

A PEAVEY INDUSTRIES PUBLICATION | SPRING 2019

CONNECTED

To the Land

**POLLINATOR
GARDENS**
THE PLIGHT OF THE HONEY BEE

**GRAIN
ELEVATORS:**
GONE BUT NOT
FORGOTTEN

**THE FAMILY
FARM** INC.

BOLER:
THE LITTLE CAMPER
THAT SPARKED A CRAZE

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**UP
FRONT**



GREETINGS

A MESSAGE FROM PEAVEY INDUSTRIES CEO DOUG ANDERSON

Top photo by Drew Kenworthy.

Spring is in the air -- and we are excited! Spring not only brings warmer weather, sprouting flowers, buds on trees and the promise of summertime; it also yields our Spring issue of *Connected to the Land*.

In this issue, we bring you articles covering a variety of industry topics, outdoor interests or hobbies, family fun, leisure and lifestyle. There are even a few incredible recipes included along with "Better Grilling" tips.

We talk about family farming, irrigation, "Dairy Farmers – Going Onwards and Upwards" and the history of grain elevators within the following pages. These topics and others are found alongside informative stories related to the honey bee, hazelnut growing, and a very fun foray into the world of Bolers!

There is something for everyone in this issue and we hope you enjoy it. We appreciate your suggestions as to how we can continue to effectively connect with your interests and lifestyle. Send your feedback to feedback@peaveyindustries.com. 🍁

Doug Anderson

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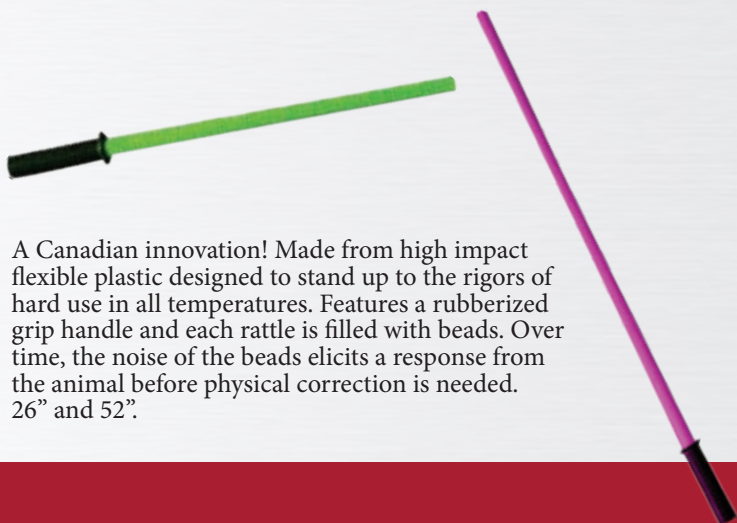
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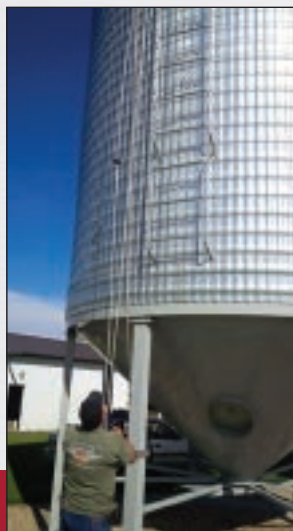
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WHAT'S HAPPENING AT PEAVEY MART

SELECTED COMMUNITY AND IN-STORE EVENTS

Event Information can be found on Peavey Mart's Facebook page closer to the event date.

APRIL

Easter Seals "Egg" Campaign

Underway in all stores – March 25 through to Easter Sunday, April 21

Customer Appreciation Days

Our biggest and best event runs April 5, 6 and 7. At least 15% OFF storewide – don't miss it! (some exceptions apply – see in store)

Easter Sunday – April 21

Peavey Mart and MainStreet Hardware stores are closed Easter Sunday

CHICK DAYS - in Alberta only

April 27 – chick pickup day at the following locations: Grande Prairie, High Prairie, Leduc, Lloydminster, Peace River, Spruce Grove, St. Paul, Vegreville, Westlock, Wetaskiwin and Camrose.

May 4 – chick pickup day at the following locations: High River, Lacombe, Lethbridge, Medicine Hat, Red Deer, Rocky Mountain House, Strathmore, Stettler, Edmonton and Sherwood Park.



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Application deadline is May 31. Up to \$100,000 in funding for community agricultural initiatives. Find out more and access the application form at www.peaveymart.com



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Peavey Mart's 44th Birthday – May 26

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JUNE

Peavey Mart and STARS

Peavey Mart will be fundraising for STARS June 1 through 14 and end the event with a "Day of STARS" June 15. Watch for more details!



Father's Day – June 16

JULY



Peavey Mart Barn Dance

Join us Tuesday, July 16 in downtown Red Deer, AB as we kick-off Westerner Days Fair & Exposition with our annual Peavey Mart Barn Dance. There will be food trucks, dancing, musical performances, kids games, giveaways and face painting. This is a FREE event and loads of fun for all ages.

AUGUST



Winnipeg Goldeyes "Bark at the Park"

Peavey Mart is excited to be a major sponsor of the Winnipeg Goldeyes "Bark at the Park" game August 17. A popular annual Goldeyes event, we are excited to join in the fun this year and are looking forward to meeting many Winnipeg Goldeyes fans... and Peavey Mart fans!



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GRAIN ELEVATORS

GONE BUT NOT FORGOTTEN

Story by Lee Hart. Top photo by JSoltys Photography.

More Canadian grains, oilseeds and pulse crops than ever are being stored, handled and moved to markets around the world each year, thanks to new technology, and advanced engineering and design in grain handling facilities that farmers a short 100 years ago could not even have imagined.

Consider that at the turn of the last century (late 1800s / early 1900s), the most common means for farmers to get their grain sold involved the back-breaking job of shovelling grain into two-bushel burlap sacks and then dumping those bags into a railway boxcar. Any idea that improved the process was a good one.

So when the first commercial grain elevator appeared on the scene in the late 1870s — it was an odd looking short, round structure that held about 25,000 bushels, built by German-speaking Mennonite settlers at Niverville in southern Manitoba — the proverbial seed was planted to find a better way to handle, store and move grain.

As the 1900s approached, improved designs for grain handling began to emerge. Largely influenced by the Canadian Pacific Railway (CPR) — the first major transporter responsible for collecting and transporting Western Canadian grain to market — a “standard plan” for grain elevator design was developed. The CPR, for the sake of efficiency, was demanding that these vertical warehouses be built. The company offered free land rental

beside its tracks and encouraged private companies to build standard 25,000 bushel elevators.

The first of the standard plan elevators were fifty to sixty feet tall with mechanisms powered by steam or diesel engines. W.W. Ogilvie Milling Company is believed to have built the first standard-plan elevator in Gretna, Manitoba in 1881. The main storage structure was constructed of dimensional lumber for strength, with the boards stacked or cribbed with overlapping corners. Bulk grain was delivered to and dumped into a receiving pit, while an endless cup conveyor carried grain up and through the structure (known as a leg) where the grain was deposited into various bins. While there were always ongoing improvements to the inner workings of the elevators, the concept and external design of grain elevators remained relatively unchanged for more than seventy years.

As settlement and grain production spread across the prairies, so did the emergence of what’s often been referred to as the “the prairie sentinels” or “the prairie icons” — the standard plan grain elevator. As grain companies and producer-owned, grain handling and marketing co-operatives known as “pools” developed, they all needed a presence along the rail line to handle their customers’ grain. That led to most prairie villages and towns having what was known as elevator row. Elevator row was a section of siding connected to the main rail line either within or near the

centre of town with two, three, four or more elevators owned by respective companies. The community of Vulcan in southern Alberta is believed to have held the record with twelve elevators in its elevator row in 1956.

Starting with only a handful in 1900, by 1933 there were as many as 5,758 elevators across Western Canada. That number held fairly true, with a few losses over the years, as Statistics Canada reports 5,348 primary elevators in 1958. But the decline was starting. By 1977 the number had dropped to 3,739.

The long-standing primary, country prairie elevator became the casualty of progress and efficiency. Elevator design and capacities began to change. In the 1970s, for example, the then Alberta Wheat Pool experimented with a different concrete structure known as the Buffalo Sloped Bin with capacity to hold 170,000 bushels or more. Railways were switching from boxcars to hopper-style rail cars for moving grain — elevators needed improved loading facilities.

Another major factor was that rural western Canada had for several decades been depopulating — towns and villages were losing their populations. Road systems and truck transportation had improved. Farms became fewer but larger. As this was happening rail companies began looking for improved operational efficiencies, earmarking thousands of miles of branch lines for closure.

In the 1990s, again, fewer, larger amalgamated grain companies turned to building high-capacity, concrete silo grain terminals that could handle 30,000 to 50,000 metric tonnes of grain and be able to load fifty or more rail cars in a day. The heyday of the country elevator had drifted into the proverbial sunset.

Today it is estimated there are only a few hundred of the old wooden prairie elevators still standing across Western Canada. Some are just abandoned, others have been sold to local farmers, while many have been converted into museums, or community arts centres and meeting facilities.

The demise of the country elevator — being almost able to see the next elevator row from one community to the next — is clearly a by-gone era...

but it doesn't mean the grain has stopped moving. In their stead is a network of some 340 high volume primary grain handling facilities across Western Canada with capacity to handle about eight million tonnes of prairie grain, oilseed and pulse crop commodities. As these facilities can load a hopper car in a matter of minutes, grain shovels and burlap sacks have been relegated to a footnote in history.



As a journalist for more than 40 years, Lee Hart has focused on reporting on and commenting about the Canadian agriculture industry for the past 30 years. A former field editor for Country Guide Magazine, he has been a writer and editor for Grainews for the past 15 years — based in Calgary, AB.



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IRRIGATION

EVEN MOTHER NATURE NEEDS A HAND

Story by Geoff Geddes. Photos courtesy of the Government of Saskatchewan.

Like many moms, Mother Nature is overworked and under-appreciated. She does so much for agriculture, but she can't do it all... that's where irrigation comes in. For over 5000 years, irrigation has been integral to farming, though the goals remain the same - growing crops, maintaining landscapes and regenerating soil in the absence of rainfall.

Irrigation systems can take many forms. "The most basic system is flood irrigation, where a field is completely leveled and graded to the point where it can be flooded," said Tyler Duncan, treasurer for New Way Irrigation in Lethbridge County, Alberta. "You then lay out

pipe with gates that you open to turn on the water and flood the field."

A step up from the flooding approach is the wheel line. A series of pipes with sprinklers along its length are fixed to wheels of about 1.5 meters in diameter, and a large hose provides water at one end. Once a portion of the field has received enough irrigation, the sprinklers are moved to a different area and the process is repeated until the entire field has been watered.

"Today, most farms use a center pivot system," said Duncan. "A large PVC pipe is trenched in

the middle of the field with a fixed pivot base station that waters the field in circles."

For rectangular or unusually shaped fields, the system can be augmented with corner sections to ensure complete irrigation. Although the cost of a center pivot system is greater than the wheel line, farmers find it's worth the money.

"The center pivot system is more efficient than a linear wheel move approach," said Joel Peru, irrigation agrologist, Crops and Irrigation Branch - Ministry of Agriculture with the Government of Saskatchewan. "It's also less labor intensive, as you don't have to move it to different parts of the field; it stays in a fixed area. A new center pivot apparatus will run you about \$120,000, but the benefits far outweigh the cost for most operations, and the efficient application of water is a huge factor."

Because the center pivot commonly uses low pressure nozzles, less water is lost to evaporation, and there are fewer incidents of ponding as the water infiltrates the soil at a lower rate.

As with many sectors today, technology is impacting irrigation. There is growing interest in remote operation of centre pivot systems, where farmers can monitor and troubleshoot them from a computer or smart phone, and receive alerts when a problem occurs.

With the growing popularity of precision agriculture, some farms are opting for variable rate irrigation, which enables users to define management zones throughout the field





based on soil or landscape conditions. Using sprinklers that cycle on and off, water is applied in varying amounts so that each area receives the proper amount to correspond with its needs, and there is less chance of watering too much or too little.

For the majority of field crops and specialized irrigation crops like potatoes, the center pivot option tends to be the best one. With higher value and lower acre fruit and vegetable crops, however, trickle irrigation is recommended.

“Trickle irrigation is even more efficient than the center pivot,” said Peru. “It applies water from a tape with perforations in it, causing the water to slowly drip out by the plants. Producers then apply mulch on top of that to further reduce evaporation and help control weeds. These systems are commonly used in high value horticulture operations.”

Those considering trickle irrigation should be mindful that it’s a more labor intensive approach, as the mulch must be removed

every year and the tapes are prone to ripping and leaking at times.

Whether you’re flooding, pivoting or trickling, irrigation is crucial to your business. While there are some things you can cut corners on in agriculture, a lack of water will leave you drowning in debt. 🍁

Geoff Geddes is a freelance writer/editor based in Edmonton. He specializes in writing articles, blog posts and website content for the agriculture industry.



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FAMILY BUSINESS

THE FUTURE OF FAMILY FARMING

Story by Peg Strankman. Top photo: Kelisha Archer, Carbon Alberta.

The family farm – the cornerstone of western European agriculture – is the Canadian model we know.

The United Nations Food and Agriculture Organization, planning for the International Year of Family Farming in 2014, defined family farming as being managed and operated by a family and predominantly reliant on family labor. They suggest the family and the farm are linked, co-evolve and combine economic, environmental, social and cultural functions.

A few years ago the family farm future seemed bleak. However, these days, there are bright spots. Young people are coming back to the farm. Statistics Canada found the number of farmers under age 35 had increased slightly from 2011 to 2016, reaching almost 25,000. They saw a marked increase in the number of farms run by young women. Enrollment numbers in ag colleges are up.

Coming back to the farm are people like Kelisha Archer, and her sister, Kaitlyn. With their husbands Thomas Archer and Landon Hill, they are taking over from their parents and run a commercial grain and oil seed operation near Carbon, Alberta.

Archer always assumed the farm would be taken over by her brother. When he was

happiest with his trucking company, she took a hard look at what she wanted and realized her heart had always been on the farm. “The farm was in my blood,” says Archer, “My parents were very supportive about me coming back. It’s been a challenge but it’s where I want to be.”

Keaton Dowdeswell, and his brother Riley, are in the process of taking over their family’s farm near Pennant, Saskatchewan. Keaton left the farm for an oilpatch job, got tired of shift work and went back to school. But I realized that back on the farm was where I was happiest,” says Dowdeswell.

Both Dowdeswell and Archer see young people coming back to the farm in their areas. Archer says a young woman who grew up just down the road has gone to Olds, and is now back farming with her parents, something that just didn’t happen a few years ago.

Leo Quik has also come back to the family farming business, Quik Farms Ltd., based in Chilliwack, British Columbia (BC), working with his parents and two brothers, Andries and Corne. When the family business started growing in 2010 Quik came back to the intensive cut flower production.

Quik says the family has learned how to value what one generation has built and what the new generation brings to the table. Passions sometimes run deep but they stick together and work it through.

Dowdeswell sees the disconnect between the general public, where their food comes from and how it is grown, as being one of the big challenges facing agriculture. “We just started a farm website for our own business,” says Dowdeswell, “It’s a great way to get the word out about what we are doing.”

But are optimism and skills enough? Will Canadian family farms survive? What are the factors in play?

“Farmland has become a very valuable asset,” says Ron Bonnett, president of the Canadian Federation of Agriculture (CFA). “Anyone that has invested in farmland has seen those assets go higher and higher. One of the things starting to happen is outside investors buying up farmland as an investment opportunity and then leasing it back to farmers.”

“We have also seen foreign owners buying it strictly as an asset. That creates competition in the marketplace especially for a younger farmer wanting to get into the business. It creates issues about how you raise the

appropriate capital. The other side is you might create opportunities. If there is an investment company buying up land, they might get into a long-term contract with a young farmer,” says Bonnett.

The increasing price of farmland is a major factor challenging the ability of young farmers to get into the business. and threatens the viability of the family farm. This was identified by a recent Standing Senate Committee on Agriculture and Forestry study, *A Growing Concern: How to Keep Farmland in the Hands of Canadian Farmers*.

The first recommendation from the Committee report was that the Department of Finance Canada explore the possibility of increasing the amount of the lifetime capital gains exemption for qualified farm property to make it easier for new farmers to acquire farmland. “Increasing the capital gains tax exemption is the obvious one within federal jurisdiction, and of real importance to farmland owners in terms of passing on the farm,” says Senator Diane Griffin, chair of the Standing Senate Committee on Agriculture and Forestry.

Bonnett supports the Senate Committee report recommendation that the capital gains exemption should be increased so retiring farmers were not paying so much tax, and could give young farmers coming in a bit of a break.

Another factor in the future of the family farm is the age of farm operators. The results of the 2016 Census of Agriculture show the average age of farm operators rose from 2011 and the number of farm operators declined. For the first time since 1991 the proportion of operators under 35 years of age went up slightly. However, only 1 in 12 operations reported having a formal succession plan in place to guide the transfer to the next generation of farmers.

Encouraging farmers to develop those succession plans has become a popular topic in the winter farm workshop circuit. Speakers emphasize that often it's almost impossible for the incoming generation to pay full value for the farm's assets.

Many farmers have borrowed against the rising value of their farmland. Statistics Canada identified that as being nearly 40 per cent per acre on average between 2011 and 2016. So many farmers wanting to retire need to sell their land for full market value.

The CFA has identified the leveling of the playing fields for farm families and the creation of a tax policy conducive to future generations of farm families as being one of the key actions to support the family farm. Bonnett poses a scenario where the retiring farmer doesn't have to sell the farm outright but could hold a mortgage and get a preferential treatment on the dollars earned from the mortgage payments.

An estimated 98 percent of Canadian farms are still family owned. About one-quarter of them are corporations, with shares held by family members. The number has grown rapidly, as accountants and banks recommend it as a risk management tool, providing tax advantages.

“Labour is a big challenge,” says Quik. “The cost keeps skyrocketing and retention is an issue. Last year there was a dramatic wage increase and there will be another this year. Keeping the cost and supply of labour in line and keeping business profitable is a challenge, to be sure.”

Statistics Canada's research shows the amount of Canadian farmland has remained relatively stable. Farms are bigger but still the vast majority are family owned. Farming continues to be a challenging business; staying competitive is tough. However, the optimism and enthusiasm of young farmers like Archer, Dowdeswell and Quik show that family farms are in good hands. 

Peg Strankman enjoys the challenge of using her communication skills to share agriculture's story to the general public and bringing consumer issues back to producers. Most recently she became an auditor for Where Food Comes From. Her passion for the agricultural landscape resulted in a Masters exploring a land performance framework as a basis for sustainability. She grew up on a cattle and grain farm north of Oyen and currently lives just outside Airdrie.



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DAIRY FARMERS

GOING ONWARDS AND UPWARDS

Story by Helen McMenamin.

Recent trade negotiations have led to Canadian dairy farmers losing some of the trade protection they have under the supply management that has served them well for almost 50 years. And the new Canada Food Guide has cut Health Canada's longstanding promotion of milk and dairy products as sources of bone-building nutrients.

"Dairy farmers may feel somewhat betrayed, but Chrystia Freeland did her best," says Tom Koostra, a Ponoka area dairy farmer and Chairman of Alberta Milk. "For some already considering exiting the industry, one or both of these may be the blow that makes them decide to leave – but none of them is critical."

SUPPLY MANAGEMENT

A "free market," is the ideal of most people in business, but it's not really possible for milk.

In Canada over 10,000 dairy farmers can only sell to one of three multinational processors. The farmers can't hold their product off the market and store it, taking it to a different processor is not often an option and they can't put production on hold.

In such a market the farmers have little bargaining power in selling, and can only boost their income by cutting production costs or increasing production. To compensate for this unfair market, some governments, including the US, pay regular subsidies to farmers. But the incentive to make more money by producing more milk remains. The market becomes oversupplied and big dairy farms fall into bankruptcy periodically. It's wasteful of resources, harmful to people and may imperil animal welfare.

Canada's supply management of milk uses a quota system, somewhat like a franchise fee. A farmer requires quota, available at provincial auctions, to ship milk to market and is paid a price agreed by them all that's based on cost of production, and butterfat and protein content. Quota currently costs around \$35,000 for each cow's production. Farmers who ship more milk than their quota allows are not paid for it: the revenue from it is shared among all producers.

The quota system of supply management in Canada began in 1966 with the creation of the Canadian Dairy Commission. The system wasn't fully national until 1974 and it took some time and political effort to develop today's system.

To prevent Canadian production being undermined by imported, subsidized milk, import controls and, more recently, tariffs have been imposed. In contrast, US producers' revenues from milk are believed to have been below the cost of production for at least 10 years. Direct subsidies from taxpayers to dairy farmers have been made up to 73% of their returns – 35 cents a liter – an increase from 62% in 2010. Canadian dairy farmers receive no direct subsidies.

FARM INNOVATION

Some people who see a free market as the only good system claim there has been no innovation in Canada's dairy industry since 1970. The development of an effective, self-sustaining supply management system to replace the chaotic market and dubious quality of Canada's milk supply could be considered one significant innovation.

Canadian milk still comes mostly from family farms where people work hard together. But milk from each cow has increased considerably, to match the most productive in the world. It all meets the highest food safety and quality standards, and animal welfare is better than ever.

The predictable returns in supply management have enabled dairy farmers to invest in their businesses. A typical dairy farm is likely an investment of \$15 million or more. It's most likely a family business, with more than one family member working in it and at least one who really loves the cows.

Our animal husbandry has to be top-notch," says Koostra. "These animals are athletes, giving us amazing performance in milk production. We have to give them the best of care."

That care includes a herd health visit with his vet every two weeks that he credits with helping him avoid emergency vet calls.

Fifty years ago, dairy cows were milked in barns where each was tied in a stall where she could stand or lie. Some were milked by hand but a growing number of farms had electric milking machines incorporating a sealed bucket that was carried between cows and the refrigerated bulk tank. Today most cows are milked in parlours where one person can milk and observe the health of the cows and keep udders and the area clean. Cows may graze between milkings, but many farms prefer to feed a total mixed ration carefully balanced for health and high milk production in a free stall barn.

Cows are free to walk around in wide alleys to allow mechanical cleaning, or to rest in

stalls bedded with rubber mattresses, straw, shavings, or special sand that does not damage cows' hooves and can be recycled. Nutrition consultants are regular visitors, constantly adjusting feed ingredients to cow's needs.

Ventilation systems in barns are constantly improving, with bigger, slower-moving fans and automated curtain walls to protect the cows from heat or cold. Some farms allow cows to move in and out as they wish, but most often a majority of cows are inside.

Robotic milking systems are being widely adopted by dairy farmers. Cows learn to go to an automated stall that closes a gate when she enters. A sensor reads a transponder as she approaches a feed bowl and depending on her needs, dispenses the appropriate amount of concentrated feed. As she eats, her teats are washed, milk tested and a suction cup applied to each teat and sucks out her milk. After milking, each teat is dipped in a solution that closes the milk duct and the stall gate opens to allow the cow to leave.

Robotic systems allow cows to be milked when and as often as they like. Some, especially in heavy periods of their lactation like to be milked three or even four times a day. The system can recognize when a cow is entering the system just for the feed, and opens the exit gate without feeding a cow recently milked. It takes a herd a few months to adapt to the robot milkers, but farmers say they seem more content. If a cow's milk sample indicates a health problem, milk is diverted to a tank that is separate from the bulk tank of milk to be picked up by the processor's truck.

A robotic milking system can handle about 50 cows and costs around \$250,000. The transponder each cow wears on a collar or anklet can monitor the cow's activity, temperature and gut health. Like the milking system, it sends alerts to the farmer's cell phone, so they know there may be an issue or the animal is ready for breeding.

Dairy farms rarely keep their own bulls. They rely on AI, using bulls constantly assessed for their relative merits, using their offspring's performance and genomic indications from their DNA. They may acquire sexed embryos for heifers, so they have smaller female calves that they can deliver more easily.

Genetic advances have led to increased milk production, now averaging over 35,000 litres a cow per lactation (308 days) – among the world's highest. High production means a lower environmental footprint.

Environmental impact is one of six aspects of milk production the Canadian Dairy Farmers support in the industry: Milk quality, food safety, traceability of milk from farm to consumer, environment, animal welfare, biosecurity and social responsibility. The industry is supporting real assessments of their performance individually and as a whole.

A NEW DIRECTION

Bonnie and John den Haan insisted their children not return to the farm until they'd worked in a career for at least four years. Their daughter, Marianne Edwards, taught in the Arctic, but then wanted to return to the Loretto, Ontario farm. She enjoys showing city people where their food is produced. She runs the on-farm dairy operation and store along with the family area where kids can milk a life-size mechanical cow, play on a ride-on tractor and enjoy other activities Marianne devises.

"It's a challenge, but I want to showcase agriculture," she says. "As farmers, we need to tell our story – it's not being told, people don't know where their food comes from."

The family developed their Sheldon Creek Dairy to accommodate the return of Marianne and her sister Emily who works with the cows. They pasteurize their own milk, but don't homogenize it, so it tastes different. They make flavoured milk and ice cream all summer with different flavours every month, including Irish cream, mango and egg-nog, as well as fruit smoothies. They also make kefir, yogurt, labneh – a Middle Eastern soft cheese, cream and gourmet butter and ghee. All are as fresh as possible and are unique tastes, so their customers are happy to pay a premium price.

A new development in their product line is A2 milk. Dairy cows produce one of two variants of a protein in milk, and one form can cause digestive upsets in some people. Den Haans found some of their cows produced the A2 version of the protein that seems to be easier for some people to digest. They tested the genetics of every one of their cows and programmed their new robotic milkers to direct milk to one of two bulk tanks. Their A2 milk, the first available in Canada, is being greeted enthusiastically by buyers.

Sheldon Creek Dairy products are sold through high-end grocery stores and coffee shops in and around Toronto, as well as in their farm store, where they also sell beef from their beef herd. Being less than an hour from Toronto, they have many visitors to their farm shop, most of whom spend 30 minutes or an hour at the farm – longer on one of their monthly open house days. It's something people really enjoy.

Even though up to 80% of their milk is sold through their own processing plant, den Haan milk is still sold through quota. It is tested, bought and sold back to the family just like any other dairy farm, but most of it does not leave the farm.

THE FUTURE OF DAIRY

Innovation and investments in such a wide range of directions show that dairy farmers are working hard to improve everything about their businesses and their industry. Some herds will grow. Some farmers will drop out. But, the unique nutrition and health benefits, taste and processing options of milk – as well as the high quality of Canadian milk – will likely repay these investments. Possibly there will be alternative options – maybe A2 milk, goat milk or some new products – but dairy farming seems likely to continue in Canada. 🍁

Helen McMenamin is a freelance writer living in Lethbridge. Since coming to Canada for graduate studies, she has raised pigs, wheat and canola as well as writing and editing for several magazines and science journals. She is passionate about farming and the environment.

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boler:

THE LITTLE CAMPER THAT SPARKED A CRAZE



Story by Helen McMenamin. Photos at left courtesy of Ian Giles. Top photo by Jest Sidloski.

A Boler camper may be old – built between 1968 and 1988 – but it attracts attention. The rounded shape is at odds with today's steep angles and odd corners. It looks like the camper that would fit with a child's picture of a house. In an age of houses on wheels for holidays, a Boler trailer is for camping.

There's no multimedia space (or connection), no air-conditioning, it's a way for a family of four to camp from early spring through hunting season. There's a propane heater for cold mornings or an icebox for summer. It's light enough to pull behind a family station wagon (that was their original era) and if all else fails, it's light enough for one person to move it.

Ian Giles was a life-long tenter, enjoying many holidays as a child and with his own children. But when he and his wife decided they were too old for crawling about on the ground and the packing and unpacking of tenting, Ian started building a teardrop camper – something he could tow with a small SUV.

He was only part-way through when a 4-week holiday came up. Then, he heard of a Boler for sale, as is. He knew a little of Bolders and enjoys vintage things. He asked his wife whether they should stay home for three weeks while he completed the teardrop trailer and camp for a week, or else buy the ready-to-go Boler, and go camping for four weeks? A passion was born.

As they travelled that summer, Ian and Joan camped in remote places that bigger campers couldn't access, enjoying their Boler enormously. They've towed the little camper through the drive-thru at Timmies. And

they've met and enjoyed time with other Boler owners, on the road and online.

Giles replaced the AC-only fridge to one that supported remote power before they left home for their first trip. They found the 48-inch bed a little snug for comfort. And Ian had been thinking of improvements. (He finds few things that meet his standards, and is constantly improving on them).

At the end of camping season, he began rebuilding the Boler, starting at the frame, improving on the design and welding quality. He describes himself as very handy, having rebuilt and changed anything that struck him as not quite right. In the process, he's built up full cabinet-making and metal-working shops, so he can do almost anything – plus, he knows where and when to find expertise when he needs it.

Online information on modifying a Boler was sparse, and much of it was wrong.

"I saw a lot of hack jobs and a lot of campers destroyed by people who didn't know what they were doing," he says. "Something like changing cupboards may seem simple, but they are structural, and taking them out can ruin a Boler."

Giles began blogging about his Boler rebuild. After answering the same questions over and over, Giles launched boler-camping.com. That site is still active, but the previous owner gave Giles boler.ca, when he retired. It's now a one-stop site for all things Boler, including a series of videos of the rebuilding of the Giles' Boler, named Buttercup.

Buttercup now has everything a small family needs, packed into a 13-foot trailer six and a half feet wide. There's a full double bed, two bunk beds, a 2-burner stove with an oven, a 3-way fridge, a sink with running water, a 5-foot wrap-around counter and an eating area with room for four. There's even a wine rack that slides away to reveal storage space behind. And yes, there is a (chemical) toilet – stored under the bench – and an awning for relaxing in rain or shine.

Many Boler parts can still be found, but Giles wasn't satisfied with some, so he's developed better ones. He sells them on boler.ca, along with small items like Boler keychains. And wineglass charms.

Boler gatherings happen by chance, but there are also pre-arranged meets. The Gileses have travelled all over Western Canada and the North Western states to Boleramas and meets. At around 2014, Giles realized the 50th anniversary of the introduction of Boler trailers was coming up, and decided to make a celebration of 50 years of Boler camping his next project. It was quite a project: instead of their usual 40 nights camping, he and his wife had one weekend away and worked close to 24/7 until they left for Winnipeg.

He decided on Winnipeg – apart from being at the centre of Canada, the Exhibition offered plenty of space and help with banking. Plus, Ray Olecko built Bolders in Winnipeg, from 1968 to 1988.

Over 450 trailers and at least 930 participants rolled into the Manitoba Boler 50th Anniversary Celebration, last August. Caravans of Bolders came from the Southern US by



eastern and western routes, from Western Canada by northern and southern routes and from Eastern Canada. Bolders came from Vancouver Island to Newfoundland, Yellowknife to Southern California, New Mexico and Florida.

Peavey Mart and TSC was a sponsor of the event – one of the senior staff has a Boler he bought from the company’s President. Some of the caravaners stopped in to take advantage of a special coupon. One Boler is cute, but several of them arriving at their store was the event of the summer for staff at the stores.

The participants who traveled furthest to the celebration were Michele Huck and Shawn Fraser, and their three children. They live in Regina, but they came to Winnipeg by way of the West Coast, Mexico, and the US midwest – a 4-month, 17,185 km trip. They shared their experience with their fellow Boler enthusiasts.

It was an amazing festival. Each morning started with yoga for all. Later in the day, there were ukulele lessons, geared to beginners, as many people had just bought their first instrument. There was plenty of time for visiting and looking at each other’s modifications and upgrades, speakers helping others in something they’d done in their Bolders, and a scavenger hunt.

Some events like this one might include a trade show, but at the Boler 50th Celebration, it’s a public show-off. Solar power was a popular add-on, as is an improved ventilation system. There was a cushions-and-curtains workshop, and even help to 3D print a trailer.






In the evenings there was more: beef-on-a-bun, wine and cheese, and a main stage with high-end entertainment.

Boler trailers have been such a long-lived success that other fiberglass manufacturers were invited to the celebration. Happier Campers from California (which offers rentals as well as sales of its solar-ready ultralight glampers) and Armadillo (from Enderby BC), as well as Oliver Travel Trailers, from Tennessee, all attended. Giles owns an 18-foot Oliver trailer that he compares to a town car, as opposed to his Boler – “the sports car” of the RV world. He recommends the cult of Boler (and similar campers) to everybody. 🍁

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THE FAMILY FARM INC.

CANADIAN FAMILY FARMS ARE ON TRACK TO SURVIVE AND THRIVE

Story by Richard A. Nichols.

The family farm has long been considered one of the most viable ways to properly operate a farming enterprise in Canada. It's also very important for the rural economy.

In addition to playing a significant role in one of the country's leading economic drivers, family farms "are strong supporters of their local community economies – the small towns that we call the 'rurban' area," said Ben Graham, president of AdFarm, a major North American advertising agency that focuses strictly on agriculture marketing.

Graham noted that there is currently great excitement and opportunity in the ag sector. "Even though we're in a situation where markets and pricing are [uncertain], the long-term look for agriculture is very strong," he said. "There was an entire generation that was basically kicked off the farm because there was no future, but now young people are returning to operate those farms, so they can grow and thrive."

Don McCabe, a fifth-generation farmer from southwestern Ontario and Vice President of the Ontario Federation of Agriculture agrees... sort of. He and his brother want to ensure their land will be available for his nieces, should they choose to take up farming. That means their farm has to be run "according to sound business principles." In other words, it has to be profitable.

"I don't share the sentiment that industrial farming is a bad thing," McCabe said. "People always will be on the land – either farming it themselves, renting it, or working it for someone else. That doesn't change, whether you are farming 200 acres or 200,000."

In Ontario, land has become an investment of choice for those who want a low-risk way to earn more than bank interest. Renting land to an operator earns both an acceptable return and the security of knowing that if a tenant decides to vacate, there will always be somebody else willing to take it up.

McCabe says poor succession planning has taken its toll on the industry, but the past few years have seen the beginnings of a revival. "Young people are going back to farming because of high-tech innovations like precision ag," he said. "Who wouldn't want to be part of an industry that's being run like the space program?"


"The second and third circles of support for the operator are also attracting young, professionally-trained people," he added.

That's certainly the case with the Verwey family of Portage la Prairie, Manitoba, where Jill and Raymond Verwey, Ray's parents (John and Norma) and his brothers (Gerry, Roger and Conrad) grow seven sections of grain crops, milk 35 dairy cows, and raise 250 head of beef

cattle. The Verwey farm is a corporation, in which all family members working the farm are shareholders. It's a structure designed to encourage the next generation to become part of the business.

Two of the four Verwey children have completed programs at the University of Manitoba: Rachel in animal science and Lindsay in agriculture. Each will return to the family farm after gaining experience elsewhere

"Rachel is an agronomist at the Co-op in the village of Notre Dame de Lourdes," Jill said. "Lindsay is currently milking 650 cows a day on a farm in New Zealand."

Family farms will become increasingly healthy over the next decade, according to AdFarm's Ben Graham. "In the recent past, the growth of family farms was hindered by a lack of access to labor. Over the next decade, that will change. Agriculture is becoming a very enticing industry, because of the technology it uses and the stability it provides." 

Richard A. Nichols (www.ansoncopy.com) is a farm writer from Okotoks, Alberta.



POLLINATOR GARDENS

HEDGEROWS AND TREES COULD HOLD THE KEY

Story by Pat Kerr.

Pollinator gardens are springing up across the country, and around the continent. One group, Bees Matter, has distributed 250,000 garden seed kits to start pollinator gardens, since 2015. Many other groups are jumping in to support our declining bees. Canadians are getting it. Bees and pollinators need help, now.

Pollinator gardens – stepping stones of pesticide free, pollen and insect housing – are a positive change in Canada... but according to a British study, we need to do more.

Kim Fellows coordinator with Pollination Canada said, “Of our native bees, 70% are ground nesters, while the other 30% are cavity-dwellers, making their homes in stems of perennial native plants and rotted wood, such as raspberry canes. Native bees also need a continuous bloom of food (pollen and nectar) from blooms in early spring to late fall.”

The British study suggests our pollinators starve if they only receive pollen from perennials and field flowers. Pollinators need native shrubs and trees to extend the pollen season, providing nesting sites and navigational aids.

“Hedgerows and trees could hold the key to helping UK bees thrive once again,” reports Lancaster University, in Britain. “One of the major causes of the reduction of our

pollinators is the degradation of suitable habitats. Tree and hedgerow planting could be a more efficient and cost-effective tactic, alongside the planting of wildflowers, than planting wildflowers alone.”

Genevieve Rowe, Lead Biologist of the Native Pollinator Initiative with Wildlife Preservation Canada, suggests we can apply this research to Canada. She said, “While the species composition and diversity in each ecoregion of the world will vary, there are a number of similarities between closely related bees across these regions. Bumblebees in Canada and bumblebees in Europe will share a lot of similar life history traits. That said, the research can certainly be applicable here.”

One of the reasons the study suggests trees are valuable to pollinators is more than just about a pollen source. Some pollinators use trees as navigational aids.

The topic is complicated and confusing. Rowe continued, “For bees alone – only one group of pollinators – there are over 20,000 species described, with many more awaiting formal description, and there is extreme diversity within the group. Pollinators use different methods to navigate, and trees / hedgerows have been proposed as one of them. But again, this would likely be species-specific, and you have to consider the biology of the pollinator in question: is it large enough to fly above the

trees? Does it travel large enough distances that navigation requirements would be there?”

She said, “Meadows / fields will often produce flowers in succession over the course of the season, and these are huge resources for pollinators. Trees are a bit different, because they offer high density resources (pollinators can get more resources with less expenditure of energy) and are usually blooming early in the spring, when summer flowers have not begun to bloom. For example, bumblebees in Ontario rely heavily on blooming willows in the early days of spring. Queen bumblebees wake from hibernation and set out to found a colony, and one of the only resources they





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- Big Bluestem Grass
- Little Bluestem Grass
- Indian Grass
- Switch Grass
- Canada Elderberry
- Frost Grape
- Downy Serviceberry
- Hawthorn
- Butterfly Milkweed
- Russian Sunflower
- Flax
- Daikon Radish
- Squash (to encourage the native squash bee to nest underground in the fedge)

have available to them this early in the year are the blooming willow trees. These blooming trees provide important spring resources for pollinators, before the meadows and fields are available to them.”

Fellows was asked by a group of Kitchener Ontario gardeners about controlling populations of cucumber beetle, potato beetle and flea beetle in a community garden. Knowing that attracting predators such as braconid wasps, tachinid flies, ladybugs, soldier beetles, lacewings and assassin bugs through the use of plants supports control without pesticides, Fellows designed and helped plant a “fedge”: a living fence.

The garden with 100 plots is in a vast suburban field of mowed grass. The 740-foot perimeter of the garden is demarcated by an orange snow fence, and the fedge was created in a four-foot wide swath around the periphery, thus occupying almost 3000 square feet.

Unlike a vegetable garden that is cleaned each fall (destroying pollinator nesting sites,) the pollinator fedge provides year-round food and habitat for pollinating insects, with the added value of including food plants that humans enjoy. Fellows designed her pollinator fedge to mimic natural ecosystem on a small scale. The priority is to mix mainly native plants with a variety of heights and woody stems. She included fruit- and nut-bearing trees and shrubs, perennial wildflowers, herbs, grasses, ground covers and vines.

The Lancaster study suggests planting trees in the corners of fields with shrubby plants around and wildflowers transitioning to the field areas. These areas are not to replace pollinator gardens – they are an addition.



Pat Kerr is a freelance writer, who specializes in urban tree care. She received honorary membership in the International Society of Arboriculture in 2011. Her books, “My Tree, My Forest,” and her children's book, “We are Planting a Forest,” were published this winter.

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There is no substitute for what commercial beekeepers provide, and it has never been harder to keep bees healthy. In 2017, over 32% of Canada's managed honey bees died- this level of loss is unsustainable for many beekeepers.

Pollination in Canada is valued at over \$2 billion per year.

Thanks to dedicated research, industry collaboration, and the advocacy of skilled beekeepers, it is no mystery what is killing our honey bees. The “Four P’s”: Parasites (like Varroa mites), pathogens, pesticides, and poor nutrition add up to put honey bees at risk.

Since deadly Varroa mites arrived in the late 1980s, beekeeping has changed, and management measures were taken as the world went on the offensive to combat this parasite and mitigate losses. With less available natural forage, due to urban development and monoculture crops, bees lack abundant good nutrition, which would be their best defense against most other stressors.

Project Apis m. is named for the honey bee, *Apis mellifera*. Founded in 2006 by

beekeepers and growers as a grassroots organization to address honey bee health and pollination security concerns, PAm has become the leading, trusted honey bee research nonprofit. Using donated funds, we have infused over \$8 million into honey bee research projects in the US and Canada, with the potential to create beekeeping tools, discover solutions, and increase our understanding of honey bee health threats. We also support forage programs, working with farmers and growers to plant pollinator forage on the landscape, right where it is needed most.

All of us can become bee advocates, reinforcing the link between bees and our own quality of life and quite literally sharing common ground to keep bees healthy. It is our hope that the diverse voices of all beekeepers are united by reliable, research-based information that strengthens bee populations and makes us better beekeepers, able to share how everyone can help the beloved bees who pollinate our food! If you're not sure how to help, learn more or donate at www.ProjectApism.org



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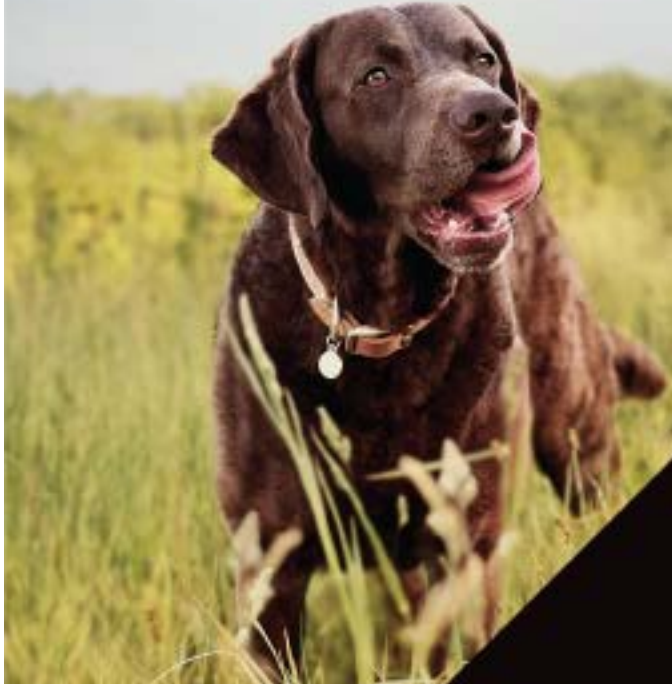
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BETTER GRILLING

FEED YOUR INNER GRILLMASTER

Story by BBQ Brian Misko, edited excerpt from *Grilling With House of Q*, Figure 1 Publishing, 2015.

As the summer of 2019 sets in and the days gradually get longer, the grill that sits on your deck draws more and more of your attention. Maybe you simply just want to be outside instead of the kitchen. But likely it is the smoky, man-meets-fire, BBQ flavor that you crave.

The grill or smoker can be an awesome playground for cooks to exercise their culinary prowess. Everything simply seems to taste better when cooked outside! Some items like steaks and burgers are rather straightforward and maybe you already know how to do those well. However there really is no limit as to what you can cook outdoors. Here's how you can be a better griller!

Quite a bit has changed since I aspired to be a BBQ superstar. Cooking on my deck turned into traveling to BBQ competitions and cooking in parking lots all over North America. Those competitions awards turned into regular segments on TV, staging demos at trade shows, speaking on the radio and teaching cooking classes. Then I wrote a Canadian best-selling cookbook and ultimately winning a world championship! So I know what I am talking about, and I love to share tips and provide a path on how to be a better griller.

FIND INSPIRATION

Inspiration can come from a variety of sources and it is important to have open eyes and an open mind to see what you can learn from different influences. In today's media rich environment, here are a few of the many bloggers, social media channels or Instagram and Facebook pages that can easily give you an "a-ha" moment:

- The Sauce YouTube Video Channel
- Food Network Canada Website
- Yummly

Many barbecue and grill manufacturers are very good educators and sources to get you going. Register your smoker or barbecue equipment with the manufacturer and sign up for their newsletters if they have one. This information can provide you with a double dose of energy – first, cooking ideas and recipes that you want to try and then secondly, performance tips about your gear!

One of the most powerful ways to advance your skill is to find a "mentor". I know it would be cool and rewarding to have Bobby Flay or Guy Fieri to personally coach you. That's not what I mean... but you can still learn from them! Simply watching your chosen mentor – on TV, the internet or from their cookbooks and newsletters – can provide you with ideas and great energy.

My family has also inspired! There are many dishes that I have made on my smokers and grills that have come from childhood memories. I love reminiscing about dishes that we had at Grandma's or at a family gathering many years ago. My grandmother certainly didn't have a digitally controlled pellet cooker, but her roasted turkey was a focal point of Thanksgiving: now how do I recreate that experience? Thinking about my family has expanded the dishes I do to include charcoal baked bread, pastries and casseroles... and yes, all cooked on my smoker!

Do you ever wonder what the situation was when the very first person put peanut butter on one slice of bread and then smeared jam

on another and slapped them together to take a bite? Two ideas mashed together can have surprising results. Let's say that you have a wonderful recipe for waffles. Everybody loves them – they are a family favorite. Now at the same time, your Grandma has a really good recipe for meatloaf. It is awesome and it brings back so many memories over the years. With a slight change, this can become a new inspired recipe for you! (see following page)

Another way to change things up is to take a recipe that catches your attention and then make a few changes to it. This could be a simple change such as taking a beef recipe and using chicken instead, or adding a signature flavor like diced jalapenos to a sauce or a little bit of cinnamon to the store-bought BBQ rub. Don't be shy, just be willing and only change a couple of things in a recipe, to get a feel for know what works and what doesn't. If you change too many things and it doesn't turn out, you won't know what to change to improve on the dish.

Seriously, what's the worst that can happen? The most important factor of all is simply a willingness to try. The people you feed, your eaters, will still love you. Trust me on this. Not everything will be perfect but it comes down to asking for feedback, listening to it and learning as you go along. Write down what you craft so you can either recreate it exactly or make minor adjustments to get it closer to perfection.

Good luck grilling, and have fun! 🍁

Brian Misko is co-owner and Pitmaster of House of Q, a competition BBQ team based in Surrey, BC.



WAFFLE BURGER

JALAPEÑO 'N' CHEESE CORNBREAD WAFFLE BURGERS

Recipe and photo by BBQ Brian Misko, as published in *Grilling With House of Q*, Figure 1 Publishing, 2015.

First, gather everything that you need for both stages of the recipe:

BREAKFAST SAUSAGE BURGERS

- 1 tbsp. sea salt or kosher salt
- 1 tbsp. ground dried sage
- 1 tsp. crushed red pepper flakes
- 1/2 tsp. ground coriander
- 1/4 tsp. ground ginger
- 1/4 tsp. ground dried thyme
- 1/4 tsp. cayenne pepper
- 2 lbs. ground pork
- 1 lb. bacon, cut in thick slices
- 6 to 8 very thick slices aged cheddar cheese
- 6 to 8 eggs
- 1/4 cup mayonnaise
- 2 to 4 tbsp. House of Q Slow Smoke Gold BBQ Sauce or your favourite prepared mustard

JALAPEÑO 'N' CHEESE CORNBREAD WAFFLES

- 1 cup cornmeal
- 1 cup all-purpose flour
- 1 tbsp. baking powder
- 2 tsp. sea salt or kosher salt
- 1 jalapeño pepper, seeded and finely chopped
- 1/2 to 1 cup grated aged cheddar cheese
- 4 large eggs
- 1/2 cup vegetable oil
- 1 1/2 cups buttermilk

MAKING THE BURGERS

Line a baking sheet with waxed paper or parchment paper.

In a large bowl, stir together the salt, sage, red pepper flakes, coriander, ginger, thyme and cayenne pepper until well combined. Using your hands, mix the ground pork into the spices until the spices are evenly distributed throughout the meat. Divide the meat mixture into 6 to 8 equal balls, and then form each one into a burger patty.

Arrange the patties on the baking sheet, and freeze them for 30 minutes so the flavours can meld while you clean up and then prepare the waffles, the bacon and your grill.

MAKING THE WAFFLES

In a medium bowl, combine the cornmeal, flour, baking powder, salt, jalapeño peppers and cheese until well mixed.

In a separate bowl, beat the eggs. Whisk in the vegetable oil and buttermilk until thoroughly blended. Pour the wet ingredients into the cornmeal mixture, and whisk until well blended.

Grease and preheat the waffle iron. Add 1 to 2 cups of the batter, close the lid and cook the waffle(s) until it is brown, crisp and cooked. Transfer the cooked waffle(s) to a plate, and keep warm either in your oven or on the cool side of your grill. Repeat with the remaining waffle batter. (You should have 12 - 16 waffles.)

FINISH THE BURGERS

Prepare your grill for direct grilling, medium heat. Line a plate with paper towels.

Place the bacon on the grill and cook until the fat starts to render and crisp. Transfer to the paper towels to drain, and set aside. Place the burgers on the grill and cook until colour has been established, 8 to 10 minutes. Flip the burgers, and arrange 2 to 3 strips of bacon and a thick slice of cheese on each patty. Close the lid of your grill and continue to cook the burgers until the internal temperature of the meat reaches 160°F. Remove from the grill and keep warm while you finish the rest of the dish.

Preheat a skillet on your grill side-burner or on the stove. Once it is hot, add the eggs and fry, sunny side up, until the whites are set but the yolks are still runny. Remove from the heat.

TO ASSEMBLE:

In a small bowl, mix the mayonnaise and Slow Smoke Gold together. Smear some of the mixture on a waffle, and add a burger patty and a fried egg. Top with another waffle. Serve immediately—with a stack of napkins! 🍁

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WHAT GROWS WHERE?

FROM APPLES TO ZUCCHINI

Story by Geoff Geddes. Top photo courtesy of BC Fruit Growers' Association.

Like real estate, the key to successfully growing fruits, vegetables and flowers comes down to three things: location, location, location. If you're seeking the best apples, potatoes or wheat in western Canada, it's all a matter of knowing where to look.

BRITISH COLUMBIA

Thanks to the province's moderate climate and fertile soils, a number of vegetable crops grow well, including potatoes, sweet corn, cole crops (such as broccoli, brussel sprouts and cabbage), beans, cucurbits (such as pumpkins, squash and zucchini), lettuce, carrots and peas.

Of course, when it comes to a prime location for fruits and vegetables, it's hard to beat the Okanagan Valley.

"Our climate is especially well suited for growing wine grapes and table grapes, apples, peppers, hot peppers and melons,"



Photo courtesy of BC Fruit Growers' Association.

said Glen Lucas, general manager of the BC Fruit Growers' Association. "We also have about 99 per cent of the commercial sweet cherry production in Canada, and we're the only area in the country that grows apricots commercially."

Most crop production in the province centers on grains and oilseeds, led by canola, wheat, oats and barley.

B.C. is known as much for its lumber as its fruit. The province boasts five coniferous species that combine to generate a wide range of lumber products: Hem-Fir, Douglas fir, Western red cedar, yellow-cedar and Sitka spruce.

ALBERTA

Alberta is the second largest agricultural producer in Canada, thanks largely to its proficiency with three crops: wheat, barley and canola.

When it's time to pick berries for your next pie, Alberta should be on your radar. Blueberries, cranberries, raspberries and saskatoons will keep the family baker busy.

Among vegetable growers, radishes, zucchini, leaf lettuce and tomatoes are popular choices.

With Alberta's short and unpredictable growing season, not all perennials will thrive, but some that do include Veronica whiteleyi, coral bells, fleabane, goat's beard and the aptly named Jack Frost.

Though not as renowned for its lumber industry as its neighbor to the west, Alberta has a number of thriving tree species led by White spruce, Black spruce and jack pine.



Photo courtesy of Dr. Karen Tanino.

SASKATCHEWAN

"Two environmental factors here give us an advantage in some instances," said Dr. Karen Tanino, professor and plant abiotic stress physiologist in the Department of Plant Sciences at the University of Saskatchewan.

Those factors are the long summer days and a continental climate featuring high daytime temperatures and low temperatures at night. The combination of these elements allows the province to produce high quality plants and fruits.

"Our seed potatoes out-yield those in the United States by 15 – 20 per cent," said Dr. Tanino. "When our strawberry crowns produce



Photo courtesy of BC Fruit Growers' Association.

fruit, they are 40 – 60 per cent higher in marketable yield than the same fruit produced from California-sourced crowns or from other places in Canada. We also have an edge with Echinacea and garlic, as they both have almost

twice the medicinal components than their counterparts in Oregon and California.”

MANITOBA

While pie-friendly berries like blueberries and raspberries tend to thrive across the prairies, Manitoba is also known for its bush fruit production, including currants, gooseberries, highbush cranberries, pin cherries, sea buckthorn and silver buffalo berries.

The province's often challenging climate favors hardy vegetables like arugula, fava beans, kale, lettuce, bok choy, parsnips, peas, radicchio, and radish and spinach seed.

The need for hardiness also applies to perennials in Manitoba. Some varieties that grow best are purple coneflower, clematis, lilies, creeping thyme, irises, autumn sun coneflower and prairie crocus.

At first glance, the long winters in western Canada would seem to limit the prospects for fruits, vegetables, flowers and cash crops. Dig deeper, though, and you'll see that when it comes to your growing options, this corner of the globe is well worth a second look. 🍁



Photo courtesy of BC Fruit Growers' Association.



Photo courtesy of Dr. Karen Tanino.



THE ASH BORER

HOW WE LEARNED FROM A COSTLY MISTAKE

Story by Pat Kerr. Photos by Dan Kerr.

It's been a long road, and researchers are not done searching for a way to control the emerald ash borer. In many parts of North America, ash stands have been reduced by the emerald ash borer invasion to a few surviving mature trees and seedlings, while the pest is still going strong. Since its discovery in Southern Ontario in 2002, the tiny insect has hitchhiked its way from Ontario to Winnipeg and to Bedford, Nova Scotia. Once infested, urban ash are dying at 100% and rural ash are doing only slightly better at 99%.

The tiny insect – properly called *Agrilus planipennis* or EAB – can fly, but there is no reasonable way it made that distance on its own. Hot spots are camp grounds and gas stations, showing clearly that its movement was human-supported... likely on firewood. EAB is a cute insect that shimmers in metallic shades of green and pink, when seen under a light. It plays dead, and the males have hair on their chests. It is the type of insect that can fill the child in us all with wonder.

The dying trees are ash or *Fraxinus*, a common native forest tree family but also a major part of urban landscaping, since the demise of the elm in the 60's. The wood is commonly used

for baseball bats, hockey sticks and aboriginal basket weaving. It is valuable environmentally, economically and for places like Winnipeg, almost impossible to replace. The species decline is costing North America millions, and our tax dollars are only beginning to pay, as the black ash was added to the endangered species list this winter.

With all the bad news, there is significant good news happening behind the headlines.

"This is the most exciting project, I've ever been involved with," said Melissa Spearing, Seed Program Coordinator, Forest Gene Conservation Association. "As more people see the value in natural woodlots, we can maintain what we know are stable ecosystems. This is an incredible proactive project. Things we've always seen can disappear in a moment."

Spearing, who works with Forest Gene Conservation is part of one of Canada's newest projects to protect the ash species. Together with the Invasive Species Centre and the National Seed Centre in New Brunswick, they are working to collect ash seed from as many areas as possible, before the genetic variations are lost forever. They are asking people to

report high levels of ash seed on wild trees, growing near a roadway (to allow them easy access so they can reach more areas during the short seed season) to inaturalist.ca.

"The mast seed looks like dirty socks hanging from the trees," said Spearing.

The seed will be used for research and replanting after researchers find successful control agents.

In the almost twenty years, since EAB was discovered here, researchers have studied bushels of options. They have monitored squirrels (who peel the bark off ash trees to get to the larvae), woodpeckers (the presence of whom remains one of the best ways to identify an EAB-infested tree,) fungi, viruses, and parasitoids. They've tried eradication, control, and strung funnels together in ash trees to dust the EAB with killing agents, while monitoring the insect's mating behaviour. As a result, we now know a lot about EAB and the hundreds of native, beneficial insects that look like EAB.

We know, EAB is here to stay. We are going to learn to live with it.



A Canadian discovery is a product called TreeAzin, for high value trees. This natural pesticide is injected by professionals into the tree, where it kills the larvae feeding inside the tree. To work correctly, it must be used at the correct time of year, and before the tree is heavily infested. Reapplication is done in alternate years, during low pressure times, and annually, when infestation in the area is high.

What took a hundred years to do for the chestnut (decimated by chestnut blight) and fifty years for the elm (decimated by Dutch elm disease) has happened in less than twenty years for ash, because we've learned from past mistakes – but we are still learning.

In the meantime, we shouldn't move firewood. Never move firewood from your cottage to your home, or from your home to your cottage. Do not take firewood when you go hunting, and do not bring it home. Burn firewood in the region where the tree lived. Just as importantly, join citizen science projects like inaturalist.ca, and when you see a tree dying with an unusual insect, take pictures and send it in. Ordinary people who pay attention have saved – and can continue to save – the entire continent millions of dollars. We have learned from our mistakes.



Photographer Dan Kerr learned his craft in his dad's darkroom, and progressed to taking crime scene photographs for the Ontario Provincial Police. Today, he is focused on his 15-year project of building an airplane.

One of the projects to help ash trees and our cities live with the EAB is the release of parasitoids, or biocontrol. It is the idea that all species are kept in check by something else. When a species is removed from those controls, it becomes a problem. Reintroduce the controls, and the new species can become a beneficial citizen, or at least not a problem. In reality, this doesn't need human intervention – it will happen eventually, but it could take many decades.

Researchers went to China, the native home of the EAB, and brought back EAB enemies. In China, our American ash is used as a reforestation tree. It is also a majestic tree in the Beijing arboretum. Our ash is not a long-lived species in China, but it is doing better than it is doing in Canada. The difference seems to be a few tiny, non-stinging wasps. How many species of wasp, we don't know – but so far they've found four, and two are being released in Canada, after years of careful testing. (The different species have different lengths of ovipositors, so they lay their eggs in trees with different thicknesses of bark, or different aged trees. None of them can protect large, mature ash.)

I have never personally seen *O. agrilli*, an EAB enemy. It is just too tiny. *T. planipennisi* is the largest of the beneficial insects being released, and has goggly eyes and iridescent wings. Unlike the beautiful EAB, it isn't the traditional definition of cute but it is also so tiny, and delicate that it could not be considered scary. None of the parasitoids being released have a stinger. They also have no venom. Their back end is an ovipositor used to lay eggs under bark.

While this project is ongoing on both sides of the border, other US researchers have found a few of the 1% of surviving ash trees have some ability to withstand EAB. They are cross-pollinating these trees, and searching for why these few trees are thriving. The resulting seedlings are being tested for their response to EAB, and the results are beyond exciting. They could be releasing ash with a level of resistance to EAB for replanting, this decade.





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CONTAINER GARDENING

GROW ON BALCONIES, DECKS AND OTHER SMALL SPACES. HERES HOW!

Story and photos by Phil Bakker.

Not only are potatoes one of the easiest crops to grow in containers, there are also benefits to doing so over traditional gardening methods. These include fewer pests, earlier harvests, the added flavour of fresh new potatoes, and the growing fun that containers provide.

Containers of all shapes and sizes can be used to grow potatoes: pots, grow bags, tower gardens, pails and more. Potatoes like a combination of shade and sun so there are endless possibilities of where to place your containers. A deck, a balcony, or a patio are all perfect places to grow potatoes. Plus, the potato plants are attractive to look at and will add greenery to your spaces. Digging through a pot and unearthing those fresh nugget potatoes, with their delicate flavours and buttery texture, has become a highlight of my early summer!

Growing potatoes in containers also reduces pests and diseases plaguing your potatoes. Wire worms, garden slugs, and even the irritating Colorado potato beetle rarely cause problems to plants grown in containers. Using clean soil mixes in your container practically eliminates common scab - the small brown lesions found on the skin of the potato. Furthermore, the effects of blight on the plants is reduced because the potatoes mature faster in containers.

Container growing can be started indoors, while you patiently wait for the Canadian winter to lose its grip. As the plants start to grow, place the containers outside – but only when the risk of night frost has passed. Once outside, the heat of the sun on the container will warm up the soil faster. This results in accelerated growth of both the plants and the development of new potato tubers. This will shorten your growing season, and is especially beneficial if your area is prone to blight.

CONTAINER GROWING

- 1) Use a mixing container or wheel barrow to prepare your soil mix. Mix in nutrients / fertilizer according to the instructions on the package.
- 2) Fill the bottom 1/3 of your planting container with your new soil mix.
- 3) Lay your uncut seed potatoes on the surface of the soil spaced 8-12 inches apart, then cover the seed potatoes with 2-3 inches of soil mix.
- 4) Pack the soil lightly and give the container a good soaking of water.
- 5) Place container in an area where it will receive at least 6 hrs of sunlight per day.
- 6) Once the plants have grown 4-6 inches tall, add more soil mix around the plants. As the plant grows, continue adding soil until you have reached the top of the container. This process is called hilling up.
- 7) Continue watering your potato plants as they grow but avoid overwatering. The soil should be slightly moist but never overly wet.
- 8) When the potato plants have fully matured they will start to ripen and turn yellow. It's time for harvest. Now dig through your pot and enjoy nature's bounty!

TIPS FOR GROWING POTATOES

- 1) Start by only using certified seed potatoes and green sprout (chit) the seed potatoes by exposing them to room temperature and light for 2-3 weeks. The sprouted potatoes will help with plant emergence.
- 2) Use fresh, clean potting mix. Try to avoid planting potatoes in used soil mixtures that have recently had potatoes in them before.
- 3) Potatoes require nutrition in the form of synthetic or organic fertilizers (nitrogen, phosphorous, potassium). Consult your local garden centre for advice. You may use organic composts in your mix, however overuse can increase soil borne problems that may blemish the skin quality of the potatoes.
- 4) Ensure that the containers have drainage holes in them. The soil must be able to drain well.
- 5) Water often. Containers dry out faster than gardens adding heat stress to the plants if left unattended.

And thats it! No garden required. Digging through a pot and unearthing fresh nugget potatoes with their delicate flavours and buttery texture has become a highlight of my early summer. I want to invite you to share in this experience. If you are feeling adventurous this season and want to grow your own healthy crop of fresh potatoes, than the simplicity of growing in containers may be just what you are looking for. Fresh potatoes are fun, healthful and rewarding to grow, and above all else, delicious to eat and serve to friends and family.

Happy Growing! 🍀

Phil Bakker - Potato enthusiast and Founder of EarthApples. For more information and tips visit: www.earthapples.com/how-to-grow/.





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