is a problem that plagues all U.S. exports.”

If currency exchange remains as it is, that could bode well for European firms like Krone whose production is based outside the U.S.

“Our expectations for the fourth quarter remain subdued as the U.S. dollar is experiencing its longest rally in 16 years,” Duyck went on. “With the global economic malaise, the slowdown in emerging markets and the negative interest rates seen in several economies’ bond markets, investment is flowing to the U.S. and U.S. stocks, driving up demand for our dollar, inadvertently affecting our competitiveness abroad.”

So, U.S. equipment exports are suffering, especially those bound for Canada which is the U.S.’s largest ag equipment export customer. U.S. imports here fell by 15 percent between January and September 2016, compared to 2015. That represents a loss of U.S.\$1.5 billion in real sales.

Despite the relatively pessimistic view

many in the industry have of the global equipment market in the near term, there are likely many good days ahead. And all factors considered, particularly with currency exchange rates as they are, it may be the ideal time for Krone — and other firms headquartered outside the U.S. — to try and grow their share of the overall North American market.

“After every crisis, business starts to pick up again,” Krone told reporters, summing up his expectations for future equipment sales. “Or as the Americans say, ‘No farmer. No food. No future.’”

But...

Since Krone made that statement in June and equipment associations offered their year-end predictions, one very large fly has landed in the ointment of global trade. That’s Donald Trump.

The new U.S. president is pandering to — and arguably further inciting — long-standing protectionist sentiment within the U.S., promising to demand changes to or withdraw from any number of existing and pending trade agreements. Foreign equipment companies wanting to make inroads into U.S. markets could face new and unexpected barriers. His stated intentions also threaten to disrupt global supply chains across all industries.

With a very unpredictable administration in the White House, will investments like Krone’s head office move be money well spent or just wasted? When it comes to doing business in the U.S. — or anywhere else for that matter — the future has, to say the least, become unclear. **CG**



# Cap and Trade

By Suzanne Armstrong

There will be changes in the economy with the new Cap and Trade system which took effect as of January 1st. Drivers are already seeing a change in prices at the pump. Agriculture will also be impacted by the increased cost for fossil fuels, including propane, natural gas, gasoline and diesel.

The agricultural sector is exempt from the Cap and Trade system for the direct emissions it produces, which, according to Ontario's Climate Change Strategy, are about 6% of the total greenhouse gas emissions in Ontario. These come primarily from soils, enteric fermentation, and manure management. Agriculture is instead eligible to provide offsets within the Cap and Trade system, which would pay farmers for reducing greenhouse gases or for sequestering carbon.

Offsets encourage innovation beyond the regulated sectors in the Cap and Trade system, and recognize that some sources of greenhouse gases cannot be completely reduced. However, sequestration should be a second line of defense.

The offset protocols for Ontario are still being developed. The CFFO would like to see aggregation permitted within the

offset system in order to allow to a wider array of initiatives and operators to participate. There should also be a voluntary offset system for carbon sequestration projects that do not fit within the permanence requirements of the Cap and Trade regulations. Offsets should first be sourced from initiatives within Ontario, and only come from elsewhere in Canada if sufficient offsets are not available.

CFFO wants to see the money going into the Cap and Trade system remain within Ontario, and remain revenue neutral for the government. British Columbia's Carbon Tax system (different from Ontario's Cap and Trade) also has regulations to keep the carbon-price revenue neutral for government. As Beaty, Lipsey and Elgie explain in their July 9 2014 article from the Globe and Mail, in BC, the government has reduced other taxes, including income tax, to balance the increased costs to consumers, benefitting the economy. The



system has also been effective in reducing fossil fuel use.

As Leslie points out in his Dec. 29 2016 article in the Toronto Star, Ontario plans to use the funds raised from Cap and Trade "on programs that reduce emissions and help businesses and consumers adapt to a low carbon economy." In order to be effective, these programs will need to make sure they are saving businesses and consumers enough money to compensate for the higher cost of fossil fuels where alternatives do not currently exist to replace or reduce their use.

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# The new employee

Are your HR skills holding your farm back?

BY LISA GUENTHER / CG FIELD EDITOR

**F**arms keep getting bigger and more complex. But at the same time, farm families keep getting smaller, with farming couples having fewer kids, just like other Canadians.

On many farms, this collision of demographic and economic trends means the days of running the farm by putting the family to work are gone.

You can't even hire the kids down the road. They aren't there any more.

Leah Knibbs would know. She owns a human resources consulting firm (Kn/a HR Consulting), and is a partner in a recruiting firm (Kn/a Sourcing People), so she hears about labour issues from the people most directly impacted — the farmers.

She started her human resources practice while living on the farm in Saskatchewan. After 25 years, she moved from the farm into Weyburn, where her company serves agribusiness clients, including primary producers.

With less local supply, more farmers are having to pull in employees from other industries, Knibbs says, which can be where the challenge starts.

From the farm perspective, that's because those new employees don't understand agriculture. But from the employees' perspective, it can be because the farmers aren't on the same wavelength about core job issues.

Then, those misunderstandings boil up because new employees who don't have a farm background may not realize how long the hours can be, or how physically hard the work is, says Tracy Biernacki-Dusza, a project manager with the Canadian Agricultural Human Resource Council (CAHRC).

To a degree, however, it doesn't help to think about it in terms of who is right and who is wrong (which may be the first inclination for farmers who have worked and done chores all their lives). After all, you still need employees, right?

So how do you know whether you need to brush up your HR chops? And should you try to learn how to manage your employees yourself, or hire someone to manage your HR for you?

## THE EVOLUTION OF HR ON THE FARM

"People say to me, 'I don't do HR.' Well, did you hire someone? Are you paying them?" Biernacki-Dusza chuckles. If you answer yes, she says, HR is part of your job description. It's something you're accountable for, and it's something that, for the sake of the farm, you need to do well.

Knibbs compares it to accounting, and how that has evolved as the nature of farming has changed. "Accounting used to look like a shoebox to the accountant," says Knibbs. Then farm journals came in, followed by more complex record-keeping and analysis, so today's farmers have more sophisticated systems.

The thing is, however, that while farmers may never have enjoyed doing book work, they went through this accounting revolution because they began to see the returns that it produces. And the more they understood what their accountants were talking about, the more they were motivated to make accounting a core — and enjoyable — part of their farm management.

Now, the same thing is happening with HR on the farm.

But is your farm still at the shoe-box stage of HR practice? And if it is, what's the best way to begin your own evolution?

The first step is to recognize that major transformations are underway as farmers look for better ways to lead their people.

Over the last year, for instance, Biernacki-Dusza oversaw the creation of National Occupational Standards for 11 commodities, including beef and crop production. Those standards include job descriptions that also define the skills and knowledge an employee needs for the job.

Biernacki-Dusza and her colleagues outlined four roles within each of those commodities: entry level, experienced level, supervisor, and manager.

Unlike other industries, where most workers have defined roles, a farm employee may be just expected to show up and to fit in, doing the jobs that they get assigned.

After all, that's what farmers do too. On any given

**“Employees can become family friends, Knibbs knows. “But I’ve seen that camaraderie get in the way of good business.”**

day, most farmers do a combination of jobs that range in skill level from labourer to senior manager, Biernacki-Dusza says. “I think that’s such a unique thing.”

However, while that kind of flexibility can seem a plus to the farmer, it can leave the employee uncertain about what’s expected of them.

That doesn’t mean the approach is wrong. It just makes it more important that the farmer and the employee get on the same page, especially because the non-farm employee is likely coming from an environment where jobs have very clear roles and expectations.

So while a farmer might wonder why anyone would bother defining all those roles in the first place, a lot of it is about outlining the expectations and tasks of an entry-level employee when the farmer hires help.

On the farm, Biernacki-Dusza explains, information tends to be passed along verbally, making it easy to miss something.

## YOU’RE STILL THE BOSS

Having employees means you need to be able to talk to them about your expectations. You also need to manage their performance, and you need to be able to do that while taking on all the other tasks that come with being a manager.

And that can actually be more difficult in a farm context, partly because there can be an unwritten tendency for the employee to almost become part of the family, says Knibbs.

“I think those relationships are wonderful when there is that camaraderie,” she says. “But I’ve seen that camaraderie get in the way of good business.”

Biernacki-Dusza agrees farmers need to have some formality in the employer-employee relationship. “It’s to protect yourself, and to protect the employee.” Writing everything down helps avoid surprises, as everyone knows what to expect if there’s a dispute, she says.

And it’s not just the non-family employees who can benefit from good HR leadership, although farmers do need to keep in mind that if family members are treated differently than other employees, those employees might perceive unfairness, Biernacki-Dusza says.

It’s an extra reason for having actual job descriptions. Besides, she says, those descriptions will also make it easier to navigate your way through succession. Job descriptions simplify the transfer tasks to the next generation, so the kids can have some autonomy and not have Dad looking over their shoulder all the time.

As well, descriptions can make it easier to assign a son or daughter to supervise an employee (or employees). With a description, everyone can be clear on how the job will be assessed at the end of the day, and it will be easier to mentor the son or daughter on their leadership skills.

CONTINUED ON PAGE 45

**2017 ONTARIO POTATO CONFERENCE & TRADE SHOW**  
**TUESDAY, FEBRUARY 28<sup>TH</sup>**  
*Delta Hotel & Conference Center, GUELPH*

**Contact Person: Eugenia Banks**  
 eugeniabanks@onpotato.ca  
 Phone: 519-766-8073



### AGENDA

- 9:30 –10:00 a.m. Strategies Down the Road to Control the Colorado Potato Beetle** Ian MacRae, Professor and Extension Entomologist, University of Minnesota, Crookston, MN
  - 10:00 –10:30 a.m. Healthy Seed: The Foundation of a High-Quality Potato Crop** Steven Johnson, Potato Specialist, University of Maine, Presque Isle, ME
  - 10:30 –11:10 a.m. Soil Health for Long Term Sustainability** Blake Vince, Farmer & Soil Researcher, Merlin, ON
  - 11:10 –11:15 a.m. Ontario Potato Board Announcement**
  - 11:15 – 1:00 p.m. TRADE SHOW & LUNCH (Included)** Display of New Varieties Included in the Trade Show
  - 1:00 - 1:30 p.m. Enhanced Control of Early Blight** Rick Peters, Research Scientist, Agriculture and Agri-Food Canada, PE
  - 1:30 - 1:45 p.m. Re-evaluation of Pesticides: What Does the Future of Potato Pest Management Look Like?** Craig Hunter, Ontario Fruit & Vegetable Growers’ Association (OFVGA)
  - 1:45 -2:15 p.m. Potato Storage Audit** Mark VanOostrum, Potato Supply & Quality Manager, WD Potato Ltd., Beeton, ON
  - 2:15 - 3:00 p.m. TRADE SHOW & COFFEE BREAK**
  - 3:00– 3:20 p.m. The Complexities of Growing Potatoes** Jack Streef, Potato Producer, Streef Produce Ltd., Princeton, ON
  - 3:20 - 3:50 p.m. How to Keep Dickeya--the New Blackleg--out of Your Fields** Steven Johnson, Potato Specialist, University of Maine, Presque Isle, ME
  - 3:50 - 4:10 p.m. Use of Drones in Alliston Potato Fields: Were They Useful in 2016?** Stephanie Kowalski, Agronomy Advantage, Dundalk, ON
  - 4:10 - 4:20 p.m. Agricornp Update** Arlie McFaul, AGRICORP, Guelph
- CCA CREDITS APPLIED FOR**

## THREE RED FLAGS

Is it time to call in an HR consultant to boost your farm's performance?

The first warning sign seems like it should be an obvious one. But it isn't always that simple. This red flag is a farm that can't keep staff.

The trouble is, it's easy to blame the employees, instead of taking a hard look at whether the problem is closer to home, says Leah Knibbs of consulting firm Kn/a HR Consulting in Weyburn, Sask.

The easy thing is to complain that employees don't have a work ethic. "But what if it happens multiple times?" Knibbs asks. "If you can't keep staff, the common denominator is you."



Another red flag is when you are losing sleep over someone's performance or attitude, whether it's a family or non-family employee.

"You've got something in your belly that's working on you," says Knibbs. Typically, she says, it means you're seeing problems with an employee's performance, but you don't know how to address it.

The third flag is when you find yourself wondering if you are meeting employment standards set out by law, and you're not exactly sure how to find answers to your questions about how you are compensating your staff, how you are handling their health and safety, or the conditions of their employment.

If you do have red flag issues on your farm, the first step is to put your issues into perspective.

You aren't the only one to have questions, Knibbs says. The HR environment is changing, both in terms of employee expectations and in terms of the rules and regulations, and rural employers of all kinds are finding it can be a challenge to keep up.

Farmers facing HR issues should remember that they've overcome new problems already. Knibbs compares it to a time on her own farm when wheat midge first started chewing through southern Saskatchewan crops. Her husband was losing sleep over this new problem.

"So what does he do? He calls somebody who knows about this stuff, and then he increased his capacity," Knibbs says. "And dealing with wheat midge just became a regular thing."



### GETTING HELP

The good news for farmers is that there are resources to help them become better managers.

For instance, Tracy Biernacki-Dusza, project manager with the Canadian Agricultural Human Resource Council (CAHRC), says her organization is revamping their website and the AgriSkills HR Toolkit so they're in plain English to make it easier for farmers unfamiliar with human resources jargon.

The revised toolkit will help farmers identify and manage their HR problems. The toolkit can be obtained by clicking on the toolkit tab at the council's site, [www.cahrc-ccrha.ca](http://www.cahrc-ccrha.ca).



### NATIONAL JOB BOARD

The council has also created a national agriculture job board at [retail.agrijobmatch.ca](http://retail.agrijobmatch.ca). Farmers can pull in and customize the job descriptions that CAHRC recently completed, and they can also post job ads.

As well, the site provides an interview guide, and once employees have been hired, the site's job descriptions can help farmers design training for a new employee.

Meanwhile, Knibbs and her colleagues are developing an HR boot camp that will include four modules. "It's not going to make you an HR expert, but you're going to be at least aware and have some of the basic skills."



### ON THE FARM

Working with an HR expert can help as well, Knibbs says. For example, hiring an expert to develop an employee manual means that it will likely include good practices and be current. And a good HR consultant will make sure the farmer knows more by the end of the process.

Creative farmers could also create their own HR support groups, similar to other peer groups focused on things like benchmarking costs. The group could invite speakers, Knibbs says.

CAHRC is also developing resources to help farmers train employees. The online courses will cover the reasons behind the jobs that need to get done on the farm, Biernacki-Dusza says. The aim is to give employees the why, then allow the producer to show employees how to do it, she adds.

Knibbs is confident farmers can up their HR game. They're smart people, she says. Plus they've done it in other areas already.

Says Knibbs: "If they looked at HR in the same way that they looked at building their capacity in other areas, it would be much easier."

## DO IT YOURSELF OR CONTRACT IT OUT?

When Knibbs went into business, one of the best pieces of advice she got was, “Know what you do well, and buy the rest.”

This advice probably rings true for many farmers too, who are no strangers to contracting services from agronomists, custom harvesters, and accountants. Taking on more land feeds into this need as well.

“Time pressures tend to help you sort out your priorities,” Knibbs says. Farmers need to decide what they do well because that’s where they can be effective and make their money.

Whether farmers decide they have the skill set to manage people, or they are willing to develop it, is partly a personal choice, Knibbs says. A lot of it comes down to whether the farmer likes doing it, and how it fits into the overall business plan.

Some farmers can justify hiring a foreman, or contracting an HR firm to help

with bigger questions such as how to hire and keep employees. But the day-to-day stuff is still going to be in their hands, Knibbs says.

“If you are going to have employees, you can never run away from being a supervisor,” she says. As the farm grows, someone will need to be able to manage people. Usually, farm families figure out who has the best head for it, she says, which is a good approach.

“You have to look at the people in your family, each individually, because everybody has certain skills,” says Biernacki-Dusza.

Knibbs says there’s no magic test to measure a person’s HR skills. But there are all kinds of self-analysis tools to figure out what kind of leader you are, she says.

To Knibbs, asking questions is the key to evaluating one’s HR potential. “How good am I at leading and managing my people?”

Next, Knibbs says, it’s a matter of figur-

“Ask yourself, “How good am I at leading my employees? Would they agree?”

ing out whether expectations of employees are clear, whether the farmer is following laws and regulations, and how the farm’s recent hires have turned out. Knibbs compares it to asking questions about a crop rotation. How did the barley perform when it followed the lentils?

Biernacki-Dusza suggests farmers read through CAHRC’s Agri HR Toolkit, an online resource that goes through what farmers need to know to manage people. If a farmer wonders if they need help hiring employees after reading through the recruitment and retention section, she says, they probably do. **CG**



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# CHINA WANTS MORE



The traditional Chinese diet is becoming more westernized, changing consumer food demands.

This time, it's China's demand for safe, high-quality foods that is exploding

BY LILIAN SCHAER

**F**or almost any marketer or producer of just about anything, the Chinese market is one they're eager to get into. The world's most populous country boasts a potential 1.4 billion customers, and both its middle class and their purchasing power are on the rise.

Research by consultants McKinsey & Co. suggests that by 2022, more than three-quarters of China's urban consumers will earn between 60,000 and 229,000 yuan renminbi (approximately C\$11,600 to C\$44,400) a year.

Only four per cent of urban Chinese households had earnings in that range in 2002.

That explosion can be directly attributed to the rapid pace of industrialization and urbanization that has been ongoing in China since the 1980s. According to the World Bank, only 16 per cent of China's population lived in urban areas in 1960, increasing to 56 per cent by 2015 and expected to keep edging up to 60 per cent by 2020.

## THE NEW MARKET

For a long time, China faced a problem of quantity when it came to feeding its people.

Today, the problem more often than not is quality, which may be good news for Canada's farmers.

Various scandals involving food have shaken Chinese consumer confidence in domestically produced items, with the melamine scandal of 2008 marking a watershed moment in the Chinese food industry.

In that crisis, which killed six infants and sickened 300,000 people, products from one out of every five Chinese dairy companies were found to be tainted with melamine.

That lingering distrust, combined with the rising wealth of the middle class and more food availability, means that Chinese consumer demand is changing from focusing on having enough food to caring about quality.

Increasingly, too, Chinese consumers are paying more attention to where their food comes from, what it contains, and how it was produced.

Nor will it stop there.

"China is developing. First we had a focus on nutrition, then nutrition with quality," explains William (Wim) Smits, director of farm management service with DeLaval in China. "Now the higher middle class wants emotional satisfaction as well."

That evolution is driving change in Chinese agriculture. In the dairy sector, for example, post-melamine tightening of food safety and quality regulations saw large dairy processors change their buying practices from so-called "middle men" — those selling pooled milk from smaller village milking centres representing many small farmers — to either buying directly from only two or three large farms or producing their own milk.

Now the market is starting to see the emergence of smaller local milk brands, says Smits, where local farms are selling dairy products back to their own villages.

"This is for people wanting to know where their milk comes from. A local brand is one from a single farm, always above 1,000 cows, that produces and processes its own milk," Smits says. "Food is a big part of Chinese culture."

Wondermilk is one such example, a high-quality

CONTINUED ON PAGE 48



Grassroots Innovation  
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## SPOTLIGHT ON CROP ADVANCES



*Crop Advances is an annual report that summarizes applied research projects involving the OMAFRA Field Crop team, in partnership with commodity groups, industry and the OSCIA.*

Go to the [Research & Resources](#) page at [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)

# Turning Northern Ontario forest into productive farmland: What we've learned to date

By Lilian Schaer

Work is continuing on a three year research project by the Temiskaming Crops Coalition and the Cochrane District Soil and Crop Improvement Association to help farmers bring forested Northern Ontario land into agricultural production as quickly as possible.

The anticipated outcomes are twofold: evaluating soil conditions and crop growth potential after clearing using both mulching and conventional methods (clearing away trees and brush, breaking down roots and incorporating woody residue into the soil), and assessing the economics of the two clearing methods.

The expectation in setting up the project was that mulching would bring the sites into profitable crop production a couple of years earlier than conventional clearing methods.

“Northern Ontario has more than four million acres of Class 2, 3 and 4 lands that are currently not in agricultural production,” explains project coordinator Steph Vanthof of the Northern Ontario Farm Innovation Alliance (NOFIA). “This project will give us a much better understanding of mulching and its role in agriculture so farmers in the North have information to make informed land management decisions.”

### How is the research being conducted?

After land preparation on sites in Temiskaming District and Cochrane in 2015, work in the second year focused on soil fertility and crop potential of that land.

The Cochrane site was planted in June 2016 with oats and red clover. The Temiskaming site was also planted in early June, with a combination of oats, buckwheat and red clover. Spring and fall soil samples along with tissue analysis and plant counts were conducted on both sites.



*Mulched areas were less green with less growth and lower plant counts when compared to the conventionally prepared land.*

### What has the project found?

Early results show a difference between conventionally subsoiled and mulched land. Although mulching showed little impact on soil fertility, mulched areas were less green with less growth, lower plant counts, and lower average and maximum plant heights when compared to the conventionally subsoiled land.

It's not yet clear what might be causing those differences, Vanthof says, although seed bed preparation likely impacted plant counts at both sites.

“With mulching you have to get all the big branches and wood off before planting. If you don't and you hit wood, it will displace the seed drill and we could see quite a bit of uneven growth across the mulch sites,” Vanthof said. “We hope year three will provide more information as plant count alone doesn't explain why yield is greater in conventional than mulched land.”

In 2017, both sites are expected to be planted with a cash crop to further assess yield potential. As well, it is anticipated that a section of each site will be left with 2016's crop to assess the implications of incorporating additional crop residue into the soil.

A land clearing reference document is slated for completion and release by July 2017.

### Who is funding the research?

This project is funded through a Tier Two grant under the Ontario Soil and Crop Improvement Association (OSCIA) grant structure introduced in 2015. Tier Two grants are supported by OSCIA and the Ontario Ministry of Agriculture, Food and Rural Affairs.

Some additional funds are provided by NOFIA and in-kind support by GB Equipment from Drummondville, Quebec in the form of mulching and subsoiling services. OSCIA is assisting with communicating research results.

### Where can I get more information?

Visit [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org) for information on this and other Tier Two OSCIA projects.

### For farmers considering mulching:

- **Mulch in the fall so residue can winter on the ground, then subsoil in spring.**
- **Plant a high biomass crop in years one and two so the wood residue can break down and incorporate further into the soil.**
- **Consider broadcast or aerial seeding to reduce seed displacement by a mulched seedbed.**

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Although Chinese consumers are starting to regain their trust in their food system, foreign infant formula is still in great demand, despite its high price.

**Inset: Haibing Wang of the Liyang Haibin Co-op in Jiangsu Province says he can get three times the price for organic crops, but he is still 90 per cent conventional.**



## For Canada's farms, the opportunity is to build brand loyalty before China's farms recover from food scandals

local brand sold in Beijing that prides itself on producing all of its milk at its own farm, Huaxia Dairy Farm, which is located only 50 km from the Chinese capital.

The impact is felt in other sectors too, as China's co-operatives are faced with increasing quality demands for their crops, including reducing chemical use and growing interest in organic production.

Lan Jiasheng is the general manager of the Jianhu Lantian Agricultural Machinery Co-operative established in 2007 near the city of Yancheng in Jiangsu Province north of Shanghai. The government has raised its standards for crop quality and will now turn away a substandard crop, he says, which didn't used to happen in the past.

"In the old days, we had a quantity problem and now we have a quality problem with people worried about residues," he says. "We can't test everything so we also need to focus on organic production. As Chinese people have higher living standards, they focus more on health and are willing to pay more, so this is a growth area for the future."

Chinese government regulations for organic production published by the national agriculture ministry are very strict, he adds, and include fertilizer and pesticide bans, fallow periods and using cover crops to enrich the soil.

It's a similar story at the nearby Liyang Haibin machinery co-operative, which is adding a focus on organic and so-called "green" standards to its business.

The co-op's president, Haibing Wang, says the price he receives for his organic crop is three times higher than his conventional output, but he has to balance that with

lower outputs and stricter standards for soil and inputs. Of the co-op's 320 hectares, 20 are currently in organic production.

"We see 50 to 60 per cent less yield from our organic crops," Wang says. "I have a vision for the future but also have to face the reality that it takes three to five years to go organic."

The co-op is expanding by adding new farmland, but also trying to do a better job with its existing acreage, he adds, as well as introducing new businesses. That includes something new in China — agri-tourism. Many urbanites like to "sightsee" in the countryside, so the co-op organizes tours of its locations during cherry blossom or canola flower season, for example.

Agri-tourism is also part of the offering at the Beijing Xingnongtianli Agricultural Machinery Co-operative near Beijing, which works approximately 2,000 ha and provides agronomy, equipment repair and cropping services for over 2,000 farms.

"People from the urban areas come to the farm to see wheat and corn harvest," says co-op president Chen Ling, who adds that city dwellers can also use small land plots at the farm to grow their own vegetables.

On livestock operations, the growing social conscience of Chinese consumers means improvements in animal welfare and environmental management, says DeLaval's Smits.

"People still worry about people first here, but we see animal welfare changing too," Smits says. "The advances are rapid. Five to 10 years ago we had no sand bedding on dairy farms, for example."

China's new dairy farms are world class, he adds, using the latest technologies and welfare standards and averaging 40 to 42 litres per day per cow with many older animals in the herds.

The rapid rate of urbanization in China also means a growing westernization of the population's diet, another contributor to changing consumer buying habits. The traditional Asian diet doesn't include much dairy, for example, but that's been changing rapidly.

According to the Dairy Association of China, when the People's Republic of China was formed in 1949, dairy consumption was practically non-existent, at only half a litre per capita per year with a national population of 541 million. By 2015, that consumption level had risen to 36.1 litres per capita — largely in milk and yogurt — among a population of 1.3 billion people.

"Breakfast habits are changing. The traditional Chinese breakfast takes a long time to prepare and with urbanization, you westernize, which means yogurt, bread, and starting to drink milk," says Sören Lundin, DeLaval vice-president for Asia Pacific.

Despite the growing quantity and quality of Chinese-produced food, though, Western food remains popular

— a boon to food exporting nations like Canada seeking to expand existing markets in China or add new ones.

Tetra packs of milk from Denmark, Germany, New Zealand and Australia line the shelves of Chinese grocery stores, and North American and European cooking oils, cereal, confectionary and dry goods are widely sold in both online and traditional market settings.

A three-litre jug of canola oil from Manitoba, for example, was priced at the equivalent of \$22 at one Beijing market that targeted higher-end shoppers.

Foreign baby formula, too, remains a hot seller despite its high cost (up to 436 RMB or approximately \$85) compared to domestic product (76-80 RMB or approximately \$14-\$15).

"The trust is coming back (in food) but not in infant formula," explains Smits. These middle class one-child families, he says, are willing to pay more to buy food they trust. **CG**

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**Lilian Schaer** is an Ontario-based freelance agricultural writer who recently travelled to China as part of an Exposure for Development tour organized by the International Federation of Agricultural Journalists.

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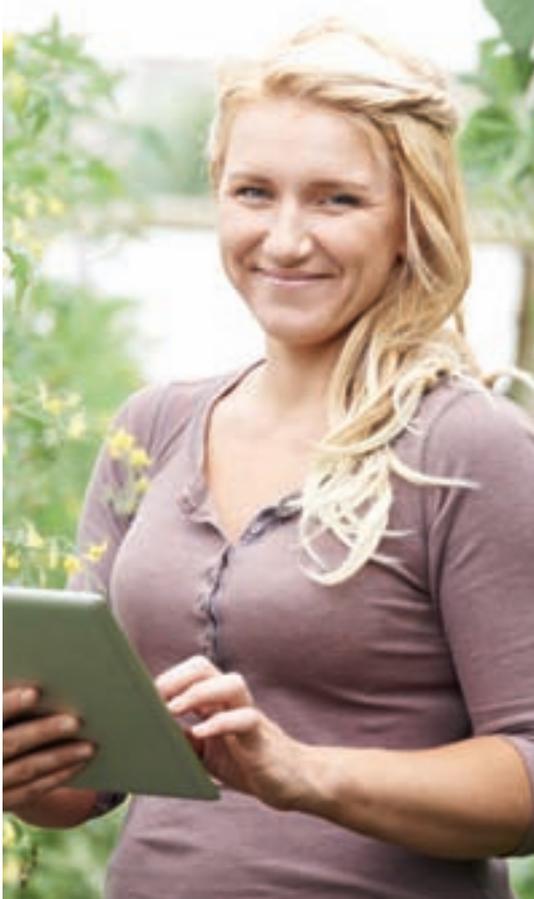
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# Young AND old

The farm version of the generation gap means that succession talks on many farms stall before they even get a fair chance to start. Here, adviser Delores Moskal shares her ideas for seeing eye to eye.

BY LISA GUENTHER / CG FIELD EDITOR

**W**hen it comes time to put succession planning on your personal agenda, there are only a couple of ways for it to go, says Delores Moskal. There are the parents who are open to talking succession with the next generation. And then there are parents reluctant to even broach the subject with the kids.

So it raises the questions: If you're on a farm with the second type of parent, how can you kick-start the process? What can you do to get yourself ready? And, perhaps just as importantly, what should you do if nothing works, and Mom and Dad still won't talk?

Moskal grew up on a farm near Ituna, in central Saskatchewan, and she still lives in the same area, on her husband's family farm. She has also spent over 30

“And it's going to be different for everyone,” she repeats. In fact, Moskal says the audit sheet can be an eye-opener, with one person in the family seeing challenges where another sees a green light.

But there's another first step too. Moskal finds that some parents are afraid to be bold and open about their situations with their kids, so the first challenge is helping them get past that fear so they can at least start the conversation.

The root of parental reluctance varies. Sometimes it's because they aren't impressed with their kid's work ethic, Moskal says. She says they want to ask the kids, “How far would you get if you were working for an employer who wasn't your parent if you showed up to work at 10 o'clock?”

If you're a kid on that farm, that's a real question to deal with (see sidebar).

Problems can also stem from a combination of assumptions and entitlement. Moskal has heard stories of young farmers who had rental agreements with parents, but didn't pay them out.

“And then when they're asked, they go: ‘Well, it's going to be ours anyways.’ But in the interim, Mom and Dad still need an income from there. They shouldn't be drawing on their savings,” says Moskal.

The kids might assume their parents have always been good savers, but they really don't know, she adds.

Other financial issues might be at the root of parents' hesitation to start transferring the farm if both generations are going to be on the farm, Moskal says.

“How much does the farm need to pay you to support your lifestyle? And how much are you willing to give up in your current lifestyle so that the farm can still be viable?” Often the farm is the parents' pension plan, and they'll need to figure out how to get their cash out, she adds.

One thing that never works is bullying, Moskal says. The warning signs aren't always clear, at least not at first, but Moskal thinks it often comes down to a lack of respect.

If a parent is controlling, it can be very hard for the successor to pull the plug, especially as they invest more years in the family farm. “And then it gets to the point where you're 60 and your parents are 80 and you still don't own the land in your own name.”

Bullying can come from the younger generation, too,



**Both sides – the parents and the kids – need to take a realistic look at what will happen if the succession talks don't work out, Moskal says**

years working for the Cornerstone Credit Union in rural Saskatchewan, filling roles such as lender and investment specialist. Today she's a self-employed certified financial planner and registered retirement consultant, and much of her work focuses on helping farm families with succession planning.

Moskal's voice is calm, almost musical, and she leaves the impression that nothing fazes her.

Every family is different, she says, so the tools that work in one situation might not work in another. But she does like to start by going through Elaine Froese's key challenges audit sheet. That worksheet will help each person identify the challenges they see in the succession process, she says.

especially if there's a power imbalance. "In some situations the parents can only farm if their kids help them because it's a labour issue."

People can get stuck, and they might sever the relationship in the end, so it might be best to take a step back and think about what's best for both parties.

### WHERE DO THE ISSUES LIE?

Often family relationships and business are blended together, and it can be hard to see where the issue lies.

The farm business must be viable, and must provide income to sustain the family's lifestyle, Moskal says. Or sometimes, family members who aren't farming want a say in business decisions, but farm business decisions should be between the people farming, she adds.

However, family issues need to be acknowledged, too, Moskal says. How do the non-farming siblings fit in? Will they be entitled to anything as part of their parents' estate? Who else has a stake in the farm?

Finally, there are also ownership issues. Young farmers seeking to open the conversation might want to think about whether farm transfer needs to start with ownership. Perhaps they can start by taking on more management to prove themselves, Moskal says. "And eventually there will be that transfer of ownership. It happens in stages."

Often relationships break down under the weight of too many assumptions and not enough communication. Moskal suggests talking while relationships are good, before farm families run into the tough situations, such as an unexpected death. "It just gets ugly. So to avoid the ugly, you just need to say what would we do if this happened?"

For those young farmers who don't feel they can start the conversation with their parents, Moskal suggests looking for people who can mentor them through that first step. That might be as simple as turning to friends who've been through it and asking what worked for them.

Bringing in a third-party to facilitate the meeting can also help, says Moskal. A third party can help take the emotion out of the discussion, and ensure everyone has a chance to voice their concerns. Somehow, a bridge must be built. **CG**

## Get your own ducks in a row

As a financial planner, Delores Moskal often feels like a GPS system, pointing her clients to professionals to help them with succession planning. But before farmers can assemble their dream team of advisers, they need to figure out their own objectives, she says.

Once young farmers have goals, aspirations and dreams to work towards, Moskal advises saving some cash to buy into the farm. She also says young farmers need to get a good handle on what it costs to fund their lifestyles and responsibilities, such as family vacations and their children's educations.

Tracking personal expenses isn't an enjoyable task for many, but it helps families figure out how much they need from the farm and any off-farm jobs. Quite often the spouse manages the family's personal finances (and often supports the family through an off-farm job), but Moskal says all the responsibility shouldn't fall on one person.

However, the reality is that the farm business can suck up a lot of time, and it's not good for people to spread themselves too thin. Moskal suggests putting the family expenses on automatic as much as possible by doing things like tracking spending through online banking systems.

Moskal has surveyed clients about barriers to financial planning, and those who procrastinate say they just don't have time. Time is a friend to anyone in the midst of financial planning and farm succession, but Moskal points out it's not a given. She worries about what would happen if the farming spouse died prematurely. Would the other spouse have enough money to either buy out the in-laws or walk away from the farm?

It's a tough thing to even consider, but Moskal says farmers should pretend they are going to die tomorrow, and then work through what their families would do. It's a good idea to collaborate with the people you need to while you can, in case of an unexpected death or soured relationship.

Succession planning isn't easy, but Moskal has seen plenty of success stories over the years. She mentions a young couple who recently moved onto the farm. The parents built a new house a ways down the road, but they're still involved in the farm. The succession plan has worked out really well, she says.

As for young farmers just starting out, Moskal says there are many roads to transitioning the farm.

"We just have to find out what's the best route for you."

# Can you develop a thriver's mindset?

These seven steps will help you thrive, not just survive

**W**e face challenges and disappointments. What is it that determines whether you will overcome these and thrive, or merely survive? Some people have developed a thriver's mindset. They are masters of challenge and change. They grow during difficulties by leaning into stress, and by relying on special resources.

There is good news, however. Science is showing that everyone has the capacity to develop this mindset.

In agriculture, as in other industries, we all know entrepreneurs who seem to grow, learn, and take the best from every situation. From research and from my experience as a coach, here are seven traits that stand out in these thrivers:

1. They know what helps them thrive.

For every area of their business and personal life, they know specifically what they want to become, develop or possess. This allows them to put their resources, energy, and focus toward those things that will bring them closer to those goals.

2. They balance the elements that are essential for their well-being:

- Career well-being: identifying and using the strengths of yourself and those around you every day, choosing tasks according to these resources.
- Social well-being: having strong, loving relationships (family and friends).
- Financial well-being: effectively managing your economic decisions.
- Physical and psychological well-being: having good health and enough energy to consistently get things done.
- Community well-being: the sense of engagement you have with the area where you live, doing something for a greater cause.

3. They know their big "why."

In addition to knowing what makes them thrive, they also know why they value certain things. They are clear about their motivations. However, not all values and motivations are equally beneficial if your goal is to thrive. Research shows that:

- Intrinsic motivations and values, such as autonomy, self-actualization, harmonious interpersonal relationships, ethics, integrity, and a cause greater than oneself are associated with greater happiness and life satisfaction.
- On the other hand, pursuit of extrinsic motivations and values, such as social success, wealth, recognition, and prestige leave one more open to stress, anxiety, depression, and dissatisfaction.

4. They act according to their values in their daily life. Momentary choices and experiences accumulate to shape our everyday lives, so your micro actions lead to macro results. A small decision in farm management may have a significant impact in the months and years to come.

5. They learn to be intensely focused.

"Attention" has become one of the fastest-growing areas of study in psychology and neuroleadership. It is now recognized as a major issue in a world in which new technologies grow at light-speed rates, bombarding us with choices and making it even more difficult to focus on priorities. Our attention is hijacked by emails, texts, phone calls, and other environmental demands. In addition, there is always another journal, salesperson, or consultant telling you what to think, do, or desire. These demands distract from what is most important in order to thrive, not just survive. How you allocate your attention will substantially determine what you get in life.

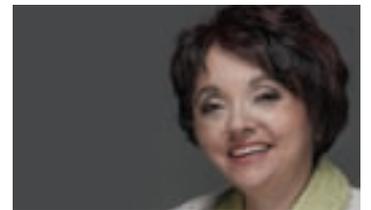
6. They persevere in the face of challenge, and they have a positive sense of their capabilities. They know that, with the right resources, help, time, and energy, they can succeed.

7. They have "psychological flexibility." They can switch their attention, changing their goals, deadline, or strategies. They are open to considering different actions to achieve their life goals.

So, in order to develop a thriver's mindset, here are a few interesting questions:

- What is really important in all areas of your life (farm, family, community, etc.)?
- What do you want your life to be like in the next year? In five years?
- Why?
- What are your values? Are you being true to them?
- Do you walk the talk?
- Why don't you do the things you know you should be doing?
- What can you do today to improve?
- What can you learn from your mistakes?

Everyone has the capacity to develop a thriver's mindset. But it does require effort, perseverance and courage. **CG**



**Pierrette Desrosiers, MPS, CRHA**

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# EAT TOGETHER:

## Have a healthier family

20 years of research proves that sitting down to eat together is good for body, brain and mental health

BY HELEN LAMMERS-HELPS

**H**ere is one thing you can do that will help your kids succeed in school and life, and it's as simple as making it a habit to eat together as a family. It sounds too good to be true, but true is exactly what it is.

That's according to Dr. Anne Fishel, a family therapist in Cambridge, Massachusetts, who should know. The author of *Home for Dinner*, Fishel literally wrote the book on healthy family meals.

She is also the co-founder of the Family Dinner Project, a non-profit organization that aims to help families have more fun, more meaningful conversations and healthier family dinners.

Fishel says the research is very compelling. When it comes to physical health, home-cooked meals tend to be better for us than restaurant or take-out food. Home-cooked meals are lower in fat, sugar and salt, and kids

who eat at home consume more fruit, vegetables, fibre and vitamins than kids who eat out.

Studies have also shown that dinner conversations are better boosters of a child's vocabulary and reading ability than even reading to your kids. And whether or not a child regularly eats dinner with their family is a better predictor of their academic performance than doing homework.

Teenagers who regularly eat dinner with their families are less likely to have high risk behaviours such as substance abuse, they are less likely to be violent, and they are less likely to suffer from anxiety and depression.

And even after children leave home, the protective effects continue, with young adults less likely to be obese and more likely to eat healthily.

Fishel is only half-joking when she says that if more families ate dinner together, her counselling practice would go out of business.

Yet while eating meals as a family sounds simple, in reality it can be tough to do on a regular basis. Fishel says surveys show only about half of families eat dinner together five or more times each week. With the pressures of field work, equipment breakdowns, off-farm work, kids' activities, elder care and volunteer commitments, finding a time when all family members can sit down together for a meal at home can be challenging.

Fortunately, the positive effects of shared family meals aren't limited to dinner. With a little creativity, you may be able to find more ways to bring family members together for sustenance. It could be breakfast after the morning chores are done, an after-school snack, or even a bedtime snack.

Fishel says that any block of time you set aside to be together to connect with one another will suffice. During harvest, it can even be a picnic on the truck tailgate.

While the research is based on eating together at least five times a week, Fishel anticipates there would still be advantages if it was less often. The power of family comes from the quality of conversation around the dinner table. It's a time when families can tell

## Managing conflict at the table

5 Tips from "Home for Dinner" by Dr. Anne Fishel

1. Have your difficult conversations somewhere else, not at the supper table.
2. Go easy on teaching manners at the table.
3. Set some guidelines for conversation, if necessary, such as "only one person speaks at a time" or "we're not going to interrupt each other."
4. To prevent complaints about the food, which is one of the greatest sources of conflict at the table, create a list of acceptable meals that everyone agrees to eat without whining.
5. Set and adhere to rules for using phones or other technologies at the table.



CONTINUED ON PAGE 54



## FISH TACOS (FOR 4)

This recipe was created by the son of Dr. Anne Fishel to recreate a version he ate from a food truck. Dr. Fishel says re-creating a dish at home that you've tasted at a restaurant (or food truck) can be fun — a great shared activity.

2 tablespoons white or champagne wine vinegar  
 1 tablespoon sugar  
 1/2 teaspoon salt  
 1/2 red onion, thinly sliced  
 1 pint cherry tomatoes  
 1/2 red onion, finely diced  
 Juice of 2 limes  
 Salt and pepper  
 1 avocado  
 1/4 cup mayonnaise  
 1 teaspoon lime juice  
 1 cup all-purpose flour  
 Cayenne pepper to taste  
 1/4 cup canola oil  
 1 pound cod fillets or other firm white fish  
 1 (8-count) small package soft corn tortillas

Mix the vinegar, sugar, and salt in a small bowl. Pour the mixture over the sliced red onions and let sit for at least one hour. This sets up a very quick pickling process.

Halve the cherry tomatoes and combine them in a bowl with the finely diced red onions, the juice of two limes, salt, and pepper. (If you're feeling adventurous, add a small chopped jalapeño pepper, with seeds and ribs removed.)

Scoop out the avocado and mash it with a fork in a small bowl. Add the mayonnaise to the avocado, and mix until creamy. Season with 1 teaspoon lime juice and salt and pepper to taste.

Combine the flour, salt and pepper, and cayenne pepper in a shallow baking dish or high-rimmed plate. Slice the cod into 3-inch-long chunks. Dredge the fish in the flour mixture. Be sure to remove any clumps of flour that adhere to the fish, since these will just burn in the pan.

Heat the canola oil in a frying pan over high heat. (Don't be afraid of cranking up your stove to the highest flame and watching the oil smoke.) Place the cod into the pan, making sure not to overcrowd it, which will bring down the temperature in the pan. Fry for two minutes on each side. Any more will dry out the fish and make it rubbery.

Just before serving, heat the tortillas in a dry saucepan over low heat.

Now it's time to assemble the tacos. Spread the avocado cream in a thin layer on each tortilla shell. You'll need two tacos per person. Place a piece of cod on the avocado spread. Top the fish with the cherry tomato salsa and pickled onions.

stories about the things that happened to them, seek advice about how to handle challenges that came up that day, or talk about issues going on in the world. The dinner table can also be a place to seed important family values and promote a sense of belonging.

With a lack of time being the No. 1 reason families cite for not eating together on a regular basis, Fishel shares some tricks that help make it easier to get a healthy meal on the table in a hurry.

Use shortcuts. You could pick up a grocery store rotisserie chicken and then make a healthy salad to go on the side. The carcass can be used to make a healthy chicken soup the next night.

Make double batches and freeze half so you have an extra meal for a night when you don't have time to cook.

Swap meals with friends. If four of you each make a quadruple batch of a favourite meal, then you have three meals to swap with each other.

Serve quick foods for supper. Eggs, pancakes with fruit, or soup and salad make healthy but quick meals.

If satisfying multiple tastes is a problem, choose build-your-own meals such as mini-pizzas or tacos.

Older children and teens can be involved in menu selection, preparation and cleanup. If teens are reluctant to eat at the table, have them create a music playlist, ask them how a recipe could be improved, or find out what conversation topics are out of bounds. You don't need to bring up a teen's poor score on a math test at the table, says Fishel.

And while getting everyone around the table is half the battle, modern technology may prevent family members from truly connecting with one another at meal times even though they are physically present.

Phones and other screens should be used judiciously at the table. Screens prevent face-to-face connection during the meal. In fact, surveys have shown that parents tend to be the worst offenders.

Fishel recommends putting phones away but says some families will allow them solely for the purpose of sharing a funny text or photo or for Googling to settle a dispute.

Perhaps the most important thing you need to do to make family meals a reality is to prioritize them. Fishel estimates it only takes an hour to make, eat and clean up from a family meal, asking "What else can we do that takes only an hour a day but packs such a big punch?" **CG**

## FRITTATAS (FOR 4)

Frittatas can make a quick supper. Recipe reprinted with permission from *Home for Dinner* by Dr. Anne Fishel

8 large eggs

1/4 cup milk

Salt and pepper to taste

2 tablespoons oil or butter

3 cups vegetables (any combination of onions, asparagus, red pepper, scallion, cherry tomatoes, mushrooms, or whatever else you have on hand)

1/3 cup shredded Parmesan, cheddar, or Swiss cheese

Crack the eggs in a large bowl and whisk with milk, salt, and pepper.

In an all-metal skillet, heat the oil or butter, and then add the vegetables. Sauté for 5 to 10 minutes, or until the vegetables are softened.

Pour the egg mixture over the vegetables, and let this concoction sit over moderate heat until it looks mostly cooked through — less than 5 minutes. Sprinkle the cheese over the egg mixture, and place the pan in the oven under the broiler for about 5 minutes, or until it looks golden. When you remove the pan from the oven be sure to use a pot holder.

Serve the frittata with a hunk of bread and a salad, and you'll have a healthy, cheap meal made in less than 20 minutes.

## Resources

*Home for Dinner: Mixing Food, Fun and Conversation for a Happier Family and Healthier Kids* by Anne K. Fishel (American Management Association, 2015)

Food, Fun and Conversation: 4 Weeks to Better Family Dinners, free online program at [www.thefamilydinnerproject.org](http://www.thefamilydinnerproject.org)

More ideas for quick meals:

Food Bloggers of Canada "On Board in 20" recipe series at [www.foodbloggersofcanada.com/category/food-drink/on-board-in-20/](http://www.foodbloggersofcanada.com/category/food-drink/on-board-in-20/)



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## OH, MY HEAD hurts

**H**itting your head may just give you a headache, but you should never dismiss the hit as a minor injury. About 2.5 per cent of the Canadian population injure their heads each year, so it's not an uncommon problem. But it can be serious.

The type of head injuries that you hear most about in the news are those that happen while playing sports. Just think, for instance, of hockey player Sidney Crosby. These traumatic brain injuries can cause blood clots, problems with cognition or thinking, changes in vision and perception, headaches, and even seizures.

**Don't just shake off a head injury. Get it checked out. Brain injuries can lead to serious consequences that may not appear for decades**

With ongoing head injuries, the effects can be serious and lead to dementia. Pugilistic dementia, for instance, is a type of dementia that results because of repeated blows to the head in boxing.

You may not play hockey or box, so you may believe that you are not at risk for any of these effects. However, what you may consider a minor hit to your head as the result of a fall can lead to seizures later in life.

A seizure is a sudden surge or change in the electrical activity of your brain that brings about loss of consciousness and control over your muscles. About 0.6 per cent of Canadians live with seizure condi-

tions, and there are over 60 types of seizures depending upon the cause, symptoms and duration.

Seizures can occur at any age, but young children and older adults seem to be more at risk, and more men than women are affected. Genetics do play a role because your risk increases if you have family members that also have seizures.

Dementia, strokes, and brain tumours affect your brain and can result in seizures, as can high fevers. Children with a diagnosis of autism seem to have a higher incidence of seizures. Low levels of electrolytes (that is, the minerals that circulate in your body) and low blood sugar have also been linked to seizures. And, for developing babies, their mother's drug use can result in seizures in newborns.

As you probably have guessed, damage to the normal functioning of your brain interferes with its electrical activity and produces seizures. However, sometimes a diagnosis of a seizure condition is made and none of the usual causes are present.

The seizures are often tracked back to a head injury many years ago that over time causes the changes resulting in seizures.

This means you may not even connect your fall from a tree that injured your head when you were a child to your seizures as an adult, several decades later!

If you do have seizures, a wide variety of drugs are available, for example phenytoin, carbamazepine, divalproex, lamotrigine, topiramate and clobazam. They work by affecting neurochemicals in your nervous system, with different drugs affecting different neurochemicals.

Unfortunately, there is no spe-

cific test for seizures that will tell you which neurochemicals need to be treated. Thus you may need to try several different drugs or a combination of two or more to achieve the best possible control.

Some people are able to identify triggers that lead to their seizures, and avoiding the triggers may reduce the incidence of seizures.

Missed medication, lack of sleep, illness, alcohol or illicit drug use, flashing or strobe lights, hormonal changes, and poor eating habits are some potential triggers.

Ideally, you want to prevent head injuries to reduce your risk for seizures. This involves common-sense safety precautions that we should all integrate into our routines.

Always wear your seat belt in a car, and always wear the appropriate head protection when playing sports or riding a bicycle.

Most falls occur in the home, so make sure your home is as fall-proof as it can be. Mild bumps to your head may not cause seizures, but repeated head injuries can — which means you may need to stop playing your favourite sport. And, if you do experience a head injury, have it evaluated, because any head injury can be serious. **CG**



**Marie Berry** is a lawyer/pharmacist interested in health and education.

### NEXT ISSUE

Getting older can be problematic for your eyes, and as the Canadian population ages, several companies are promoting products for older eyes. Next issue we'll talk about some age-related eye conditions as well as bothersome problems like dry eyes.

**I**t was cold enough that the machinery had to work extra hard and a thin layer of frost had formed on Jeff's eyelashes. He hated working after dark.

"Could be worse," he thought. "I could be Phil, hauling grain here to be cleaned on a Sunday night."

Once Phil drove off and Jeff had the durum running through the cleaning plant, he headed for the house.

Inside, Elaine was at the kitchen table with their son Connor while their daughter Jenny coloured in the living room. Elaine and Connor had red and white papers spread all over the table. Connor's face was screwed into a pout that looked like it might last all week.

"Come on," Elaine was saying. "Just five more."

"I hate this," Connor said, giving his mother a stink eye that could have scared any sane person into never having children.

Jeff considered going back outside. Surely a little frostbite was better than whatever was going on in here.

"I'm not torturing him," Elaine explained. "I wrote on the envelopes. All he has to do is write his name on Valentine's cards for the kids in his class."

"I feel for you, kid," Jeff said. "That's the kind of thing only girls like. You know, your grandma used to make me write my name and the other kid's name on every card."

Connor's eyes widened at the horror.

"It's Valentine's Day tomorrow already?" Jeff asked. How had February gone by so fast?

"Tuesday," Elaine said. "He has to print six letters on 24 of these things. I thought we'd need two nights."

"I'll leave you to it," Jeff said, ignoring Elaine's glare as he went to the office and closed the door.

Last year Elaine had surprised him with a great homecooked meal, new workboots, and a half a dozen new songs on his iPod. Jeff had tried to pretend he hadn't forgotten by quickly ordering an online gift certificate, which didn't fool Elaine at all.

This year would be different. He didn't want to let Elaine down. She was a great mother, she was an

## This year, it's going to be different

The calendar makes the rules, even when that load of durum is late

important part of the farm, and his whole family loved her almost as much as he did.

Jeff thought a minute, then Googled the number for Elaine's favourite restaurant. It was in Regina. "We'll spend the night," he thought. His parents could watch the kids. "The Hotel Saskatchewan," he thought. She loved it.

He called the steak place first.

"I'm sorry sir. We've been booked for months."

"Months?" Jeff answered. "People plan that far ahead?"

Undaunted, Jeff tried Elaine's second favourite restaurant. But the call to the Greek place went exactly the same way.

The woman on the phone at the third restaurant gave the same answer, but at least she was apologetic.

"Fine," Jeff thought. "We'll order room service at the hotel."

But the call to the hotel was no different than the previous calls.

"I'm sorry, sir. But a lot of people reserve rooms here for Valentine's Day," the reservations clerk said.

Then Jeff had an idea. "Surely you hold back a few rooms... in case any important clients come in? Maybe for a... special tip... we could have one of those?"

"I could never do that, sir," the clerk said. "Especially not over the phone."

After breakfast the next morning Jeff told Elaine he was going to Regina.

"I thought you had Phil dropping off more durum today," Elaine said.

"I put him off until after lunch. I need parts for the auger."

"You can't get them in Weyburn?" she asked.

"Nope. I called last night," Jeff said.

"I wondered who you were calling while I was in Valentine's hell," Elaine said.

On his way to Regina Jeff stopped at the Weyburn bank for two crisp hundred dollar bills. Then he called his mother. "I know you and Dad have only been home from Arizona for a couple of days, but would you mind coming across the yard to stay with Connor and Jenny tomorrow night?"

"Of course," Donna agreed. She knew that many of her farm-wife friends would give their right arms to have a daughter-in-law like Elaine.

Jeff drove toward the city, grinning.

On the afternoon of February 14 Elaine was in the office reconciling their bank accounts when Donna knocked on the door.

"Jeff left his balaclava in the shop," Donna said. "I just wanted to drop it off."

"I'm glad you're here," Elaine said. "I can't figure out this line item on the fuel bill. Can you explain it?"

"Those bills are always confusing," Donna said. "I had to phone that company every other month when I used to do the books."

Then Donna took a look at Elaine, and realized her daughter-in-law was wearing some old yoga pants and a cardigan with a hole in it, and her hair was up in a coil that looked like it could use some work.

"Do you want me to watch Jenny so you have time to get ready to go?"

"Go where?" Elaine said, still studying the fuel bill.

"Well, Regina. Jeff said you were leaving around 2:30."

"I wasn't planning to leave until 4:30. Cindy can't get here to

CONTINUED ON PAGE 58

look after the kids until..." Elaine stopped talking and her jaw dropped. "Wait. How does Jeff know we're going to Regina? I was planning to surprise him!"

Donna realized her mistake. "I thought you knew!"

"Knew what?" Elaine asked.

Donna forged on. There was no point in stopping now.

"Jeff has plans to take you to Regina. You have to act surprised."

Elaine smiled, and pressed Donna to tell her the details.

"You go home," Elaine said. "I'll hop in the shower. When Jeff comes in, I'll pretend I haven't heard a word about any of this."

After Donna left, Elaine couldn't stop smiling. She had the best husband in the world. And they were definitely two of a kind — they'd made almost exactly the same plans.

She called the steak restaurant to cancel the reservation for two she'd made months ago.

"Are you sure you want to cancel, ma'am?" the host asked. "We have a long waiting list"

"I'm sure," she said.

The clerk at the Hotel Sask was just as surprised when she called cancelled their room.

Elaine's friend Cindy, who had no kids of her own, was a little disappointed when Elaine said she didn't need her to spend the night with the kids after all.

"Don't worry... another time," Elaine laughed.

Then Elaine scrambled to get ready. She showered and straightened her hair, put on makeup, then dressed in a pair of old blue jeans and a sweater, so Jeff wouldn't realize Donna had filled her in on his plan.

Then, she waited.

Two-thirty came and went, but Jeff still hadn't come in.

When he wasn't in the house by three, Elaine assumed something had gone wrong in the cleaning plant.

He finally came in just after three-thirty.

Elaine looked at him, waiting.

"What's up?" he asked.

"Nothing," Elaine said.

"Okay. Should we have some coffee?" he asked.

When Elaine and Jeff were both sitting across the table from each other with coffee mugs, she realized he didn't look as happy as she would have expected.

"Plans for the rest of the afternoon?" she hinted.

"Not really," he said. "Your hair looks great. You aren't going out, are you?"

"Um..." Elaine said. "I guess not."

Jeff was silent, until Elaine finally cracked.

"Are we going to Regina?"

"What?" Jeff said.

"Your mom told me. By accident. She didn't mean to spoil your surprise."

"Oh no," Jeff said. "I forgot to tell her. We can't go."

"Of course we can," Elaine said. "Your mom told me how you drove all the way to Regina to make plans."

Jeff sighed. "All of your favourite places are incorruptible. I couldn't even bribe my way to a table next to the bathroom in that steak place or a cot in the hall at the Hotel Sask. I'm so, so sorry."

Elaine laughed, telling him about the reservations she'd cancelled until the school bus pulled into the yard and Connor raced in yelling. "Mommy! Daddy! It was Valentine's Day!" **CG**

**Leeann Minogue** is the editor of *Grainews*, a playwright and part of a family grain farm in southeastern Saskatchewan.



## REFLECTIONS

BY ROD ANDREWS  
RETIRED ANGLICAN  
BISHOP

"It has been a great life, but I would not want to do any of it over again." My friend is approaching his 80th birthday. I reflect on his remark. Would I want to live my life again? Parts of my life I would like to live again. Other parts I would not want to repeat.

I share my reflections with a friend. She suggests, "Imagine reliving one day from each decade of your life. Which days would you choose?"

I am in my 70s. I could choose seven days. Life has been full. I have had some fabulous experiences. Could I choose a day from each decade and relive those days in my mind?

How would you answer this question? Which days would you want to experience again? Which days would you prefer to forget? The Psalmist says we are given 70 years or so, "perhaps 80 if we are strong." Which days would you choose?

I made my list. I learned something about myself. The grand moments of each decade of my life are not remembered by spectacular events and distant travel. What I remember most is time shared with significant people. The people I remember best are people who made me feel good about myself. They gave me confidence and reassurance. Sometimes they prodded me to do better.

Arthur Foulds was the postmaster in Banff, Alta. I worked for him a couple of summers. I sold postage stamps to tourists mailing post cards home. Mr. Foulds gave me a lesson in economics. "Ask three questions: Do you need it? Can you do without it? Can you buy it cheaper somewhere else?" Jack Armstrong was a Second World War veteran who worked in the parts department of a car dealership in Stettler, Alta. As a student minister I was discouraged by the response to my visits. Jack sat on his back step one summer evening and listened patiently while I ranted about peoples' lack of conviction. "They would prefer to go to the lake than go to church on Sunday," I said. Jack's advice: "You are trying too hard, Rod. You need to take more time off..."

People like these have been there for me in every decade of my life. It is time with them I would like to relive.

I can dream about the past but I need to live in the present and move to the future. Marie-Louise Ternier-Gommers, her husband Jim and their daughter Rachelle grow garden seeds at Muenster, Sask. Marie-Louise, a writer and preacher, inspires me. She believes we need "to choose listening before judging, sharing before walking away, receiving before dismissing, and loving before condemning. If we can help one another learn to do this a bit more each day, maybe we will live into a renewed relationship, both with God and with one another in all the complexities and diversity of this broken yet beautiful world God has created."

Robert W. Service was a bank clerk in Whitehorse, Yukon. One of his poems is about having a vision and holding to it:

*Have ever you stood where the silences brood,  
And vast the horizons begin,  
At the dawn of the day to behold far away  
The goal you would strive for and win?  
Yet ah! in the night when you gain to the height,  
With the vast pool of heaven star-spawned,  
Afar and a gleam, like a valley of dream,  
Still mocks you the Land of Beyond*

"Life is not measured by the number of breaths we take, but by the moments that take our breath away."

**Suggested scripture: Psalm 90, Proverbs 9:10-11**

**Rod Andrews** is a retired Anglican bishop. He lives in Saskatoon.

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