

WARM-UP

Tunnel vision: the growing trend to more protected agriculture



Grape tomatoes at Thanksgiving? No problem says Kyle Oakley who farms with his family near Thornbury, Ontario. High tunnels, and more recently, two greenhouses, have permitted extended production on the shoulders of the seasons. It's a trend that's taking hold as more growers turn to protected infrastructure to reduce weather risks and labour costs. Photos by Karen Davidson.

KAREN DAVIDSON

Upon entering one of five high tunnels in November, Kyle Oakley is greeted with an unmistakable green fragrance. His yellow, orange – and even black! -- grape tomatoes, are destined for the family-owned Goldsmith's Farm Market and Bakery near Thornbury, Ontario.

What's surprising is that over the last decade this third-generation apple grower has turned market gardener, channelling only two per cent of the 160 acres of apple production through the farm market. His parents Brad and Teresa, sister Krista and wife Debby are all-in on his local produce wager.

"About a quarter of our high tunnels are devoted to grape tomatoes," says Oakley. "Some of the heirloom varieties have beautiful flavours, but they have thin skins.

“
We wouldn't be able to grow the quantity, quality or variety of produce on our farm if it wasn't for our skilled team of 30 people who come from Jamaica each year.
~ KYLE OAKLEY
”

The difficulty is lack of storability.”

Oakley speaks with a decade of retailer's knowledge, and the grower's experience of the family and highly skilled temporary foreign workers. High tunnels present an exciting opportunity to extend the growing season, but they hold peril too. There needs to be a willing customer to buy all that extra volume of premium-priced tomatoes.

In recent years, Ontario has become a training ground for entrepreneurs like the Oakley family who have developed farm markets acutely calibrated to their locale and customers. The Thornbury area is unique in its proximity to ski chalets and summer cottages. When the pandemic arrived, the region suddenly became a remote-working hotspot with city folks decamping for the Georgian Bay countryside.

Continued on page 3

AT PRESS TIME...



Long-term effects expected from BC floods

British Columbia's growers were pelted on November 14 and 15 with history-breaking rainfall in the Fraser Valley and the Lower Mainland. The Abbotsford area was deluged with 152.8 millimetres of rain in the two-day span according to Environment Canada.

This region is one of the most intensively farmed in Canada. While media headlines underscored the disaster for dairy and chicken farmers, horticultural producers are also affected in both the short term and long term.

Carrots and cole crops such as cabbage, cauliflower, Brussels sprouts and broccoli are under water according to Andre Solymosi, general manager, BC Vegetable Marketing Commission, responding November 19 to **The Grower**. "Storage facilities, barns, etc are flooded," he says. "Potatoes are

piled and cabbage is typically stored in cardboard totes. So the flood waters will impact the product in storage."

The majority or possibly all of these farms in the eastern Sumas Prairie area are affected where the flood waters continue to rise due to the breaches in the dike, Solymosi explained.

Headquartered in Abbotsford, the BC Blueberry Council reported there will be some impact on post-harvest activities, but generally the main concern is plant health. If fields remain flooded longer than four days, significant damage to the roots can set in. As blueberries are a perennial plant, any damage to the root could lead to various issues, including plant death.

With extreme weather events stacked on top of labour shortages, the blueberry industry continues to face stiff winds. All of these lead to less than optimal volumes in production. In 2019, BC blueberry volume was pegged at 200 million pounds. This total dropped by about 20 million pounds in 2020 and nearly 50

million pounds in 2021 due to the June 2021 heat dome. The BC Blueberry Council will be looking for provincial relief measures, reminding the government that the berry industry is a defining characteristic of the province.

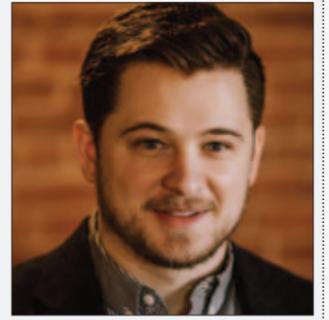
BC's greenhouse vegetable industry is also impacted with reports of a few greenhouses under water. "Pretty busy with emergency management," says Linda Delli Santi, executive director, BC Greenhouse Vegetable Growers.

While many horticultural producers may be out of harm's way, they have to be concerned about transportation routes. Barry Prentice, a supply chain management professor at the University of Manitoba expressed his concerns to *Canadian Grocer*. He pointed out that exports at BC ports may pose a significant problem if highways and railways aren't cleared in the near term. "Transportation is an invisible industry until something goes wrong," he said. "We take it for granted more than we should as a society because without transportation we don't have trade, and without trade we don't have an economy."

Meteorologists have blamed this extreme weather event on an atmospheric river. Long, narrow bands of moisture in the atmosphere carry water from the tropics and subtropics toward the poles. It's sometimes called the Pineapple Express, but it's not the fruit delivery anyone expected.

NEWSMAKERS

Congrats to **Mark Phillips**, marketing specialist for the PEI Potato Board. He's one of six named for a \$15,000 Nuffield scholarship for 2022. He will be undertaking several months of self-directed research and international travel to study public trust issues. His sponsor is the PEI Department of Agriculture and Land.



Hon. Marie-Claude Bibeau retains her role as Canada's minister of agriculture and agri-food. The Québec-based and bilingual politician was the first female to be appointed agriculture minister in March 2019. Other significant appointments that impact horticulture include:

- **Hon. Steven Guilbeault**, minister of environment and climate change
- **Hon. Jean-Yves Duclos**, minister of health
- **Hon. Seamus O'Regan**, minister of labour
- **Hon. Carla Qualtrough**, minister of employment, workforce development and disability inclusion
- **Hon. Gudie Hutchings**, minister of rural economic development
- **Hon. Omar Alghabra**, minister of transport

The weekend before the federal-provincial-territorial agriculture ministers' meeting, one of the players bowed out of the cabinet. Alberta's agriculture minister **Devin Dreeshen** resigned November 5 in the face of allegations of alcohol abuse. **Nate Horner**, most recently the associate minister of rural economic development, replaced him.

Also in federal politics, the shadow ministers have been named. For the Conservatives, it's Alberta MP **John Barlow** (Foothills) for agriculture, agri-food and food security. For the New Democrats, it's **Alistair MacGregor** (Cowichan-Malahat-Langford) for agriculture and food. For the Bloc Québécois, it's Québec MP **Yves Perron** for agriculture, agri-food and supply management.

Canadian **Chuck Magro** was named CEO for Corteva Agriscience, effective November 1, 2021. The 50-year-old was most recently CEO of Nutrien Ltd, and prior to that engagement, CEO of Agrium. The publicly traded chemical and seed company is headquartered in Wilmington, Delaware. It was spun out of DowDuPont in February 2018.

The Grape Growers of Ontario with the Honourable Speaker of the Legislature and MPP **Ted Arnott**, hosted the 42nd Annual Wine Tasting at Queen's Park on October 26. Congratulations to two Niagara-area wineries whose wines will be served at Queen's Park events in 2022. **Ravine Vineyard Estate Winery** 2019 Meritage has been selected for the red and **Henry of Pelham Family Estate Winery** 2020 Chardonnay will be the white.

The Agricultural Adaptation Council's (AAC) long-serving executive director, **Terry Thompson**, is retiring at the end of 2021. **Melanie DiReto**, currently the council's manager of finance and administration, will replace Thompson effective January 1, 2022.

The Canadian Agricultural Safety Association welcomes one new board member for 2021-2022. **Peter Sykanda**, farm policy analyst with the Ontario Federation of Agriculture was elected to the seven-person board of directors. He brings expertise in a number of critical issues for farmers, including: farm labour and safety, climate change, rural internet connectivity, and more recently, advocating for the increased attention and support for farmer mental health.

Condolences to the family of **Sam Squire**, 89, who passed on November 5, 2021. He was well respected as Ontario's potato specialist from 1977-1997. His knowledge of seed production was unsurpassed, a gift that he shared at the Elora Research Station trials.

Herbert Konzelmann, 84, a legend in the Niagara and Canadian wine industry, passed away on November 5. An emigré from Germany, he founded Konzelmann Estate Winery in Niagara-on-the-Lake in 1984, one of only seven wineries to open in Ontario at the time.

VENECIA

High percentage of large size bulbs. Very uniform round shape. Good quality dark skin. Mid-term storage. Maturity 107 days.

Customer Service

order@norseco.com

☎ 514 332-2275 | 800 561-9693 | 📞 450 682-4959 | 800 567-4594

Our Team of Experts

Warren Peacock
Ontario
warren.peacock@norseco.com
☎ 519 427-7239

Michel Gratton
North Shore of Montreal
michel.gratton@norseco.com
☎ 514 898-4281

Ben Yurkiw
British Columbia
ben.yurkiw@norseco.com
☎ 604 830-9295

Isabelle Dubé
Organic & Small-Scale Farms
isabelle.dube@norseco.com
☎ 514 295-7202

Yves Thibault, agr.
Central & Eastern Québec
yves.thibault@norseco.com
☎ 418 660-1498

Marie-Pierre Grimard, P. Tech
Eastern Montérégie & Maritime Provinces
marie-pierre.grimard@norseco.com
☎ 450 261-7468

Marie-Hélène Monchamp
Western Montérégie
marie-helene.monchamp@norseco.com
☎ 514 968-2906

Stéphanie Gosselin, agr.
Central and Eastern Québec
stephanie.gosselin@norseco.com
☎ 418 254-1469

JEFFERSON

New Imperator type, for the cello-jumbo market. Well filled, uniform and smooth roots. The tops hold up well against Alternaria. Maturity 70 days.

Proud of our roots since 1928
norseco.com

COVER STORY

Tunnel vision: the growing trend to more protected agriculture

Continued from page 1

The Oakley family's market, with its array of farm-branded produce, artisan cheeses, locally raised meats and gourmet condiments was primed for the influx of new customers. Not only were there tunnel-grown tomatoes, raspberries and cut flowers, but a new 30 foot by 50 foot greenhouse built in 2018 ensured a longer growing season for tomatoes, cucumbers as well as a spring supply of hanging baskets and flower planters.

As the effects of mass vaccination take root, Goldsmith's Farm Market sales, post-Thanksgiving, have begun to return to historical norms. Online sales have slowed. Cart size has declined. But recent trends haven't dampened future plans. A newly minted DeCloet greenhouse, 35 feet by 190 feet, is about to come on stream for even more year-round production of hanging baskets, tomatoes, cucumbers and peppers.

Protected agriculture

Headquartered in Simcoe, Ontario, Pieter Berkel, sales for DeCloet Greenhouses, has observed the trajectory of "protected agriculture" over many years. Typically, protected agriculture refers to mulches, row covers, shade structures and high tunnels that extend the growing season. Controlled environment agriculture refers to year-round greenhouses that enable automation of temperature, humidity, light, carbon dioxide and nutrients.

DeCloet is currently building greenhouses in geographies as diverse as California, Florida, British Columbia and Newfoundland. Costs climb substantially from \$2-\$3 per sq foot for seasonal high tunnels to \$8 to \$10 per sq foot for year-round greenhouses.

"It's hard to find a field grower that transitions full-on to greenhouses," says Berkel. "They usually start with high tunnels for better control over drought, rain and pests. The top five crops would be tomatoes, cucumbers, peppers, berries and lettuce. I'm now starting to see squash and Asian vegetables such as bitter melon."

Risks from weather events –

spring frost, summer drought, fall rains – are motivating growers to try high tunnels (protected agriculture) and then upgrade to greenhouses (controlled environment agriculture) when appropriate.

"I'm starting to see larger numbers of smaller-scale growers move to 3,000- to 5,000- square-foot greenhouses, especially in Ontario," says Berkel.

He offers three pieces of advice for those transitioning to these growing methods.

Know your market. A vegetable grown under controlled environmental conditions must be sold at a higher price to recoup the investment. Will your customer pay such a premium? And given the seasonality of vegetables, will your customer buy the glut of tomatoes in October?

Be ready for maintenance. High tunnels require more repairs than greenhouses.

Schedule labour for hand harvesting. The volumes that can be produced in greenhouses are higher under controlled conditions, but you must have access to adequate labour for tending and harvesting the crop.

Another perspective on protected agriculture comes from Aldergrove, British Columbia where Mark Paul Koeman has been building greenhouses since 1992. His company, Alpine Greenhouse Services Ltd, is so busy, they've yet to need a website. In Delta, BC, there is a large hub of glass greenhouses built to optimize light transmission for vegetable production. However, in the last three to four years, there's been an uptick in high tunnels in the Fraser Valley where berry growers are protecting strawberries, raspberries and blueberries, then hand-harvesting to get premium pricing.

Controlled environment agriculture

Koeman has also observed that as growers develop confidence with these new growing practices, they upgrade to greenhouses. "They are becoming more plant focussed," he says. "In other words, they are more aware of the productive capabilities of each plant."

"The move to more automation for efficiency is here," says Koeman. "Two years ago, they



Kyle Oakley stands in a new greenhouse built by DeCloet.



This black cherry tomato variety, P20 Blue, is sourced from Solana Seeds, a small Québec-based company that offers a variety of vegetable, flower and exotic plant seeds.

wouldn't be interested in investing \$1500 to \$2000 for an automatic roll-up. But roof venting and side ventilation take time. They now want to be free to walk away and manage other things."

One understanding that crystallized during the pandemic is that specialty produce is not competitive without access to labour.

"Labour has been an underlying issue," says Koeman. "It's not just an expense anymore. It's now a hassle."

Kyle Oakley agrees. The parking lot of Goldsmith's Farm Market and Bakery is so busy it's fender-bender territory. It's a nice problem to have. Yet, despite all the infrastructure built to

competitively sell direct to consumers, he still has one gnawing pain point: labour.

"We wouldn't be able to grow the quantity, quality or variety of produce on our farm if it wasn't for our skilled team of 30 people that come from Jamaica each year," says Oakley.

And the labour crunch is felt at the market too. He is forced to repeat to loyal customers standing in line with their goods: "Our outdoor checkout is currently closed due to staffing shortages."

The Grower goes "Behind the Scenes" with Kyle Oakley, apple and vegetable grower near Thornbury, Ontario. He recounts the family story of acquiring Goldsmith's Farm

Market and Bakery, and then building greenhouse infrastructure to produce more vegetables to sell directly to the area's high-end consumers. This series is sponsored by BASF Agricultural Solutions.



OUR EXPERTS ARE HERE TO HELP!



Paul Banks
(ON/NS)
905-688-4300



Alexandre Bisson
(QC)
438-334-1996



Jess Tellier-Lambert
(QC)
514-984-0662



Leah Erickson
(BC/AB)
604-957-2359



Rob Hovius
(ON/PEI/NB)
519-580-3231



Marc André Laberge
(QC)
514-984-4589



Bridget Visser
(ON/MB)
905-715-8595



Henry Zomer
(ON/MB/SK)
905-308-4396

STOKES®

SEEDS

~ Quality Seed Since 1881 ~

T: 1-800-263-7233

F: 1-800-272-5560

www.StokeSeeds.com

CROSS COUNTRY DIGEST

PRINCE EDWARD ISLAND

CFIA suspends exports of PEI seed, fresh and processing potatoes to U.S.

PEI Potato Board defends protocols to mitigate risks of potato wart

The movement of seed potatoes from Prince Edward island (PEI) to the U.S. was suspended on November 2, 2021 due to the Canadian Food Inspection Agency's (CFIA) Charlottetown Laboratory confirming presence of potato wart on two different PEI farms. The two detections – made on October 1 and 14, 2021 -- showed high levels of potato wart. The CFIA has also suspended the movement of fresh potatoes and processing potatoes from PEI to the U.S.

The PEI Potato Board is “shocked” by the CFIA’s suspension to certify exports of all potatoes to the U.S., a market that’s valued at \$120 million annually.

“Prevention of the spread of potato wart has been done under the auspices of the Long Term Potato Wart Domestic Management Plan, developed by the CFIA to prevent spread within the province and in market destinations for PEI potatoes,” reads the November 22 news release.

“Since the discovery of potato wart in PEI in 2000, there has not been a single incidence of potato wart in any markets, including the U.S. and the rest of Canada, attributable to Prince Edward Island potatoes. We have faith in this plan, and so should our government who developed it.”

“It is the understanding of the Potato Board that this suspension comes as a result of a request from the United States

Department of Agriculture (USDA) under threat of implementation of a federal order. Furthermore, the USDA’s basis for this action is predicated on feedback from a segment of the American potato industry, which is advocating for this suspension. Based on the communications from our growers, dealers, exporters and staff who have had numerous contacts in the United States, it is apparent that these calls for border restrictions are not representative of the majority of American industry stakeholders and buyers who need and want PEI potatoes this marketing season.”

“This is solely a politically-based trade disruption that will limit trade in a year when potatoes are already in short supply across North America and globally . . . Closer to home, there will undoubtedly be layoffs and other economic impacts on PEI potato farms and packing sheds.”

The PEI Potato Board is calling for an immediate reversal of government-imposed restrictions on the movement of fresh potatoes. It notes that potato wart poses no risk to human health, and negligible risk of spreading potato wart from exports.

“We call on representatives of both sides of the border to work without delay to resolve this issue. Without an immediate reversal of this decision, there will be far-reaching economic consequences, not only for Prince Edward Island potato



producers but also on the provincial economy, other Canadian potato producers, retailers and consumers.”

Source: Canadian Food Inspection Agency November 22, 2021 news release, Prince Edward Island November 22, 2021 news release

Discover the many paths to innovation

The 2021-2022 Innovation Report is now available.

Check out vinelandresearch.com/about-us/



THE INNOVATION REPORT

2021-2022



04 Spreading happiness with a Canadian pear

10 The sweet smell of sweet potato success

15 Zeroing in on a new Canadian apple

vineland
RESEARCH & INNOVATION CENTRE

CROSS COUNTRY DIGEST

PRICE EDWARD ISLAND

Red Fox potato is a first for PEI Potato Board

Less than a half acre of Red Fox potato seed was grown in Prince Edward Island in 2021, but the story has more than made its mark in the Maritimes. This foothold represents the first commercially grown, red-skinned potato owned by the PEI Potato Board.

"This is the first time that the board has worked with a new potato variety right from scratch," Mary Kay Sonier told a CBC reporter. "Through a bid process, about \$200, we gained access to commercialize the variety."

As seed coordinator with the board, Sonier explained that the rights were purchased from a breeding program at Fredericton, New Brunswick operated by

Agriculture and Agri-Food Canada. The potato variety had been scouted years before for its skin and yield potential under different growing conditions. It also passed the taste tests. The board has operated the Fox Island Elite Seed Potato Farm since 1962, and given the island's red soils, the name of 'Red Fox' was deemed fitting.

"A lot of people are working in the russet area or in the yellow-flesh area," said Sonier. "There don't seem to be quite as many options in the red, although that increases every year. Plus we ship red potatoes to the table market and on the export market."

For those reasons, board members discussed a strategy to

develop a red-skinned potato. John Visser, Victoria Potato Farm, was satisfied with the Red Fox potato variety he grew in 2021 under good growing conditions.

But as Sonier pointed out, it could be 2023 before any sizeable volumes of Red Fox potatoes will be available to other growers.

"New varieties are always a gamble," she said. "You never know once you get to that stage, if they're going to take off. So this will just be a good test for us."



ALBERTA

Irrigation funding for southern Alberta tops \$933 million

Alberta premier Jason Kenney announced another \$117.7 million to modernize irrigation infrastructure and increase water storage in southern Alberta, flanked by new ag minister Nate Horner on November 12.

These funds are made available through a partnership between the provincial government, the federal Canada Infrastructure Bank and 10 irrigation districts. These include:

- Bow River Irrigation District
- Eastern Irrigation District
- Leavitt Irrigation District
- Lethbridge Northern Irrigation District
- Raymond Irrigation District
- Ross Creek Irrigation District
- St. Mary River Irrigation District
- Taber Irrigation District
- United Irrigation District
- Western Irrigation District

"This is truly a transformational investment for the Alberta irrigation sector and agriculture industry," said David Westwood, manager of the St. Mary Irrigation District.

The Alberta government funding is a top-up to the historic announcement in the fall of 2020 of \$815 million. The plans to convert open canals to pipelines will expand irrigation by up to 230,000 acres— about 15 per cent more than the 1.44 million acres already under irrigation.

Source: Government of Alberta November 12, 2021 announcement



2022 Program updates for Fruit

Connecting producers with programs
1-888-247-4999 | agricorp.com

Coverage reminders

Fruit growers face many risks beyond their control each year. Things like hail, drought, excessive rainfall and market issues can have an impact on your farm business. That is why government programs are an important part of your risk management plans.

Secure Production Insurance

Last year, we shortened your renewal notice, making it easier for you to participate and select your coverage. We are continuing to improve the renewal process to better serve our customers.

More time to make coverage decisions – going forward, you will have until January 1 to make coverage changes, giving you more time to understand your risks for the year ahead (for 2022, we will accept coverage changes up until January 4 due to the statutory holiday).

Premium deposit no longer required – one less thing you have to do to secure coverage. You will receive an invoice for the full premium amount in the spring.

Everything you need to know about fruit coverage will be on agricorp.com in early December, including the current rates and important dates. Simply select your commodity on the homepage to find program information for your operation. An Agricorp adjuster is also available if you have any questions.

You will receive renewal packages later in December for your records. To apply for Production Insurance, please contact Agricorp by January 1.

All program information is available on agricorp.com.



AgriStability

This past summer, the government announced two major changes to increase AgriStability coverage. Here is what customers can expect from Agricorp:

- 1 We removed the reference margin limit from all 2020 files. Processing of these files is nearly complete.
- 2 We are sending a separate top-up payment, starting with 2020 files already processed. The top-up represents the increase in the provincial compensation rate from 70% to 80%. To keep payments flowing, eligible customers are receiving most of their payment first and will automatically get their top-up payment in 2022. This way, the majority of the money gets into customers' hands as soon as possible.

Interim payments to help with immediate cash flow

Now that you have a better picture of your 2021 year-end, an AgriStability interim payment can help with cash flow if you had a big drop in net income. Interim payments provide half of your estimated final payment. Visit agricorp.com to apply.

Grapes and ginseng | In response to a challenging year, AgriStability 2021 interim payments of 75% are now available for Ontario grape and ginseng growers.







CROSS COUNTRY DIGEST

BRITISH COLUMBIA

Summerland Varieties Corporation is getting closer to releasing tri-coloured apple

Editor's note: Graham Karner, domestic research specialist, Summerland Varieties Corporation answers questions from The Grower on the new apple under trials.

Q. Summerland Varieties Corporation (SVC) is getting close – two to three years away -- from commercializing a new apple variety. What processes are you finalizing to meet these deadlines? How many grower trials, geographies are you testing?

A. SVC has global experience commercializing tree fruit under both “open” and “club” models. We hope to release this new selection under a “hybrid” model, providing growers, packers and marketers across Canada with access to the selection while maximizing value for all participants by balancing supply with consumer demand, maintaining high-quality standards and taking a strategic approach to branding and marketing. We expect the first commercial trees to be planted in 2023 and for apples to be available for the first time in 2025 or 2026. There will be a measured release of trees to

growers over many years. Packers must be licensed by SVC to receive and pack this apple, so growers are encouraged to contact their preferred packer regarding their desire to participate in this release and packers are encouraged to contact SVC regarding licensing.

This apple has performed well in multiple sites in every apple-growing region in Canada. It also has been tested on commercial packing lines and in storage and has performed remarkably well at each.

Q. Will it be a “sweet” apple or “tart” apple?

A. It is a “tri-coloured” apple, with skin that transitions from red to orange to gold. It has golden flesh, much like a nectarine. It is extremely firm, crisp and juicy. It is a sweet apple with undertones of tropical fruit.

Q. What consumer segment are you targeting?

A. SVC will work with its initial Canadian licensees over the next four years to



determine the most effective route to market. SVC will also work with its Canadian licensees on global commercialization efforts.

Q. How did the 2021 heat wave affect your BC trials? Any setbacks? Any other challenges?

A. Although the western Canada heat dome definitely impacted some of our selections in that growing region, we see these conditions as an important source of data. SVC endeavours to identify and mitigate grower and packer risks through our in-orchard testing program, so we want to experience the same challenges that our Canadian growers must endure on an

annual basis. It's important that we disqualify selections that do not perform well under real-world conditions. Thankfully our new apple has come through the intense heat with no noticeable issues.

Q. What else do you have in the research pipeline for 2030 and beyond?

A. Agriculture and Agri-Food Canada's breeding program at the Summerland Research and Development Centre is constantly breeding and progressing superior new selections. SVC has numerous promising selections currently under test and anticipate that there will be many more to come.

ALBERTA

Big Marble Farms is installing blackout curtains to reduce impact of grow lights

Big Marble Farms Inc., based in Medicine Hat, is installing existing greenhouses. The project will significantly decrease the amount of light emitted during the winter months and reduce the impact of the business on the broader community.



Big Marble Farms, captured from the air in September 2021.

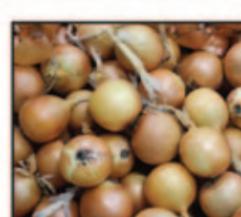
Currently, Big Marble Farms has 20 acres of blackout coverage, in keeping with Cypress County bylaws. Once the new project is finalized, all 55 acres of greenhouse will have ceiling blackout curtains, significantly reducing the visual impact of operations. The work of retrofitting the greenhouse will begin in fall 2021 and will be completed in the second half of 2022.

“When we started 12 years ago, it was hard to imagine that our business would look like it does today,” said Ryan Cramer, CEO of Big Marble Farms. “The community has been very supportive, and we do not take for granted how our operations affect those around us. We love growing and doing business here. This project is a proactive step to reduce the impact on our friends

and neighbours.” Big Marble Farms was founded in 2009 by the Cramer and Wagenaar families on the belief that local is better. Their vision is to supply Alberta and the prairies with quality vegetables and fruit, 365 days a year. In addition to what is grown at the Medicine Hat facility, Big Marble Farms now markets and sells on behalf of the entire greenhouse vegetable community in southeastern Alberta, including the Red Hat Co-operative. The product offering includes: Long English and mini cucumbers, tomatoes (TOV, roma, cocktail, beefsteak, medley, grape, and cherry), sweet and mini bell peppers, living lettuce, and eggplant.




Stokes Seeds Trial Evaluation: Researching the best for our customers since 1881.

			
SAILFISH An early red bell pepper for fresh market, with high quality, blocky smooth fruit. Improved disease resistance.	TARPON 75 days. Main-season hybrid. Compact plant habit with smooth, dark green, blocky fruit and high yield potential.	SKYRAY 78 days. A nice large ear with excellent tenderness and eating quality for local markets in the Northeast.	SADDLEBACK 100 days. Strong root system permits growth on marginal muck soils, enabling high yield potential.

Paul Banks ON, NS 905-688-4300	Alexandre Bisson QC 438-334-1996	Leah Erickson AB, BC 604-957-2359	Rob Hovius ON, PEI, NB 519-580-3231	Marc André Laberge QC 514-984-4589	Jessica Teller-Lambert QC 514-984-0662	Darcy Leiter AB, MB, SK 306-491-6485	Bridget Visser ON 905-715-8595
--------------------------------------	--	---	---	--	--	--	--------------------------------------

— Quality Seed Since 1881 —

T: 1-800-263-7233 | F: 1-800-272-5560 | www.stokeseeds.com | Box 10 Thorold ON L2V 5E9

BITS AND BITES

This school fundraising campaign signals return to normalized activities

DAN TUKENDORF

The eighth Fresh from the Farm school fundraising campaign is back! The 2020 campaign was cancelled due to the pandemic.

The program is managed by the Ontario Fruit and Vegetable Growers' Association in partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs and the Ontario

Apple Growers.

Nearly 250 schools, child care centres and First Nation communities across Ontario registered to participate as pandemic restrictions have eased for fundraising events again.

From September 7 to October 18, Ontario schools raised more than \$119,000 by selling 16,000 bundles or almost 190,000 pounds of Ontario-grown root vegetables and apples.

The Fresh from the Farm

team is reviewing the feasibility of offering an enhanced program in the fall of 2022 that would include an e-commerce option. This would potentially allow the general public to purchase Ontario-grown vegetable and apple bundles while directing proceeds to a school or community organization in their region.

Dan Tukendorf is program manager for the Ontario Fruit and Vegetable Growers' Association.

Streef Produce Ltd. @StreefProduce · 1h
 We've wrapped up day 2 of @freshfromfarmON school deliveries. Shout out to all participating Ontario schools this year! 🍎 Special shout out to Listowel Eastdale Public School & Little Falls Public School for having awesome student volunteers ready to help! You guys ROCK! #ontag



Marssonina blotch confirmed in Ontario apples



Recent surveys of some Ontario apple orchards in fall 2021 have confirmed the presence of Marssonina (Diplocarpon) blotch in Gala and Empire blocks. This disease could become a concern for Ontario apple growers as it seems it may be able to build up in orchards, especially with reduced late season fungicide applications.

Marssonina (Diplocarpon) blotch of apples is caused by the fungus Marssonina coronaria and was first identified in Ontario in the early 1900s. Despite this, Marssonina (Diplocarpon) blotch has been sporadic in Ontario apple orchards. In recent years, eastern states including Pennsylvania and New York have identified an increase in this disease causing premature defoliation, resulting in lower tree health and yield loss. When foliage infection is severe, fruit lesions can occur, although they are uncommon.

Source: *Kristy Grigg-McGuffin, OMAFRA, ONfruit blog October 26, 2021*







THE ART OF POTATOES

Your crop is your masterpiece.

We just bring the tools. The unmistakable red formula of Emesto® Silver fungicide seed treatment protects your potato seed-pieces from seed and soil-borne diseases. With two modes of action against fusarium, it even safeguards against current resistant strains. But what insecticide you choose to combine it with is completely up to you – because when it comes to art, the artist always knows best.

2022 EMESTO SILVER & VELUM PRIME PROGRAM
SAVE \$8/ACRE when you purchase matching acres of Emesto Silver and Velum® Prime nematocida/fungicide.
GrowerPrograms.ca



cropsience.bayer.ca | 1 888-283-6847 | @Bayer4CropsCA | #AskBayerCrop

Always read and follow label directions. Bayer, Bayer Cross, Emesto® and Velum® are trademarks of the Bayer Group. Bayer CropScience Inc. is a member of CropLife Canada. ©2021 Bayer Group. All rights reserved.

INTERNATIONAL

More than greenwashing

Belgian hort sector takes sustainability to heart

LILIAN SCHAER

Increasingly severe weather and more frequent natural disasters are putting a stronger focus than ever on the need for global action on climate change. The European Union (EU) has declared its goal of being climate neutral by 2050 and released the European Green Deal as its blueprint for getting there. The accompanying Farm to Fork Strategy spells out ambitious plans for the entire food chain to contribute to sustainable food production as outlined in the EU's commitments to climate action under the Paris Agreement.

In horticulture, the spotlight is often on the Netherlands as the guiding light in global produce innovation. Its smaller, less prominent neighbour, Belgium, is also a cutting-edge leader, however.

Belgium, a country roughly the size of Vancouver Island, is a leading European vegetable producer, especially of tomatoes, Belgian endive, peppers, cucumbers and leeks, with exports totalling more than €800 million last year. It's also a top producer of pears, apples and strawberries, most of which are exported.

The Ardo Group

Far from just playing lip service to terms such as food waste reduction or net-zero

carbon production, edible horticulture in Belgium is taking real action on long-term sustainability. One such example is Ardo Group, a large vertically integrated Belgian producer of fresh-frozen produce.

"Sustainability is on top; it's not just greenwashing, it's in everything we do, and in every move we make, we think about this," said Leander Cosijns, plant director at the company's headquarters in Ardooie, Belgium, during a press tour in October 2021.

The company contracts directly with 3,500 farmers to grow crops on 50,000 hectares in Europe. Its MIMOSA program - Minimum Input, Maximum Output, Sustainable Agriculture - is the backbone of its work with its growers, who are all either gold or silver-level certified under the SAI Farm Sustainability Assessment.

Supported by robot-guided weed control, drones, precision planting, sensor-driven irrigation, more resilient and resistant varieties, regenerative agriculture practices and a team of 65 hands-on agronomists, Ardo growers have on average reduced their crop protection use by 28 per cent in the last five years and in leading crops, use has been cut in half.

According to agronomy director Emmanuel Jadin, the reduction in field peppers is more than 50 per cent, combined with a 35 per cent reduction in



synthetic fertilizer use. And moving to mechanized pepper harvesting not only addressed a labour shortage but it also reduced the harvest process to a single pass, resulting in time and energy savings.

"Our goal is residue-free products, and our target is 80 per cent of production without pesticide residue by 2025," Jadin said. "In 2020, 76 per cent of our production volume now has less than 0.01 parts per million of pesticide residue; we find this impressive."

Ardo filters and reuses most of the water at its largest processing plant in Ardooie, storing the rest in the pond of an old sugar beet factory and offering it to a co-op

of 25 local farmers as a sustainable, reliable irrigation source. The company generates 40 to 45 per cent of its electricity needs and 30 per cent of the steam for blanching and cleaning; digestate leftover from its biogas production goes back to farmers in the form of fertilizer.

"Climate change is a common responsibility; we share the risk with growers, and we try to solve or find a way out together by adapting what we do, our varieties, our seeding plans etc.," said Jadin.

He added that the loss of conventional crop protection products and uneven rules across the European Union will pose ongoing challenges for growers. More than 3,000 researchers at Belgian universities, companies and research centres are developing new tools such as biorationals - biostimulants and biocontrols, including those based on bacteriophages, to address pests, environmental stress, and plant diseases.

Phage-based biocontrols

According to Anneleen Volckaert, biorationals R&D project manager at Belgian plant care company DCM, phages are highly specific, naturally occurring viruses that can be targeted to infect and replicate in bacteria. Collaborating with OmniLytics and research center Scientia Terrae, DCM is developing phage-based biocontrols to target bacterial diseases, such as fireblight in apples and pears, where it is currently registering its first product.

"We need new plant protection to use, and phages are proven in food and feed as an alternative to antibiotics; product innovation is key," said Volckaert.

For Belgian grower co-operative BelOrta, which runs Europe's biggest live fruit and vegetable auction and sells to all

major Belgian retail chains, sustainability is also a focus, particularly waste reduction. BelOrta growers collectively develop strategies to ensure they're producing to market demand. Each delivery arriving for sale is verified to ensure it meets quality, weight, size and packaging rules. Any off-spec produce is sold at a lower price, donated or diverted into animal feed.

Daily auctions ensure that produce isn't stored at BelOrta sites for more than a day, and a newly built vacuum-cooling system for lettuce can take a crop to 2°C in only 15 minutes, reducing quality loss and increasing shelf life. A state-of-the-art apple and pear packing line is equipped with high-tech camera sensors for more precise sorting.

"We have to do our part in reducing food waste and energy, water, CO2 and packaging use," said marketing and communications manager Glenn Philips. "We guarantee growers a minimum price, and if products aren't sold, growers will receive the minimum price."

A recent addition to BelOrta's facility in Sint-Katelijne-Waver is a high-tech cleaning system for reusable foldable plastic containers. Boxes are washed, steamed, and camera-checked for residues and labels, then sent out to growers. They are returned empty to BelOrta by buyers when they pick up their subsequent loads of produce.

"Our customers are asking for farmers who can prove they are sustainable," noted Jadin at Ardo. "Our business is quite complex with a lot of crops and a lot of farmers, so it's a challenge, but also an opportunity. You can't be green without making money."

Lilian Schaer is a freelance writer, Agri-Food Project Services Ltd.



Bringing you the best Vegetable Seed, backed by innovation and expertise.

A division of Agrocentre Fertibec Inc
20 rue de l'Industrie, C.P. 3640,
Saint-Rémi, QC J0L 2L0
TOLL FREE: 1-877-337-8423

Jeremy Schotsman
Ontario Sales Representative
Cell: 705 434-7292
Jeremy.schotsman@agrofertibec.com

INTERNATIONAL

Gene-edited strawberries promise longer shelf life

KAREN DAVIDSON

What's the connection between potatoes and strawberries? J.R. Simplot sees an opportunity with its partnership with Plant Sciences Inc. which is located at the heart of strawberry-growing country: Watsonville, California.

J.R. Simplot, known for its non-browning Innate potatoes, is now seeking to parlay its breeding technologies with gene-edited strawberries. Using CRISPR-Cas9 genome editing tools, the potato company is looking to improve shelf life and reduce

waste in highly perishable strawberries.

Note the speed of research and confidence with which these companies are moving forward. In 2018, only three years ago, Simplot entered an intellectual licensing agreement with Corteva Agriscience and the Broad Institute of MIT and Harvard for access to CRISPR-Cas9 and related gene-editing tools.

It's expected that Plant Science will provide its proprietary strawberry germplasm, share growing knowledge and lead commercialization of best varieties.

"At Simplot, we're excited to

participate in a project that may help growers achieve higher yields on less land, resulting in fewer pesticides and reduced water and labour needs, all while extending the quality of a consumer's favourite foods," said Susan Collinge, vice-president of Simplot Plant Sciences.

"We are highly motivated to build on our learnings with the J.R. Simplot Company and fully expect to make an impact on the strawberry industry by offering better varieties with qualities that both growers and consumers will celebrate," said Steve Nelson, president and CEO of Plant Sciences Inc.



U.S. Highbush Blueberry Council earns another five-year mandate

The USDA Agricultural Marketing Service has announced results of an October 2021 referendum, confirming that the U.S. Highbush Blueberry (USHBC) has overwhelming support of growers and importers to continue its work.

Results showed that 84 per cent of producers and importers voting in the referendum, who also represent 93 per cent of the volume of highbush blueberries grown, were in favour of continuing the program. This represents a 10 per cent increase in producers and importers (and 13 per cent more volume), of those who voted in favour

of USHBC in 2016.

The USHBC was established in 2000 as a Research and Promotion Program under the U.S. Department of Agriculture. For more than 20 years, the USHBC has helped grow the value of and sell more blueberries to people in the U.S. and globally. Since its launch, the USHBC has been required to hold a referendum every five years, in which eligible producers are asked to vote to determine its future.

USHBC also recently announced details of the approved 2021-2025 Strategic Plan, which explains how the organization will lead

demand-driving programs based on shared resources, research and insights that inspire possibilities and sustain the profitable growth of the blueberry industry. The plan includes expanded, measurable programmatic goals and tactics for five strategic pillars: integrated marketing communications, health and nutrition, industry services, global business development, and innovation and technology.

Source: *United States Highbush Blueberry Council November 8, 2021 news release*



It's more than just a box.
It's Food Safe.
It's Reliable.
It's Recyclable.
It's a Billboard.



For these reasons and more, the corrugated box is your **safe** bet.

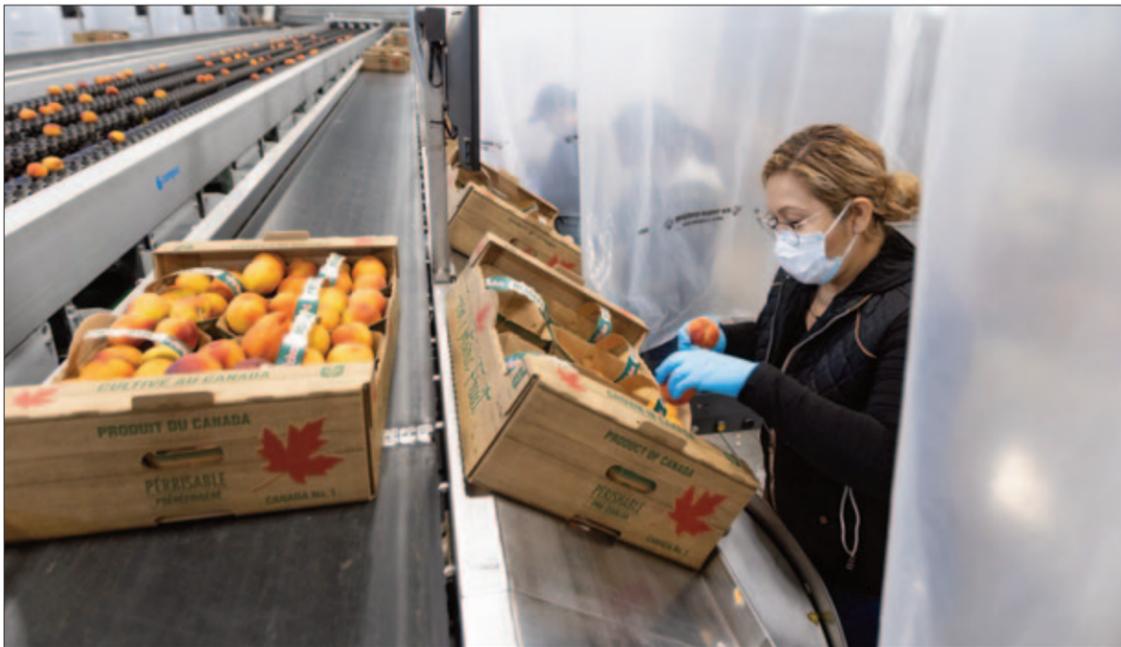


Canadian Corrugated and Containerboard Association
Association canadienne du cartonnage ondulé et du carton-caisse

Proud supporter of the
Paper & Paperboard Packaging
Environmental Council (PPEC)
www.ppec-paper.com



Enrollment down 9%, first decline since 2008



HEATHER GALE

The past two years have brought unprecedented challenges to the horticultural industry. Enrollment in the CanadaGAP food safety program is down nine per cent, the first decline in participation since the program was inaugurated in 2008. Producer participants numbered 3233 in 2019-2020. They now

number 2,930 in the 2020-2021 fiscal year. Departures are due to increasingly stringent expectations around group certification to align with new GFSI requirements. In addition, a number of participants suspended their participation as a result of COVID-19.

CanadaGAP underwent re-benchmarking to the Global Food Safety Initiative (GFSI) requirements over the course of

2020-2021, and as a result introduced a number of changes to the program that raised the bar on achieving certification. In spring 2021, operations requiring GFSI-recognized certificates had to address all non-conformities raised during the audit before they could be certified. Corrective action plans became more commonplace among CanadaGAP program

participants. In the fall, new requirements came into effect relative to unannounced audit requirements. More detailed information about these changes is available on the CanadaGAP website at www.canadagap.ca.

Despite the many challenges to the industry resulting from COVID, the one-year period ending August 31, 2021 has resulted in the highest ever average audit score for CanadaGAP program participants. Based on preliminary audit results (before corrective actions were implemented), the overall average of 94.61% was measured across participants of all CanadaGAP certification options. While consistent with results over the last six years, average audit scores in the past year are slightly higher across all commodity groups except for Potatoes and Tree and Vine Fruit.

Overview of CanadaGAP activities 2021

While navigating pandemic impacts and maintaining a focus on enabling the safe production and handling of fresh fruits and vegetables, CanadaGAP successfully undertook a number of activities over the past year:

- **Maintaining government recognition:** CanadaGAP first received full Government Recognition in 2017 under the Canadian Government Food Safety Recognition Program. To maintain government recognition, CanadaGAP must continue to demonstrate sound management of the certification system, align with all applicable regulatory requirements, and receive approval from CFIA for any proposed changes to the program. In August 2021, CanadaGAP submitted materials as required for CFIA to complete their annual review of changes and to undertake a 40-month check on CanadaGAP processes. CFIA and interested provincial governments undertake a comprehensive review to ensure that the food safety standard remains technically sound, and that CanadaGAP and its delivery agents are operating the program in accordance with government requirements. The 40-month maintenance of recognition review is expected to conclude by early 2022.

- **Updates to the CanadaGAP Food Safety Manuals:** Version 9.0 of the CanadaGAP Food Safety Manuals was released at the end of 2020, and took effect on April 1, 2021. A correction notice was issued mid-season with respect to supplier approval program requirements for certified companies sourcing cucumbers and peppers for pickling. CanadaGAP is not

anticipating that an update will be issued to the Food Safety Manuals in 2022.

- **Expanded availability of Certification Bodies:** A new Certification Body for CanadaGAP, Perry Johnson Registrars Food Safety, Inc. (PJRFSI), completed its first full year of offering CanadaGAP audits and certification in 2021. The other two certification bodies licensed by CanadaGAP – NSF Canada Agricultural Certification Services, and Bureau de normalisation du Quebec (BNQ) – continue to offer their services in Canada and the U.S. CanadaGAP has also been approached by a number of other CBs over the past year expressing potential interest in offering CanadaGAP certification to their clients. We expect to announce soon the addition of a fourth CB to expand the options available to CanadaGAP program participants.

- **Responsive/electronic documentation solutions:** CanadaGAP has made efforts to respond to program participants requesting solutions to challenges related to maintaining documentation and record-keeping. The program continues to increase partnerships with several affiliate organizations who have developed proprietary software for record-keeping, a fillable Word version of the manuals, and translation of the CanadaGAP template forms in various languages. For several years CanadaGAP has made available the Food Safety Manuals in Spanish as a resource.

- **Maintaining GFSI recognition:** To maintain recognition by the Global Food Safety Initiative (GFSI), CanadaGAP began re-benchmarking to the latest GFSI requirements (v.2020.1) in May 2020. The re-benchmarking process was completed in May 2021. CanadaGAP has been benchmarked and officially recognized by GFSI since 2010. GFSI recognition remains important for CanadaGAP program users, as it is crucial to securing support for the certification from retailers, processors and food service customers.

Participation trends

The following participation trends are noteworthy for 2021:

- Participation in 2021 declined most markedly among producers in BC and the United States.

- BC continues to maintain the highest enrolment levels overall, at 34% of all CanadaGAP-certified companies. This year's number compares to BC having 36% of all program participants in 2020.

SOLVING YOUR RODENT PROBLEMS FOR DECADES

The headline says it all. With a long legacy of reliable & consistent performance, we are confident that Ground Force will be YOUR rodent brand.

New to Ground Force? Start a legacy of your own and visit our website or contact a sales rep today.





LEARN MORE



Ground Force Paraffinized Pellets* is labeled for the control of Voles, Ground Squirrels, Rats & Mice

*Commercial Product Only: Only to be used by certified pest control operators, farmers and persons authorized in government pest control programs.

LIPHATECH

For Technical/Label Questions: liphatech.ca • 888.331.7900

PROTECTING YOUR ORCHARD

Distributed by:



For Nearest Dealer: 905.563.8261 • bartlett.ca

Enrollment down 9%, first decline since 2008

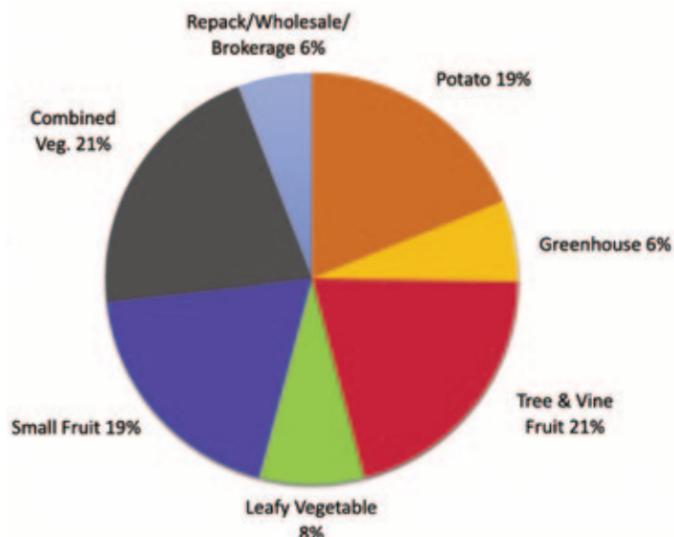
• Among commodity groupings, a small increase in participation was seen across all crop groupings, except for two sectors where participation levels fell more significantly: Tree and Vine Fruit, and Combined Vegetables (fruiting vegetables, bulb and root crops, etc.).

• The number of companies enrolling in Option D for repacking, wholesaling, and brokerage operations continues to climb. Over 200 facilities are now participating in Option D, which represents 5% of all CanadaGAP-certified companies.

• Group certification now reflects a mere 7% of producers participating in CanadaGAP. For twelve years, the proportion of participants from groups ranged between 20% to 30% of all enrolments. A steep decline in groups has occurred since the introduction of more stringent GFSI requirements for group certification.

• The balance of individual and group enrolments has shifted markedly over the past year as a result of new group certification requirements. A significant number of those moving to

Program uptake by commodity August 31, 2021



individual certification are choosing non-GFSI certification options. For 2021, 27% of certified companies are enrolled in the four-year audit cycle, which is a substantial increase from 2020 when 23% of program participants chose Option A1 and A2.

• The number of program participants moving to an annual audit under Option C has also increased, corresponding proportionally to the loss of groups. Option C now includes 61% of all participants, up from

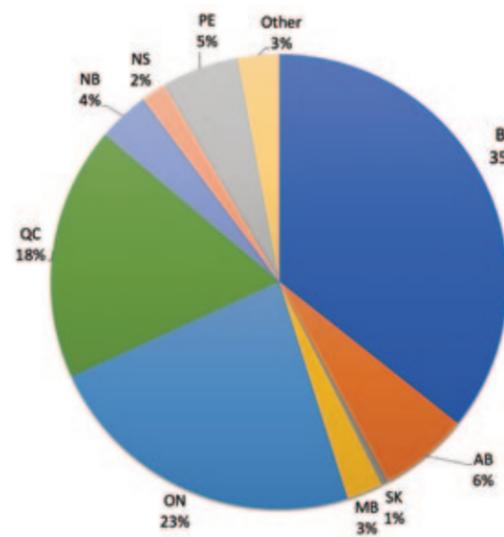
58% of CanadaGAP-certified companies in 2020.

- For the purposes of analyzing participation trends, enrolment figures are broken down by five crop groupings:
 - o Tree and Vine Fruit
 - o Field Vegetables
 - o Potatoes
 - o Small Fruit
 - o Greenhouse

What's ahead for 2022?

- Program Participant Survey and Town Hall Sessions – planned for

Operations Enrolled by Province August 31, 2021



Q1 of 2022.

- Auditor Refresher Testing – planned for Q4 of 2022.
- Active engagement in GFSI activities will continue, including participation in the US-Canada Local Group, various GFSI “Race to the Top” initiatives, and regular meetings with the GFSI Steering Committee and management.

- CanadaGAP will continue its active participation in the development and implementation

of the new ISO/IEC 22003-2 standard.

• CanadaGAP does not expect to publish an update to the Food Safety Manuals in 2022, although a few changes are in the works for the CanadaGAP Audit Checklist. For further updates please visit the program website at www.canadagap.ca

Heather Gale is executive director, CanAgPlus.




PARTNERS IN PRODUCTIVITY



AVENGER



RED MOUNTAIN



NARVIK

AVENGER • 48 Day Pickling Cucumber Predominantly female. Avenger pickle yields blocky, traditional style fruit. Growers can expect consistent productivity and quality from one harvest to the next. Plants are multi-virus resistant for main and late season plantings. HR: Ccu, WMV, PRSV, ZYMV / IR: CMV, Pcu, Pc, Psl

RED MOUNTAIN • 110 Day Red Long Day Storage Onion Large storage red onion. Good colour throughout bulb. Firm with good storage capability.

NARVIK • 68 Day Nantes Carrot Refined cylindrical early nantes with good taste, storage and washing quality. Very upright tops. IR: Ar / Cc / Ps, Pv

PATSY (B-3353) • 75 Day Fresh Market Determinate Tomato A new widely adapted tomato with continuous yield of attractive large-extra large very clean fruits and good firmness for shipping and long shelf life. HR: Fol (1,2), Va, TSWV, For / IR: TYLCV

For more information contact your friendly and knowledgeable sales representative



FRANK JONKMAN
Central & Eastern ON
(519) 801-5882
fjonkman11@gmail.com



BRIAN TREGUNNO
SW ON, AB, MB
(416) 505-0853
bbtregun@cogeco.ca

www.seedway.com

CHAIR'S PERSPECTIVE

Supply chain pressures putting the squeeze on growers



BILL GEORGE
CHAIR, OFVGA

Supply chain pressures and rising costs are the latest pandemic-related impacts affecting fruit and vegetable growers. And while we're by far not the only sector of the provincial or the national economy dealing with these challenges, as growers we are among the least able to respond to them.

We all know that our industry is one of price takers. In today's global marketplace, we have very little if any opportunity to pass increased costs at that farm level on to consumers. That means that every price increase to our

businesses makes it that much harder for growers to stay profitable or competitive.

Consumers are seeing higher prices at the grocery store, but those higher prices don't translate into more revenue for growers - however, we are seeing record profits in the grocer retail sector.

COVID-19 has created health, economic and logistical upheaval around the world, resulting in crippling port congestion, skyrocketing shipping costs, product and service shortages, delivery delays and lack of personnel.

This has an even more significant impact in an industry such as produce that deals with perishable products. While delayed delivery of a container with furniture, for example, is an inconvenience, the furniture will still be sellable when it is finally delivered to its buyer.

With produce, it's a different story. Any delays in delivery impact the quality of fruits and vegetables, meaning they're less appealing to consumers, have a shorter shelf life and will more likely end up as food waste instead of being eaten.

A car part shortage is

inconvenient when you're waiting to buy a new vehicle but input shortages in horticulture have a more dramatic impact. When the fresh produce supply chain has trouble getting anything from fertilizer, crop protection products and greenhouse building materials to skids, cardboard and packaging, it impacts not just grower profitability but also ultimately what consumers see in the grocery store - and our food security.

As costs for everything continue to increase, so does the price of produce, making it harder for Canadians to afford healthy food choices. And it's not just the pandemic that has been contributing to price increases. There are also impacts created by government policy.

For example, the federal carbon tax increases the cost of doing business for everyone, and while our sector is supportive of responsible and sustainable food production, we also need time and support to transition to new technologies and invest in innovation.

Here in Ontario, the recently announced raise in minimum wage levels to \$15/hour on

January 1, 2022 is yet one more price increase that growers will have to try to absorb. The short notice between announcement and implementation doesn't leave a lot of time for adjustment, and the nature of unexpected announcements gives growers little stability or predictability in being able to manage their costs.

The minimum wage hike comes on top of significantly higher labour costs that growers have already borne since the onset of the COVID-19 pandemic - both to ensure Canadians continue to have access to local food and in hopes of better times ahead.

That included costs for everything from hotel quarantines and PPE to inconsistent regulations from local public health units. Increased distancing and fewer international workers able to come to Canada impacted productivity and workflows, and in extreme cases, resulted in crops that simply did not get harvested.

It's also important to note that although pandemic-related labour challenges continue for growers, the federal government has ended all related support programs that were helping us absorb some of

the losses during these challenging times.

We are seeing fruit and vegetable growers being put in a position of unprofitability and unsustainability at a time when domestic food production should be enhanced, and food sovereignty should be a national security issue.

It's becoming clear that there are more turbulent times ahead for edible horticulture, and we've been working to bring the depth and breadth of the challenges to the attention of the provincial government.

As I write this, we've just had a meeting with Ontario Minister of Agriculture, Food and Rural Affairs, Lisa Thompson, to brief her on how our industry is currently being impacted. She is hearing similar concerns from across the agriculture sector - it's not just horticulture that is feeling the pinch.

It was a positive first meeting on the issue and we've agreed to stay in close communication with OMAFRA and the Minister's Office as this situation continues to unfold.

WEATHER VANE



This photo speaks to the "get 'er done" character of farmers all across Canada. Late into the night or early at dawn, somewhere a grower has the lights on. Season's Greetings!
Photo by James Bareman, Taber, Alberta.

STAFF

Publisher: Ontario Fruit and Vegetable Growers' Association
Editor: Karen Davidson, 416-557-6413, editor@thegrower.org
Advertising: Carlie Melara 519-763-8728, advertising@thegrower.org

The Grower reserves the right to refuse any advertising. Any errors that are the direct result of The Grower will be compensated at our discretion with a correction notice in the next issue. No compensation will be given after the first running of the ad. Client signature is required before insertion.

The Ontario Fruit and Vegetable Growers' Association is the sole owner of The Grower. All editorials and opinions expressed in The Grower are those of the newspaper's editorial staff and/or contributor, and do not necessarily reflect the view of the association.

All rights reserved. The contents of this publication may not be reproduced either whole or in part without the prior written consent of the publisher.

OFFICE

355 Elmira Road North, Unit 105
Guelph, Ontario N1K 1S5 CANADA
Tel. 519-763-8728 • Fax 519-763-6604

The Grower is printed 12 times a year and sent to all members of the Ontario Fruit and Vegetable Growers' Association who have paid \$30.00 (plus G.S.T.) per year for the paper through their commodity group or container fees. Others may subscribe as follows by writing to the office:

\$30.00 (+ HST) /year in Canada
\$40.00/year International

Subscribers must submit a claim for missing issues within four months. If the issue is claimed within four months, but not available, The Grower will extend the subscription by one month. No refunds on subscriptions.

P.M. 40012319

ONTARIO FRUIT AND VEGETABLE GROWERS' ASSOCIATION BOARD OF DIRECTORS 2020

MANAGEMENT COMMITTEE

Chair: Bill George Jr., Beamsville
Vice-chair: Charles Stevens, Newcastle
Fruit: Norm Charbonneau, Port Elgin
Vegetable: Shawn Brenn, Waterdown
Director: Mike Chromczak, Brownsville

BOARD OF DIRECTORS

Apples: Charles Stevens, Newcastle
Fresh Veg other: Kenny Forth, Lynden
Tender Fruit: Fred Meyers, Niagara-on-the-Lake
Asparagus: Mike Chromczak, Brownsville
Fresh Grape: Bill George Jr., Beamsville
Fresh Veg muck: John Hambly, Bradford
Potato: Shawn Brenn, Waterdown
Small Fruit: Norm Charbonneau, Port Elgin
Ginseng: Glen Gilvesy, Tillsonburg
Greenhouse: Jan VanderHout, Waterdown
Greenhouse: George Gilvesy, Tillsonburg
Processing Vegetables: Ron Van Damme, Wallaceburg

OFVGA SECTION CHAIRS

Crop Protection
Environment and Conservation
Labour
Safety Nets
Energy, Property, Infrastructure and Food Safety

Charles Stevens
Jan VanderHout
Ken Forth
Mike Chromczak
Brian Gilroy

THE
GROWER

URBAN COWBOY

The ministers' "Guelph Statement" reflects new realities for agri-food



OWEN ROBERTS

It was July 2019, when federal agriculture and food minister Marie-Claude Bibeau announced Guelph would be the locale for the next annual conference of federal, provincial and territorial agricultural ministers.

Back then, Ernie Hardeman was still Ontario's agriculture, food and rural affairs minister. Franco Vaccarino, who chimed in with some congratulatory quotes, was still the president of the University of Guelph. The first confirmed case of COVID-19 in Wuhan, China, was still six months away.

And agri-food competitiveness was still at the top of everyone's

agenda.

In fact, in declaring Guelph would host the gathering, Bibeau further announced its theme would be "Strong Agrifood: Strong Economy."

Competitiveness was so pervasive that it was hard to imagine anything detracting from it.

Then, something did.

The Guelph meeting was originally scheduled to be held in-person last July. Like almost everything else, it was delayed due to the pandemic. When it eventually took place last month, its emphasis and outcome – reflected in what the ministers dubbed the "Guelph Statement" – showed how much different the world is now.

The statement, intended to carry the sector through to 2028, has five priority areas: climate change and the environment; science, research and innovation; market development and trade; building sector capacity and growth; and resiliency and public trust.

Those priorities will be the touchstone for shaping the next policy framework, which will surely look much different than the last one. The ministers haven't lost sight of competitive-

ness. But in announcing the priorities, Bibeau first mentioned they would position Canada for continued success in sustainable agriculture. Enabling a globally competitive sector followed; two years ago, it surely would have led.

The change emphasizes two points, at least.

First, when it comes to federal, provincial and territorial meetings, it's good to get together and keep checking in. Sometimes you wonder if these kinds of meetings are much more than an opportunity for the host province or city to show off its agri-food sector and research facilities. There's nothing wrong with that – in fact, there are many things right about that, including giving the minister and others a chance to see how federal money is being invested, and a snapshot of the progress that's being made locally.

But at one time these gatherings outside Ottawa were also to help local concerns reach the minister's ears. Given the amount of lobbying that takes place these days though, and the media monitoring in all ministers' offices, it would be unrealistic to think Ottawa isn't already tuned in. And as we know, modern

communications technology that has evolved in the last two years means many gatherings can be held remotely.

This year, however, the minister really needed to look everyone in the eye and hear them say "I'm in."

She needed them to applaud and trumpet their shared vision, not just nod their heads.

She needed them to believe in their declaration that Canada is recognized as a world leader in sustainable agriculture and agri-food production "and drives forward...from a solid foundation of regional strengths and diversity, as well as the strong leadership of the Provinces and Territories, in order to rise to the climate change challenge, to expand new markets and trade while meeting the expectations of consumers, and to feed Canadians and a growing global population."

Competitiveness is still there, implicit in much of the multi-faceted statement and in supplementary quotes from Bibeau, such as "farmers and agri-food entrepreneurs...must be incredibly resilient and innovative in the face of many challenges, including climate change, fluctuations in international trade,

and labour shortages."

But acting on the advice of the agri-food sector, she also notes that all agreed they would "invest widely to grow the sector while protecting our environment, reducing our emissions and safeguarding the well-being of those who ensure our food security." Bibeau says the Guelph Statement reflects the large amount of input received through stakeholder consultations, not just the collective thoughts of the ministers.

Government emphasis on climate and the environment will bring more change to agriculture. People everywhere, from those marching in the streets in Glasgow at the global summit on climate, to those making buying decisions as they navigate the aisles of a grocery store, have made it clear this is a priority. Now, so has agriculture.

Owen Roberts is a faculty member at the University of Illinois at Urbana-Champaign.

PROVIDE AGRO
A BARTLETT COMPANY

freilauber

freilauber

"The Freilauber Pre-Pruner drastically cuts down our follow up pruning time, saving us money and man hours. The cuttings are also removed from the wire helping to reduce worker fatigue."
-Will George, George II Farms

Quality, Efficiency, Safety

GREEFA PERFECT ORSI FAMA FRUIT TEC PROVIDE AGRO PULSE SINCLAIR H.S.S. SHURFARM FREILAUBER SORMA WIDDER

Provide Agro now offers a wide range of Freilauber vineyard equipment including, pre-pruners, trimmers, leaf pullers and more. Freilauber has more than 25 years' experience in the development and production of equipment for viticulture, fruit cultivation and tillage. Visit our website for more information.

905.563.8261 | 1.800.263.1287 | info@provideag.ca | www.provideag.ca | Beamsville, ON, Canada

BITS AND BITES

Modernizing grade standards for fruits and vegetables



On October 29, 2021 the Canadian Food Inspection Agency (CFIA) launched Phase 1 of a 60-day public consultation on proposed changes to the fresh fruit and vegetable grade standards found in Compendium - 2 Fresh Fruit or Vegetable

Grades and Requirements. "We are pleased that the public consultation phase of this initiative is now underway," notes Dispute Resolution Corporation (DRC) president and CEO, Luc Mougeot. "Leading an initiative to modernize Canada's grade

standards has been a long-standing priority for DRC, particularly given their importance to DRC's ability to fulfill its mandate."

The process has been extensive and detailed and has involved many volunteer technical experts from across the produce industry.

"This would not have been possible without the contributions of the volunteers, and we are truly grateful for their participation," added Mougeot. "We also look forward to continued collaboration from CFIA throughout the various phases."

Phase 1 seeks input on greenhouse cucumbers, greenhouse mini cucumbers (new) and greenhouse tomatoes.

The DRC-led initiative is supported by the AgriAssurance Program, under the Canadian Agricultural Partnership, a federal, provincial and territorial initiative.

To view and participate in the consultation, visit <https://bit.ly/30FFk9w>

For additional information, contact Anne Fowle (afowle@fvdrc.com)

Source: *Dispute Resolution Corporation October 29, 2021*

COMING EVENTS 2021

- Dec 1 Ontario Potato Board Annual General Meeting, Guelph Conference Centre at Delta Hotel, Guelph, ON
- Dec 2 Ontario Produce Marketing Association Annual Awards Ceremony, 7-9 pm VIRTUAL
- Dec 2-3 Canadian Potato Council Fall Meeting, Ottawa, ON
- Dec 2 Agricultural Adaptation Council Annual General Meeting, VIRTUAL
- Dec 7 Pest Management Centre New Registrant Technology Day
- Dec 7-9 Great Lakes Expo, Grand Rapids, MI
- Dec 9 Fresh Vegetable Growers of Ontario Annual General Meeting VIRTUAL

2022

- Jan 5-6 National Potato Council Potato Expo, Anaheim Convention Center, Anaheim, CA
- Jan 16-19 North American Strawberry Growers' Association Annual General Meeting and Conference, Nashville, TN
- Feb 1-3 Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA
- Feb 13-15 International Fruit Tree Association 2022 Annual Conference, Hershey, PA
- Feb 8-9 Pest Management Centre Priority Setting Workshop C VIRTUAL
- Feb 9-11 Fruit Logistica, Berlin, Germany
- Feb 16-17 Pest Management Centre Priority Setting Workshop B VIRTUAL
- Feb 21-24 North American Raspberry and Blackberry Conference, Gaithersburg, MD
- Feb 22 Canada's Agriculture Day
- Feb 22 Berry Growers of Ontario Annual General Meeting, Niagara Falls, ON
- Feb 22 Ontario Fruit and Vegetable Growers' Association Annual General Meeting, Hilton Hotel, Niagara Falls, ON
- Feb 23-24 Ontario Fruit and Vegetable Convention, Scotiabank Centre, Niagara Falls, ON
- Feb 24-25 International Potato Technology Expo, Eastlink Centre, Charlottetown, PE
- Mar 8 - 10 Canadian Horticultural Council 100th Annual General Meeting, Westin Ottawa Hotel, Ottawa, ON
- Mar 22-24 Pest Management Centre Priority Setting Workshop A VIRTUAL
- April 5-7 Canadian Produce Marketing Association Convention & Trade Show, Palais des congrès de Montreal, Montreal, QC

New website for Ontario seed potatoes



The Ontario Seed Potato Growers' Association has launched a new website: www.OSPGA.ca Under the "Our Growers"

heading, look for the varieties that are grown. Review your needs and contact the relevant growers. All contact information for each grower is given on the "Home" heading under members. Some of the growers who have six varieties listed will likely have more varieties with seed available as well.

Under "SPUD Unit" look for the list of all the pathogen-free varieties stored at the facility in New Liskeard. See the attributes for each variety listed. Mini tubers of each of those varieties

can be ordered by contacting us through the "Contact" heading on the website.

OSPGA Vision: "Ontario seed potato production meets the total high-quality seed requirements for all commercial growers in Ontario for a more economically and environmentally sustainable potato sector with a reduced carbon footprint in accordance with the UN's Sustainable Development Goals."

Source: *Eugenia Banks, consultant to the Ontario Potato Board*




Stokes Seeds Trial Evaluation: Researching the best for our customers since 1881.

 <p>FIREBALL</p> <p>Slightly warted vibrant orange and yellow stripes with unique pattern. Dark green stripes mature to orange.</p>	 <p>FLAGLER</p> <p>High quality ear, strong plant with broad adaptation and good stress tolerance offering excellent yield potential.</p>	 <p>NAVAJO</p> <p>Large bicolor with blunt tips, good tip cover and outstanding taste and tenderness. Widely adapted.</p>	 <p>CURRIER</p> <p>Extra-large, blocky dark green to red square four lobed smooth high quality fruit.</p>
---	---	---	--

Paul Banks ON, NS 905-688-4300	Alexandre Bisson QC 438-334-1996	Leah Erickson AB, BC 604-957-2359	Rob Hovius ON, PEI, NB 519-580-3231	Marc André Laberge QC 514-984-4589	Jessica Teller-Lambert QC 514-984-0662	Darcy Leiter AB, MB, SK 306-491-6485	Bridget Visser ON 905-715-8595
--------------------------------------	--	---	---	--	--	--	--------------------------------------

— Quality Seed Since 1881 —

T: 1-800-263-7233 | F: 1-800-272-5560 | www.stokeseeds.com | Box 10 Thorold ON L2V 5E9

RETAIL NAVIGATOR

10 trends that will reshape 2022



PETER CHAPMAN

When the calendar shifts to a new year there is no magic switch to change things in our industry, but it is a good time to pause and focus your energies where they need to be in the upcoming year. We have been challenged by the pandemic for part of 2020 and all of 2021. As we learn to live with this global event, its impacts are influencing our trends for 2022.

Cost of goods

There is a lot of pressure on input costs, labour efficiencies, ingredient costs, logistics and it all adds up. There has also been a lot of noise in the media about food inflation. This is both positive and negative. It is positive in that the entire value chain, right through to the consumer understands there are increases. Conversations about cost increases will not be a surprise and people should be expecting them. It is negative because some retailers will assume suppliers are trying to take advantage of the situation.

Producers and processors must think about how they manage these perceptions and position their customers to get the right price for their product. Share information as early as you can and educate your customers. Be fair and realistic. Retailers also respect suppliers who push back on their own input suppliers. If you can decrease the cost increase on cardboard from 15-12 per cent, tell the retailer you were able to do that.

Service level

Retailers and suppliers in the food industry need to drive sales. Inventory is required at the right time, in the right place to deliver sales. Many producers and processors are challenged with this right now. It is also an opportunity to differentiate from competition.

There are a lot of areas to focus on when delivering service level. You should start with forecasting sales, have the inputs and capability to produce and deliver. Discuss sales forecasts with customers and agree on a number you are able to produce. Report back on the results

because they might miss your 95 per cent service level which is an accomplishment in this environment.

Supply of inputs

There are many challenges to getting everything required to produce products. Supply chains are challenged and they will continue to be in the near future. Producers that have ample supply of all inputs could be at an advantage over other suppliers.

Producers should review everything from inputs to packaging to equipment parts to ensure they are ready for the season.

E-commerce

We know a lot of volume has shifted to e-commerce. More producers and processors are selling direct to consumers. Retailers have invested in online shopping and even delivery. Any business that has devoted resources to e-commerce in the last two years will be looking for a return. Consumers are much more familiar with buying food online.

Producers and processors need to consider three segments of e-commerce: selling direct to consumers, an online marketplace such as Amazon and retailers' websites. E-commerce should be a consideration. One, all or none of these options might be right for your business. Remember if you decide to ignore the e-commerce options, your competition might be there and satisfying the needs of your consumers.

Buy local

The demand for 'local' food has been influenced by the pandemic. When consumers went into grocery stores in March 2020 and found empty shelves it was a shock. In Canada, people just expected there would always be food to buy. This forced people to think about food and they want to know more about where it comes from. Retailers also want more 'local' to satisfy consumer demand and because the service level can be better.

This is an opportunity because consumers and customers both want it. This does not happen often. Producers and processors should tell their story better than ever and find opportunities to expand their distribution while there is demand.

Creating demand

There is a lot of competition out there. Producers and processors need to create demand for their products. Food service will gain momentum and retail will be under pressure to deliver

same-store sales growth.

Social media, public relations and mass media can all be used to create demand for your products. You cannot just produce great products and hope they sell. Suppliers need to figure out how to support trade spend and marketing spend.

Efficiencies

Since COVID, we all operate in a very different market. Labour is a challenge and many businesses are looking for efficiencies. Some large consumer packaged goods companies are even producing fewer SKUs because it is all that they are able to accomplish. Retailers are also exploring fewer SKUs to deliver the same sales.

Efficiencies and doing business differently could present opportunities for suppliers.

Sustainability

Despite the challenges of the pandemic, concerns about the environment are still important to consumers and customers. Impact on the environment, packaging and food waste are three areas for businesses to focus on.

Products designed for segments of the market

Products designed for consumers who want plant-based protein, gluten-free, lactose-free, upcycled products, sustainable packaging are more popular than ever. Consumers want to see



products that meet their needs. Suppliers need to prove it with certifications or declarations on packaging.

Relationships with customers

Suppliers need to adapt to the new working world. Retailers are still working remotely and virtual presentations are common. Trade shows and other opportunities for interaction with customers have all changed.

Suppliers need to figure out how to interact in this new world. Talk to customers to understand how they want to work together and interact. There are advantages to the new working world.

WHAT'S IN STORE

Sobeys has opened a new-concept 'Flexstore' in Orangeville, Ontario, the first of its kind in North America. According to *Canadian Grocer*, the Flexstore system allows the retailer to expand, reduce or

adjust department areas as needed without major construction costs.

The ability to shift a pizza counter, for example, to a salad bar, allows the manager to adjust to holiday seasons or customer trends.

The perimeter encourages the shopper through a circle of fresh food departments, while dry goods are in the centre. The configuration ensures that the consumer is in touch with fresh or specialty items at all times.

Although we do not get to determine store fixtures it is always important to understand where retailers are going with their store design. A new table or merchandising style can open up new opportunities.

Peter Chapman is a retail consultant, professional speaker and the author of A la Cart—a suppliers' guide to retailer's priorities. Peter is based in Halifax, N.S. where he is the principal at SKUFood. Peter works with producers and processors to help them get their products on the shelf and into the shopping cart.

**DOWN TO EARTH TECHNOLOGY****PRECISION AGRICULTURAL PLANTING EQUIPMENT MANUFACTURED IN THE USA****PNEUMATIC METERED SEED PLANTER**

Capable of planting 10,000 hills per hour, per row, on plastic mulch covered seed beds. Using a custom drilled seed plate, the planter can achieve one seed per hole with approximately 90% accuracy.

SEMI-AUTOMATIC TRANSPLANTER - One

operator per head required and capable of planting up to 3,600 plants per hour, per row. The operator pulls seedlings from trays and feeds a custom designed carousel with plugs. A "root ball" is required to orient the seedling correctly in the ground engaging system.

Both include an automatic leveling system, propane torch which burns a specific size hole in plastic mulch row cover, and a water injection system that dispenses about a quarter cup of water, or liquid fertilizer on each hole. One, two, three and six row configurations are available for flat, or raised beds. Custom built to order please allow four to six weeks lead time, depending on your configuration.

Renaldo Sales & Service, Inc.
North Collins, NY | USA
www.renaldo.org | 800-424-5564

FOCUS: SOIL HEALTH & CROP NUTRITION

Cover cropping: above ground benefits, underworld bonuses



Tom Wiley (L) discusses vineyard management with crop protection consultant Ryan Brewster.



Nitro radish. Photos by Glenn Lowson

KAREN DAVIDSON

No plugged arteries. That's the gold standard for human heart health and it's the same for soil health. If you were to cut a 3-D slice of living soil, you should see tiny veins that allow oxygen and

water to penetrate the rhizosphere. This is the objective: to build soil structure that can store water.

As three growers attest, the cover crop mixtures and management methods vary significantly from farm to farm and crop to crop. Here are three stories about cover cropping in muck vegetables, vineyards and potatoes.

mixture contains five per cent faba beans, 10 per cent Nitro radish (certified variety Daikon radish), 15 per cent crimson clover, 10 per cent Austrian winter peas, 10 per cent forage peas and 50 per cent ryegrass. The clover fixes nitrogen, while the taproot of the Nitro radish aerates the soil.

Wayne DeBoer, co-owner of the General Seed Company, provides mainly four different cover crop mixes to about 80 vineyard owners in eastern Canada. The base recipe includes a ryegrass, legume and *Brassica* but the ratios and plant species differ depending on the pH level, soil type, cover crop rotation, and when the cover crop is planted.

For vineyard owners, the types of legumes chosen – especially clover – are very important. For longer cover crop rotations, pick appropriate perennial legumes. Clovers to consider are red clover, alsike clover (lower pH soils), white clover (higher pH soils) and crimson clover (a biennial).

Nitro radish is known for breaking up hardpan clay in vineyards. Oilseed radish, on the other hand, is recommended for vegetable growers who are seeking its biofumigant properties.

“Cover crops in vineyards are not a new thing,” says De Boer. “But I recommend that growers place orders early for 2022.”

Cover crop supplies are very tight especially perennial grasses and legumes. Many factors have affected seed supplies but the drought in western Canada and the U.S. for the second year in a row has resulted in an extremely small seed crop. Prices are up, but supply will be the biggest factor.

Continued on page 18

FertiCare®

3 REASONS

MORE POWERFUL THAN OTHER COATINGS

FertiCare®
Liquid Micronutrient Coating
for Soil-Applied Fertilizers

Inside FertiCare
Liquid Micronutrient
Coating

1

Chelated Micronutrients

Packed with micronutrients chelated by natural, plant-derived carbohydrates to maximize uptake.

2

Immediately Available

Completely soluble and immediately available nutrition for early season crop growth and beyond.

3

More Yield with Less Nutrients

Improve ROI and achieve higher yields with lower nutrient application rates compared to other coatings.

NUTRIAG Innovators in the field

nutriag.com/ferticare-canada

The information in this document has been provided in good faith. There are no warranties, expressed or implied, including any warranty of fitness or accuracy. The manufacturer assumes no liability if any issues arise. Trademarks within this document are of NutriAg Ltd. unless otherwise stated. © 2021-2022 NutriAg Ltd. For distribution in Canada.

VINEYARDS

“Earthworms are the cheapest employees I have,” quips Tom Wiley, a grape grower near St. Catharines, Ontario. He’s been a soil champion for decades, spreading compost in the spring, subsoiling in the late spring/early summer and then sowing cover crops in mid-summer between his grapevine rows. But nothing surpasses a vibrant population of earthworms that will aerate the soil for you.

“When there’s a good rain on my farm, I can come out to the vineyard, stomp my feet and hear a big sucking noise,” says Wiley. “It’s the sound of earthworms heading for cover.”

Vineyard management requires many passes of equipment to fertilize, spray, remove leaves, and mechanically harvest. All those tires compact soil – especially clay soils -- making it more difficult for rain and nutrients to penetrate. That’s why soil care is almost a year-round task.

Wiley sources his cattle and horse manure locally, disking in the compost on every other row for his 50 acres of vineyards. He applies eight to 10 tons per acre, depending on manure availability. Next, he sows a cover crop mixture on the remaining rows. Designed for vineyards, his

Buried Treasure: Unlocking Unused Nutrients in the Soil



Analysis of Clay Loam Soil With and Without BioMax™ Treatment		Analysis in ppm	
		Control	BioMax™
Nitrate Nitrogen	NO ₃ -N	8.00	10.00
Ammoniacal Nitrogen	NH ₄ -N	0.10	1.90
Phosphorus	P	129.40	249.70
Potassium	K	361.90	671.40
Calcium	Ca	962.10	2,043.00
Magnesium	Mg	122.20	242.30
Sulfur	SO ₄ -S	66.17	33.00
	pH	5.13	5.94
	CEC	7.36	14.59

The cost of crop inputs is rising to unprecedented levels; growers are facing difficult choices about providing fertilizer to their crops. Well, there is a treasure trove of nutrients already in most soils – some of it bought and paid for in past years – but presently unavailable to plants for various reasons. Essential macro nutrients such as phosphorus and potassium are often present in significant amounts but are unavailable due to tight soil chemical bonds with other elements. However, biological activity can break these bonds and release the nutrients, allowing uptake and use by crops.

Increased beneficial soil microbial activity boosts soil nutrient availability without additional application of fertilizer. BioMax™ is a soil biological food source that favours and supports aerobic bacteria and beneficial fungi such as mycorrhizae. The metabolic activity of these aerobic microbes converts these hidden soil based nutrients into plant-available forms.

“Soil tests measure nutrients that are able to be extracted, but that’s not necessarily all the nutrient that’s there,” says Rick de Jong, International Business Development Manager for Agro-K. “That’s the nutrient estimate as being available to the crop. There are often nutrient reserves present that aren’t even being picked up on a soil sample because they are so tightly bound up.”

It’s important to note that BioMax does not contain live organisms. Because of this, it is a stable product, easy to store, and has a long shelf life.

By providing minerals and nutrients that aerobic microbes and beneficial fungi need, BioMax supports stronger soil microbial activity resulting in increased plant-available nutrients in the soil. Extractable levels of nitrogen, phosphorous, potassium, calcium, and magnesium, as well as some micronutrients, improve in fields where BioMax treatments occur compared to similar fields without BioMax.

While increasing nutrient availability is the most important reason to use BioMax, increasing beneficial bacteria and mycorrhizae populations outcompete anaerobic microorganisms, decreasing conditions favourable for various undesirable root fungi and bacteria. Subsequently, soils with greater aerobic microbial populations grow plants with greater root masses. BioMax treated soils also display other benefits such as improved structure and water-holding capacity.

“For annual crops, it is important to apply BioMax when soils are just starting to warm up in the spring,” de Jong says. “Soil temperatures should be at least 42°F to 44°F for microbial activity to begin. When that happens, BioMax can energize that activity. Perennial crops such as trees and vines can benefit from BioMax applied not just in the spring but also in early fall, making sure essential nutrients are available before dormancy. Adequate soil moisture is an important factor for microbial activity so application during a drought scenario should be followed by supplemental irrigation.” BioMax can be applied via most irrigation systems or band sprayed at the base of rows and watered in as a soil drench application.

Find out how to access the nutrients already in your soil with BioMax at www.agro-k.com

AGRO·K  [®]
CORPORATION

8030 Main Street, NE • Minneapolis, MN 55432
 800-328-2418 • www.agro-k.com

© 2021 Agro-K Corporation.

Science-Driven Nutrition™

FOCUS: SOIL HEALTH & CROP NUTRITION

Cover cropping: above ground benefits, underworld bonuses

Continued from page 16

MUCK VEGETABLES

Soil blowing across the flatlands of Ontario's Holland Marsh is a less common sight during winter. Thanks to the Lake Simcoe Region Conservation Authority and a funding program, 33 farmers have changed farm practices to seed cover crops to hold the muck soils in place.

The cost-shared program covers the complete cost of seed up to a cap of \$2,000 per farm. The applicant must provide a detailed, three-year cover-cropping plan and a rotation plan, identifying the location and size of fields where seed will be sown. A site visit will verify the cover crop species, areas planted and growth. Landowners can re-apply for funding assistance for a maximum of three years. Growers can choose a seed that works best for the individual farm such as tillage/oilseed radish, barley, red clover, sorghum and many others.

For Chris Sopuch, 2021 is the fourth year that oilseed radish has been planted on 30 to 40 acres near Bradford, Ontario. The cover crop has a carrot-shaped taproot, creating air space in the soil, but its leafy foliage is what also helps hold soil in place. At Marshland Gardens, the seed is planted at 12 pounds per acre in mid-October, after an onion crop has been harvested. Thriving in moist cool conditions, the oilseed radish rapidly covers the soil. Hard frosts knock back the leaf

growth.

"By the time spring comes, all we have to do is disk the field," says Sopuch. "You'd never know the crop had been there."

This plan for field rotation is particularly beneficial when carrots are the next crop. Oilseed radish, containing high glucosinolate levels, suppresses nematodes which can cause forking in carrots. The sulphur-containing compounds in the crop residues act like commercial fumigants.

"I've noticed longer, straighter carrots as a result of this program," says Sopuch.

Nematode suppression has been documented on some cyst and root knot nematode species in particular, notes Dennis Van Dyk, a vegetable crops specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

In terms of the biofumigant properties, Van Dyk says that oilseed radish is not quite as dramatic in its effects as planting, shredding and incorporating some mustard varieties which have higher levels of glucosinolates. However, oilseed radish is valued for its overwintering properties as Sopuch has testified.

"Not much research has been done on cover crop benefits on muck soils but we're hoping to change that," says Van Dyk. "We currently have a three-year project looking at various cover crop options after onions, after carrots and full-season cover crops. We're really interested in actually quantifying the benefits on muck

soils including whether there's an effect on disease levels. Vegetable production on muck soils has unique cover crop requirements and tight windows of opportunities for application."

POTATOES

Prince Edward Island growers are very protective of their distinctive red soils. Ryan Barrett, research and agronomy specialist for the PEI Potato Board has had no issue in recruiting growers to conduct cover cropping trials.

Two projects are currently underway. One is testing cover crops in the year preceding potatoes with species such as mustard and oilseed radish, along with barley and oats. The second trial is testing cover crops after potato harvest.

"It's a tight window to plant cover crops and have good establishment after potatoes," he explains. "If it's late September or early October when harvest is done, growers have little choice than to plant either cereals such as wheat, rye or barley or fast-emerging spring cereals such as barley and oats for quick cover. Planting winter barley is new to PEI."

After two years of trials, the numbers show that for seeding dates before October 1, most species of cover crops established well. After October 10, only winter rye showed strong rates of ground coverage. At three different soil depths (0-6 inches, 6-12 inches, 12-18 inches), residual soil nitrate levels were



Chris Sopuch surveys a field of oilseed radish that will cover muck soils before next year's carrot crop near Bradford, Ontario.



To the left is oilseed radish and to the right is spring wheat, explains Ryan Barrett, research and agronomy specialist with the PEI Potato Board. After these cover crops, this field is destined for potatoes in 2022. Photo supplied by Ryan Barrett.



Stella Maris
ORGANIC

Add Stella Maris® Organic To Your Crop Management Program Today.



IMPROVES ROOT GROWTH & PLANT ESTABLISHMENT



MAXIMIZES CROP POTENTIAL DURING STRESS CONDITIONS



IMPROVES PLANT NUTRIENT UPTAKE



IMPROVES CROP SIZE AND UNIFORMITY



ENHANCES YIELD

Acadian Plant Health
Sustainably Empowering Plants.

©2021 Acadian Seaplants Limited. All rights reserved. Acadian Plant Health™ and Stella Maris® Organic are registered trademarks of Acadian Seaplants Limited.

1-800-575-9100
acadianplanthealth-na.com

noticeably lower where a cover crop was established compared with no cover crop. The highest rates of nitrate interception were seen using spring oats, spring barley and winter rye.

Of the three major greenhouse gases that trap heat in the atmosphere—carbon dioxide, methane and nitrous oxide—it's the effects of nitrous oxide that growers should be increasingly aware of. The impact of one pound of nitrous oxide (N₂O) on warming the atmosphere is almost 300 times the effect of one pound of carbon dioxide (CO₂).

As Barrett points out, the leftover nitrogen from the growing season can be either leached or off-gassed as nitrous oxide, if there isn't a cover crop to use it. Environmentally smart nitrogen—44 per nitrogen comprised of urea within a flexible polymer coating—is becoming more popular as

are products with urease and nitrification inhibitors such as Super U and Agrotain. They are slow-release products that feed the plant later in the season while also protecting against losses as either nitrous oxide or nitrate leaching.

The PEI Potato Board has supported an application from the PEI Federation of Agriculture to the federal On-Farm Climate Action Fund to explore increased cover cropping and nitrogen management. Their thinking is to incentivize and drive adoption of practices aimed at reducing greenhouse gas emissions.

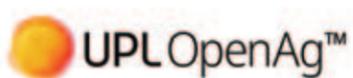
Editor's note: For more detail on effects of greenhouse gases, link here: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>



JUICE UP YOUR YIELDS

Environmental stress conditions can have a serious impact on crop quality and yield. New OHM™ Biostimulant from UPL has been proven to boost stress tolerance by optimizing nutrient utilization which results in increased root length, leaf size, biomass, plant vigour and higher yield potential. Its easy-to-use formulation can be tank-mixed with any UPL herbicide or fungicide in an integrated **pronutiva**® program for improved plant health in one pass.

Be ready for whatever Mother Nature has in store. Ask your UPL representative or retailer about OHM Biostimulant or visit ohmbiostimulant.ca.



Always read and follow label directions. OHM, PRONUTIVA, UPL, the UPL logo and OpenAg are trademarks of a UPL Corporation Limited Group Company. ©2021 UPL Corporation Limited Group Company OHM-2101A



FOCUS: SOIL HEALTH & CROP NUTRITION

Immediately available micronutrients in granular fertilizer coatings make a difference



This photo illustrates a 2021 trial with chipstock potato variety Atlantic. The sample date was July 2021 in New Brunswick. The trial compared the FertiCare zinc and boron program with a competitor's zinc and boron program. NutriAg's foliar program, applied to the whole field, included: ZincMax, MagMax (2 applications), ManZinPhos Max Plus, ManMax, Truphos Magnesium, Length-N, and BoronMax (6 applications)
 Competitor - 2,830 g - 2.83 kg - 6.24 lbs FertiCare - 3,784 g - 3.78 kg - 8.34 lbs

DR. CHRIS TROBACHER

Micronutrients such as zinc, boron, copper, and manganese are the less understood components of a cropping system but are just as essential as the primary and secondary macronutrients (N, P, K, Mg, Ca, and S). Both soil pH and temperature have a large impact on micronutrient availability and, in general, most micronutrients are less available to plants as soil pH increases and when soil temperatures are low in spring. Where a soil is lacking a given micronutrient, or a crop cannot access the micronutrients present, the crop will struggle, and yield will be reduced.

Growers need to effectively apply micronutrients to get around these issues and one approach is to combine micronutrients with an application of a granular fertilizer blend.

Bulk blending granular micronutrients with macronutrient fertilizers is one option that has been used by many growers. Granular micronutrient sources can have varying degrees of solubility and availability. Materials that are 100 per cent sulfate are soluble and available after application, whereas materials that are 100 per cent oxides are not water soluble, not immediately available, and cannot correct nutrient deficiencies in the year that they

are applied. Hybrid granules containing both oxides and sulfates in different proportions exist as well and are called oxysulphates. While bulk blending granular micronutrients can achieve high rates of micronutrient application suitable for building soil levels there are some drawbacks. The low percentage of the blend made up of micronutrient granules, coupled with the segregation of the micronutrients due to different particle sizes relative to the NPK sources, result in uneven placement of the micronutrients in the field and uneven crop response.

Gaining in popularity are liquid micronutrient fertilizer coating products. An example is

NutriAg's FertiCare line of products. Coating granular blends with micronutrients avoids the distribution issue noted above and ensures all plants have equal access to the micronutrients. Handling the liquid coating products is straightforward; they are sprayed onto the granular blends or pumped into blenders during mixing. There is a physical limit to the amount of liquids that can be applied onto granular blends which limits the total amount of micronutrient that can be applied, reducing their utility for building soil levels of micronutrients. These products are better suited for providing an evenly distributed and available source of micronutrients for the early part of the season. When building soil levels, the liquid products could be used on blends containing granular micronutrients.

There are a few different styles of liquid micronutrient coatings on the market today. Oil-based suspension products have high micronutrient analysis because they are suspension products formulated with insoluble micronutrients in the form of

oxides, and in some cases carbonates. The particle size in the suspensions should make them more available compared to an oxide granule, but the solubility is low, particularly in soils with higher pH.

NutriAg's FertiCare micronutrient coatings contain soluble nutrients immediately available for plant uptake and use natural chelation technology to further increase availability compared to sulphates or oxides. This means less nutrient applied per acre which limits impact on the environment while resulting in greater micronutrient use efficiency, improved early season growth and increased yields. Micronutrient applications are known to impact fertilizer use efficiency and with costs of many macronutrient inputs rising, the relatively low cost of a liquid micronutrient coating is a good insurance strategy to protect a significant investment on the farm.

Dr. Chris Trobacher is director of research and communication, NutriAg.

WEBSTONE
PRO Soils

Not all ORGANIC COMPOST is created equal

At Webstone our premium quality composted cattle manure (CCM) is derived exclusively from our own farms in Elmira Ontario.





Compost is available fully matured and odourless. All the fertility is stabilized so there is no leaching or other loss of nutrients during transportation, storage or after application.

Certified Organic – Analysis available on request

519-584-4755
 1701 Northfield Drive East
 Elmira, ON
www.webstoneprosoils.ca



TERRA THRIVE PRO

Healthier soil.
 Heartier vines.

Sustainable soil solutions by A.M.A.



a.m.a.
 Solutions for your success

800-338-1136
amahort.com




**Elevate
your soil.**

**Elevate your
harvest.**



Reklemel™
active

**Start at the roots to protect
the future of your farm.**

Reklemel™ active helps grow your yield by working to protect your crop from a wide range of damaging nematodes, such as root-knot nematodes.

Reklemel stands out for its excellent environmental profile and compatibility with beneficial organisms, promoting healthy, productive soils over time.

Get the best of both worlds with Reklemel.

A new species of *Colletotrichum* in North America is 'hot' news



KATIE GOLDENHAR

Anthraco­nose in field peppers is not news -- in fact growers have been dealing with this disease for decades. In Ontario, the main species associated with anthracnose fruit rot in peppers is *Colletotrichum coccodes* and *C. dematium*. A new species of *Colletotrichum* has been reported on field peppers in North America. In the recently published report, *Colletotrichum scovillei* was associated with severe anthracnose fruit rot in South Carolina in 2019. And yes, this pathogen is named after Wilbur Lincoln Scoville who developed the Scoville scale which rates the hotness of peppers.

Colletotrichum scovillei has also been reported in Brazil, China, Indonesia, Japan, Malaysia, South Korea, Taiwan and Thailand. *Colletotrichum scovillei* is part of the *C. acutatum* species complex, which can cause symptoms on unwounded, immature fruit. *Colletotrichum scovillei* hosts are primarily within the *Capsicum* (pepper) family, with some reports on banana and mango in Asia.

Colletotrichum species may overwinter on infected pepper fruit left in the field or on infected plant material at the end of the production season. Additionally, if crop debris remains on equipment, this may serve as an overwintering source for the disease. Pepper anthracnose usually starts out as a 'hot spot' in the field and then fans out directionally with the prevailing wind and driving rain. The spores of *Colletotrichum* species are spread through splashing water, rain or irrigation, driving winds and equipment/people. Hot weather along with afternoon and evening showers are ideal conditions for anthracnose development.

Colletotrichum species are known to have latent infection periods, where they infect flowers or developing fruit and do not show symptoms until weeks after. Infected fruit can have one or more soft, sunken lesions covered with salmon-coloured spore masses (Figure 1).

Cultural controls for anthracnose should include starting with clean transplants. Scout regularly and remove infected plants, including plants surrounding the diseased one as soon as symptoms are seen. Rotating away from peppers, ideally a three-year rotation, can help reduce inoculum pressure. Avoiding the use of overhead irrigation can help reduce the leaf wetness period needed for infection. Remaining plant debris should be mulched/mowed and then incorporated into the soil as soon as harvest is finished to allow for the soil microorganisms to break down the residue. Clean and disinfect equipment including irrigation hoses, baskets, tractors, trucks, wagons, etc. before storage.

Fungicide applications targeting anthracnose should start at flowering and continue for a seven to 10-day interval until harvest. Make sure the sprayer is well calibrated and the fruit is receiving adequate coverage.

Table 1 outlines the fungicides registered in Canada for pepper anthracnose. Group 11 fungicides (Cabrio and Quadris Top) are heavily relied on for anthracnose control. When using group 11 (QoI) fungicides, the Fungicide Resistance Action Committee (FRAC) recommends that in programs in which applications of QoI are made with both solo products and mixtures, the number of QoI containing applications should be no more than 50 per cent of the total number of fungicides applied per season.



Figure 1. Anthracnose lesions caused by *Colletotrichum scovillei*, photo courtesy of Sean Toporek, Clemson University

Table 1. Fungicides registered on field peppers for anthracnose.

Active ingredient	Product	FRAC Group	Maximum # of applications per year	Pre-Harvest Interval (days)
copper sulphate	Copper 53W	M01	10	2
pyraclostrobin	Cabrio	11	6	0
azoxystrobin/ difenoconazole	Quadris Top	11 & 3	3*	1
difenoconazole/ benzovindiflupyr	Aprovia Top	3 & 7	4*	1
difenoconazole/ pydiflumetofen	Miravis Duo	3 & 7	2*	0
fludioxinil/ cyprodinil	Switch	12 & 9	3	0

*only 4 applications of any difenoconazole containing product per year

Table 2. Cultivars tested in South Carolina against *Colletotrichum scovillei*

Resistant (0% incidence)	Tolerant (2-5% incidence)	Susceptible (>10% incidence)
Roulette	Mexican Sunset	Cornito Giallo
Red Ember	Mexican Sunrise	Escamillo
Aiji Rico	Chili Pie	
	Just Sweet	

Other management strategies could include host resistance. Based on a report from South Carolina, Table 2 outlines some cultivars that showed reduced disease development. None of these cultivars are suitable to Ontario production, however it does demonstrate that there may be some genetic resistance in commercial cultivars that could be incorporated into northern cultivars.

Pepper growers should keep anthracnose top of mind as

planning continues for the 2022 field season. Reach out to myself (katie.goldenhar@ontario.ca) or Amanda Tracey (amanda.tracey@ontario.ca) for any questions or concerns regarding this disease.

References

Toporek, S. M., & Keinath, A. P. (2021). First Report of *Colletotrichum scovillei* Causing Anthracnose Fruit Rot on Pepper in South Carolina, United States. *Plant Disease*, 105(4), 1222-

1222. <https://apsjournals.apsnet.org/doi/full/10.1094/PDIS-08-20-1656-PDN>

A.P. Keinath, S.H. Zardus, and V.B. Dubose, and G. Rennberger. (2021) Evaluation of All-America Selections peppers, 2020. *Plant Disease Management Reports* 15: V040.

Katie Goldenhar is pathologist-horticulture for OMAFRA.

BITS AND BITES

Oppy launches hydroponically-grown, specialty berry pack



Rooting thousands of strawberry plants on elevated tables the first week of October, Oppy, under the Ocean Spray license, will launch its first-ever specialty berry pack in the Happy Berry label mid-December. The hydroponic tabletop strawberry concept was developed by New Wave Berry, LLC, a joint venture formed by grower, marketer and distributor Oppy, agricultural investment firm Farmers Gate and family-owned agribusiness Red Dog Management, who is growing the crop in Santa Maria, California.

The high tunnel facility grows protected strawberries on tables raised to chest height, making labour more ergonomically friendly for those planting, tending and harvesting the berries. Growing hydroponically also requires fewer inputs than field-grown strawberries — because they are elevated, the ground beneath does not require the intense fumigation between planting cycles typically applied in traditional production. Berries receive just the right nutrition, at just the right time while dramatically reducing water use and greenhouse efficiencies enable all of those benefits for year-round production.

“Berry consumption continues to outpace the growth of other fruit items,” said Oppy vice-president of categories and strategy Jason Fung. “While we’re very encouraged to see this, macro level trends facing the industry such as land availability, labour, water, sustainability and beyond continue to raise challenges.”

Plastics and water reduction

Fung said a recent study by

Measure to Improve revealed the equipment and materials used in the production of a pound of Happy Berry strawberries entails 20 per cent less plastic than field-grown strawberries. With water challenges for agriculture throughout the world, tabletop berries are grown in seamless troughs with a precise irrigation system that safeguards water reclamation/optimization.

“Even with all the benefits of hydroponic strawberries, it can be difficult to introduce something new that consumers aren’t typically familiar with,” said Fung. “Trust goes a long way to motivate a purchase decision, which is why the licensing of Ocean Spray’s logo helps encourage consumers to pick up a new item.”

Oppy’s marketing team has been holding onto the Happy Berry sub brand for a number of years as it initially received exceptionally positive reviews in consumer testing. Today, the premium gold label appearing on the 12-oz. clamshell features the Ocean Spray brand, under trademark license from Ocean Spray Cranberries, Inc., the Happy Berry label, key hydroponic call-outs and a QR code to educate consumers.

“It’s an exciting project to get off the ground. We’ve had great support from our team and the industry,” said Greg and Donna France, owners of Red Dog Management. The Frances also noted there has been remarkable interest from domestic workers to be a part of this initiative, considering labour is less arduous for those tending to the tables.

Source: Oppy news release

MARKETPLACE

WORKS

advertising@thegrower.org

866-898-8488 x 221

EMPLOYMENT OPPORTUNITY

Horticulture Sales Representative / Warehouse manager Niagara Orchard & Vineyard Corp

4000 Jordan Rd., Jordan Station, ON
From \$50,000.00 per year



Benefits: Extended health care, On-site parking,
Paid time off, Vision care
Additional pay: Overtime pay
Full-time, Permanent

- General knowledge of orchard and vineyard fertilizers and sprays
- Prospecting potential new customers
- Developing relationships with current clients
- Provide technical expertise to help clients make the best agronomic decision
- Participate in promotional events such as trade shows
- Interact with internal personnel to resolve customer issues and inquiries
- Review current and new literature for new developments within the horticulture industry
- Selling our supplies and services
- Respond to customer concerns and messages in a timely manner
- Maintain industry leading customer service
- Answering customer phone inquiries

RESPONSIBILITIES:

- Be a leader
- Be knowledgeable about workplace safety regulations.
- Streamline the warehouse’s operations.
- Ensure that all tasks are completed safely and according to company standards.
- Control inventory levels.

Please send resumes to shipping@niagaraorchard.com

CONTAINERS AND PACKAGING



“A tasty choice of produce packaging”

NNZ offers a broad portfolio of materials for retail packaging of agricultural products.

 NNZ Inc Canada.
 136 Main Street West
 Unit 3, Norwich
 Ontario, N0J 1P0
 F: 1-519-863-5784

 NNZ Inc. Western Canada
 Unit 107 -2076
 192 Street, Surrey
 BC, V3S 3M3
 F: 1-778-785-1128

+1-519-863-5782
adejonge@nnz.co
www.nnz.ca

+1-778-819-1139
west@nnz.ca
www.nnz.ca

NOTICE OF MEETING

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN THAT THE
163rd Annual Members and Directors' Meeting
 of the
Ontario Fruit and Vegetable Growers' Association
 will be held in Niagara Falls, ON
 at the Hilton Niagara Falls Fallsview
 on February 22nd, 2022



Election of Directors of the Association will take place as well as dealing with resolutions and any other business that may arise.

The 2022
AWARD OF MERIT
 Nomination Form can
 be found here:
<https://bit.ly/3hzKg5p>

MARKETPLACE WORKS

advertising@thegrower.org
866-898-8488 x 221

SEED, NURSERY & ROOTSTOCK



GRINDSTONE CREEK NURSERY
Shade • Nut • Flowering • Native • Fruit

35+ years experience growing trees for wholesale markets
**Apples, Pears, Fruiting Quince, Plums, Apricots,
Sweet & Sour Cherries, Peaches & Nectarines**
Custom/Contract Growing Available

Nursery Location: 148 Concession 6 Rd. E., Millgrove, ON L8B 1M4
Phone: 905.689.5466 | Fax: 905.689.8584 | Email: info@gentrees.com
www.gentrees.com



Providing quality apple trees for 40 years.

- Bench graft
- 9 month bench
- KNIP tree
- Top grafting existing orchard

Call sooner and get what you want with better savings ... contract work available.

BRIAN VAN BRENK
31760 Erin Line
Fingal ON, N0L 1K0
519-902-6353
www.vanbrenk.ca
brian@vanbrenk.ca



Blueberry Bushes Direct From The Grower

- "Virus Tested"
- 25 Varieties of Highbush blueberries
- 10 Varieties of Half High and Lowbush blueberries
- Cranberries

76241 14th Ave. • South Haven, MI 49090
(269) 637-3915 or (888) 483-7431
fax (269) 637-2531
www.degrandchamps.com
sales@degrandchamps.com



DeGrandchamp FARMS

CATALOG AVAILABLE ON THE WEBSITE!



HASKAP
EDIBLE BLUE HONEYSUCKLE

Visit our website for information about our varieties, pricing, research, and production guide.

Plants for sale at
www.phytocultures.com
admin@phytocultures.com | 902.629.1229



CLASSIFIED ADS

Wanted: Potato destoner. Univerco or similar. 519-504-4986.

BLACK CURRANT PLANTS

If you are thinking of commercially growing black currants, you need the best tasting, highest yielding varieties that were developed by McGinnis Berry Crops for North America's growing regions.



Blackcomb, Tahsis, Stikine & Whistler available
✓ disease resistant ✓ high yield ✓ great flavor

Order today for Fall 2021/Spring 2022 planting

PLAID SHIRT Farms Ltd www.plaidshirtfarms.com • info@plaidshirtfarms.com
phone: 226-321-2525

Turn your used farm equipment in to cash with a classified ad.

advertising@thegrower.org



V. KRAUS NURSERIES LTD.
A Growing Tradition

Fruit Trees

Apples
Plums
Cherries
Peaches

Nectarines
Pears
Small Fruit

1380 Centre Rd, Box 180, Carlisle, ON L0R 1H0
Tel: 905-689-4022 • Fax: 905-689-8080
www.krausnurseries.com

GLADIOLUS BULBS

GLADIOLUS BULBS
Wide variety selection for retail sales and commercial cut flower production.
Order by phone, fax, email or online at www.lmbolle.com

813083 Base Line Norwich, ON
T: 519-468-2090 F: 519-468-2099
E: lmbolle@execulink.com



L.M. Bolle & Sons

Need to update your mailing address? Contact our circulation department.

519-763-6160 x 221

Oriental Vegetable Seeds
Ph: 519-647-2280 Seed@agrohaitai.com

Corn TNP 95 F1

Zucchini Black Jade F1



Haitai Seeds

Broccoli Green Island #2 F1

Watermelon Tian Bao F1

Green Pak Choy Chun Mei F1

AgroHaitai Ltd
2764 Governors Road,
Lynden, ON L0R 1T0
Canada

www.Agrohaitai.com

LOGISTICS

WILLIAM L. RUTHERFORD LIMITED



**CANADA & U.S. CUSTOMS BROKERS
INTERNATIONAL FREIGHT FORWARDERS**

SINCE 1927

**WITH 15 LOCATIONS 4 LOCATIONS OPEN 24/7
SHIPPING PARTNERS WORLDWIDE IN 150 COUNTRIES**

HEAD OFFICE – TEL: (905) 673-2222
toronto@rutherfordglobal.com www.rutherfordglobal.com

MARKETPLACE WORKS

advertising@thegrower.org
866-898-8488 x 221

REFRIGERATION

FREE COOLING READY!



**EASY TO INSTALL
CUSTOMIZED
REFRIGERATION SYSTEMS**
for your storage & processing facility



FREE COOLING **ENERGY Efficient** **PLUG and PLAY** **DUAL-KOOL TECHNOLOGY**

(866)748-7786
info@kooljet.com

COMING UP



Here is a list of **The Grower's** upcoming focus sections. There are always early-booking incentives, so plan ahead and save.

January -
Grapes, Vineyards & Berries

February -
Ontario Fruit & Vegetable Convention

March -
**Crop Protection/
Spraying/Potatoes**
advertising@thegrower.org

EQUIPMENT

TURBO-MIST SPRAYERS - 2022 MODELS ARE HERE



**NEW & USED SPRAYERS - 400, 500, 600 GAL IN STOCK
TALL SPRAY TOWERS IN STOCK - FIT ANY TURBO-MIST**

Turbo-Mist 600 diaphragm, teejet electric, almost new	\$19,900
Turbo-Mist 500 diaphragm, short turn, almost new 2018	\$24,900
Turbo-Mist 600 diaphragm, electric tower, clean, low hours	\$20,900
Turbo-Mist 500 diaphragm, electric tower, almost new	COMING
Turbo-Mist 400 nice clean condition, low low hours	\$15,500
Durand Wayland 500 stainless, nice condition	\$11,500
Perfect KG220 H.D. flail mower, 2019, just like new	\$9,500

**** PERFECT ROTARY MOWERS & FLAIL MOWERS **
GOOD CLEAN TRADES ARE NEEDED NOW**

DON ARTHUR ORCHARD EQUIPMENT
(519) 599-3058 donarthur3@gmail.com Thornbury, ON

GROW TRAYS



Make the smart choice.
Reusable EPS trays

 **bpgrower.com**
BEAVER PLASTICS

1-888-453-5961 growerinfo@beaverplastics.com

HEYE REFRIGERATION **INNOVATION
EFFICIENCY
PERFORMANCE**

Premium fruit and vegetable refrigerated cold storages

519-983-6995
info@heye.ca

DESIGN - SUPPLY - CONSTRUCT - MAINTAIN

The Grower has developed **Fresh News From The Grower**, a digital e-newsletter delivered every Tuesday morning to your email inbox.

THE **FRESH NEWS FROM**
GROWER

Sign up at
www.thegrower.org/
subscribe

penn Refrigeration Ltd
Since 1961



**Refrigeration (all types)
Heating
Air conditioning
Controlled atmosphere**

18 Seapark Drive St. Catharines ON L2M 6S6
Tel: 905-685-4255 Fax: 905-685-0333
info@pennrefrigeration.com
www.pennrefrigeration.com

GRAPES, VINEYARDS & BERRIES

coming up in the **JANUARY** edition of **The Grower**
contact advertising@thegrower.org
by **DECEMBER 14**

 @growernews

CROP PROTECTION

A crash course in Ontario's Minor Use Program and the priority setting process



JOSH MOSIONDZ
MINOR USE COORDINATOR,
ONTARIO

each submission and its specific needs. One thing to keep in mind is proposed uses must be supported by the registrant. If the proposed use is not supported, then a registration cannot move forward. If required data sets do not exist, they must be generated through appropriate field or laboratory trials by appropriate personnel (i.e. registrant, provincial specialists, Agriculture and Agri-Food Canada's Pest Management Centre – AAFC-PMC, etc.).

Once submitted to PMRA, a submission will go through various stages where the proposed product and use combination will undergo a rigorous review for its potential impacts to human health and the environment as well as its efficacy to its target pest. PMRA differs from many other global regions with its requirement for registered products to have demonstrated efficacy on its target pest – this protects the user from undue costs being spent on ineffective products and avoids undue human and environmental exposure to pest control products.

Like growing a crop, no two years are the same in the minor use program. While general activities may be similar from one year to the next, the exact projects a PMUC works on can vary extensively. Activities which may affect workload include addressing industry concerns from new or invasive pests, new gaps in the management toolbox following use cancellations from re-evaluations, or spearheading the annual priority setting process for their respective province.

The priority setting process is a crucial exercise beginning the first week of October where tables from the previous year are reviewed and updated, meetings are planned, and potential solutions to problem pests are investigated. This is followed by commodity meetings throughout November where growers, ministry specialists, and industry members sit down to review each commodity's list to add or remove pest priorities, and verify or change pest rankings based on challenges experienced in the most recent growing season. Certain hard-to-manage pests often occur within the top three rankings annually, whereas others



Japanese beetles in blueberries. Photo by Glenn Lowson.

The minor use program. It's a term often used in the industry that many may be vaguely familiar with, but what does it really do? The minor use program was established in the early 2000s to address the 'technology gap' that domestic minor and specialty crop growers were facing with registered products available in Canada vs. those in other global production regions.

This technology gap is and has been frustrating to minor crop growers for years, caused by a lack of registrant registration because of their unique, or limited production areas which do not necessarily make company-led registrations economical to pursue as a company led submission.

The minor use program is led by the Provincial Minor Use Coordinator (PMUC) who is responsible for compiling submissions for evaluation by Health Canada's Pest Management Regulatory Agency (PMRA) which oversees pest control product regulation in Canada. These submissions are called User Requested Minor Use Label Expansions, or URMULEs for short. In total, there are ten PMUCs across Canada (one per province) who collectively work towards supporting growers through creating URMULE submissions and guiding the minor use program in their respective regions.

While some submissions are more complicated than others, most are composed of a cover letter, administrative forms, letters of support, and supporting data which could include efficacy, plant tolerance, residue, or other types of data sets depending on

“
One thing to keep in mind is proposed uses must be supported by the registrant. If the proposed use is not supported, then a registration cannot move forward.

may fluctuate in their priority ranking from one year to the next.

Provincial rankings are important to the minor use program in that they guide future work both on the provincial and national scale. For PMUCs, a plant pest combination must be ranked during the previous year's priority setting process in order to work on URMULEs the following year. If the plant pest combination is not in the previous year's rankings, the PMUC will not work on product registrations except for special circumstances (i.e. emergency use registrations).

In December, rankings from commodity meetings along with potential product solutions (if available and supported by registrants) are compiled together into a spreadsheet created by AAFC-PMC and then returned once completed to be compiled with other province's data into a

master copy. This copy is broken into individual disciplines (Entomology, Pathology, and Weeds) and then used to guide the national priority setting workshops typically held in Gatineau, Quebec each February (moved online and will be held virtually in 2022 due to the COVID-19 pandemic).

At the workshop, industry personnel such as key grower commodity reps, government specialists, registrants, and others from across the country come together to discuss the compiled national list. Over the course of three days, approximately 2,700 priorities are repeatedly ranked, and narrowed down until approximately 28–30 projects remain across all three disciplines. The total number, and number from each discipline varies from year to year. The top priorities selected from each discipline during the workshop are then

adopted into the PMC minor use pesticide program where missing data sets are generated (frequently residue data), and submission packages are later sent to PMRA to evaluate for full registration.

For most products in the AAFC-PMC minor use program, it typically takes six to seven years between ranking in the provincial priority selections, and full registration by PMRA should the pest / product use combination be accepted.

For more information, head to the Ontario Minor Use Program webpage, or check out the October 8th episode of the 'What's Growing ON' podcast on the ONfruit blog, or wherever you download your podcasts from.



Season long Fescue control

- Broad spectrum, systemic and residual Group 2 herbicide
- Post-emergence and pre-emergence (soil residual) control
- Controls many annual and perennial weeds and grasses
 - fescue, clovers, chickweed, dandelion, foxtail, sowthistles, nutsedge, groundsel, common mallow and ryegrass

Chikara

www.belchimcanada.com

BELCHIM
CROP PROTECTION CANADA

CROP PROTECTION

Pest Management Centre crop profile survey: overview of findings

The development, publication, and regular updates of Crop Profiles is a core activity of the AAFC's Pest Management Centre (PMC) since 2003.

The crop profiles provide a "snapshot" of national, high level information on crop production and pest management practices for a specific agricultural commodity (e.g., apples) or group of commodities (e.g., brassica vegetables). There are 32 crop profiles published on the Government of Canada Publications website; however, only the 21 horticulture crop profiles are updated on a three-year cycle basis.

To better understand who and how the crop profiles are used, PMC partnered with the Public Opinion Research Consultations Unit of AAFC's Public Affairs Branch to conduct a short online survey. PMC is committed to ensure the crop profiles are easily accessed and information they contain is relevant to meet stakeholder needs. Learning more about the crop profile uptake, who uses them and how often, what information gap they fill for stakeholders, as well as hearing feedback from users about their usefulness and how these can better meet their needs, will help direct PMC's next steps in exploring improvement options.

The questionnaire was sent out via PMC's listserv email distribution list on June 10, 2021. The survey was opened from June 11th to July 9th 2021. Ninety-eight completed responses were received. Specific responses are

summarized on the infographic.

The key survey takeaway messages include:

User demographics

o There was an almost equitable split (1:1.2 ratio) between government (including provincial/territorial and federal) and non-government users (including, growers, manufacturing industry, academia, crop consultants, etc.);

Crop profile use frequency

o Profiles are accessed fairly often (ranging from once a year to more than five times a year) through both downloads and/or online viewing;

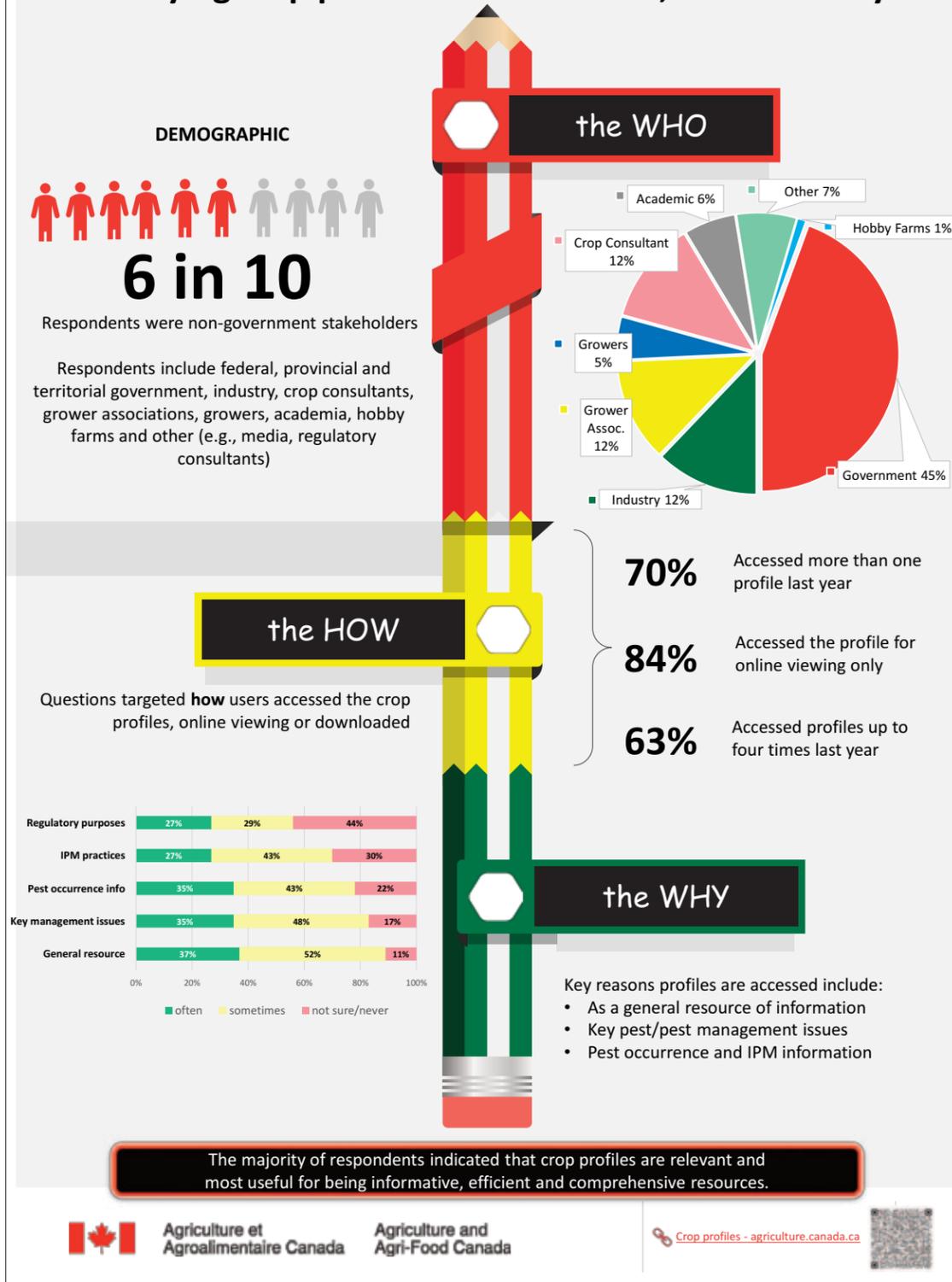
How crop profiles are used

o The profiles are valued for their national scope, and are primarily used as a general resource, including for key pest and pest management issues and pest occurrence information across the various growing regions.

In addition to the survey findings, the general download statistics continue to demonstrate the value of the crop profiles. From November 2020 through September 2021 there were 3,765 downloads of crop profiles. While the highest rate of download immediately follows the publication of new updates, we do note that downloads continue beyond the initial release date.

Source: Pest Management Centre November 10, 2021

Surveying crop profile users: the who, how and why



Cohort Wholesale to commercialize Spear-Lep insecticide in Canada

Vestaron Corporation (Vestaron), The Peptide Company, based in Research Triangle Park, North Carolina and Cohort Wholesale, based in Ancaster, Ontario have established a partnership that will see Cohort Wholesale lead the Canadian commercialization of Vestaron's revolutionary Spear-Lep insecticide.

Targeting lepidopteran pests such as loopers, worms and caterpillars, SPEAR-Lep's performance in field trials is equal or superior to conventional insecticides. With no known resistance or cross-resistance, SPEAR-Lep works as a standalone, or in rotation with conventional insecticides as an excellent IPM and resistance management tool.

Using the power of peptides, Spear-Lep insecticide introduces new technology with a unique mode of action. As a biological solution, Spear-Lep delivers synthetic-level efficacy combined with flexible re-entry and pre-harvest intervals as well as exemption from maximum residue limits (MRLs). This new insecticide creates the

opportunity to incorporate a new mode of action (IRAC Group 32) into fruit and vegetable insect management programs.

"We are thrilled to be partnering with Cohort Wholesale in Canada," commented Ben Cicora, Vestaron's senior vice-president of sales and marketing. "We believe that the new Spear technology combined with Cohort's market, customer and logistics expertise will be a powerful combination to introduce Spear-Lep and future products into Canada."

"Spear-Lep is the first new neuromuscular insecticide technology to be introduced in agriculture in the last 14 years," added Scott Hodgins, manager of Cohort Wholesale. "It is a privilege for our team to be able to introduce it to Canadian retailers and growers." Spear-Lep has been submitted to the Pest Management Regulatory Agency (PMRA) for registration which is anticipated in time for the 2022 growing season.

VESTARON
THE POWER OF PEPTIDES™

COHORT
WHOLESALE

Source: Cohort Wholesale and Vestaron November 8, 2021 news release

THE
GROWER

Did you know? Archived copies of the newspaper are stored at www.thegrower.org.
Go to the home page. Click on PRINT ISSUE in the top right-hand corner.

GREENHOUSE GROWER

New greenhouse predatory mite coming soon

Vineland has discovered a new general predator to help control pests associated with increased crop diversity in Canadian greenhouses thanks to a five-year project funded in part by the Government of Canada under the Canadian Agricultural Partnership's AgriScience Program, a federal, provincial, territorial initiative. Vineland researchers have worked closely with the Université du Québec à Montréal (UQAM) and the biocontrol producer Applied Bio-nomics Ltd.

"This new predator Anystis is effective against several key greenhouse pests by controlling thrips and spider mites and suppressing aphids," said Dr. Rose Buitenhuis, senior research scientist, biological control, Vineland. "As a generalist predator, Anystis also preys on Echinothrips and mealybugs for which no biocontrol agents exist."

"Anystis is functionally compatible with commonly-used biocontrol agents including aphid

parasitoids and Neioseius cucumeris and is a valuable addition to an Integrated Pest Management (IPM) program."

Despite the predator's cannibalistic tendencies, Vineland's research team, led by senior research technician Taro Saito, was able to develop in a laboratory setting two high-performing rearing systems for Anystis with costs similar to other commonly used biocontrol agents. The research team also determined adult predators can be shipped from the insectary to the customer with a low mortality rate.

During spring 2021, they transferred the predator to Applied Bio-nomics Ltd. for scaling up those mass rearing systems and for commercialization.

"Anystis is an exciting new predator," said Brian Spencer, president of Applied Bio-nomics Ltd. "It appears to be a true generalist and is not intimidated by some of the toughest pest's

natural defenses, such as wax and webbing. It is easy to see and scout, helping growers see their activity. And, it is always hungry, a very good trait.

"We appreciate Vineland's excellent research and their excellent communication abilities and look forward to continuing our association with them," continued Spencer. The company is now successfully rearing Anystis with a limited number of mites available to growers to try.

Findings from the research project also determined the adult predator stage is the best for release in the crop, as the Anystis starts controlling pests and reproduce immediately leading to proper establishment.

Providing supplemental food (either Artemia cysts or Ephestia eggs) sustains the predators when prey is scarce.

What's next? The use of Anystis as a biocontrol agent has already been validated in commercial greenhouse trials of gerbera and sweet pepper.



Taro Saito, senior research technician, biological control, Vineland Research and Innovation Centre.

Additional research will be undertaken to assess the effectiveness of Anystis in several other crops including greenhouse strawberries. Recent trials with Niagara College also showed promising results for using the predator in cannabis, with the intention of controlling aphids, one of the most problematic pests

in this crop.

Anystis is the second new bio-control agent to come out of this research project. The first was the Syrphid fly, an aphid predator developed by UQAM and also available through Applied Bio-nomics Ltd. by visiting www.appliedbio-nomics.com.

Pure Flavor connects with e-magazine

Pure Flavor is headquartered in Leamington, Ontario, one of the 200 or so greenhouse growers who produce tomatoes, peppers and cucumbers for the continent. As Chris Veillon, chief marketing officer, explains in the company's Living Deliciously e-magazine, the opportunities are endless. An informative map illustrates the reach of the greenhouse grower in

North America.

The latest emagazine edition, Fall in Love with Fresh, features articles about finding balance during the school year, sustainable vegetable growing, plant-based lunch ideas and fall recipes featuring Cloud 9 bite-sized fruity tomatoes. Link here: <https://bit.ly/3FtBcZn>

Windset Farms celebrates 25 years

Windset Farms celebrates its silver anniversary this fall. Started as a four-acre bell pepper greenhouse in Abbotsford, British Columbia, the company has grown exponentially since its inception in 1996, when the Newell family started with four acres.

Headquartered in Delta, BC, Windset Farms owns and operates millions of square feet of high-tech facilities across western North America and provides fresh produce to five different countries. One of the key achievements over the past 25 years is that, while the size of the company may have grown, Windset is still family-owned and is currently one of the largest controlled environment agriculture (CEA) producers and marketers in North America.

KOPPERT BIOLOGICAL SYSTEMS **PROVEN POLLINATORS MAXIMIZE PRODUCTION.**

QUAD™

BUMBLEBEE POLLINATION

Ensure proper pollination of your crop with Koppert Bumblebee QUADS!

- Order **EARLY** to **GUARANTEE** delivery.
- Remains active on cold, cloudy and rainy days.
- Can be used in combination with honeybees.

www.koppert.ca

KOPPERT CANADA LIMITED
40 Ironside Crescent, Unit # 3, Scarborough, ON M1X 1G4
Phone: 416-291-0040, Toll Free: 1-800-567-4195,
Email: orders@koppert.ca