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INSIDE

FALL 2018 ISSUE



9

CARBON HITS THE EAST - WEST DIVIDE
How Carbon Sequestration Affects Farmers.



12

FARM SAFETY
Vital Practices for Your Mental Health.



16

CHANGE OF SEASONS
Time for Camper Care.



18

ALTERNATIVE GOES MAINSTREAM
Renewable Energy is Generating More.



23

WHAT KEEPS YOU WARM
Things Sure Have Changed Since Down Jackets.



27

BABY IT'S COLD OUTSIDE!
The Strange Allure of Ice Fishing.



28

SHEEP MOMS
The Flexible Schedule Makes For A Perfect Fit.



29

SHEEPDOG CHAMPIONSHIPS
Trainers Explain What These Amazing Dogs Do.

6 WHAT'S NEW: The Latest, And Maybe Greatest, In Store At Peavey Mart.

8 WHAT'S HAPPENING: Selected Community And In-Store Events.

14 WINTERIZING YOUR POND: The Science Behind Healthy Ponds.

20 KOMBUCHA: Saskatoon Honey Kombucha.

26 COMPOSTING: It's The Perfect Time To Start.

32 WELDING: Still Learning Every Day.

33 CANADA WINTER GAMES: Athletic Excellence, Community Legacy.

34 STARS: Critical Care Closer To Rural Homes.

37 ATTRACTING WINTER BIRDS: Winter Brings Unexpected Excitement.



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FALL = HARVEST

A MESSAGE FROM PEAVEY INDUSTRIES CEO DOUG ANDERSON

Top photo by Drew Kenworthy.

Fall is harvest time, and that's why it is probably my favourite time of the year. It's when the culmination of our efforts all year reach their peak, hopefully with abundance. We celebrate with Thanksgiving in every home, and at Harvest Festivals in many farming communities across Canada.

As we work hard in the Fall to maximize our yield, we also have an acceptance that Winter is coming. With numerous cold months ahead, it is the perfect opportunity to cozy up in our favourite chair, reflect on the past season and begin our spring planning. When Spring arrives again, we'll put this Fall's resources and this Winter's planning to the test and start all over again.

In this issue, we bring you articles for your Fall and Winter reading in that favourite chair. Learn about how the issue of carbon sequestration affects Ontario and Western provinces differently (page 9). For another take on energy, learn how Alternative Goes Mainstream (page 18).

Find out what makes a champion sheepdog (page 29) and why sheep are the choice vocation of several stay-at-home moms (Sheep Moms, page 28). Lincoln Electric provides welding tips (page 39) and we've also got tips on fall composting (page 26).

If you've been RV-ing this Summer, make sure to take all the steps to winterize your RV (page 16). Before your farm's pond freezes over, read about tips to optimize its health (page 14). Once those ponds and lakes are frozen over, consider the strange allure of ice fishing (page 27). Of course you'll need warm outerwear (What Keeps You Warm, page 23). Or, if you're staying warm inside, learn about the habits of the hardy birds that winter in Canada, and how to attract more of them (page 45).

We're always thinking about how we can be more relevant to our rural customers and neighbours. This year, we took a big step to be relevant with our multi-faceted support of STARS air ambulance. By the time you read this, STARS clothing and other items will be in stock **exclusively** at Peavey Mart, and every purchase helps keep STARS in the air. Read more about STARS on page 42.

We hope you enjoy this issue, and appreciate your suggestions to connect with your interests and lifestyle. Send your feedback to feedback@peaveyindustries.com. 🍁

Doug Anderson

WHAT'S NEW AT

Peavey Mart

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SKU 1005609

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SKU 1002642

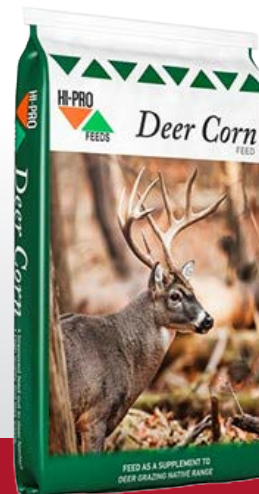
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Agri-Blok™ 20% All-Natural Cattle Block 25 kg



Agri-Blok™ 25% Cattle Tub 110 kg



Agri-Blok™ 25% Cattle Block 25 kg



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Agri-Blok™ 20% 110 kg Tub



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Now Available!



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Agri-Melc™ 20:20:16 Calf Milk Replacer 20 kg



Agri-Melc™ 22:22:20 Kid Goat Milk Replacer 10 kg

Cattle

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- **Agri-Blok™ - 25% Range Cattle Protein Supplement** - has been formulated to balance the diet of cattle on range and contains 25% Crude Protein of which 15% is derived from non-protein sources. **DO NOT FEED TO HORSES.** Offer free-choice. Additional Salt Not Required.
- **Agri-Blok™ - 10:10 Range Cattle Mineral** - is designed to be fed free-choice, and would normally be fed when legume or legume-grass forages make up most of the diet. It is particularly useful when forage rations are used without grain feeding after calving. Additional Salt Not Required.

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- **Equest™ - Agri-Blok™ 8:8 Salt Mineral** - Nutritionally Balanced, Additional Salt Not Required, Feed Free Choice, daily intake is approximately 100 - 200 grams on mature horses, Choice of 25kg or 2.5kg Mini Pak, Weather Resistant
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- **Equest™ - 17% Horse Crunch** - Based on dehydrated alfalfa, oats, and peas, Contains B-Complex vitamins for stress, Available in 25 Kg & 1.5 Kg treat size

Sheep

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Milk Replacer

Calves: Agri-Melc 20-20-16 MF Calf Milk Replacer - A high quality 100% all milk protein and moderate fat milk replacer designed to be fed after 3 days of age to replacement calves

Lambs: Agri-Melc 23-23-30 Lamb Milk Replacer - A high quality 100% all milk protein, high fat, low lactose product to be fed after 3 days of age to orphan lambs, undernourished lambs, or lambs that refuse to suckle.

Kid Goats: Agri-Melc 22-22-20 Kid Goat Milk Replacer - A high quality 100% all milk high protein and high fat milk replacer for kid goats.



Equest™ 17% Horse Crunch 25 kg



Equest™ 8:8 Horse Mineral 25 kg



Equest™ 15% Horse Protein Tub 25 kg

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Canadian Agri-Blend Inc. proudly Canadian, owned and operated. Our 58,000 sq. ft facility is 15 minutes north of Edmonton in Morinville.

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.

SEPTEMBER



30

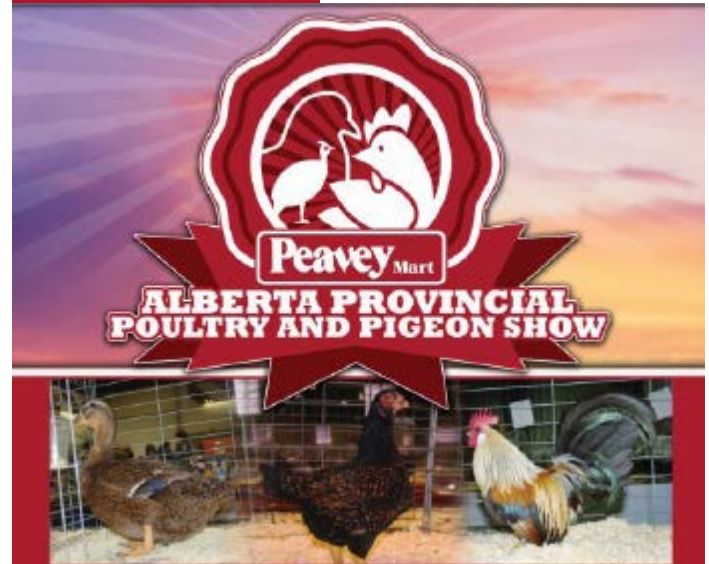
Heaviest Veggie Contest - last day to enter your heaviest Beet, Carrot, Potato, Tomato, or Zucchini, or largest Pumpkin, at any Peavey Mart. Complete rules and regulations at PeaveyMart.com, and see all winners posted in-store by mid-October.

DECEMBER

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JANUARY

19 - 20
STONY PLAIN, AB



OCTOBER

7-13
Fire Prevention Week. Your annual reminder to check your smoke alarms and other fire safety equipment.

CANADIAN COWBOYS ASSOCIATION FINALS RODEO

SWIFT CURRENT, SK

OCTOBER



17 - 20

FEBRUARY

National Agriculture Day: Celebrate farming with a sale on agricultural supplies and equipment at Peavey Mart!

FEB. - MAR.

CANADA WINTER GAMES

RED DEER, AB

15 - 3



OCT. - NOV.



30 - 4

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MARCH

Application window opens for the Peavey Mart Community Agricultural Grant for 2019.



Community Agricultural Grant

In Early March, the Peavey Mart Spring Catalogue arrives! Our biggest publication of the year, it's crammed full of just about everything you need for your rural lifestyle.



CARBON HITS THE EAST - WEST DIVIDE

HOW CARBON SEQUESTRATION AFFECTS & BENEFITS FARMERS

Story by Robin Booker.

Canadian east versus west politics likely factors into why the federal government isn't talking about the sequestration of carbon in prairie soil.

Information compiled by Agriculture Canada shows soil organic carbon is increasing in western Canadian cropland with the reduction of tillage and implementation of direct seeding, while cropland in Ontario, Quebec and the Maritimes continues to lose soil organic carbon, largely because of the higher dependence on tillage, said Mario Tenuta of the Soil Ecology Laboratory at the University of Manitoba.

"If you were [Prime Minister] Justin [Trudeau] and you said, 'let's give these folks in Gravelbourg, [Sask.], some carbon credits,' fantastic. At the same time, somebody down in Hamburg, Ont., is going to have to lose their credits, in other words pay for their loss. He's [Trudeau] smart enough to realize that he's not going to go there," Tenuta said during his presentation at a Saskatchewan Soil Conservation Association (SSCA) meeting in Saskatoon.

"That's a political nuclear bomb. That's why we aren't hearing much about carbon sequestration at a national level."

The federal government announced in 2016 it's implementing a minimum nationwide carbon price starting at \$10 per tonne in 2018 and increasing to \$50 per tonne by 2022. It will apply where there is no provincial carbon pricing program in place, such as Saskatchewan.

Provinces have the ability to design the carbon pricing scheme to allow for carbon sequestration by farmers, but this would be a difficult task in Saskatchewan.

SSCA member John Bennett, who outlined the organization's Soil Carbon Position Paper at CropSphere in Saskatoon, said Saskatchewan has two things in its arsenal of addressing greenhouse gasses.

"One is the carbon capture and storage in the power plant in the south, which does slightly less than a million metric tonnes a year," he said.

"Soils sequester, depending on what you want to take for acres, somewhere between nine and 20 million. We are a huge player."

The Saskatchewan government has recognized the amount of carbon being sequestered by growers in the province, but it's unlikely to compensate growers if it does release a carbon pricing scheme.

For the Saskatchewan government, a national carbon policy that recognizes carbon sequestered through agricultural practice would be preferable to a blanket carbon tax.

The federal government released a draft legislative proposal Jan. 15 that will allow it to provide carbon tax rebate cheques directly to people in provinces that refuse to impose a carbon tax of their own.

Trudeau said in an interview with the Canadian Press that no final decision has been made on exactly how Ottawa will handle the revenues.

Alberta has paid farmers for carbon sequestration since 2007 through the Specified Gas Emitters Regulation, which is designed to encourage large greenhouse gas emitters to reduce their emissions.

However, Bennett said the Alberta program is designed to benefit the big industry emitters and aggregators of the credits. It's hardly worth growers' time to do the paperwork for the amount of money it brings to the farmgate, he added.

Manitoba's carbon policy exempts farmers from paying the carbon tax for farm fuel, although carbon sequestration derived through good management is not rewarded.

If specific farming sectors are rewarded or punished for the amount of greenhouse gases, including carbon, that are emitted into the atmosphere, then it's feasible the farming practices used by western Canadian grain growers would provide dividends.

However, there is little indication from the federal government that it's interested in considering the actual balance of greenhouse gases emitted or sequestered by specific farming region, practice or sector.

Beyond the east-west divide, livestock operations also have a relatively high greenhouse gas footprint in the form of nitrous oxide, which is a much more potent gas than carbon dioxide.

Bennett said the SSCA is not advocating for or against a carbon tax or any specific carbon market structure. Instead, it wants an equitable treatment of carbon that rewards good management that results in carbon sequestration.

"What the carbon tax is designed to do is to penalize an emitter," he said.

"Our position is that if there is a penalty for emitting CO₂, there should be an equal and opposite reward for removing it."

Inconsistent carbon sequestration in Canadian forests also hurts western growers' chances of being rewarded for sequestering carbon.

Tenuta said Canadian officials have shied away from advocating for the inclusion of carbon sequestration in soil at the international level because Canadian forests are not the carbon sink they were once thought to be.

Former Prime Minister Brian Mulroney's Progressive Conservative government and subsequent Liberal governments were forceful at the international level in pushing to get carbon sequestration in soil included in the discussions and agreements on climate change.

This was largely because Canadian officials thought there was a massive amount of carbon being taken up in the boreal forest. However, Tenuta said once federal scientists looked closely at the carbon sequestration and emissions rates of Canadian forests over time, they found the amount of carbon being sequestered to be highly variable.

Some years there would be huge carbon sequestrations, other years would be neutral and then there were years with a massive release of carbon from forest fires.

"Canada immediately shut up on the world scene and said, 'carbon sequestration, we're not talking about it,'" Tenuta said.

"If you talk about it for soils for direct seeding, then other countries are going to make us talk about it for forest."

In 2005, former Prime Minister Stephen Harper's Conservative government set Canada's original reduction target, which is to reduce greenhouse gas emissions by 30 percent below 2005 levels by 2030.

While using 2005 emissions as the measure for all carbon gains or losses may work for most industries in Canada, it presents a big problem for western grain growers.

Much of the soil organic carbon gains enabled by direct seeding happened before 2005 because most western grain growers transitioned to direct seeding before then.

"This is a painful, painful thing," Bennett said.

"It's enshrined in federal policy, and it's suggesting that any thing to count as a carbon offset has to be additional to what was done in 2005."

Furthering the deck-stacking against western grain growers are the carbon models that the federal government uses — the Century Model — which suggests that soil organic carbon levels out at a steady state after 20 to 30 years of direct seeding.

"The challenge is the Century Model is a model that a lot of federal policy is made on,

and if you believe the century model, it would tell you that there is not much more that can be gained in sequestering carbon," Bennett said.

He said the Prairie Soil Carbon Balance Project (PSCBP) is an important initiative that will help with the truth on carbon models of prairie soils.

The project, which has been running for 20 years, measures soil organic carbon levels in approximately 130 sites around Saskatchewan. The carbon levels at these sites were measured before and five times since the uptake of direct seeding in the province.

Bennett said the project shows soil organic carbon has increased in minimum tillage fields far beyond what the century model predicts.

"The Prairie Soil Carbon Balance Project to date, which has run 20 years, is showing there is some serious weakness in the Century Model," Bennett said.

"I think the ag sector should pay very close attention to this because what it would do is it would indicate that there is tremendous potential here that is not being recognized."

He said the SSCA is planning a second PSCBP.

There are also ongoing studies examining if rotations that include pulses, canola or cover crops are capable of sequestering carbon beyond what the Century Model predicts.

Tenuta said it's also difficult to implement carbon regulations that account for carbon being sequestered into soil because even though recommended agronomic practices increase soil organic carbon, the carbon can quickly be lost.

"We can also lose the organic matter if we till the soil or if we changed our rotation," he said.

"So that's a thing we would have to address as well, in terms of do we have to worry if we have to change the land use and it loses

carbon and you've received carbon credits for it in the past?"

Western Canadian grain farmers who direct seed and use recommended rotations that include a pulse have among the world's lowest greenhouse gas footprints when it comes to emissions per bushel of grain produced.

However, there is no premium being paid for this efficiency on the bulk of Canadian exports.

This is largely because markets where much of Canadian grain end up, often in Asian destinations, are not looking for sustainability measures when sourcing grain.

Also, Canada's global pledge to cut carbon emissions by 30 percent below 2005 levels by 2030 requires overall greenhouse gas emission reductions, which is not necessarily compatible with focusing on efficiency per unit of production.

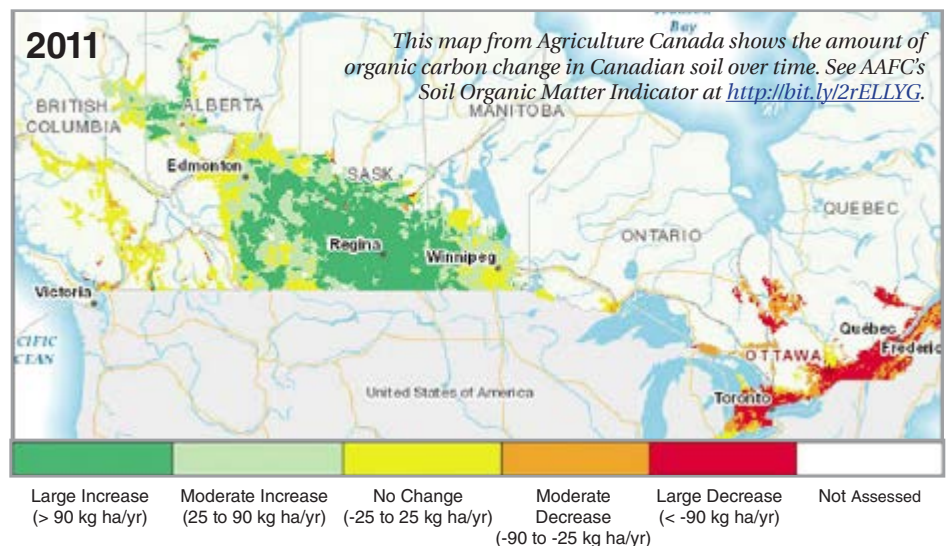
Mario Tenuta of the Soil Ecology Laboratory at the University of Manitoba said focusing only on greenhouse gas per bushel produced is a bad way to frame the issue because Canadian crops are constantly getting larger, so there can still be an increase of N20 emissions from Canadian growers even if the greenhouse gas level per bushel is reduced.

"I also think that in some cases the efficiency approach makes us relax a little bit, whereas if we say we are going to reduce the N20 emissions per acre, it means we have to work a lot harder.

"We have to do the research, come up with the practices, do the extension, find out the costs, the profitability and the economics of those practices. I think it can be done, we just have to make a real effort to do it," Tenuta said. 🍁

For more information on the SSCA's Soil Carbon Position Paper, visit <http://bit.ly/2EQDjxl>

This article originally appeared in the January 25, 2018 edition of the Western Producer.





WIRE FENCE EXPERTS

Field Fence High Tensile Class 3

Deacero Code	Peavey Code	Design	Filler Gauge	Top / Bottom Gauge	Fence Height	Roll Length
6771	291858	832/6	14.5	12.5	32	330
6772	290981	939/6	14.5	12.5	39	330
6773	291859	1047/6	14.5	12.5	47	330



Horse Fence Class 1

Deacero Code	Peavey Code	Filler Gauge	Top/Bottom Gauge	Mesh Spacing	Fence Height	Roll Length
6793	296364	12.5	10	2x4	60	100
6795	296365	12.5	10	2x4	48	100



Barbed Wire High Tensile Class 3

Deacero Code	Peavey Code	Gauge	Barb Style	Barb Spacing	Length
7203	298202	15.5	4 PTS	5	1320



Sheep & Goat Fence Class 1

Deacero Code	Peavey Code	Filler Gauge	Top/Bottom Gauge	Mesh Spacing	Fence Height	Roll Length
6964	296366	13	12.5	4X4	48	100



Barbed Wire Commercial Class

Deacero Code	Peavey Code	Gauge	Barb Style	Barb Spacing	Length
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FARM SAFETY

EXERCISE, SLEEP & GOOD NUTRITION ARE VITAL FOR YOUR MENTAL HEALTH

Story by Bonita Hus.

The Agricultural Health and Safety Network (The Network) takes a holistic approach to mental and physical health, and the safety of producers. These interconnected themes form the basis of the Network's 20 year Farm Stress Initiative. This ongoing venture continues to provide tools for producers to use themselves and with their family and workers.

EXERCISE

Farmers and ranchers work hard, especially during peak seasons. It is easy to think that the body is sufficiently exercised during the work day when your job is physical. Unfortunately, most farm work is ergonomically incorrect and can lead to repetitive strain injuries.

Physical fitness not only keeps your body fit and helps to prevent injury, but it fights stress in two ways. First, a physically fit body is better able to withstand the effects of stress, and second, exercise has a calming effect. Repetitions can even produce a meditative mental state. Exercise that raises your heart rate for at least 20 minutes releases endorphins that reduce depression and stress. Consider a brisk walk or bike ride at least three times a week.

SLEEP

Sleep can be a challenge during busy seasons, but planning your sleep periods can help us get the best sleep possible when we have the chance.

5 EASY SLEEP TIPS

- Practice a bedtime routine (It's not just for kids!)
- The darker the room, the better
- Eat lightly in the evening
- Avoid Nicotine, caffeine and alcohol
- Have a 20 minute nap during the day

NUTRITION

A well balanced diet is rich in vegetables, fruits and whole grains, dairy, and lean meat (or a meat alternative). Limit your intake of salt, sugar, saturated and trans fats. Fruits and vegetables should take up half your plate. Frozen fruits and vegetables are healthy alternatives when fresh produce is unavailable, cost ineffective, or out of season.

Many of us are so chronically dehydrated we don't even know it. Stay hydrated by drinking water throughout the day. Keep a water bottle with you during your work day.

A few simple changes can make a big difference, but not everything has to change immediately to make an improvement. A lifestyle that includes regular exercise, healthy meals and adequate sleep provides energy and endurance to handle what may come your way. However, the instant it becomes too much to bear, share it with a trusted friend or a professional. There is no advantage to bottling it up until it becomes critical or life threatening. Everyone goes through stressful times at some point and needs help.

Sign up for the Network's 10 Day Stress Challenge. It begins with a farm stress inventory to put your stress into perspective, and challenges you to make simple changes in your life such as planning relaxation. The next one starts soon.

Sign up here for free: bonita.hus@usask.ca

For more health and safety resources, videos and presentations, visit agsafety.usask.ca.



Bonita Hus works at the Canadian Centre for Health and Safety in Agriculture, focusing on resource development and program delivery of health and safety education to Saskatchewan's rural communities.



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STAFIX



WINTERIZING YOUR POND

THE SCIENCE BEHIND HEALTHY PONDS

Story by Kathleen Raines.

Ponds and dugouts are important water sources across rural Canada, providing water for households, livestock and wildlife as well as contributing to drought mitigation and watershed levels.

Without proper maintenance – aeration, filtration, and pH control – ponds can become stagnant, smelly and laden with organic sediment. Over time, untreated ponds may experience high algae production and weed growth and limit the productive life of the water body. But, remember any treatment you put in the water will potentially affect the health of cattle, wild birds, fish, and humans that use the water, and also leak into groundwater.

Saskatchewan-based Koenders Water Solutions President and CEO Doug Hicks has seen a change in the approach to pond maintenance. “When we researched the market many years ago we recognized that there were no environmentally safe solutions available. Now, we’ve developed products used by thousands of like-minded customers who care about the environment, their health and the health of others.” Koenders main water treatment product is Nature’s Pond Conditioner, which uses natural ingredients to promote pond health. The company has also provided aeration windmills to Canadian farmers for decades.

Another ‘natural’ product line is from Medicine Hat, AB-based SHAC Solutions, who stresses that natural systems including pond health are usually in relative balance, so water treatment products should have the aim of helping natural systems return to that state. “SHAC® products activate all levels of resident

microbes, enabling the ecosystem to naturally regain its balance,” says Phil Fandrick, Sales Manager of SHAC.

Whether your property features a fish pond or a major water source, fall is the ideal time to ensure that it stays clean and healthy through the harsh winter freeze and into the next year.

REMOVE VEGETATION

You’ll want to remove undesirable aquatic vegetation and prevent organic matter including leaves, animal waste and fertilizer run off from entering the pond by removing trees and crops within close proximity to the water body. Decomposing organic material depletes available oxygen levels which is especially damaging to fish, and will over time build up layers of sludge at the bottom of the pond and generate the rotten egg smell we all dread.

QUICKEN DECOMPOSITION

Several products are available that promote the breakdown of decaying matter, and inhibit algae growth. Some also have clarifying agents. Since your pond or dugout is a water source for your cattle and/or wildlife, choose a ‘natural’ product. Nature’s Pond Conditioner from Koenders Water Solutions includes a blend of plant extracts, food grade dyes and beneficial bacteria and enzymes developed and tested by Koenders. One to two gallons of Fall Winter Conditioner are adequate to treat the average sized pond, although there is no risk of overtreating with the safe, natural product.

AERATE

Bottom-up aeration by means of wind, solar or electric power, helps to distribute oxygen evenly throughout the pond, reduce the build up of sediment on the bottom and effectively vent off any gases created from decomposing organic matter. By increasing dissolved oxygen levels aeration also prolongs the life of water treatment products, and supports fish and other beneficial organisms during the most hazardous time of year when water is cold and food is scarce. Aerated dugouts typically have an open area of water all winter long which offers the added benefits of facilitating livestock watering and attracting wildlife.

Finally, it is important to winterize aeration equipment before the cold weather hits. Koenders recommends a Freeze Control Unit that automatically injects isopropyl alcohol into the airlines and protects the compressor from backpressure due to ice blockages, as well as a pressure release valve and weighted airlines.

By taking these steps in the fall, and preparing for winter, you should see a marked improvement in your pond health next spring.

Kathleen Raines is a freelance writer and farmer. She raises purebred Rideau Arcott sheep on the family farm west of Airdrie, Alberta. She commits her spare time and energy to initiatives that enhance rural community vibrancy.



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CHANGE OF SEASONS

TIME FOR CAMPER CARE

Story by Helen McMenamin.

The crisp mornings and changing colours of fall mean it's time to show the RV a little care so winter doesn't leave nasty surprises in spring. Even if you use your camper year round, some chores need to be done in fall.

Here's a handy checklist of tasks to keep your RV optimized during the long winter months, and ready for your spring adventures.

PLUMBING

Safeguarding the water system is one of those fall necessities. At one time you just drained the system and blew out the lines, but today's RV plumbing systems need antifreeze all through to protect valves and seals.

- ✓ Drain and flush the waste holding tanks, lubricate the inlet valves.
- ✓ Empty the fresh water tank.
- ✓ Install or set the water heater bypass and as long as the water in the hot water tank is not hot or under pressure empty it via the outside drain and open the pressure relief valve.
- ✓ Once a year, in fall or spring, take out the heating element with a socket wrench and flush out any scale that's accumulated in the bottom. Getting that sludge out of your tank can extend its life considerably. Don't forget to wrap new plumbing tape or plumber's lubricant on the threads when you replace the heater anode.
- ✓ Drain your whole water system by opening all the faucets, till they run dry. Flush the toilet and run the outside shower. Open the drain points for the hot and cold water lines. You can use the water pump to force the water out, but be sure to turn it off as soon as the system runs dry. Some people blow out the lines with an air compressor, (using an adaptor) but keep the pressure below 50 lbs.
- ✓ Set the drain plugs to closed. Use either a water pump converter kit or replace the line from the fresh water tank with a length of tubing with the outer end in a jug of antifreeze. Starting with the closest faucet, run each tap until it runs pink. Do this with all your taps including lines used only occasionally, then put about a cup of antifreeze into every drain – don't forget the shower. Make sure some antifreeze reaches the grey water tank.
- ✓ The toilet needs extra care. Flush it until you see antifreeze in the bowl, then pour two cups or so of antifreeze in the bowl and flush some into the holding tank. For places with dry winters, stretch plastic wrap over the toilet bowl and lower the lid to prevent evaporation of your antifreeze – that can lead to a toilet that leaks at the flush pedal. Close and cover all valves to protect the seals.
- ! Systems like ice-makers, dishwashers and washing machines need special processes for winter and spring. Check your manual or see your dealer.
- ✓ Come spring, check the potable and hot water tanks for antifreeze. If you see it, drain and rinse them before filling the freshwater tank with fresh water. Then, open all the taps and run water till it runs clear. With a partner to open and close taps you can speed the process a little by blowing the antifreeze out. You can save the antifreeze for reuse if you collect it at the lowest drain.
- ✓ In spring, test the system for leaks. With the water pump off, take out bypasses and replace any filter cartridges removed in fall. Run the water pump to pressurize the water system until the pump shuts off. If the water pump cycles back on, even briefly, there's a leak somewhere. Find and repair it.
- ✓ To sanitize your plumbing in spring, put a cup (250 mL) of bleach to one liter for each 30 gallons of water into the potable

water tank. Fill with fresh water and run all the water outlets until they smell of bleach and leave for at least 12 hours. Drain the system and run till it no longer smells of bleach.

BATTERIES

- ✓ Turn off the RV disconnect and breaker switches and remove a single battery (after labeling the negative cable) and store in a warm dry place. If your RV has multiple battery systems just remove the negative cable and check the manual for advice. Keep stored batteries off concrete as it drains them. Check battery charge through winter and recharge if needed every 3 months. If the water level in a battery is below the plates, charge the battery first then add distilled water if needed.

CRITTERS AND OTHER DETAILS

- ✓ Check the underside of your camper for places mice or insects can crawl in and seal any gaps.
- ✓ A sheet of fabric softener in each cupboard, under mattresses and cushions can keep out mice and other unwelcome guests.



- ✗ Seasoned campers warn against putting softener sheets in the same cupboard as aluminum pots and pans. “Everything you cook in them tastes of fabric softener,” says one. “No matter how much you wash them, you can’t get that taste out.”

- ✓ Turn off the propane. The gas attracts spiders and insects. Mothballs near, not on, the stove burners can keep them away.

- ✓ Check the seals on windows and doors and re-caulk if needed. They take a beating from the sun and then another from the cold. Lower blinds to cut sun

damage. Lubricate locks and hinges with graphite lube.

Washing and drying the awning can prevent mildew smells in spring as long as it’s dry before you put it away.

Make sure tires are at full inflation before you store your rig – they can lose 1 or 2 psi a month over winter. Covering the wheels can reduce sun damage. 🍁

Helen McMenamain 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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ALTERNATIVE GOES MAINSTREAM

RENEWABLE ENERGY A BIG PART OF ELECTRICITY SUPPLIES

Story by Helen McMenamin.

We use more and more electricity every year and we're not likely to slow down. Whether it's industry, or air conditioning in our homes, or people wanting fridges and lights in the developing world, we all want more of the appliances that make our lives easier and more comfortable. And almost every business and modern home needs electricity to function.

About 19 percent of Canada's primary energy – that includes oil and gas and heating buildings and transport – comes from renewable resources that can be replaced as fast as they are used.

Moving water is the main renewable source of electricity supplying almost 60 percent of Canada's power needs. Biomass – burning wood, composting waste from farms or cities – is the second most-used source, then wind with 3.5 percent. Solar systems are rapidly increasing as their costs drop and efficiency increases.

Water and wind generate electricity in much the same way as windmills and waterwheels that powered grain mills, sawmills and other industry a century ago. The water or wind drives a wheel or a turbine connected to a generator. Burning wood and other waste can be used to produce steam that drives a turbine, and composting farm waste or sewage can be used to produce methane, which is burned to produce steam that drives a turbine.

Photovoltaic cells use certain materials with a special character. Sunlight moves electrons away from their atoms and produces electricity in a process called the photoelectric effect. It was discovered in 1839, but it was just a curiosity until the 1960s when space

programs used the technology for power aboard spacecraft.

Ongoing research has led to much more efficient, lower cost and more versatile photovoltaic cells, the units that make up solar panels. For example, photovoltaic cells have been incorporated into sidewalks and are to be tested on stretches of US highway Route 66 next year. Chinese companies expect to produce photovoltaic cells for as little as 37 cents per watt in the next few years.

Mass-produced ready-to-connect solar energy panels allow consumers to power remote locations or produce electricity from their own solar system.

The mix of electricity sources in power supply depends on local resources and the demand for power.

The southern prairies, especially the west, have abundant wind (some would say the wind is their major feature). Ontario's big lakes have winds that can drive wind turbines. Quebec and BC have rivers with sharp inclines for hydro-electric power generation. Tidal resources are greatest on the east coast where the difference between high and low tide is huge and vast volumes of water move rapidly, changing direction every 6 hours. Geothermal resources are believed to be most abundant in BC, North Western Territory and Alberta.

Sun, wind and biological materials are distributed across Canada and around the world. As a result, many scientists and engineers have focused on these and made the technologies more efficient and power plant design simpler.

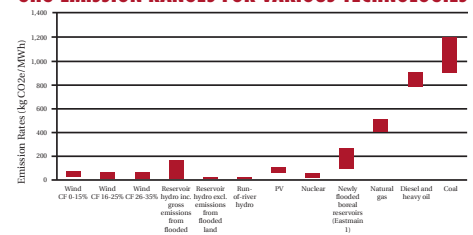
Geothermal energy – using the extreme heat of the earth's core to produce steam to drive a turbine – has considerable technical challenges, but a project underway in BC is believed to have a capacity of 200MW.

In-ground heat pump systems are often called geothermal. They use the constant temperature of the earth below the frost line by pumping air from that depth to a heat exchanger to heat or cool a building. The air pump and other equipment need electricity to run, so the system may not be truly renewable.

WHY MOVE TO RENEWABLES?

The push to change to renewables is partly economic – the constant push for lower costs. Coal has been the most widely used energy source for electricity generation because it is relatively cheap and abundant, but it has huge environmental costs. Historically, miners and communities near power plants suffered from the social and often fatal health effects of coal dust and smoke. Then there was acid rain – sulfur compounds released from burning coal combines with water to make lakes uninhabitable for fish, even killed vegetation. Engineering improvements – taller smokestacks, scrubbing systems and more efficient burners were installed so that modern

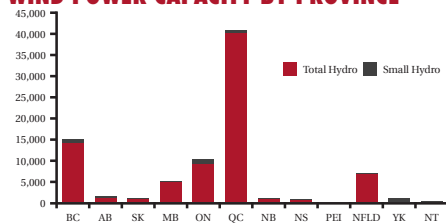
GHG EMISSION RANGES FOR VARIOUS TECHNOLOGIES



coal-fired power plants look clean and areas downwind have healthy trees and fish.

Now coal-fired power plants are being shut down because another form of pollution – carbon – is the big force behind the move to renewable energy. Burning fossil fuels, coal, oil (including diesel and gas) natural gas produces CO₂, carbon dioxide, the gas we, and all animals, breathe out, also the feedstock for plants to make carbohydrates, proteins and fats. Although CO₂ is a natural part of our world, fossil fuels are very concentrated sources of energy, formed over millions of years that compressed plants into peat, coal and oil.

WIND POWER CAPACITY BY PROVINCE



In the natural cycle, plants use CO₂ along with solar energy, water and other nutrients to grow and release oxygen. Animals eat the plants or eat animals that eat plants and return nutrients to the soil as urine, feces and carcasses. This cycle kept more or less in balance, with a fairly constant amount of carbon in the atmosphere, for thousands or millions of years, when humans were just a small part of the ecosystem. Plants also support entire unseen underground ecosystems of mostly tiny creatures, microbes and organic reserves in the soil – a huge carbon bank – all depending on plants' ability to use solar energy.

When humans developed the technology to mine and burn large amounts of coal and later oil, we were able to build bigger, more efficient machinery. We embarked on a spiral of ever-increasing fossil fuel use. Bigger machinery allowed cultivation of more land, exposing the soil ecosystem to drying and loss of organic matter. Releasing all this CO₂ has put the carbon cycle – the use of CO₂ by plants to grow and animals eating plants returning CO₂ to the ecosystem – out of balance. Extra CO₂ accumulates in the atmosphere.

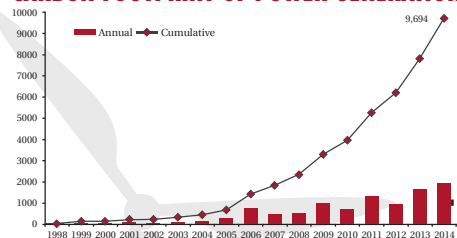
American Eunice Foote discovered an important thing about CO₂ in 1856. She put glass jars filled with water vapour, air and CO₂ in the sun and found the CO₂ became hotter and stayed hot longer in the sun. She wrote that CO₂ might affect global temperature. Now, scientists see she was right and that other gases, mainly methane and nitrous oxides (NO_x) have similar effects. High in the

atmosphere, these greenhouse gases (GHGs) collect and retain the sun's heat, raising the temperature at the earth's surface and altering the climate of the earth. That doesn't just mean milder winters, hotter summers. The impact on weather is unpredictable, but scientists agree it becomes more extreme with more storms, droughts, floods hurricanes. Insurance companies were some of the earliest groups to understand and plan for these events.

Scientists have used several ways to show their theories are correct. Computer simulations allow them to predict the impact of various levels of GHGs. As those levels have been reached the predictions were confirmed, but too conservative. They've measured rising sea levels and changes in ocean chemistry and biology. Some analyze the isotopes of gases in air bubbles in ice cores from remote places to find the age of the trapped air and its CO₂ content.

Evidence from many sources confirms that climate change is real and that human activities are the main cause. The earth has been hotter and has had higher levels of GHGs, but not when humans lived here. Also, greenhouse gas levels have never risen so rapidly before and human activities are the main source of greenhouse gases. There are deniers, but increasingly they are seen in the same light as those who denied the link between tobacco and cancer.

CARBON FOOTPRINT OF POWER GENERATION



The carbon footprint of power generation from various systems, include building, set-up, infrastructure (transmission lines, roads, maintenance) and decommissioning. GHGs are measured as carbon dioxide equivalents, CO₂e, to allow for the differing potency of various greenhouse gases.

Canadian law requires all provinces to take steps to reduce their GHG production. Some governments have chosen to encourage the use of renewable power generation, to force shutdown of coal-fired power plants. Others focus on energy conservation and carbon capture and storage.

Electricity from renewable resources may allow us to lower our GHG production without significant change in our lifestyles. In developing countries, it offers much more, things like lighting and refrigeration. Cutting our GHG production may allow us to avert the worst climate change and diminish the floods of climate change refugees from around the world.

PEAVEY MART RENEWS PARTNERSHIP WITH BULLFROG POWER



Peavey Mart and Bullfrog Power are proud to announce the continuation of an environmental partnership that began in 2015. Since the partnership began, more than 6,600 megawatt hours of renewable electricity have been put onto the grid to match the amount of conventional power that Peavey Mart uses, displacing more than 4,000 tonnes of carbon dioxide emissions from the environment.

Peavey Mart is continuing its commitment to clean, pollution-free electricity for its home office and distribution centre, Southern Alberta locations, its store in Kamloops, British Columbia, and its entire electric vehicle network.

Through the agreement, Bullfrog's generators will continue to put 100 per cent clean, pollution-free electricity onto the grid to match the amount of conventional power that Peavey Mart's bullfrog-powered facilities use. Across Canada, Bullfrog Power's green electricity comes from a blend of wind and low-impact hydro power

sourced from new Canadian renewable energy facilities. For Peavey Mart, Bullfrog Power's wind power comes from the Piikani First Nation's Weather Dancer turbine in Southern Alberta, supporting locally produced green power.

Peavey Mart is also helping to fund community-based renewable energy projects across Canada through Bullfrog. In 2016, Peavey Mart was a major part of the launch of the Vulcan Solar Park in Vulcan, Alberta, a community green space and renewable energy facility that has a peak output of 23.5 kW. The design and development of the Vulcan Solar Park involved local students and the site includes learning modules on solar power to continue to educate the public on the importance of renewable energy.

Stay tuned to future newsletters for more details on Peavey Mart's and Bullfrog Power's commitment to community-based energy in Alberta.

courtesy of Emily Briggs, Bullfrog Power



The "Mother" Scoby. Photo by Jest Sidloski.

KOMBUCHA!

SASKATOON HONEY KOMBUCHA

Story by Jest Sidloski.

Kombucha is centuries-old drink that is gaining popularity across Canada. But what is it? Kombucha is a fermented tea drink that is brewed around the world, at home and commercially. Using tea as a base, a scoby (symbiotic culture of bacteria and yeast) and flavouring ingredients are added, such as fruit, which also help feed the live bacteria and yeast.

I started brewing Kombucha several years ago when my local store started selling an easy to use kit. The kit consists of the "mother" also known as a Scoby or mushroom, a food grade porcelain jar with a spout, cloth to cover and a recipe book. I experimented for several months before I created this truly Canadian recipe. The process outlined below is called "Continuous Brew Kombucha".

BEFORE YOU START

You will need:

- Jar (food grade porcelain or glass) large enough to hold 4L of water.
- Plastic or wooden stir stick (washed and sanitized before use)
- Cloth
- Rubber Band or canning jar ring
- Canning Jars, 500ML

INGREDIENTS:

- Unchlorinated (Distilled) Water, 4L of water
- Cane or White Sugar, 1 cup
- Tea Bags (Green), 8 bags
- Kombucha Scoby
- Honey
- Saskatoon Berries

SASKATOON HONEY KOMBUCHA

Step 1:

Bring 4L water to a gentle boil, turn heat off once it starts boiling and then add 8 green tea bags. Steep the bags for about 15 minutes and then remove the bags and compost them. Add 1 cup of sugar to warm water and mix. Allow tea to cool and add to glass or ceramic container. Allow liquid to further cool (to room temperature) and add Kombucha Culture (Scoby, Mother, Mushroom) to the liquid. Stir very gently. Cover the top of the container with cloth and secure with rubber band or large canning ring. It is important you find a steady temperature in your house (23 -28 c, out of direct sunlight) and leave the kombucha to ferment without moving it. You will want to leave the kombucha alone for about two weeks- in this time the Scoby actually consumes the sugars in the fermentation process.

During the two week period of fermentation you will smell hints of vinegar in the area where it is fermenting. It is important not to use cheese cloth as your cover as kombucha can attract fruit flies and they can get in and ruin your batch if you use cheese cloth. You can leave your first batch to ferment for longer than two weeks, however the longer it sits the less sweet and more vinegary it will taste.

Step 2:

Your Kombucha is 'now finally ready to bottle! I recommend using glass canning jars. After you pour the liquid into the 500ml canning jar, add 3 teaspoons of washed saskatoon berries and 1 tablespoon of honey. Seal your canning jar.

When you pour your liquid into canning jars it is important that you leave liquid covering the current Scoby in your large container, so you can immediately start your next batch. I find each batch after is ready much quicker as the active culture helps the process of the new batch.

Step 3:

With fruit and honey mixed in to your canning jars and the canning jars now sealed, I do a second ferment in the same brew location as your large container for 2-3 days. This allows carbonation to build and your drink to become sweet and fizzy. After 2-3 days you can move the jars into your fridge until chilled. Once chilled you can strain the fruit out and enjoy your cold Kombucha beverage.

IMPORTANT TO CONSIDER:

Kombucha can go awry during the process, especially if you are a beginner. Follow all food safety protocols, use clean equipment, wash hands frequently during the process, do not allow bacteria or airborne particles to get into the container. And if you notice black spots on your Scoby, inspect carefully and discard if you believe it has molded. Do not consume if you feel the Kombucha has went awry.

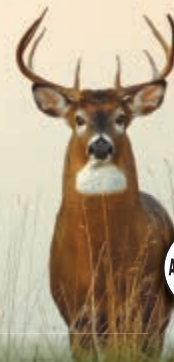
Caution: This information concerns a live bacterial culture drink. Check with your doctor before undertaking to make or consume Kombucha. 🍁

Jest Sidloski Is Director of Marketing, Customer Experience and E-Commerce for Peavey Industries. He is passionate about urban farming, backyard chickens and bees, and making useful and healthy things from scratch.

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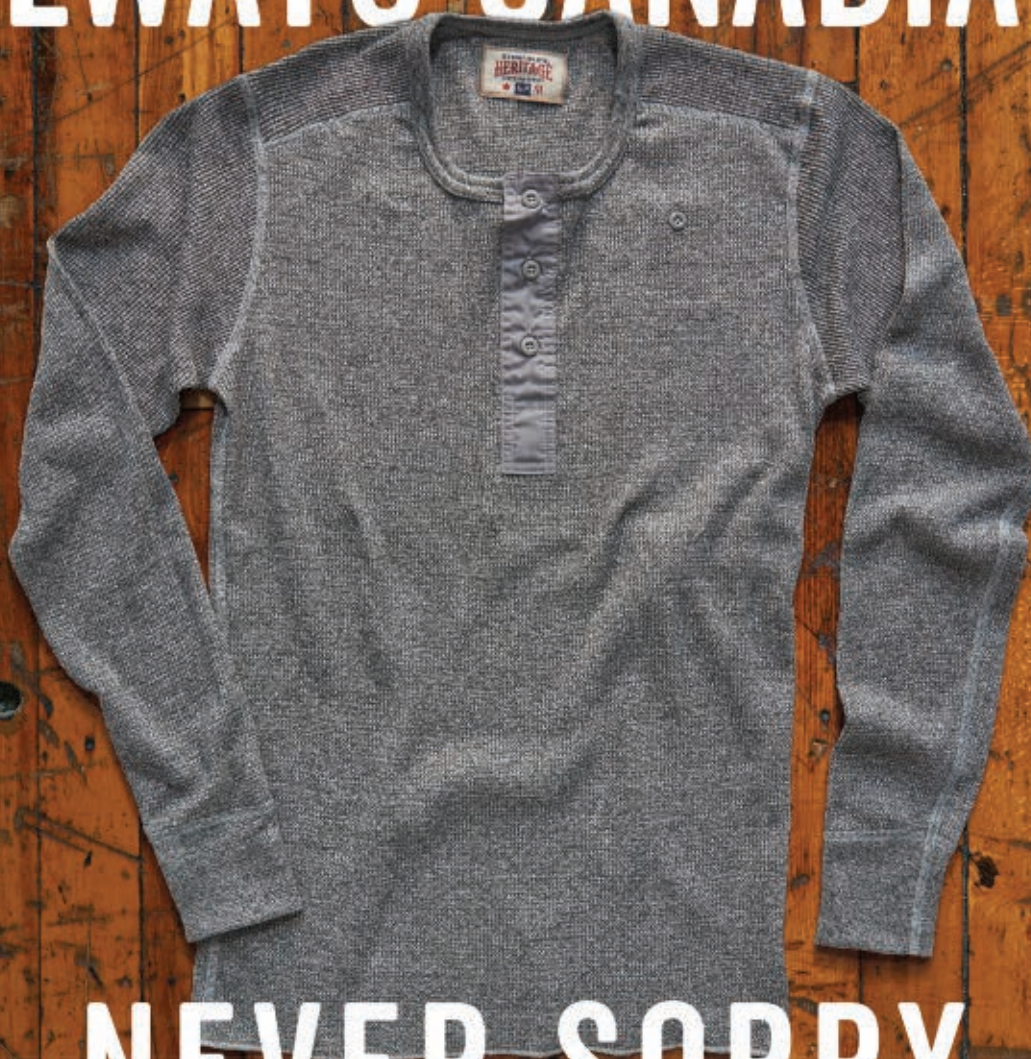
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WHAT KEEPS YOU WARM

THINGS SURE HAVE CHANGED SINCE DOWN JACKETS

Story by Alan Flowers.

In a country known as the Great White North, where temperatures can drop to freezing about two-thirds of the year, we should know more than a little about how to stay warm in winter.

Much of what we wear in the cold mimics the centuries-old layering style of Inuit Winter clothing styles. Inuit also used grasses to absorb the body's moisture, for example in footwear. "Layering has become more of a system, more formalized," in recent years, notes Cheryl Smith, Director of Merchandising for Canadian clothing icon Stanfield's.

While the Inuit often used two layers of clothing, today's winter warrior may don three layers – often a close-fitting inner layer, a bulkier mid layer to allow air circulation, and a windproof or waterproof outer layer.

So, what kind of materials should you choose for your layers?

You may think of cotton as the ideal material, for your inner winter clothing layer, but it is not, at least for most of us. Cotton will absorb moisture from your body – sweat from the exercise of getting through a snow drift. Wetness next to your skin is not only uncomfortable, but will make you cold. This is why 'wicking' is the buzzword for any clothing. Wicking, or whisking away, is the term used to describe how moisture passes through material. A material that wicks effectively will leave you feeling dry.

Thermal underwear offered tech fabrics long ago, says Cheryl Smith, incorporating some poly materials for durability. A small percentage of spandex or a similar stretchy

material may be added to the weave, not only to provide stretching flexibility, but also to keep the layer fitted to the body, so the 'wicking' materials can do their intended job.

Fleece has become a popular material over the past generation. Made from polyester which is derived from plastic, even a plastic beverage bottle, fleece is lightweight and has a superior ability to withstand moisture. Engineers named it after the 'fleece' coat on a sheep, and mimicked the fibre profile of wool, ensuring space between the threads to create air pockets and keep the user warm. As well, fleece has a pile surface like a carpet of cut fibres, providing more space for air amongst the pile, and more warmth. It can wick away moisture well, and is an ideal inner layer for many.

“Broken fibres create loft, space for air to be trapped,” says Smith. “Air is your best incubator.”

More than one million Canadians who suffer from psoriasis, according to the Canadian Dermatology Association, may get skin flare-ups from synthetic materials such as fleece. For those with skin rashes or disorders, chemical additives are suspect and natural materials are likely easier to tolerate. Cotton, or even organic cotton for those with more budget, is a good choice as wool’s fibres are a likely trigger for flare-ups.

Wool continues to have a prominent place among natural fibres. “People that want wool, really want wool,” says Cheryl Smith. “They understand that wool is warm, and it’s the original technical underwear.” Wool’s fibres have ample air between them, providing warmth without weight. Its natural oils help resist water absorption, too. However, wool’s itchiness, which is reduced with merino or blended wools, is still present because wool is made up of scales. Those scales can irritate the skin. This makes wool a better middle layer, but not a good inner layer.

Historical winter favourites goose down or duck down are still used in winter clothing, as well as bedroom duvets. There is a difference between the two: duck down is more likely to have an odour, and the likelihood of odour increases when wet. The down is enclosed in boxlike baffles, stitched to keep the down trapped in place. The outer shell should have a thread count of at least 235 to keep the down from poking through. You may know someone, middle-aged or better, who had a winter down coat with inadequate baffle stitching, inadequate shell thread count, or both.

Many brands of clothing instead use Thinsulate®, a synthetic material patented in 1979 that traps body heat, yet allows

moisture to escape. It is engineered to provide these qualities in a slim profile, allowing warmth without bulk. This is one reason why winter jackets have become less bulky.

For your outer layer, another natural fabric is duck – the workwear fabric, not the bird. The term “duck” comes from the Dutch word *doek*, which refers to a linen canvas once used for Dutch pants and outerwear. Cotton duck has a higher thread count than traditional canvas, giving it a smoother feel, often referred to as ‘smooth-handed’. Duck’s heavy, plain cotton weave provides strength and is less likely to shear, snag or tear. When you think of a canvas tent, you know it’s also excellent at blocking the wind. It’s washable and becomes softer with wear. This means duck is a good option for your outer layer, although it can become wet.

“Duck is the mainstay of our clothing line, and its durability is what Carhartt is built around,” says Mike Bernardo, Canadian Region Business Manager for Carhartt. “It’s what Carhartt is known for – they call it Carhartt brown for a reason.”

A variety of synthetic materials provide close-to-waterproof protection for your external layer. These materials, such as nylon, polyester or rayon or combinations, are laminated with

polyvinyl chloride (PVC) or polyurethane, to become ‘rubbery’ and repel water. However the waterproof surface is not breathable, making the wearer feel hot. A sophisticated material like Gore-Tex® is breathable, and ‘guarantees’ to keep you dry due to the size of the pores in its membrane. Such particular engineering comes at a cost.

At the same time, no material can be 100% waterproof and breathable. No matter what materials or layers you choose, there’s still a chance that winter will win. Your job is to put up a good resistance.



Alan Flowers is an Alberta-based freelance writer who has quit the big cities to enjoy a slower pace. He believes just about any subject can be made interesting.

FABRIC	CONTENT	STYLE #S	WARMTH FACTOR	ACTIVITY LEVEL	FEATURES & BENEFITS
PREMIUM	100% Cotton	2512 2513 2514 2500	WARM	Low	Comfortable next to skin, breathable, moderate warmth, not to be used in high activity.
MODAL & MERINO	76% Modal, 19% Merino Wool, 5% Spandex	8393 8392	WARM	Moderate	Built for comfort and warmth. Modal provides softness next to skin and merino wool provides good warmth. Spandex for great fit.
THERMOMESH	100% Polyester	7534 7535	WARM	Moderate to High	100% polyester next to skin provides excellent moisture movement. Great lightweight layer for most activities.
HEATFX, LIGHTWEIGHT JERSEY	41% Polyester, 33% Acrylic, 23% Viscose, 3% Spandex	FX38 FX39 FX32 FX33	WARM	Moderate to High	Extreme light weight but filled with hard working yarns that provide more warmth than the weight of fabric would normally dictate. Great wicking and close to body fit. Very comfortable & versatile.
WAFFLE	50% Cotton, 50% Polyester	6622 6623 6624 6603	WARMER	Low to Moderate	Everyday warmth. Waffle knit creates pockets of air to provide additional insulation.
2 LAYER	50% Cotton, 50% Polyester	1452 1453 2498 2499	WARMER	Low to Moderate	Everyday warmth. Air trapped between layers is a great insulator.
MERINO WOOL 2-LAYER	25% Merino Wool, 50% Polyester, 25% Cotton	8812 8813 8814 8800 2482 2483	WARMER	Low to Moderate	Extremely warm in low to moderate activity. Inside layer is 50% cotton / 50% polyester and outer layer is 50% merino / 50% polyester. No itch next to skin but maximum warmth overall. Air trapped between layers is a great insulator.
SUPERWASH WOOL	90% Wool, 10% Nylon	4300 4311 4312 4313 4310	WARMER	Low to Moderate	Good general purpose midweight wool to keep you warm in most conditions. Yarns have been softened to provide a smoother feel next to skin.
PURE MERINO	100% Merino Wool	8312 8313 8332 8333	WARMER	Moderate	Good general purpose midweight wool to keep you warm in most conditions. Merino wool is a fine wool and itch factor is reduced substantially.
PERFORMANCE MERINO	50% Merino Wool, 50% Polyester	8373 8372	WARMER	Moderate to High	100% polyester next to skin provides excellent moisture movement and the outside layer is 100% merino for exceptional warmth. No itch factor and great for activities where rest and movement are alternating.
HEATFX, MERINO BLEND	85% Polyester, 15% Merino Wool	FX88 FX89	WARMER	Moderate to High	Midweight fabric that combines merino wool and polyester to give you both warmth and wicking. Very comfortable and versatile.
HEAVY WEIGHT WOOL	80% Wool, 20% Nylon	1300 1312 1315	WARMEST	Low to Moderate	Extremely warm in low to moderate activity. Wool content absorbs moisture to keep you warm. Itch factor is high, so you may need to wear an under layer.
MICROFLEECE	100% Polyester	7566 7567	WARMEST	Moderate to High	100% polyester brushed both sides provides good loft to provide insulation and softness next to skin for comfort. 100% polyester provides good moisture movement.
EXPEDITION WEIGHT	57% Acrylic, 38% Viscose, 5% Spandex	7568 7569	WARMEST	Moderate to High	Brushed on one side to make layering easier, while providing good loft on the inside to provide good insulation. Viscose adds extreme softness and specially designed yarns within the garment provide additional warmth and wicking. Spandex provides 4-way stretch.
HEATFX, LIGHTWEIGHT FLEECE	41% Polyester, 41% Acrylic, 18% Viscose, Rayon	FX62 FX63 FX68 FX69	WARMEST	Moderate to High	This fabric is filled with hard-working yarns that provide more warmth than the weight of this fabric would normally dictate. Great wicking and brushed on inside for comfort. Very comfortable and versatile.

Stanfield’s charts the various materials used in their inner and mid-layer products. Visit www.stanfields.com/we-know-cold for a larger image, or to learn more.





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COMPOSTING

IT'S THE PERFECT TIME TO START

Story by Kathleen Raines.

Savvy marketers will tell you that the words free and green are among the most powerful in any language, and composting tags both buzzwords.

Composting is the process of decomposition and stabilization of organic material and fall is the perfect time to start a compost project. Within a year you will have a free rich source of humus to return nutrients to the lawn and garden and help retain soil moisture. Composting can divert significant amounts (numbers range from 30-80% depending on where you live) of household waste from the landfill and introduce beneficial organisms to the soil.

The choice of either a compost bin or pile depends on the size of your yard and the amount of household and yard waste generated. The composter should be placed in a flat, well-drained, sunny location, and should be easily accessible so that you can add household waste through the winter.

The process of building the compost is a simple matter of layering and turning, starting with a layer of coarse materials like

twigs, tree prunings or raspberry canes to provide aeration and drainage. Next add the fall bounty of leaves alternating with layers of green material. A standard rule is to use one-third green, nitrogen-rich material and two-thirds brown, carbon-rich material like branches, dried leaves, coffee filters, egg shells, straw and peat moss. Mix new additions into the pile to enhance breakdown.

Within a few weeks the pile will start to “cook” as the decomposition process breaks down organic material including pathogens and weed seeds and generates heat. The pile will shrink and compact and frequent turning (ideally every week or so during the growing season- it is a little harder in the winter!) will facilitate the composting process. Adequate moisture in the pile is important. It should have the texture of “a wrung-out sponge” which can be achieved by adding dry materials to a wet pile or leaving the lid off a dry bin to let rain in.

WHAT CAN BE COMPOSTED?

While the list of compostable materials, including paper products and sawdust, is large there are a few ingredients to avoid including:

- meat, bones and dairy products which can cause odours and attract pests
- perennial weeds and diseased plants which might not be completely degraded by the composting process
- pet waste
- corn cobs and peach pits are among the very few materials I have never had any luck composting.

A well-maintained compost bin will generate finished product within six months. The compost you start this fall will be dark, crumbly and smell like earth by next summer. It is an ideal soil conditioner to top dress the lawn, trees, flower and shrub beds or mix into the garden. Your local Peavey Mart or TSC store has a variety of compost bins in a range of sizes and styles to get you started creating free, green compost from your yard and household waste. 🍁





BABY IT'S COLD OUTSIDE!

THE STRANGE ALLURE OF ICE FISHING

Story by Helen McMenamin. Photos courtesy of Tobin Lake Resort.

A growing number of people are discovering ice fishing. Summer fishers enjoy the opportunity to catch bigger fish and firmer, whiter flesh in the pickerel, whitefish and others they keep. Others come for the social time for family and friends and a way to enjoy a winter activity outdoors.

"Ice fishing is big and growing fast," says Matt Brown of Eskimo Ice Fishing Equipment. He sees the ease and speed of setting up a comfortable shelter and drilling fishing holes as a big part of the attraction.

"Not everybody sees sitting in a snowsuit on an upturned pail on a frozen lake waiting for a fish to take your bait as a great winter activity, but with today's pop-up shelters it's quite a different experience. And you can bring the kids and the dog. It's a big family thing.

"It takes under a minute to set up a hub shelter," he says. "You just lay it out, pull on the tabs to set up the walls and then step inside to push up the roof. Everything just pops up. Bring in your propane heater, drill your holes and you can be snug and warm, fishing in 10 minutes."

Some shelters have skirts you can load up with snow to seal out drafts and ice anchors to keep the shelter in place. Many are insulated, with pockets to keep hats and mitts out of the way and fishing essentials where they're handy. Vents keep the air fresh and windows let you keep an eye on your tip-ups. (On most lakes, each fisher can have two lines, but no more than 60 meters apart and keep them in sight at all times.)

Brown also recommends a power auger that allows you to drill your fishing holes in the time it takes to make the shelter warm.

"A hand auger is fine early in the winter, when the ice isn't too thick," he says. "But last winter on Lake Winnipeg, we had just about five feet (1.5 meters) of ice. It would take a while to drill through that with hand auger."

Finding your perfect fishing spot is easier in winter. In summer, you're limited to fishing from the shore and some of the best spots are hard to reach unless you have a boat. In winter you can take a snowmobile or cross-country ski, even walk on the ice with your gear on a toboggan to a place where you think the big fish might be. Or you can reach some beautiful remote spot.

The access to whole lakes the ice gives families is one of the great things about ice fishing, according to Brown.

"Often, the best fishing spots are only accessible from a boat," he says. "A new boat can easily cost \$20,000 and you need a vehicle that can pull it to the lake. Otherwise you're stuck on the shore. Ice fishing is much more affordable. You can get a pop-up shelter with room for a family and an electric ice auger for under \$600. Fishing rods and reels can cost as much as you want to pay, but you can get an adequate small rod for inside a shelter, with a reel, for as little as \$20.

Once set up in your hut or shelter with the family or buddies jigging and tip-ups (flagged float that shows you when a fish takes your hook) set, you have time for socializing or family activities – without screens and often out of cell phone range.

"I just love that digital detox time," says Brown. "I go almost every other weekend. Winter goes so fast when you have an activity that's so different from your everyday routine."

Gail Bailey's family owns Tobin Lake Resort, near Nipawin in north-east Saskatchewan. It's renowned for its summer fishing, and fall black bear hunting. It's also on a snowmobile trail that links several small towns. In winter though, Lake Tobin is the spot for really big fish.

Bailey really enjoys a day fishing on the ice. "It's family time," she says. "We play cards and visit. And, every now and then you dash out the 50 yards to your fishing hole and haul in your line." She says the fish from under the ice are better eating too, especially the northern pike. She finds the perch and walleye are also firmer and whiter than summer-caught fish.

Tobin Lake Resort has a campsite as well as winterized suites and cabins and fishing shacks for rent and a restaurant. More and more visitors are coming to the resort in winter. They're coming from Europe as well as all over North America. Germans especially love ice fishing and other winter activities.

"Lots of them come every year," says Bailey. "As they leave, they ask me to book them in for next year."

On Lake Winnipeg, Brown's main fishing spot, pickerel and greenbacks are the main fish. The fish and the lake's easy access is making it the North American mecca for ice fishing. Many visitors are after a pickerel over 30 inches longer that qualifies them for the title of master angler. Other people head for Lake of the Woods in Northern Ontario for the trout. 🍁



SHEEP MOMS

THE FLEXIBLE SCHEDULE THAT MAKES FOR A PERFECT FIT

Story and photos by Karen Dallimore. Top photo (left to right): Dianne Orr, Heather Little, Romy Schill, and Sandi Brock.

Brianna Little delivered her first lamb when she was eight years old. “It was so cute. She was so excited she was terrified,” remembered her mother, Heather. Luckily the lamb was alive, so Brianna could experience a little bit of that ‘feel good feeling’ that comes along with raising livestock.

It’s that feel good feeling that keeps you going when things get tough, said Heather, who also has two boys, age five and ten. Being a mom and a farmer can sometimes be overwhelming but she knows she’s not alone. She’s one of four mothers who told us their story, choosing to become first-generation sheep farmers, allowing the women to bring something of their own to the farm while raising their kids. For them, sheep farming has been a perfect fit.



Both Heather and husband Kevin worked full time off the farm but when they started a family they wondered what she could do that would allow her to have the flexible schedule needed to look after the kids yet provide a good business opportunity. Sheep fit well alongside their beef operation at the time, with barns and facilities already in place, but the sheep were much easier to handle than cattle.

“We saw a huge opportunity in the industry,” said Heather. She started in 2012 with 25 ewes and has since expanded to 300. One of the largest challenges was getting the banks to take them seriously when sheep were typically regarded as a hobby.

Sandi Brock started into sheep in 2012. It hasn’t been easy but she has found strength in networking with other ‘sheep moms’. Now, with 430 ewes, she’s amazed at the similarity of their experiences as they learn together.

Her children aren’t children anymore. At 16 and 17 years old they are now old enough to drive her places but she laughs when she says now she’s too tired to go. Neither of her kids wants to raise sheep but at least they have seen the effort that goes into building a new business and building equity, a lesson that will serve them well.

Romy Schill’s kids are much younger. Her three-year-old daughter Addie shows us around a barn littered with tricycles and Tonka trucks – the perfect place to be a kid. “She weighs 30 pounds,” said Romy, as she playfully herded her daughter through the scales while we chatted. Her sons, Cameron, 7, and Emerson, 5, are now in school.

“Your day has to be planned well,” said Romy. Her husband, Ryan, works off the farm but they are just starting on an expansion that will double their flock size to roughly 800 ewes. Together they come from a mixed farming background that includes dairy, beef, pigs, and chickens, taking lessons from those industries and applying them to sheep.

Dianne Orr started out in 2007 with 50 ewes in a new barn when her son, Simon, was only a year old. Her and husband David had some acreage and a cash crop operation already set up, eventually fixing up their old barn to accommodate sheep, an industry that was still largely regarded at the time as a hobby.

“They’re all going,” she remembers declaring one night during a stretch of low markets and high mortality. It has been a steep learning curve but she’s glad she stayed the course, building to a flock of 300 ewes.

With the help of her husband and in-laws she manages to shuffle lambing, vet visits, meeting the school bus, dance practice, and still manages to have a family holiday every year.

Her advice? “Don’t name the sheep.” 🍁

Karen Dallimore has been freelance writing for agriculture and equestrian since 2002, at Sweet Grass Farm near Hillsburgh, Ontario, where she raises Paint horses to show at halter and extreme cowboy racing. www.horsebackwriter.net.





THE SHEEPDOG CHAMPIONS

TRAINERS EXPLAIN WHAT THESE AMAZING DOGS DO

Story by Alan Flowers.

Crouching almost as low as a snake, the dog waits. Suddenly and smoothly, it zips across ten metres of field, seen by a small sheep herd who move skittishly away.

As if tethered by an elastic, the dog snaps back 20 metres to the other side of the herd and repeats the process. The sheep zig and zag, following their herd leader toward some destination known only by the small dog.

The art and science of good sheepdog herding is fascinating to watch. Perhaps nobody is more fascinated than the dog's trainer, who from across the field occasionally uses a whistle to command an action to the dog. The event audience is rapt with attention, seeing a centuries-old mini-drama played out before their eyes.

This drama was evident at the Canadian Sheep Dog Championships, held near Medicine Hat, AB August 23-26. Sheepdog enthusiast Chris Jobe hosted the event, helped by her team of volunteers. "We're thrilled," she says. "We've never had this size of show in the West before," with more than 100 dogs and 300 sheep participating in 4 days of trials, including the championship.

THE 'COLLIE EYE'

Border collies have been bred for generations to emphasize the genetic attributes that make them effective herders. Former University of British Columbia professor Dr. Stanley Coren, author of several books on dogs, says there are three types of dog intelligence: instinctive (what the dog is bred to do), adaptive (how well the dog learns from its environment to solve problems) and working and obedience (the equivalent of 'school learning').

Border collies are number one in intelligence, according to Coren. But that's not all. According to Chris Jobe, they also have the 'Collie Eye'.

"A Collie has the stare of a wolf on the hunt," says Jobe. "That look is what makes the livestock move."

Yet herding sheep is not about scaring the sheep into running for the corral. "The livestock should feel comfortable, not threatened. A really good dog will stay right at the edge of the flight zone so the animals are not running."

In other words, the dog has an instinct for the correct position for each situation, since the flight zone will depend upon the number of

sheep as well as the individual sheep, or the type of sheep. This accounts for the flurries of movement, and the low crouching to observe the herd.

"I look for how that dog is moving the livestock," says Jobe. "Does he have presence and confidence?"

Trainers invest at least one year of training in their dog, plus a few years of competitions. Just like people, some need more or less time as they become contenders for the championship.

TRAINING FOR GREATNESS

"If I could use only one word to describe a good trainer, it would be 'observant,'" says internationally-known judge Patrick Shanahan, who judged the 2018 Championships.

"Dog trialing is a culmination of all those observations. Watching your dog. Watching the sheep react. Watching how your dog is able to communicate, and enhancing the communication with the sheep, dog, and you."

Shanahan also values respect for the sheep. "I have seen many a person disrespect an animal, all in the name of training their



Photo by Alanna Leach.
Supplied by Chris Jobe,
Canadian Border Collie Association,
2018 CBCA Sheep Dog Championships

own dog. They don't think of the symbiotic relationship that has existed for years, dogs and livestock, and how each has benefited from each other."

that's to cull sick animals from the herd, for example. Dogs have to be able to find the ones that are different and separate them."

TRIAL JUDGE

At the championship, genetics and training are put to the test as the dogs complete a set of tasks. Every dog runs at least twice as the field narrows to the few collies that reach the finals.

One task dogs complete is the double lift. Dogs bring two groups of 10 sheep together to form one group of 20, then find and 'shed' the 5 sheep who wear collars away from the other 15 who do not wear collars. The dog re-forms two groups again, this time of 5 and 15.

Jobe explains the reason for this test. "The double lift has a practical application, and

"Some of the dogs that we train seem to have a natural way of communicating from the very beginning of their exposure to livestock," says Shanahan. "Others, it seems, have a difficult time all of their life trying to master their sheep. This of course is one of the differences between a good dog and a great dog. Most of the great dogs that I have seen have an unusual knack for communicating with their stock."

And most of those great dogs are, of course, border collies.

Learn more about the Sheepdog Championships at www.caninesolutions.ca or Canadianbordercollies.org 



Photo by Alanna Leach.
Supplied by Chris Jobe,
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Story by Helen McMenamin. Top photo courtesy of Steven Le Boutillier, Lincoln Electric.

Basic welding is a skill that most people can learn with a bit of practice, but you can keep getting better, learning to work different materials and with different machines as long as you work at it.

Welding depends on the heat of an electric arc that's created when an electrode is a small distance from grounded metal, and adding filler to the molten metal. Along with the heat, a welding arc produces infrared energy – stray heat and ultraviolet rays – the rays that cause sunburn, a burn that takes time to develop. The ultraviolet and infrared can damage your skin and eyes and the characteristic welding sparks are actually balls of molten metal, which can burn.

SAFETY

As head of customer relations for Lincoln Electric, a name synonymous with welding, Steve LeBoutillier listens to all sorts of welders all over the country. His strongest advice is the same no matter how long or what you've been welding: Stay safe.

Buy protective gear along with your first welder, keep them in good shape and use them every time, he says.

Take some time to choose a helmet – and be prepared to pay for it. The helmet protects your head and especially your eyes from harmful ultraviolet and infrared waves as well as flying hot metal, so it must meet a CSA or ANSI standard. An auto darkening helmet avoids the challenge of getting into position for a weld and then putting your helmet down before striking your arc. That can be a challenge, especially for occasional welders, and a bad start to a weld can mean a weak weld or a lot of grinding to clean off excess metal. Auto darkening makes tack welding easier and avoids the risk of a flash if the helmet isn't locked in position. You also need safety glasses, and if you choose a passive helmet wear them with your helmet – if the helmet doesn't lock, the glasses protect against spatter.

You need leather gloves without holes, a dry long sleeved wool or fire-resistant cotton shirt with no open pockets and cotton or wool pants with no cuffs to catch sparks or spatter,

and leather boots. Synthetic fabrics and welding sparks are a poor combination.

“Before you start welding clear away all flammable materials – sawdust, straw or containers of flammable material like gas or spray cans,” says LeBoutillier. “Spatter and sparks can smolder unnoticed. Get comfortable and trace your welding line to be sure you have full range of motion and can keep steady for the full length of the weld.

I think of welding as like driving. It can be dangerous, but if you follow the rules and pay attention it's perfectly safe.”

WELDING SYSTEMS

All welders use the same principles, but different engineering for various materials and types of work. Higher voltage (230 compared to 110 volts) machines produce more heat and melt metal deeper into the joint. Achieving a good weld means keeping the molten metal free of contamination and completely filling the joints. Each type of welder has advantages and drawbacks for various types of work and materials.

Traditional stick welding uses flux-covered rods to prevent contamination and fill gaps and can overcome some rust and dirt. MIG and TIG technology use an inert gas around the molten metal, preventing nitrogen and oxygen in air from forming bubbles in the weld that make it porous and weak. The metal must be clean and not too thick.

MIG welding (officially gas-metal arc welding, GMAW) is the easiest system to learn because the process is controlled from the gun. The metal electrode filler is automatically fed into the puddle when the trigger is on.

MIG welding can be used to join different metals and makes a clean bead, making it good for sculpture. A good machine has a range of power outputs for various types and thickness of metals, used generally on metal under ¼ inch (6mm) thick.

It's important to have clean, dry, oil-free metal with no dirt or oil for MIG welding. And, it is for indoor use only, as wind disrupts the protective bubble of gas around the weld. But

some welders can be used with flux-core wire without the gas tank outside.

TIG welding uses a gas bubble to protect the weld, but the gas is argon or helium rather than the CO2 used with MIG welding. A very fine tungsten rod is the electrode and it needs no filler metal so welds can be very precise, but it's not easy. An experienced welder can make the cleanest welds with no splatter on thin metal, including aluminum and steel, with no waste and no filler. It's particularly useful on car bodies, motorbike parts and sculptures, but it's a challenging process and can be susceptible to fluctuations in power from the local electrical grid.

Stick and flux core welding make the strongest welds and can be used on very thick materials, including cast iron. The electrode is a metal rod (filler) coated in flux (protection). The flux forms a protective coating over the weld – slag that has to be chipped off afterwards. Flux core machines automatically feed a metal wire with a core of flux that forms slag or a protective gas bubble over the weld.

Stick welding machines use AC or DC and some can switch between AC, DC+ or DC-. Direct current produces a smoother arc because all the electrons are moving in the same direction and DC+ and DC- give you deeper and shallower welds.

Stick-welding machines are reliable and long-lasting and those that use AC only are lowest cost. Prices go up as the machines become more sophisticated with more options. The learning curve is steep, but the process can be used in wet or windy conditions, even off a generator, and is tolerant of oily and dirty material. But, the welds are not pretty and it's easy to burn holes in thinner material.

Welding opens a vast array of possibilities in making and repairing all sorts of metal things. But it does take practice and a willingness to learn. Hands-on courses are generally well worth the investment, but if those aren't accessible there are many You Tube videos and online forums to help. You can become competent in a matter of months, but as one welder with 35 years' experience, puts it, “I still learn something new almost every single day.” 🍁



CANADA WINTER GAMES

ATHLETIC EXCELLENCE, COMMUNITY LEGACY

Story by Jessie Young. Top photo Courtesy of Canada Winter Games.

With just a few months to go until the 27th Canada Games are set to begin, excitement is in the air in Red Deer, Alberta, the host city for the 2019 Canada Winter Games.

In what has become the largest multi-sport competition in Canada, more than 3,600 athletes and coaches will be coming to participate in 21 different sports as part of what will be the largest event ever hosted in Red Deer. The 2019 Canada Winter Games will last 17 days, from February 15 until March 3, and have an estimated economic impact of approximately \$132 million for the area.

The most visible aspect of the Games may be the pursuit of athletic excellence, providing Canada's most promising young athletes with an opportunity to compete in the sports they are most passionate about. 48% of Team Canada athletes who made it to the podium in the 2014 Winter Olympics in Sochi, Russia had previously participated in the Canada Games.

But the Games are also about leaving a lasting legacy that host communities will benefit from long after the Games wrap up. This may be due in part to the fact that most Games are held in mid-sized cities that may need to build some facilities to host the Games, thereby contributing to athletic accessibility and community development in that city.

One such legacy project in Red Deer is the construction of the newly-named Gary W. Harris Celebration Plaza.

"The 2019 Games festival will be a never-before-seen multi-day winter art and cultural festival," said Lyn Radford, Board Chair of the 2019 Canada Winter Games. "The festival will provide a unique platform for Canadian performing and visual artists to showcase their work and for the community to enjoy live entertainment at the Gary W. Harris Celebration Plaza in downtown Red Deer."

Inspired to see an event driven by so many of the values that it holds dear, such as inspiring local pride, being active in the community, and working hard to achieve great things, Red Deer-based Peavey Industries is committed to a gold level of sponsorship for the event. The parent company of Peavey Mart stores in the West and TSC Stores LP in Ontario, as well as MainStreet Hardware stores, Peavey Industries will be the presenting sponsor of two events: cross-country skiing and biathlon, a sport that combines cross-country skiing with rifle shooting.

Peavey and other sponsors will have a presence at the plaza during a 14-day arts and cultural celebration, said Alexandra Bowers, Customer Experience Manager at Peavey Industries LP.

"We want to use our sponsorship space to reflect who Peavey Mart is. We have some fun ideas to celebrate the Canada Winter Games, including our sponsored sports of biathlon and cross-country skiing," said Alex. "And, for people who visit us at Riverbends or at the Gary W. Harris Celebration Plaza, we'll have collectible pins that you could win!"

Peavey Industries has also contributed to community infrastructure over and above the gold sponsorship. In July 2018 it was announced that Peavey Industries made a \$100,000 contribution to light the cross-country ski trails at the Riverbend area of the city. This will benefit all cross-country skiers for years to come, and also provide lighting for those out for a walk or run in the summer, or winter.

"This is the largest event in Alberta since the 1988 Winter Olympics, and it's right in our hometown. We're happy to help benefit Red Deer for the long term by contributing to legacy projects. We love the themes of individual pursuit of excellence as well as teamwork, and the fact that Canada Winter Games makes no apologies for a



Peavey Industries President & CEO Doug Anderson (centre) committed \$100,000 to help light all the Riverbend trails in Red Deer. Photo by Jest Sidloski.

Canadian Winter!" said Jest Sidloski, Director of Marketing, Customer Experience & E-Commerce, at Peavey Industries LP.

The Games are a shining example of what can happen when the community comes together to achieve a common goal. Approximately 5,000 volunteers will be donating their time to make the 2019 Canada Winter Games an unforgettable, world class event. Putting on the Games also requires a considerable amount of financial support, which gives companies an opportunity to demonstrate their belief in the values that the Canada Games are based on, and gives Canadians a chance to get to know them, not only as businesses, but as corporate citizens, and members of their community. 🍁

Jessie Young is a freelance writer and graphic designer based out of Kamloops, BC. For the 2017 Canada Games, she worked as a community relations assistant. She studies communication and public relations at Thompson Rivers University, and enjoys snowboarding, longboarding, and going on road trips in her spare time.



STARS:

CRITICAL CARE CLOSER TO RURAL HOMES

Supplied by STARS. Top photo: STARS air ambulance touches down, bringing critical care to rural communities. Photo by Sarah O. Swenson.

Occasionally, Larissa Helbig eyes her herd of 25 bison and wonders which one sent her to hospital in a helicopter with life-threatening injuries. The bison on her remote ranch had been Larissa's livelihood for 14 years when she was critically injured.

Larissa knew the job like the back of her hand. But one hot August day, something unpredictable happened. As Larissa let the animals out of the corral, she was slammed to the ground and gored by one of the herd.

A co-worker found her in a crumpled heap and called 911. While the ambulance was en route, Larissa's lungs collapsed. She was running out of time.

Every year, STARS carries out more than 3,000 missions across the prairies and roughly three per cent of those take place on farms and ranches, just like Larissa's.

These patients are our friends, family members and neighbours. They are the farmers and ranchers who work hard day in and day out in sometimes challenging situations and often remote locations. They are patients like Larissa who suffered a life-threatening incident in a rural community and told us how relieved she was to learn STARS was on the way.

STARS was dispatched and landed the helicopter on Larissa's ranch, just steps from where she lay injured. Once she was stabilized,

STARS carried her to hospital, while the paramedic and nurse fought to save her life in the back of the helicopter.

Larissa has since returned to working with her bison and credits STARS with saving her life. "If you are sitting on the fence about supporting STARS, don't. You just never know when it's your turn."

STARS helps bridge the gap in emergency care for rural communities, saving critical time and bringing life-saving tools and talent to patients. For Larissa and the many farmers and ranchers STARS cares for on their very worst day, the closest critical care centre doesn't feel so far away.

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Larissa Helbig,
STARS VIP
(Very Important Patient)

Less than half the population of Western Canada lives in major urban centres and has access to critical care within minutes. For the other half, such access is measured in hours. That can mean the difference between life and death; full recovery or permanent damage. With STARS, those living in rural communities receive the very best in critical care via helicopters staffed and outfitted as mobile ICUs.

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ATTRACTING WINTER BIRDS

WINTER BRINGS UNEXPECTED EXCITEMENT

Story and photos by Myrna Pearman. Top: Bohemian Waxwing.

Those of us who live in northern climates know all about winter. Even with modern conveniences and technology, we must contend with cold temperatures, howling winds, deep snow, freezing rain and long hours of darkness. Imagine what hardships our wild neighbours must endure during these conditions, and how resilient and resourceful they must be to survive.

Bird species that are unable to tolerate northern winters must migrate south to warmer climates. Interestingly, it isn't the cold alone that dictates who can stay vs. who must migrate; rather, it is food availability. Species that lose their main food sources during late summer or early fall must head to regions where these food sources remain available. Migrant species include insect eaters (e.g., warblers, vireos, thrushes), water birds (e.g., herons, cranes, shorebirds and most waterfowl), ground feeders (e.g., sparrows) and nectar feeders (e.g., hummingbirds).

The birds that stay year-round in an area are classified as resident species. In the north, these residents either catch live prey (e.g., owls) or are able to shift their diet to a paltry

fare of buds, berries, seeds, frozen insects and carrion (e.g., chickadees, woodpeckers, nuthatches, magpies, grouse). In recent years, the open water found around dams and sewage treatment plants has resulted in more species (e.g., ducks and geese) being able to find food and thus able to remain for the entire winter.

Not surprisingly, northern residents have evolved very sophisticated physical, physiological and behavioural survival strategies. Physical adaptations include feathers (which provide insulation), body fat (used for fuel storage) and feet (which are dry and kept at a lower temperature than the body core). Physiological adaptations include shivering (to generate heat), regulated hypothermia (to save energy) and—in some species—torpor (a state of extreme dormancy).

While birds need to have sufficient physical and physiological stamina, they must also adjust their behaviours to survive. One of the most obvious and basic behaviours is to consume as many calories as possible during the day, especially after waking and before retiring. Thus, life for winter birds is a ceaseless quest for food.

Another common survival behaviour is to store/cache food for later dining: in the fall and early winter, many species will tuck food morsels under leaves, into bark crevices and in other nooks and crannies. Cache locations may not always be remembered, but the hidden bits will inevitably be found by some other bird, hence serving as important community food sources during lean, cold times.

Other interesting behavioural strategies include seeking sheltered areas in which to feed or sleep, huddling or roosting together for shared warmth, becoming motionless and drawing feet up into feathers for warmth during extremely cold weather, and maximizing solar benefits by sitting perpendicular to the sun's rays.

HOW CAN WE HELP OUR FEATHERED FRIENDS?

Setting out backyard bird feeding stations is one way that we can help birds in winter. However, while it is true that well-stocked bird feeders may increase survival rates during periods of extreme weather, research has shown that supplemental feeding programs are of no real benefit to overall bird populations. Backyard bird feeding is more about human enjoyment than it is about bird conservation.

Which isn't to say that feeding birds isn't a great hobby! I, like millions of other people around the world, take delight in observing and photographing the birds that come to my feeders, especially during the winter. Birds liven up a cold winter day, and watching feeder birds is a great way to spark in children a love of nature. Feeder watching can teach us much about local birds and their behavior, and data collected through citizen science programs such as Project FeederWatch have enabled scientific analyses of bird population trends, range expansions, etc.

The best way for us to attract and care for birds in winter is to provide habitat so the birds can thrive on their own. Habitat is defined as space within which creatures can find food, shelter



Downy Male Chilly. Photo by Myrna Pearman.



Pileated Woodpecker. Photo by Myrna Pearman.

and water. Conserving natural habitat is by far the best option, as birds (and other wildlife) are well-adapted to survive in these complex and diverse ecosystems.



A Pair of Crossbills. Photo by Myrna Pearman.

While winter birds will glean food from grasses and other seed-bearing plants that stick up above the snow, wooded areas provide critically important winter habitat because they offer both food and shelter. Not only do trees and shrubs produce edible seeds, berries, samaras etc., they host highly sought-after frozen insects on and in their bark. Finally, woodlots provide critical shelter for overwintering birds, especially at night and during stormy weather. The snags (dead or dying trees) that are often found in wooded areas are important “cafeterias and condominiums” for many bird species.

Since bird feeding stations supplement—not replace—the food that birds are able to find in healthy ecosystems, it makes sense that feeding stations located in or near natural habitats will be much more popular than those placed in denuded landscapes. And while feeding stations might be busy and popular, it is important to remember that birds do not become dependent on feeder food nor do they concentrate all their time at feeding stations. It is a critical winter survival strategy for birds to have a variety of food sources within their specified winter territories.

There are two main types of supplemental food that can be offered in the winter: seeds (including nuts) and suet.

Seeds: Although there are different types of bird seed on the market, the most popular are sunflower seeds. Sunflower seeds come in two varieties, black oil and striped, and can be served shelled or unshelled. Although the shelled seeds are more expensive, they are becoming increasingly popular because they leave less waste and the smaller species (e.g., redpolls and siskins) prefer them thus served.

Other seeds that are attractive to some winter bird species include corn (e.g., jays, sparrows and grouse) and nyger seed (e.g., finches). Less popular seeds include canary grass seed, canola, milo, millet, safflower and vegetable and fruit seeds. The seeds to avoid are the cheap mixes that contain cereal grains, red milo or other filler seeds, none of which are favoured by northern birds.

Nuts: Many birds (e.g. jays, woodpeckers, chickadees and nuthatches) will eat nuts, with shelled and unshelled peanuts being the most popular. Other nuts, including walnuts, cashews, pecans etc. can also be served.

Seeds and nuts can be served in a variety of ways, from simply scattering on the ground to being dispensed from tray, hopper and tube feeders. Feeder designs continue to improve and a wide variety of styles are available at garden, farm and hardware stores.

Suet: Suet, which can be served raw or rendered and mixed with other ingredients, is relished by many bird species (e.g., woodpeckers, chickadees and nuthatches). Stores that sell bird seed also carry small suet cakes, which are an easy and inexpensive way to dispense this nutritious offering.

WATER

As mentioned above, one of the components of habitat is water. While birds require water, even in the winter, resident species are well adapted to obtaining moisture by eating snow. However, since birds will avail themselves of open water if it is available, a heated bird bath is an easy way to provide water for the birds all winter long.

Whether you live in the wilderness or in an urban condominium complex, sharing your outdoor living space with the birds is guaranteed to bring hours of entertainment, education and enjoyment.

More information on providing habitat for backyard wildlife can be found in *NatureScape Alberta: Creating and Caring for Wildlife Habitat at Home* (available at www.ellisbirdfarm.ca), and details about feeding backyard birds can be found in *Backyard Bird Feeding: An Alberta Guide* (available at Peavey Mart stores). Profits from the sale of these books support the conservation and education programs of Ellis Bird Farm. 🍁

Myrna Pearman (myrnapearman.com) is the Biologist and Site Services Manager at Ellis Bird Farm (ellisbirdfarm.ca). A keen wildlife photographer and writer, she is a columnist for the Red Deer Advocate, Nature Alberta and The Gardener magazine, and has authored several books, including the Canadian best-seller, Backyard Bird Feeding: An Alberta Guide.



Pine Siskins. Photo by Myrna Pearman.

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