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Nova Scotia Agriculture: A Continuous Evolution



While most Canadians have probably never heard of a haskap, the berries have been popular in Japan and Siberia for centuries. Haskap berries, grown at LaHave Natural Farms in Blockhouse (the largest organic producer of haskaps in Canada), have three times as many antioxidants as high-bush blueberries and more calcium than an apple. **LAHAVE NATURAL FARMS**

Local farmers producing new products

TOM MASON

It may look at first glance like a blueberry, but the haskap berry is something exceptional according to Nova Scotia-based producer, Liam Tayler.

“Haskap berries have three times as many antioxidants as high-bush blueberries and more calcium than an apple,” Tayler says. “They work wonderfully as jams, jellies and juices or as a tea ingredient. And they taste fantastic. As

soon as people try them, they’re hooked.” While most Canadians have probably never heard of a haskap, the berries have been popular in Japan and Siberia for centuries. Tayler is the commercial director

at LaHave Natural Farms in Blockhouse, the largest organic producer of haskaps in Canada. “They grow really well in Nova Scotia,” he says. “If you look at a map of the world and look at the latitude of northern Japan where

they grow wild, we’re almost on the same latitude. They love our climate.” Along with producing 40 acres of berries, LaHave sells haskap plants

Continued on G2



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At Perennia Innovation Centre, Nova Scotia's new agribusiness incubation facility in Bible Hill, horticulturalist Viliam Zvalo is working with several local growers to produce sweet potatoes, traditionally a tropical crop that's considered difficult to grow in our climate. **123RF**



In Grand Mira North in Cape Breton, entrepreneur and farmer Ron Muise has begun producing a line of artisanal sheep's milk cheeses using his own sheep — creating a product that's the first of its kind in the province. **123RF**

New farm products

Continued from G1

to other growers and produces a brand of value added products including haskap relishes, chutneys, ice cream and a juice product that's already garnered international awards.

At the same time, they are also building awareness for a new product with huge potential. "Our biggest challenge right now is to inform the public that this is a great product," says Tayler.

It might not be such a hard sell after all. The global marketplace has touched all sectors of society in recent years, and none more so than the food industry.

Consumers have gotten used to seeing exotic plantain, dragon fruit

and avocados on produce shelves along with fresh strawberries and asparagus year round.

"The competition is putting pressure on local farmers to come up with new products and new ways to compete.

In Grand Mira North in Cape Breton, an entrepreneur and farmer named Ron Muise has begun producing a line of artisanal sheep's milk cheeses using his own sheep — creating a product that's the first of its kind in the province.

Unlike other milk, sheep's milk can be frozen before being used to make cheese, a property that makes it easy to ship and store.

And at Perennia, Nova Scotia's new agribusiness incubation facility in Bible Hill, horticulturalist Viliam Zvalo is working with several local growers to produce



Hops are another of the province's latest cash crops. Hops have been growing wild in Nova Scotia for centuries, ever since the plant was first imported here from Europe by the first Acadian settlers. It took a burgeoning microbrewery industry and a growing "local source" movement to revive interest in them here. **123RF**

sweet potatoes, traditionally a tropical crop that's considered difficult to grow in our climate.

His techniques include using black plastic to raise the temperature of the soil.

Hops are another of the province's latest cash crops. Unlike the haskap, hops have been growing wild in Nova Scotia for centuries, ever since the plant was first imported here from Europe by the first Acadian settlers.

It took a burgeoning microbrewery industry in the province and a growing "local source" movement to revive interest in them.

Hops are a member of the can-

nabis family and like their more maligned cousins they grow tall, thick-stalked plants — up to 16-feet high in most cases.

"They are a perennial so you don't have to replant them every year," says Alan Bailey, a hops grower in Hants County. "Actually, the plants we're growing now will probably be around longer than you and I."

Bailey and his wife Brenda recently opened their own microbrewery, the Meander River Farm and Brewery in Ashdale, but ironically they aren't using their own hops in their product yet.

The crop is harvested in the fall

and must be dried and stored over the winter to make beer.

It's cheaper for the Baileys to buy the hops they need from other producers.

"It doesn't make sense right now to invest in expensive drying equipment," he says.

Bailey would like to solve that problem and one way to do it would be for hops producers to work together to develop a central processing facility. It's an idea who's time has come.

"Theoretically, hops should grow well in Nova Scotia," he says. "We have the potential to become a major North American producer."

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Nova Scotia Agriculture: A Continuous Evolution



Robots one of the new technologies helping farmers

TOM MASON

The cows are in charge at Vissers Farm near Stewiacke.

Or maybe it's the robots?

In any case, the days when human hands were involved with the daily task of milking are just about over, thanks to a new technology recently installed by the Vissers family.

The technology uses cleverly-designed robots to milk 150 cows several times every day. Cows enter a stall that contains a feed station where they stand over a robot.

The robots, similar to ones that have been used in the auto industry for years, identify each cow via a transponder, determine when she was last milked and her position in the stall, and then gently hook her up to a vacuum milker.

"It's like the cows are visiting a bank machine," says John Vissers, who grew up on the dairy farm and has owned and operated it for more than 30 years. "They get a nice meal and, in return, we get milk. Everybody's happy."

The robotic milk machines have been commercially available since the 1990s, but it wasn't until Vissers' son and nephew took over day-to-day operations of the farm that the family decided to make the switch.

"They wanted to spend less time around the barn and more time working on other aspects of running the farm," he says.

The system was expensive up front, requiring major barn renovations and a hefty cash outlay for computers and robotic equipment.

"It was definitely a major investment for us but we think it will pay off over the long term."

The robotic milking system is just the beginning for the Vissers. Nova Scotia dairy farmers are also beginning to use the transponder systems mounted on the neckbands of cows to monitor variables like how much each cow chews its cud — an indicator of health and well-being.

They are also installing compostable bedding in free stalls to keep cows clean and comfortable and even back-scratching devices to help them with pesky itches.

"If cows are happy and relaxed they are



The milking robots used at Vissers Farm near Stewiacke, similar to ones that have been used in the auto industry for years, identify each cow via a transponder, determine when she was last milked and her position in the stall, and then gently hook her up to a vacuum milker. **CONTRIBUTED**

going to produce more milk," says Vissers. "That's good for our business."

Farmers like Vissers are no strangers to technological advancements. Agriculture has long been one of the most complex and diverse businesses on the planet, and farmers tend to be more tech savvy than most.

A modern farmer needs to call on a huge arsenal of skills to survive: They must be meteorologists, risk managers, product development specialists, process engineers, marketers and accountants, along with being

knowledgeable about the hundreds of minute details that go with the daily operation of a farm.

They also must deal with changing times.

In Nova Scotia, farmers are leading the way in the development of technologies such as green energy wind turbine and solar wall systems.

At Agriculture and Agri-Food Canada facility in Truro, a researcher named Erin Smith has developed a new dedicated weather website to help Atlantic Canadian farmers

deal with the vagaries of climate chance.

For the Vissers family, robot milking technology is already having a revolutionary effect on operations.

"It's completely changed how cows are handled in the barn," says Vissers. "Because they can come into these stalls as many times as they want whenever they want, they get milked more frequently. They are even using them at three in the morning. It's better for their health. They're a lot quieter, more relaxed and content."

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Nova Scotia Agriculture: A Continuous Evolution



Perennia helping agribusinesses develop new products

TOM MASON

Wine may be the Annapolis Valley's newest product but vintner Hanspeter Stutz is finding profit from one of its oldest crops — apples.

Along with his award-winning New York Muscats, Seyval Blancs, L'Acadie Blancs and Vidal Icewines, the owner of Grand Pré Winery and the Domaine de Grand Pré label has also had great success with Pomme d'Or, a dessert wine that uses Spy, Ida Red and McIntosh apples for its complex caramel and baked apple flavour and golden russets for its distinctive colour.

He has even developed a line of alcoholic cider products including the latest offering — called Stutz Premium Craft Cider — to compete head to head with the light beer and cooler markets.

Today, Stutz is developing even more apple-based products to compete with other sectors of the alcoholic beverage market, including liqueurs.

He's doing it with the help of the Perennia Innovation Centre — a 25,000-square-foot facility in Bible Hill that exists to support the development and commercialization of value-added agricultural products in Nova Scotia.

Currently, Perennia is working with local food companies and farmers to develop more than 50 home-grown products — helping them work through problems that range from how to freeze dry gourmet dog food to improving the shelf life of a popular farmers' market pasta sauce in order to sell it to large grocery stores.

Richard Ablett is a food scientist and Perennia's chief science director. He says Nova Scotia's new agribusiness leaders — people like



Perennia fruiting walls in bloom. PERENNIA

Hanspeter Stutz — are the stars of industry; the creative minds who will lead the next generation of farmers in Nova Scotia. "Hanspeter is a visionary," he says. "He's an innovative entrepreneur

who understands exactly what the agricultural industry in Nova Scotia needs if it's going to advance to the next level." The Perennia Centre is a new idea for Nova Scotia, according to

Ablett. In addition to providing a team of experts to help producers and processors develop new products, the organization also provides food-safety testing and primary production and incubation

space to fledgling companies with new agribusiness ideas. "The province has done a good job developing the Life Sciences

Continued on G5

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Perennia Innovation Centre

Continued from G4

industry and other technology businesses through incubators like Dalhousie and Innovacorp,” he says, “but we’ve never had a business incubator that’s focused on the agricultural industry before.”

The main goal is to help companies minimize risk. Developing new value-added agri-products is a game loaded with risks at the front end.

The cash outlay can be huge — new machinery must be purchased, processes must be developed and markets must be tapped, with no guarantee that the product will sell. If farmers are going to survive in Nova Scotia they need to find ways to start utilizing the byproducts of farming, according to Ablett.

One way is by making use of the parts of the crop that are traditionally thrown away.

Perennia is working with a local cauliflower producer who sells to grocery stores and discards a significant part of his crop because the heads are the wrong shape.

“We’re helping him develop new products to use that part of the crop,” he says.

Another innovative project involves using blueberry leaves to make a tea packed with healthy nutraceuticals — a product that has big potential in the Chinese market.

Blueberry leaves contain as many antioxidants as the berries themselves, and are now simply mown down by harvesters at the end of the season.

“We have to develop new value streams for our agricultural producers and we have to do it urgently,” says Ablett.

“Food exports in Nova Scotia have dropped 20 per cent in the last 20 years. We can’t let that continue to happen to our industry. We need to reverse that trend.”



In addition to providing a team of experts to help producers and processors develop new products, Perennia Innovation Centre also provides food-safety testing and primary production and incubation space to fledgling companies with new agribusiness ideas. **PERENNIA**



Perennia fruiting walls. **PERENNIA**

New pruning system may decrease costs for apple producers

TOM MASON

Pruning is the second highest cost to apple growers behind harvesting labour.

Perennia has been working with local apple growers to develop new mechanical pruning techniques to help reduce overhead costs to farms.

Perennia horticulturist Chris Duyvelshoff is working with a grower co-operator in the Annapolis Valley to test the suitability of using a new pruning system developed in Europe on high-density planted orchards in Nova Scotia.

Known as a “fruiting wall” the system uses a mechanical pruner to shape the trees into a narrow hedge — a process that also makes hand harvesting more efficient, and could ensure more uniform fruit colour, quality and size because the small leaf canopy allows more sun to reach the fruit.

“Mechanical pruning of fruiting walls offers potential for labour input savings while still producing a premium-quality fruit for the market,” says Duyvelshoff.

One mechanical pruner has been purchased for the three-year project to test the impact on the trees, the overall pruning cost reduction to the producer, the yield and fruit quality.

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There's only one way to farm — with your family!

EMMA GELDART

No farmer wants too much water on their farm land. Except for the Purdy family. In fact, 200 acres of their farm land is on the bottom of the ocean. Charles (Class of '71) and Nancy Purdy, with the help of their daughter Rachel, own and operate Bay Enterprises, an oyster farm in Malagash.

Charles took over the family farm management from his grandfather in 1962 and, in 1996, restarted the oyster farming that the Purdy ancestors had been involved in since 1868.

The Purdy family's agricultural farm started in 1783 with both land and sea farming. They currently only farm the sea but still own much of the land.

The Purdy operation is one of the few in Eastern Canada. Inspected to sell almost anywhere in the world, they sell their oysters locally in Nova Scotia as well as ship to some parts of Quebec, Ontario and the U.S.A.

For Charles, there's nothing else he would rather be doing than working on his farm. He gives a great deal of credit to Dalhousie University's Faculty of Agriculture (formerly Nova Scotia Agricultural College) for helping him keep his family farming operation alive for so many years.

"I graduated from the NSAC in '69," Charles explains, "Then again in '71. I had so much fun at that school, I had to go back!"

To date, Bay Enterprises supplies Dalhousie University's Faculty of Agriculture with some of its shellfish to use in the Aquaculture Centre, a leading centre in aquaculture research. Charles will also be attending this year's annual



Inspected to sell almost anywhere in the world, Bay Enterprises in Malagash sells its oysters locally in Nova Scotia and ships to some parts of Quebec, Ontario and the U.S.A. **DALHOUSIE UNIVERSITY COMMUNICATIONS**

Community Open House (www.dal.ca/agopenhouse) to demonstrate oyster shucking.

"I'm so glad that I am able to give back to the school," Charles smiles. "That place taught me a lot."

Bay Enterprises is an oyster hatchery and a packaging facility, inspected by the Canadian Food Inspection Agency.

They raise oysters from larvae, producing their own algae to feed

the larvae. They are fed and monitored in the hatchery and once the oysters are mature enough, they are placed in the bay.

There, they feed off the ocean for about four to five years until they are mature enough to harvest. The oysters are harvested using both manual and mechanical methods.

The mechanized machine used to harvest the oysters is environmentally friendly; something that's very

important to the Purdy family.

For Charles Purdy, farming with his family is also very important. Started by his great-grandfather, the Purdy farm has been in Charles' family for three generations and will move into the fourth generation.

His daughter, Rachel, is preparing to take over the farm in the near future.

"On a family farm, you know

everyone and every animal,"

Charles says. "You know every personality and, since you're family, you have no choice but to make things work."

Charles and Nancy Purdy take pride in their operation. Having kept it in the family for so long, they are glad to see Rachel taking it over.

For the Purdy's, there is only one way to farm — with your family!



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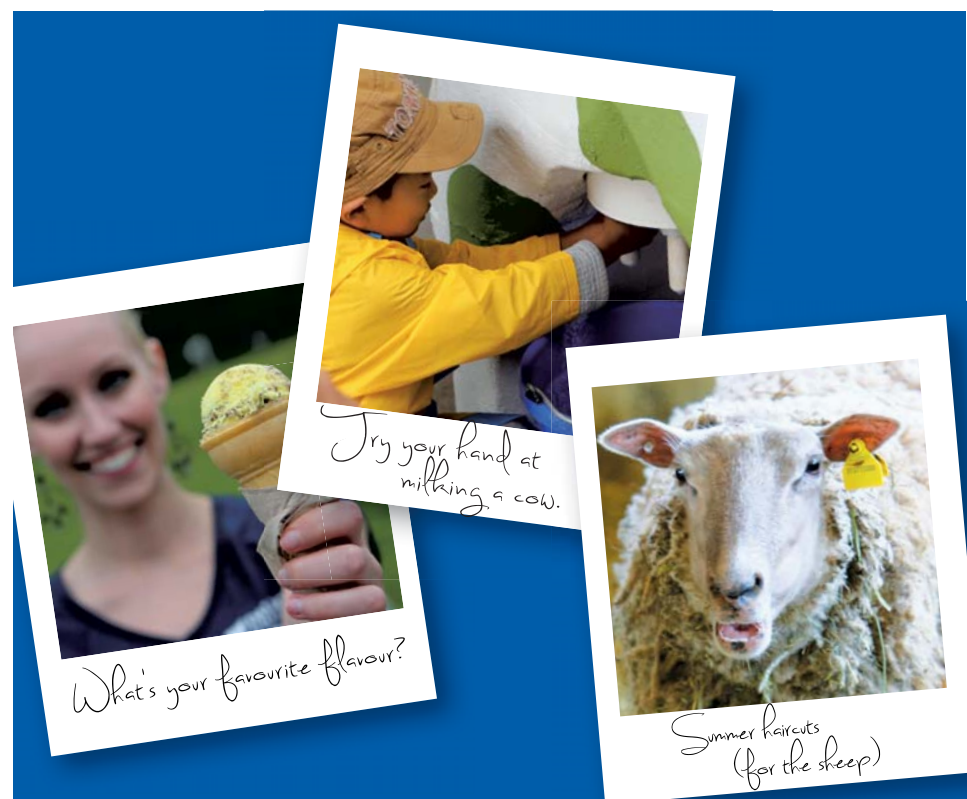


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