

MAY / JUNE 2010

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On the cover:

Kevin Arseneau clears the way for wild blueberry production in New Brunswick.

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from the editor



Everyone wants a crystal ball that actually works.

Many analysts make a living from trying to predict the future. Although these are educated guesses, they're still guesses. The future has a way of bringing surprises that no one anticipates.

What will farm input costs be a year from now? What will our farm commodities be selling for in 12 months? These are simple questions, but predicting just one year into the future is difficult. Trying to predict two, five or seven years from now multiplies the complexity.

Still, it is possible to identify potential game changers. For instance, American ethanol production has been a game changer you could see developing well in advance. Whether or not you support U.S. policies on ethanol, you have to agree that using a third of the American corn crop to manufacture ethanol has had wide-ranging implications for both grain and livestock production in North America.

We've had a taste of other game changers. For example, it's widely expected that energy prices will resume an upward trajectory over the medium to long term, and that will affect agriculture in many ways.

The growing economy in China and the increasing Chinese demand for food is another obvious game changer. As with rising energy costs, it's difficult to know exactly how and when Canadian agriculture will be affected, but the analysis is still interesting and useful.

You've probably read lots about both energy costs and China, but we hope the stories in this edition bring fresh perspectives. The game changer theme is found in most of our other stories, too. We touch on changes to plant genetics, trends in food consumption, as well as game changers that are more local and personal.

There are usually more questions than answers as you try to predict the future, but it's still important for farm operators to gaze into a crystal ball whenever they get the chance. The details may be murky, but you can sometimes glimpse the broad outline of how the future will emerge and then make adjustments accordingly.

We value your feedback and ideas. You can reach me at kevin@hursh.ca. I respond to every email.

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Recognizing all the game changers

Game changers aren't always momentous macroeconomic events. What affects you and your farm is often regional or local. But for your operation, it's a game changer nonetheless.

Farming in the midst of a growing urban population would certainly qualify. Typically, land prices escalate with encroaching urbanization, making it difficult to cash flow land purchases from traditional agriculture.

Nearby urban dwellers may also make it more difficult to continue in some types of livestock production. On the upside, direct marketing becomes easier and you might be able to tap into the local food movement. Plus the value of your land has probably escalated.

Game changers aren't always momentous macroeconomic events.

Chances are this sort of game-changing situation didn't happen overnight. Those who recognize the trends early are more likely to turn the game changer into an advantage.

In many ways, crop genetics can be a game changer. The Prairie region has never been noted as a big producer of grain corn, but in 2009, Wild Horse Farms grew nearly 4,000 acres of irrigated corn around Lake Diefenbaker, in the centre of Saskatchewan's grain belt.

Despite an abnormally cool summer, a profitable crop was produced. The game changer in this instance is Dekalb 26-78, a corn hybrid that requires substantially fewer heat units. Herbicide tolerance, combined with earlier maturity is making grain corn a viable option.

With corn something of a novel commodity in the region, there are good marketing options within livestock rations and at some ethanol plants. Corn has often been imported to service these needs. The later harvest timing is an advantage because it extends the season of use for harvesting equipment.

If grain corn becomes widely adopted around Lake Diefenbaker, that may also be a game changer for potential cattle feedlot operations.

Genetic advancements will continue to expand cropping opportunities for all sorts of production in many regions. Like urbanization, it doesn't happen overnight, so there's time to react and benefit.

Markets have always been game changers. Just ask southern Ontario growers who used to grow tobacco. Or consider how payment parameters have changed on milk over the years.

In Europe, animal welfare concerns have resulted in drastic changes to production practices for chickens and hogs. Those influences are filtering into North America as evidenced by changing policies on the housing of dry sows.

In retrospect, it's easy to recognize the events that were game changers. At the time, there's often a tendency to hope change will be reversed, or to deny the wide-ranging ramifications to your operation.

What game changers do you anticipate for your farming operation? What are you doing to adapt?

BY KEVIN HURSH / *Kevin is a consulting agrologist and journalist based in Saskatoon, Sask. He also operates a grain farm near Cabri, Sask., growing a wide array of crops.*

Expert says expect modest, but steady fuel price increases

Modern agriculture is an energy-intensive business. Increases or decreases in oil and natural gas prices have a direct impact on the bottom line. Canadian producers spent \$5.4 billion on fuel for their machinery and fertilizer in 2007, accounting for 16 per cent of total farm expenses.

Every time the price of a litre of fuel increases by just one cent, the collective annual machinery fuel bill for Canadian producers increases by about \$28 million. A single cent change in the price of a kilogram of fertilizer has an even more dramatic effect: about \$66 million on the annual fertilizer bill.

In 2008, a barrel of oil peaked at \$147, and a litre of farm diesel sold for \$1.30. We're quite likely to see prices like that again at some point. That's the claim of Jeff Rubin, former chief economist with CIBC World Markets, in his best-selling book *Why Your World Is About to Get a Whole Lot Smaller*. This isn't a big deal if prices of agricultural commodities rise in tandem. However, if oil prices quickly shoot back up and farm commodities don't, it would put many producers in a tough position.

According to Michael Ervin, vice-president of Kent Marketing in London, Ont., you can expect a modest, but steady increase in crude oil, gasoline and diesel prices instead of a sudden price increase.

"I don't think we will hit the same highs we saw a year and a half ago for another five years," says Ervin, who tracks and analyzes American and world oil prices for corporate and government clients. While he admits his view might be more conservative than others, he thinks a variety of factors will have a dampening effect on crude demand and prices.

The first factor on Ervin's list is the slow pace of recovery from the current global recession. Next is



the possibility of national or international policies to reduce greenhouse gases. The third factor is the advent of new automotive technology that will slow the increase in demand for crude oil.

"The biggest factor though is the rather sudden discovery that there is a lot more natural gas in the world than was previously thought," Ervin says. "This extra supply and relative low cost is going to shift some crude oil demand into natural gas demand."

Natural gas is the key ingredient of nitrogen fertilizer, so its cost always has a big effect on fertilizer pricing. More natural gas now available in North America should help moderate prices.

BY LORNE McCLINTON / Lorne has worked in the communications field for the last 20 years as a journalist, photographer, scriptwriter and corporate writer. He divides his time between Quebec and his grain farm in Saskatchewan.



Calculating your farm's real energy bill

You can quickly figure out your farm's direct energy costs simply by adding up all the fuel and lubricant bills. Your indirect or hidden energy costs are harder to ascertain because they're buried in the cost of manufacturing and transporting fertilizer, farm machinery, herbicides, pesticides and fungicides.

While a combine might burn more than \$1,000 of diesel fuel a day during harvest, crop producers may be surprised to learn that more energy, mainly natural gas, is used to manufacture the nitrogen fertilizer they're using. According to a recent study, about 50 per cent of all prairie agriculture energy is used to produce nitrogen (N) fertilizer, while diesel makes up 30 per cent.

According to Elwin Smith, economist with Agriculture and Agri-Food Canada in Lethbridge, Alta., seeding, harvesting and two weed-control tillage passes use about 400 megajoules (MJ) of energy per acre. Oil and grease tacks on an additional 15 per cent in fuel energy expenses.

A cereal grain crop with 50 pounds of N and 20 pounds of phosphate has about 1,100 MJ of energy per acre tied up in fertilizer. Smith says the amount of energy used to manufacture and transport herbicides varies widely from product to product. Indirect energy costs for either a broadleaf or a grassy weed herbicide can range from 30 to 100 MJ per acre.

BY LORNE McCLINTON

Lowering your dependence on oil

The simplest way to reduce your fossil fuel energy costs is to use less. More fuel-efficient machinery can accomplish this. However, saving energy can also be as simple as a bit of advance planning before you make a trip to town for parts or groceries.

Crop producers can significantly curb their diesel bill by adopting reduced or no-till technology. Straight cutting crops instead of swathing saves fuel by eliminating an entire operation.

Planting legume crops that can fix their own nitrogen dramatically reduces fertilizer-based energy inputs. Soybeans, field peas, lentils and sweet clover not only

supply their own nitrogen needs, they also leave a small amount of residual nitrogen for the next crop.

New research from Manitoba agriculture shows great potential in intercropping. Nitrogen needs are reduced by planting peas and canola together in alternate rows. Both component crops yield less than if grown in a monoculture, but together they produce more grain and more revenue than either would alone.

The energy edition of FCC's Knowledge Insider has great suggestions for reducing your farm energy use (www.fcc-fac.ca/en/LearningCentre/Knowledge/Energy/energy_e.asp).

BY LORNE McCLINTON



New Brunswick producer goes big in blueberries

A decade ago, Kevin Arseneau was at a crossroads. A newly licensed autobody repairman, he had several job offers in a line of work he had learned to love.

“I could see myself doing that my whole life,” recalls the 32-year-old New Brunswicker. “The problem was the money wasn’t very good.”

Instead, Arseneau turned to an agricultural activity he knew well: growing wild blueberries. He’s gone from being a hired helper to a big producer of the popular agricultural commodity that, like the potato, has put his Maritime province on the world food map. “I have no regrets about my decision,” he says. “This is a great industry to be in.”

To be sure, wild blueberries are big business in New Brunswick. According to the province’s agricultural department, nearly 4.2 million kilograms of the sweet blue fruit are harvested annually from 21,000 acres on 300 farms across the province. That output accounts for 16 per cent of Canadian blueberry production and eight per cent of world production.

Blueberry sales to regional processing companies and food makers – most of it earmarked for the frozen-food export market – generate between \$6 million and \$7 million for New Brunswick growers. The vast majority of those growers (95 per cent) are located near the ocean, where moderate weather and sandy soils allow blueberry bushes to flourish naturally.

One of the first growers in the region was Arseneau’s father, Valmond. A cement worker from the French-speaking coastal community of

Tracadie on the Acadian Peninsula, he leased 300 acres of government land nearby under a provincial program aimed at stimulating the region’s blueberry-growing industry in the late 1970s.

Together with his older brother Brian, Arseneau grew up helping his father clear the land and grow wild blueberries in the traditional two-year cycle: a sprout year, when fields are pruned on lands cleared of trees, and a crop year, when the fruit is harvested.

According to New Brunswick’s agricultural department, nearly 4.2 million kg of the sweet blue fruit are harvested annually.

In addition to crop management, Arseneau learned to use heavy machinery like mulchers and harvesters that are central to blueberry production. Those skills helped him land a series of increasingly important jobs for other growers.

He uses his three mulchers, plus two harvesters, to develop new fields and pick fruit for a variety of customers, from small producers to regional blueberry processing heavyweights like Wyman’s and Oxford Frozen Foods. He also does contract work in Prince Edward Island and two of North America’s wild-blueberry-producing hotspots, Quebec and Maine.

Arseneau is also building bogs as a contractor for Ocean Spray, which last spring began clearing a 1,900-acre site as part of a five-year, \$90-million project to build a massive cranberry farm near Rogersville, N.B.

Arseneau is now one of the biggest blueberry producers in his region. He harvests about 300,000 pounds annually, plus another 200,000 to 500,000 pounds as a subcontractor.

He bought and started to develop two small properties (one 30 acres, the other 17) in 2000. The following year, he bought a 100-acre slice of his father's farm that has been in production for 30 years. "Dad had suffered a stroke and he wanted to slow down," Arseneau explains. "And it was a good opportunity for me, too. When it comes to growing blueberries, the older the plants are, the better."

Last year, he diversified his agricultural production by building a cranberry bog on one of his properties. "I believe in the future of cranberries in New Brunswick," he says. "But blueberries are my mainstay."

The industry, however, is facing challenges including the recession and the strong Canadian dollar. There's also growing competition from high-bush cultivated blueberries, which are bigger, grow year-round the world over and have longer shelf life. Those factors have combined to drive the price of wild blueberries to a decade-low of 35 cents per pound, down from \$1.05 just a few years ago.

For growers like Arseneau, the trick is to survive until higher prices return, which is why he is both happy and fortunate to have his eggs in so many different revenue-generating baskets. "The industry is going through a tough stretch right now but things are already looking up," says Arseneau, who's also looking forward to being a first-time father. "The future looks bright for wild blueberries."

BY MARK CARDWELL / *Mark is a writer and freelance journalist who lives in the Quebec City region. He is a regular correspondent for a dozen newspapers, magazines, trade and specialty publications in Canada, the United States and Europe.*



The crystal ball

Agriculture professor and trend-watcher Dr. Gordon Surgeoner looks for potential in the industry

What are some major trends in food consumption today that might be considered game changers in agriculture?

I think there are two fundamental demographic issues causing change. One is a focus on health for an aging population and obese society. Obesity issues are translating into more Type 2 diabetes and the food industry is responding with less salt, more fibre, more nutrition and antioxidants. I suspect vitamin D is going to be like the omegas of today because there is lots of medical information on its impact on reducing cancer probability, etc. The other factor causing change is the Canadian demographics. Much of our population growth is because of immigration from southeast Asian countries such as the Philippines, India, China, Hong Kong and Indonesia, where there's a very different set of dietary desires. Those immigrants will slowly adapt to Canadian tastes, but it will take time.

How do you see agriculture responding to those trends?

In Ontario, we are seeing water buffalo herds for the production of specialty cheese for our southeast Asian market. Although this cheese has a much heavier fat content, it's desired by this population segment. Goat and rabbit are also rapidly growing meat markets. The Blue Menu available in the Loblaw's chain is also responding to consumer trends – convenience with taste, less salt, less calories and better fat. We are going to see things like palm, corn and soy oil changing their profiles to get closer to canola oil. A growing market segment is the baby boomers who are becoming woofers, the “well off old folk” willing to pay more for health, taste and convenience, but who want smaller portions.

What do you predict for trends in agriculture?

In my opinion, you have two ways to grow: export markets on the food side or alternative products for society, which are about replacing fossil fuel.

Consumer food choices often come at the expense of the other. If I get more market share for pork, it will be at the

expense of the other meats. Our Canadian population is growing at a rate of one per cent, most of that from Asian communities. We have to recognize that demand is changing. Our future customers will be from places that have not traditionally sat down to roast beef, mashed potatoes and green peas. They use different cuts of meat. We have to think differently for these food markets. A good example is wheat. What varieties of wheat are better for making Indian naan flat bread versus white bread?

Around the world, there are market segments that are bigger than all of Canada in terms of market opportunities. Relationship building will be important. I believe our growth markets have to be export-oriented, but there are ethnic populations in North America, such as Chicago, New York City and Los Angeles that we could be providing food for. But we have to go there to find the customers and grow what they want, not what we want.

We have to look beyond food and feed to other possibilities including energy and components, such as car parts. There are groundbreaking things happening in agriculture.

What is the next game changer for agriculture?

In my opinion, the next thing is not a food issue. We can make products that will reduce our dependency on fossil fuels and our greenhouse gas emissions. These are huge growth-potential areas that have the green component. Green is good, but I have to have the functionality, the supply and the price point. Figure out what engine oil costs and tell me if we can't do better than that. We can.

DR. GORDON SURGEONER is President of Ontario Agri-Food Technologies, a non-profit organization consisting of members from farm associations, universities, industry and governments. The organization focuses on ensuring that Ontario producers have access to the latest technologies to compete globally and to develop new market opportunities.



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FEATURE

Where is China

in your farming future?

If one wants to consider a game changer, one need only look at China and its transformation during the last 20 years into one of the world's leading economies. This is exemplified by the fact that virtually all the clothing and paraphernalia for the 2010 Olympics in Vancouver was "Made in China."

China makes a lot of the products we buy. To make all that stuff, they purchase large quantities of our raw materials.

Agriculture is an interesting exception. We don't import a lot of produce from China, and we look to them as a huge potential market for our

agricultural products. It seems logical that a market that represents one-fifth of the world's population, and exhibits rising prosperity and demand, will become a game changer for Canadian agriculture.

China is a huge potential market for our agricultural products.

That hasn't happened yet because China has been intent on supplying its own food. An instructive example is the rise of fast food consumption in China. Yum! Brands, which is the parent company for KFC, Taco Bell, Pizza Hut and others, has sales



volume of US \$4 billion in China. Those tonnes of chicken wings and prepared pizza dough, however, mostly came from within China, not from imports.

Another example comes from Lester Brown, founder of the Worldwatch Institute and named one of the world's most influential thinkers by the Washington Post. He predicted in a 2004 research piece that world grain markets were about to face upheaval as "China would become the world's largest importer of grain" due to the steady decline in China's grain harvests. In 2009, China completed its fifth consecutive record harvest to become the world's largest grain producer and third-largest food aid donor.

How could this prediction be so far off mark? Because China has been intent on not becoming beholden to others for food supplies. They changed policies, including removing a 2,600-year-old grain tax on farmers. They also took some profit from the "stuff" they sell overseas and provided subsidies for agricultural production. In addition, they invested in research that has resulted in 1,500 new varieties and raised yields more than twofold.

The story of DQY

The other reform was the liberalization of the tightly controlled economy. DQY Ecological Farm, an hour outside of Beijing, is a typical example of food production capacity that has been stimulated by the changes sweeping China.

The farm is one of several started by Deqingyuan Science and Technology Co. Ltd., a company that has increased its capitalization from \$100,000 in 2000 to over \$46 million in 2007. It houses three million laying hens in one location, accompanied by egg-hatching and pullet-rearing facilities.

The farm employs 800 people and has an on-site methane digester to generate much-needed clean electricity, as well as fertilizer for organic greenhouses and orchards. It buys its grain from 60,000 farmers in the region through long-term contract arrangements that pay preferential prices.

DQY Ecological Farm, which claims to be "green food," is also ISO 9001, ISO 14001 and HACCP certified. It supplies 71 per cent of the branded eggs to Beijing – roughly equivalent to supplying all major supermarkets in Ontario.

Official supplier of eggs to the Beijing Olympics in 2008, DQY is emblematic of thousands of other similar food production enterprises – it's hard to think of them as farms from a Canadian perspective – that are not only keeping China largely food self-sufficient, but are catering to the demand for Western-style processed and prepared foods.

Game changers

Brown's prediction in 2004 may not have been well-timed, but it did address some important potential game changers that the Chinese have so far held at bay – but have not overcome.

Two Chinas

By the hundreds of millions, there are newly minted urbanites with middle-class aspirations, and then there are peasant farmers who still scratch a largely subsistence living for their families from a half hectare of land. The former is driving the demand for KFC; the latter remains a huge challenge for China's further development.

Labour

The Chinese economic transformation has been borne on the backs of cheap labour: you cannot sell stuff into China cheaper than they can produce it themselves. But as the labour force acquires a taste for the rewards of development, rising costs will alter this important economic dynamic.

Urban sprawl

China has 22 per cent of the world's population living on seven per cent of the land. If urban expansion continues at the pace of the last two decades, something will have to give as food



production cannot continue to rise incrementally on less arable land – not to mention the impact of the Gobi Desert as it blows in on China's farming regions.

Water

Population growth, industrial expansion, environmental degradation and a changing climate all put severe pressure on China's water supplies. Peak oil has garnered all the attention, but peak water is going to be just as important as a determinant of socio-economic developments in China in the near future.

Opportunities

It would be unwise, as Brown found out, to make specific predictions about opportunities for Canadian agriculture in China. The potential game changers will come into play, but there is no reliable way to say when or by how much.

In the meantime, there are other opportunities that suit Canada's agri-food sector.

Knowledge and technology

China will want to produce as much of its own food as it can, but to do that sustainably, they'll need an infusion of knowledge and technology. Perhaps it's time we recognized the trade value of these Canadian assets.

Niche products

The rise of the Chinese middle class will drive demand for new food experiences. For Canada, maple syrup comes to mind as a unique product. If even one-tenth of one per cent of the Chinese population acquires a taste for it, that's a million-plus new customers.

Green products

There's rising concern among ordinary Chinese that the rapid pace of development is having environmental consequences that have until now been disregarded. Products with quality and ecological assurance have an emerging market in waiting.

Individually, none of these will be game changers for Canadian agriculture, but the sheer scale of the Chinese market offers substantial benefits. Even if sales of bulk commodities into China don't increase in the short term, niche and specialized markets will provide opportunities until the game really does change.

BY HUGH MAYNARD / *Hugh is an agricultural communicator from Ormstown, Que. who recently spent time in China at an international conference and travelling around the Beijing region.*

PHOTOS:

- 1 – MILLIONS OF PEASANT FARMERS EKE OUT A LIVING BASED ON SUBSISTENCE AGRICULTURE, PLUS WHATEVER LABOUR THEY CAN FIND. IN THIS CASE, BEING A "FRIEND ON YOUR WALK" ALONG THE GREAT WALL OF CHINA, IMPLIES A PURCHASE OF TOURIST TRINKETS SO FARMERS CAN EARN SOME DESPERATELY NEEDED CASH. (PAGE 11)
- 2 – DQY ECOLOGICAL FARM OUTSIDE BEIJING PROVIDES 71% OF THE BRANDED EGGS TO THE CHINESE CAPITAL OF 20 MILLION PEOPLE. EVEN WITH AN ESTIMATED 800 MILLION PEASANT FARMERS, CHINA HAS MADE SIGNIFICANT POLICY CHANGES TO ENCOURAGE DEVELOPMENT OF LARGE-SCALE AGRICULTURAL PRODUCTION AND FOOD SELF-SUFFICIENCY. (OPPOSITE PAGE)
- 3 – THIS FIELD OF HAND-HARVESTED CORN SHOWS THERE'S STILL A LONG WAY TO GO IN MODERNIZING CHINESE AGRICULTURE. ALTHOUGH CHINA HAS BECOME THE WORLD'S LARGEST GRAIN PRODUCER OVER THE LAST FIVE YEARS, IT HAS THE POTENTIAL TO BE EVEN MORE PRODUCTIVE. (THIS PAGE)



FEATURE

Using – and saving

– energy in agriculture

You might soon get warmly nostalgic about gas and diesel prices under a dollar per litre. There's a broad consensus among energy analysts and economists that fossil fuel costs will be much higher in the future.

While there is disagreement on how soon the cost of oil will climb back to, or exceed, its record of \$147 per barrel in July 2008, almost all believe it will happen within the next few years. Producers would be wise to factor this in when they draw up their five-year plans.

The reason behind this widespread belief is that as the world comes out of the current recession, global oil production will have a hard time keeping up with demand. Even though developed nations have reduced their fossil fuel consumption, demand is still growing rapidly in countries like China and India.

Rising energy prices are a big problem because producing food is an energy-intensive process. All the energy that's used to fertilize, plant, harvest, transport, process, refrigerate and prepare our food



has to come from somewhere. A high percentage comes from fossil fuels: oil, natural gas and coal. There's a lot of truth behind physicist Albert Bartlett's well-known 1978 quote: "Modern agriculture is the use of land to convert petroleum into food."

Two researchers at the University of Michigan, Martin Heller and Gregory Keoleian, conducted an energy life cycle study on the U.S. food system in 2000. While there are energy consumption differences from the Canadian food system, the findings provide clues on how we use energy too. No matter how food is produced, it still racks up a big energy bill by the time it's eaten.

"We found that primary agricultural production was responsible for 21 per cent of the total energy used by the food system," Heller says. Processing was next at 16 per cent, followed by transportation (14), restaurants and caterers (7), packaging (7), and food retail (4).

One of the biggest surprises in the study is the large amount of energy consumed at home. Fully 32 per cent of all energy in the food system is used

for home refrigeration and food preparation. That's more than the energy used to produce or transport food. Proportionally, the fridge burns more energy than the farm tractor when considering the entire system.

"It's been 10 years since we did that study but I don't think the percentages have changed very much," Heller explains. "Refrigerators have gotten more efficient but this has been offset by people buying larger ones, so the amount of energy used for refrigeration hasn't decreased a whole lot in the past 20 or 30 years."

Burning energy is so integral to the food system that an increase in the cost of gasoline has three times as much impact on the consumer price index as an increase in the price of corn. A 2007 study by John Urbanchuk at the LECG Institute in Pennsylvania showed that a 30 per cent increase in the price of gasoline raised the CPI by 0.9 per cent; a similar increase in the cost of a bushel of corn raised it by 0.3 per cent.

Baby boomers have seen three major energy price spikes in their lifetime: 1973, 1980 and 2008.

All three increases coincided with big jumps in the cost of grain. It's not clear if the two are inherently linked or if grain farmers just got lucky.

If the price for farm commodities remained at current levels and energy prices rose to mid-2008 levels, farmers would be in a huge cost price squeeze, according to Terry Betker, a consulting agrologist in Winnipeg.

"This would impact everyone in agriculture," Betker says. "It's not fair, but it would impact those with the tightest operating margins first. No one likes to see their margins squeezed but it's much more serious if the rising cost of fuel throws you into the red."

Producers have been very good at reducing their energy costs when faced with the prospect of long-term high prices. Statistics Canada reports that farm fuel consumption had been steadily increasing at an annual growth rate of 0.5 per cent when energy prices were decreasing from 1981 to 1999. However, once it became apparent that prices were on the rise, consumption started to drop; usage decreased by two per cent a year from 2000 to 2007.

A surprising number of adaptations in primary agriculture over the past two decades can be traced to the search for ways to reduce the amount of energy used per unit of production. Swath grazing to winter cattle is one example. And nothing has had a bigger impact on direct farm energy costs than switching to zero-till technology for grain production. Statistics Canada figures show that a zero-till farmer uses just one-third of the fuel a conventional till farmer does, and Canada has one of the highest adoption rates in the world.

The natural gas used to make nitrogen fertilizer accounts for almost half the energy used on farms. Proper timing, proper placement and efficient use is not only good for the environment, it also has a big impact on farm energy consumption. Manure can be a good substitute as long as you don't have to haul it very far. Including more legumes in your rotation also makes a difference.

But by far, the biggest opportunity for saving energy in the food system is to cut down on the huge amount of food that ends up in the landfill. Statistics Canada figures show that through spoilage and other losses in stores, restaurants and the home, an astonishing 38 per cent of solid food available for retail in 2007 was thrown away. That's the equivalent of 183 kilograms per person.

BY LORNE McCLINTON





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DANGER

SAFETY ON THE FARM

Farming with a disability

It only takes a moment to change your life. For Jason Lafreniere, that moment arrived on July 17, 2007. It started out like any other day. Lafreniere and a younger co-worker were operating a seed-cleaning plant at Dykun Farms near Gilbert Plains, Man., where they both worked as farmhands. Lafreniere was working near the plant's centre drag auger, when disaster struck.

"It was 1:11 p.m. when I was caught in the drag auger," he recalls. "Every two or three turns of the auger, I could hear it almost stalling, but then it would snap off a piece of my bone. I realized once it started sucking me in up to my kneecap, I had to grab the bin handle and try to stall a 10-horse motor."

Fortunately, Lafreniere had taken the time to instruct his co-worker on how to shut down the main breaker in case of an emergency. At the time of the accident, the co-worker was changing the transformer from one bin to the next. By the time he got down to the drag auger, Lafreniere was wrapped up to his thigh.

Brothers Deryl and David Dykun, who collectively farm 13,000 acres, were working a couple of miles away when they heard a call on the farm radio and knew something was wrong. "You couldn't understand because it was a frantic voice," Deryl

says. "All I heard was 'auger' and I said it must be at the plant. So we went down there, and that's where we found him."

Lafreniere's left leg was severed just above the knee. After undergoing surgery, he began his rehabilitation in Dauphin before being transferred to the Health Sciences Centre in Winnipeg, where he was fitted with a prosthetic called a C-leg. The high-tech limb – costing nearly \$70,000 – has a computerized knee designed specifically for his weight and physical stature.

"If you're missing your leg for two months, you've got to teach yourself how to walk again," Lafreniere explains. "But I didn't allow myself to think that I lost a leg. It was just broken, I wasn't using it. So it took me a month and a week to walk at rehab. Usually it's an eight to 12-week process."

If you're missing your leg for two months, you've got to teach yourself how to walk again.

Less than three years after his injury, Lafreniere estimates he's back to 90 per cent of his normal lifestyle, which includes activities such as hunting and baseball. In fact, he was recently fitted with a

running leg that gives him enough agility to go back to a budding hobby – rodeo bullfighting. But the road to recovery wasn't always easy.

"About three months after I was hurt, depression kicked in," he admits, noting at first it was challenging to do even simple tasks. "You feel kind of worthless because you've got people coming over to help you." Lafreniere drew strength from Manitoba Farmers with Disabilities, who assured him that his struggle was a normal part of the recovery process. He also credits his family, employers and doctors for their support.

Now 30, Lafreniere bears no hard feelings as a result of his injury. Rather, he has nothing but praise for his employers. "I've worked for lots of guys that didn't have safety shields and PTO covers, and these guys are phenomenal," he explains. "They want to make it the safest they can."

Deryl Dykun admits it's a terrible feeling to have an employee seriously hurt on the job – but he, too, refuses to point fingers or lay blame. "Everybody's concern here was to make the best of a poor situation."

Because safety has always been a priority, Dykun says his approach hasn't changed much as a result of the accident, but he has made two commitments. "I would typically already send two men to do certain jobs, but now I do for sure," he emphasizes. "And I always get the guys to check in before going home, even if it's just by radio, or I contact them."

As for Lafreniere, he still helps out on the farm, but his ordeal has also led him to pursue a career in safety and enrol in an occupational health and safety program. In addition, he's an active supporter of Manitoba Farmers with Disabilities, speaking at safety days and other public events about his experience. "Everybody thinks it's not going to happen...well, how do you know that?" he questions. "I was one of those people, I was fairly cautious on everything – and it happened. Things change quickly."

BY PETER VAN DONGEN / *Peter is an agricultural journalist and communications consultant based on Vancouver Island. Born and raised on a dairy farm, Peter has work experience with many different types of farm operations.*

PHOTOS:

- 1 – C-LEG COURTESY OTTO BOCK HEALTHCARE
- 2 – JASON LAFRENIERE (FOREGROUND)



Are you ready for the unpredictable?

In the early 1980s, interest rates skyrocketed during an inflationary bubble. With mortgages at 22 per cent and up, economic calamity was all about. It was a game-changing situation for many individuals, businesses and producers.

Most managed their way through, but not because they were necessarily prepared for the unpredictable. Instead, it was a bit of luck, a bit of circumstance, and maybe a helping hand from work, friends or relatives.

Ideally, a business won't just survive an unpredictable situation; it will actually find ways to benefit. Obviously, it's hard to plan for the unpredictable. But what can you do to be ready?

Ideally, a business will find ways to benefit from an unpredictable situation.

First, acquire knowledge. Few of us have the luxury of squirrelling away a few million dollars for that long-anticipated rainy day. But for relatively little cost, we can harvest and store a wealth of information that helps us better understand and respond when the unpredictable does occur.

I've met producers at meetings and conferences who came just to be able to network and absorb, to fill up their idea bucket even if they couldn't use the

information immediately. It's great preparation at a low cost.

Second, prepare to act decisively (which is where all that information comes in handy). Those who hesitate might not lose, but they likely won't gain.

I recall talking to an Alberta grain producer who was faced with an early snow weighing down his cereal crop and no pick-up reels for his combines in sight. He flew to Kansas, bought what he could lay his hands on and had the reels trucked back in time to combine the flattened crop.

The third element is flexibility. Room to manoeuvre can come from a number of sources, but consider diversity so that all the farming eggs are not stuck in one basket.

Another is hedging your bets, which has less to do with the stock market and more to do with not having all commodities tied in one type of sales contract, or all fertilizer contracts locked up so tight that you can't take advantage of opportunities.

Then, take a deep breath. Even if you are well-armed with knowledge, any time you act, you're taking a risk and it may not work out. But your chances of success are enhanced if you've readied yourself and your farm business for the unpredictable.

BY HUGH MAYNARD

Canadian farmland values rise

The average value of Canadian farmland increased 3.6 per cent during the last six months of 2009, according to the spring 2010 Farmland Values Report released recently by Farm Credit Canada.

Published twice a year, the report provides important information about changes in land values across Canada. Land is one of the major assets required for agricultural production. This one-of-a-kind report has been published since 1984.

Farmland values remained the same or increased in every province. Manitoba experienced the highest average increase at 5.9 per cent.

Three provinces experienced similar average increases: Alberta (3.8), Saskatchewan (3.4) and Ontario (3.3). New Brunswick follows with an increase of 2.5 per cent, Nova Scotia with 1.4 per cent and Quebec with 1.3 per cent.

In British Columbia, Prince Edward Island and Newfoundland and Labrador, farmland values remained steady.

"The information presented in the Farmland Values Report is an indicator of how the market for land is evolving across Canada and also how producers react to market dynamics," says Rémi Lemoine, FCC Senior Vice-President, Portfolio and Credit Risk. "This report can help Canadians make more informed farm business management decisions about acquiring, holding, renting or selling agriculture land."

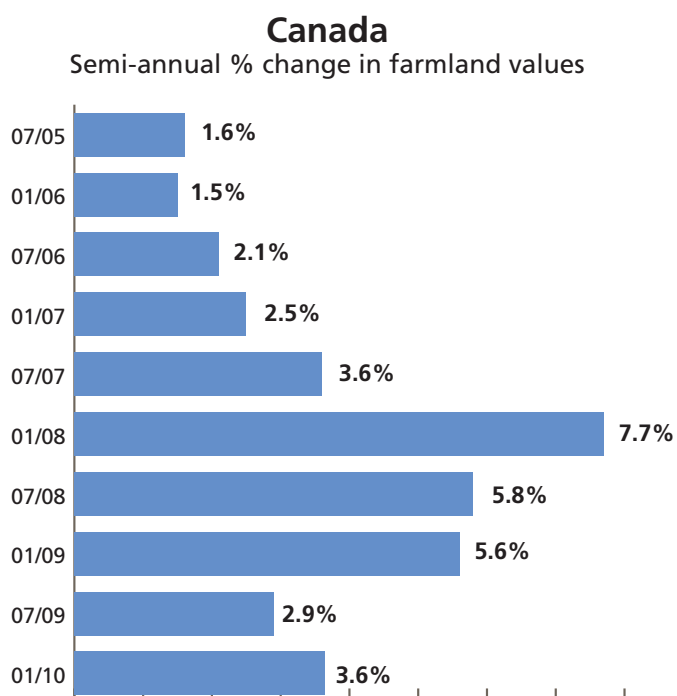
According to an FCC Vision panel survey of 971 producers across Canada, six in 10 producers (58 per cent) report they both own and rent the land where their production is located. Also, 45 per cent of producers who indicated they rent some or all of their land report they are renting more land than they were five years ago. However, producers from Quebec (55 per cent) and the Atlantic provinces (60 per cent) are significantly more likely than most other provinces to report they are renting about the same amount of land as they were five years ago. For more

detailed FCC Vision panel survey findings, visit www.fccvision.ca/InAction.aspx.

"Stable and strong land rental rates combined with low interest rates are two of several factors that drove the market for farmland recently," Lemoine adds. "Canadian farmland is some of the best quality soil in the world, and it seems to be attracting new investors. As baby boomers near retirement, we're seeing more urban buyers, or non-farmers, relocating to rural areas. This increases the general demand for farmland."

In the last three semi-annual reporting periods, farmland values in Canada have increased by 5.6 per cent in spring 2009, 2.9 in fall 2009 and 3.6 in spring 2010.

[Read the complete Farmland Values Report at www.fccfarmlandvalues.ca](http://www.fccfarmlandvalues.ca).





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