

THE AGE OF AUTOMATION

## Vivid Machines is the apple of an entrepreneurial eye



The art of crop load management in orchards is about to become more automated thanks to Jenny Lemieux, CEO, Vivid Machines. She huddles with Kirk Kemp, owner of Algoma Orchards, Newcastle, Ontario on advancements in sensors and machine learnings that detect and count blossoms and fruitlets in high-density apples. Photos by Eric Forrest.

KAREN DAVIDSON

At first skeptical, Kirk Kemp is now a believer that an ATV-mounted camera can count apple fruitlets in an orchard block faster and more accurately than he can. That’s quite an admission for the owner of Algoma Orchards who has several decades of apple harvests under his belt near Newcastle, Ontario.

Ongoing 2022 trials are cementing his trust in sensor technology and machine learning models aimed at reducing labour, and chemical and manual thinning costs. With accuracy averaging 80 per cent across all growth stages and improving every month, Kemp says Vivid Machines technology is close to commercial reality.

“Crop estimates are emotional,” says Kemp, standing in a high-density block of McIntosh apples. “It’s a balancing act that growers weigh every year at blossom time and then at the fruitlet stage. Anything we can do to be more

precise in estimating bins per acre is helpful in marketing.”

Vivid Machines Inc., a start-up company that incorporated in November 2020, is piloting its technology with nine growers that span Ontario as well as Washington and New York states. Its rapid progress, despite COVID obstacles, is being driven by co-founder and CEO Jenny Lemieux, a farm-raised executive with a background in engineering, product design and data science.

Lemieux is also a successful graduate of the Entrepreneur First program that matches business trailblazers with like-minded partners to create new tech startups. Entrepreneur First helped her connect with Jonathan Binas, an IT PhD from ETH University in Zurich, Switzerland.

Binas has worked in neuroscience, electronics and was a postdoc at MILA, one of the world’s leading machine learning research institutes in Montreal. That’s where he worked on artificial intelligence, before leaving to become

the chief technology officer for Vivid Machines.

Resumés like those of Jenny Lemieux and Jonathan Binas may not be typical of people working in agriculture today, but they represent a new generation of innovators bringing solutions to fruit and vegetable growers.

“Every orchard is unique,” says Lemieux, at ease driving an ATV. “Nothing is heterogeneous and this is an environment where it’s hard to use technology in terms of connectivity and repeatability.”

She goes on to rhyme off all the hurdles that growers know so well: lighting, row widths, fruit varieties, tree widths.

“Our passion is to solve these really interesting technical problems to help growers,” says Lemieux. “We have built a multi-spectral sensor that can see normal red-green-blue into the near infrared system.”

Continued on page 3



AT PRESS TIME...



PM listens to concerns of Canadian horticulture

Twice in the month of July, Prime Minister Justin Trudeau visited horticultural enterprises, tasting the fruits of labour of the \$5.8 billion Canadian horticultural industry. These surprise visits to Ontario and British Columbia underscored the importance of being prepared with key messaging. Grower associations did not receive any prior notice.

In other words, if squeezed into an elevator with the prime minister, what would you say in 30 seconds to make your point? Fortunately, growers had time to make their cases.

The PM made a beeline for the Ontario-grown strawberries when he visited Barrie Hill Farms on July 6. The Springwater-Ontario, on-farm market provided the perfect backdrop for owner Morris Gervais to air agricultural issues.

“The Prime Minister listened to our concerns,” says Gervais, a director representing the berry



sector at the Ontario Fruit and Vegetable Growers’ Association. “It was refreshing. Let’s see what concrete action the government might take.”

First on the list was the adverse effects that tariffs are having on Russian-made fertilizer as a result of the war in Ukraine. Already, farmers are worrying about where fertilizer will be sourced for the 2023 crop year and at what price.

Secondly, Gervais highlighted the importance of the Seasonal Agricultural Worker Program. For Gervais, many of his crops – strawberries, raspberries, blueberries – are hand-harvested. The prime minister had a chance to meet a worker from Barbados and Mexico, respectively, to hear their first-hand stories of supporting families back home. As part of this topic, Gervais raised concerns about the burden of audits and inspection teams, and explored the potential for a trusted employer program.

Thirdly, the horticulture industry is seeking a financial protection program that would support farmers in the case of default of a Canadian buyer. This

was a timely follow-up to the private member’s bill C-280 put forward by MP Scot Davidson in June 2022.

In British Columbia, the PM visited Lutz Farms, Summerland, on July 18, trying his hand at cherry-picking while hearing about the effects of climate change on Okanagan Valley orchards. Last year’s heat dome has had lingering effects on cherries as well as the cooler than normal spring explained Derek Lutz.

The one-hour stop at Kelowna’s BC Tree Fruits Cooperative was also a photo tour, but allowed more time to explain the processing of cherries and its importance to the local economy. Laurel Van Dam, vice-president of grower relations and corporate affairs, says that company representatives talked about the importance of investment and use of technology to increase productivity and efficiency. As market pricing pressures continue, the tree fruit sector needs to embrace technology at both the grower level and at the packing house to be cost competitive with the United States.

For British Columbia, the benefits of the Trans-Pacific Partnership are key to agricultural exports.

“We also praised the recent increase in the Advance Payments Program,” says Van Dam. “Having increased interest dollars available to the growers gives the opportunity to put more investment back into crop inputs.”

NEWSMAKERS

The Ontario Greenhouse Vegetable Growers has announced that executive director/general manager **Joe Sbrocchi** will be retiring from his position effective February 2023. He’s served with distinction since September 2017, leading the organization through a period of intense growth as well as the unprecedented COVID crisis. An executive search is underway to lead into the future.

Prince Edward Island has a new minister of agriculture and land: **Hon. Darlene Compton** (Belfast-Murray River). She carries a heavy load, also appointed as minister of justice and public safety and attorney-general. She continues to serve as deputy premier. She replaces **Hon. Bloyce Thompson** who moves to the ministry of economic growth, tourism and culture.

Vineland Research and Innovation Centre (Vineland) has appointed **Darby McGrath**, PhD as vice-president, research and development. In her new role, she will lead a team of more than 50 scientists and technicians. She joined Vineland in 2013 as a research scientist and was named program leader in 2018. She also leads Vineland’s Greening the Landscape Research Consortium. She is an adjunct professor at Brock University and the University of Waterloo.



Darby McGrath

The Agricultural Adaptation Council welcomes **Peter Katona** as communications and industry relations manager. Most recently, he was director of sales and marketing with Martin’s Family Fruit Farm.



Peter Katona

Farm and Food Care Ontario welcomes new program manager, **Christa Ormiston**. She has spent a combined 20 years with the marketing team at EastGen and its predecessor companies and most recently held the role of digital specialist with Semex. She looks forward to inspiring those working in agriculture and growing our food to stand up and be proud of the work they do, putting a face to farming.

The Grape Growers of Ontario is welcoming **Mark Tewksbury** to the 75th anniversary celebrations at a Celebrity Luncheon on September 14, 2022. The event is in partnership with Meridian, Ontario’s largest credit union and the second largest in Canada. Mark first came to prominence as a record-breaking backstroke swimmer, winning national titles, world records, and Olympic gold, silver and bronze medals. When he publicly came out in 1998, Mark was one of the first openly gay Olympic Champions in the world, and has since been a champion for clean and ethical sport, for people with intellectual disabilities, and for the global LGBTQI2S+ movement. Tickets available here: <https://bit.ly/3aFIIMy>



Mark Tewksbury

British Columbia Premier **John Horgan**, the first two-term NDP leader of the province, has announced he will not run in the next election and there will be a leadership convention in the fall to select a new party leader. He will remain until the leadership convention. The British Columbia Fruit Growers’ Association thanks Premier Horgan for his commitment to the tree fruit industry, made through the \$5 million commitment to the Tree Fruit Competitiveness Fund as well as his decision to provide centralized COVID-19 quarantine for Temporary Foreign Workers during 2020 and 2021.

The Canadian Federation of Agriculture has announced that **Scott Ross** is the new executive director. He’s been with the federation for 10 years. The announcement was made on the eve of the Federal-Provincial-Territorial agriculture ministers’ conference in Saskatoon, SK.

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COVER STORY

# Vivid Machines is the apple of an entrepreneurial eye



Mounted on an ATV, the Vivid Machines camera looks deceptively simple.



This close-up of developing apples is a good example of how occlusion must be considered in computer vision in order to accurately count the total number in the cluster.



An on-board Samsung shows real-time data, while weathering the heat and rain.



Kirk Kemp and Jenny Lemieux take stock of progress so far.

“  
Crop estimates are emotional.  
”  
~ KIRK KEMP

Continued from page 1

Lemieux explains how technically difficult it is to distinguish green apples from green leaves. The goal is for the camera sensor to count and size the fruitlets, the beginnings of a new crop, so that hand thinning – or chemical thinning -- can remove the heavy crop load and allow remaining apples to size properly. As Kemp shares, long-time apple growers still complain about their imprecision to manage crop loads.

Alternative drone photography doesn’t analyse individual trees in an orchard. As Lemieux points out, drones take fewer photos per row and only provide high/

medium/low averages. And operating costs are expected to be comparable. Vivid Machines, on the other hand, integrates its technology into a grower’s normal work flow, mounting the camera on existing farm equipment used to mow or spray. The camera design is proprietary, specifically built to be inexpensive, yet offering up real-time results.

Lemieux and Binas aren’t alone in their drive to commercialization. They are supported by 15 employees and have secured more than \$3 million USD in both private investment and government funding. Agriculture and Agri-Food Canada, for example, has announced AgriScience monies of up to \$390,000.

For producers, the end game is to more precisely manage the quantity and quality of fruit on every plant. If they can better manage plant growth and predict yield, and diagnose diseases, pests and nutrient deficiencies early, then more fruit will go to market. Companies such as Canadian-led ecoation and Dutch-led Blue Radix are already working on these issues in the controlled environments of greenhouses.

The business model for bringing this technology to market is by leasing the camera and selling the prediction software services on a per acre basis. Vivid Machines will release new upgraded predictions each season

based on aggregated data. The key point, Lemieux emphasizes, is that growers own the data. She believes that growers will be in a better negotiating position with retailers to deliver quality and quantity of fruit. The Vivid Machines team will be kicking off demonstrations for 2023.

The marriage of all these scientific disciplines is mind-boggling enough. But it’s a special kind of pluck that led Jenny Lemieux to seek out Kirk Kemp.

How did it all get started?

“It was a cold call,” says Kemp. After that, it was just two farmers talking about better solutions.

**The Grower is “Digging Deeper” with Kirk Kemp, owner, Algoma Orchards, Newcastle and Jenny**

**Lemieux, co-founder and CEO Vivid Machines Inc., Toronto, ON. The start-up company is impressing orchardists with the potential to automate the counting of blossoms and fruitlets with more precision than the human eye. This podcast is sponsored by UPL.**





CROSS COUNTRY DIGEST

BRITISH COLUMBIA

BC Tree Fruits is guaranteeing minimum apple prices for three years

BC Tree Fruits, a cooperative with a storied history dating back to 1936, is writing another chapter with minimum guaranteed prices to apple growers for the next three years. The program covers a wide range of varieties, grades and sizes of apples.

For 270 grower families, the announcement offers stability for a sector that's struggled with competitive pressures in recent years. The heat dome in 2021, for example, has affected some apple varieties in 2022. But even prior to that, labour shortages and low prices have challenged the industry.

As recently as three years ago, BC Tree Fruits had 350 grower

members, but other crops such as grapes and cherries have offered better financial prospects. For those apple growers remaining, the path forward has been examined by a task force led by the BC Ministry of Agriculture, Food and Fisheries.

"The scope of work being done so far is truly impressive," says Warren Sarafinchan, president and CEO of BC Tree Fruits Cooperative. "The Cooperative is proud of this work that we are doing alongside other industry stakeholders to improve circumstances for the entire industry, but most importantly for growers."

For its part, the BC Tree Fruits Cooperative has right-sized

its business by selling surplus properties and packinghouses. Earlier this year, it realized \$23.75 million, about \$4 million over asking price, for its four-acre downtown site in Kelowna. The prime location was coveted by the Mission Group, a Kelowna developer.

In 2021, the co-op sold its former headquarters, also in downtown Kelowna for 7.5 million, above listing price of \$5.2 million.

The guaranteed minimum payments will begin in the fall of 2022. The pricing schedule has not been released for competitive reasons. No government funds are involved.

"It would be premature to



speculate on what the costs of the program will be," Saranchin said. "But with our financial position, we're comfortable that we have the ability to provide this guarantee to our growers - current and future growers."

The 2022 crop will likely be down in volume because of effects of a long, cool spring and an extremely long pollination season. In the Okanagan Valley, growers experienced the wettest and coolest June on record.

BRITISH COLUMBIA

Five new weather stations to be funded for Creston Valley growers

More tree-fruit growers and their orchards will benefit from time-sensitive advice about pest management as B.C.-adapted software becomes available in the Kootenays, which will help stabilize the sector and strengthen B.C.'s food security.

"Ensuring we have a strong tree-fruit sector that is resilient to climate change is important to our government, and we are working collaboratively to achieve this," said Lana Popham, Minister of Agriculture and Food. "By expanding the use of this

world-class technology, we are getting important information into the hands of Creston Valley growers, so they can continue to provide British Columbians with their delicious and high-quality tree fruit."

The BC Decision Aid System (DAS) has been used in the Okanagan and Similkameen valleys to maximize the efficiency of pest-management practices and fruit production. Expanding the system to the Kootenay region will help

create a more resilient and connected food system, and support the sector in becoming more competitive on the global stage.

Five new provincially funded weather stations in the Creston area will collect and integrate data used to forecast insect population trends so growers can better prepare for and respond to any pest-management issues. Growers will be offered software training to help them adapt to using the system, and data trends provide a vital link for management and

pesticide recommendations. Since 2018, DAS has collected daily forecasts from 20 Okanagan weather stations.

BC DAS is a collaboration between industry partners, including the Okanagan-Kootenay Sterile Insect Release Program, BC Tree Fruits, BC Cherry Association, BC Fruit Growers Association, and the provincial and federal governments.

Source: BC Ministry of Agriculture & Food

ALBERTA

Near-infrared hyperspectral imaging to test potato quality

Currently, the best way to find out whether or not a potato is good to go to market is basic and old-fashioned – cut it open and look to see if there are defects. The process is time-consuming and destructive, taking good potatoes off the production line for random testing. A new research project at Lethbridge College aims to use cutting-edge near-infrared (NIR) hyperspectral imaging technology to test potato quality more quickly in a way that doesn't destroy good product.

Dr. Chandra Singh, who has recently been promoted to senior research chair in Agricultural Engineering and Technology at Lethbridge College, is leading the three-year, \$523,300 project, which includes more than \$400,000 in funding from Results Driven Agriculture Research (RDAR) and Alberta Innovates.

The project uses an NIR hyperspectral imaging system and machine learning techniques to detect quality parameters in potatoes, without destroying the samples. The major quality issues associated with potatoes are internal defects, greening, specific

gravity (a measurement of the solids or starch content relative to the amount of water contained in a potato) and sugar content.

"When we talk of sustainability and optimal yield, this is where the non-destructive technique can help," says Singh. "The cost has gone down for this technology, the cameras and supporting technology are less expensive and the processing is much, much faster. So, we are at a point where this technology can be implemented on a large-scale."

The college previously acquired the technology that will be used in the project through a Natural Sciences and Engineering Research Council of Canada (NSERC) grant in 2021. The project will identify the most significant wavelengths required to detect the quality parameters associated with potatoes. It will also test the NIR hyperspectral imaging system at speeds simulating commercial scanning speed and will eventually design a prototype for commercial application of the system based on extensive testing and analysis.

"The companies I am working

with want to commercialize this technology and are ready to go if this project is successful," says Singh. "That is what we want to see – the research outcomes benefitting the end users, so we look forward to using this technology to help the potato industry in the near future."

In addition to RDAR and Alberta Innovates, the project also involves a collaboration with University of Lethbridge research scientist Dr. Michelle Konschuh and in-kind contributions from Lamb Weston, Old Dutch Foods and the Edmonton Potato Growers.

"This collaborative project brings all the right players to table," says Clinton Dobson, RDAR research director. "Together producers, the processing industry and Lethbridge College have come together to evaluate novel technologies to support potato supply chain industry practices in quality assessment. This project leverages the use of new technologies that will generate innovations for the betterment of the industry."



At Lethbridge College, senior research chair Dr. Chandra Singh leads a three-year potato project partially funded by Results Driven Agricultural Research.

Learn more about the project, titled Non-Destructive Quality Testing of Potatoes using NIR Hyperspectral Imaging and Machine Learning, at [www.rdar.com](http://www.rdar.com)

Source: Results Driven Agriculture Research June 16, 2022 news release



CROSS COUNTRY DIGEST

QUÉBEC

# Vegpro International welcomes American majority shareholder

Vegpro International, headquartered in Sherrington, Québec, has announced a new majority shareholder: Vision Ridge Partners. The New York-based investor specializes in sustainable real assets in agriculture.

For company founder Gerry Van Winden, the transaction is part of a growth strategy that allows continuity while allowing him to pass the torch.

“We received many offers, and our choice came down to Vision Ridge Partners,” stated Gerry Van Winden. “Vision Ridge has demonstrated a strong interest in ensuring the well-being of our employees and in continuing the strong collaboration we have built with our customers, suppliers, and partners. This firm expressed the greatest confidence in our company and products, as well as our team and business model, all of which it believes have a strong growth potential and a guarantee of success. Ownership of the agricultural land has been excluded from the transaction, so Vegpro remains the sole operator as a producer-tenant. The ownership of the land will therefore remain in local hands.”

This change of majority shareholder will have no impact on the job security and the current excellent working conditions of employees, whether they are based in Québec, British Columbia or Florida.

Anthony Fantin, Vegpro COO, will take over as president. Fantin, an experienced associate of the company, will remain a shareholder. “Vegpro’s headquarters remain in Sherrington, Québec, where it all began 70 years ago with the Van Winden brothers’ move,” said Fantin. “As Vegpro grows as a business and enters new markets, it will continue to create jobs and wealth in the communities where it is established.”

Justin Goerke, co-founding partner of Vision Ridge, said, “We are thrilled to partner with Vegpro, well-recognized as one of the leading producers of packaged salads in North America with a longstanding track record of operational performance and a culture underpinned by responsibility, integrity, and collaboration. As an investor focused on working with companies generating strong, positive environmental impact, Vision Ridge is pleased to have a likeminded partner in Vegpro who shares these values. We look forward to helping the company build on its decades-long success and continue to strategically grow for the benefit of all Vegpro stakeholders – employees, customers, suppliers, and the

communities it serves.”

Vegpro was founded in 1998. It is the largest producer of fresh vegetables in Canada.

Source: VegPro International June 23, 2022 news release



FARMER  
WELLNESS  
INITIATIVE

## New program offers tailored mental health support for farmers

Earlier this year, a new province-wide initiative was launched to deliver tailored mental health support and resources to all Ontario farmers and their families. Together, we can break the silence.

Funded by the governments of Canada and Ontario, the Farmer Wellness Initiative provides free counselling sessions with a mental health professional. Each mental health professional has received training to understand the unique needs of the farming community.

The Farmer Wellness Initiative is supported by the Canadian Mental Health Association (CMHA) – Ontario Division, in partnership with OFA, and aims to protect and enhance the mental well-being of farmers and their families. Counselling services provided by LifeWorks.

This program will provide valuable support for the agricultural community by giving farmers easy access to a comprehensive network of mental health counselling and crisis services.

Accessible 24 hours a day, seven days a week, every day of the year, in English and French. Reach out and call anytime at

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Paid for in part by the governments of Canada and Ontario and through the Canadian Agricultural Partnership (the Partnership), a five-year federal-provincial-territorial initiative.





CROSS COUNTRY DIGEST CANADA

Wine Sector Support Program announced

Thanks to \$166 million in funding from Agriculture and Agri-Food Canada, the new two-year Wine Sector Support Program will help Canadian wineries face emerging challenges in the short term. The program is now accepting applications between July 4, 2022 and August 12, 2022.

All licensed wineries in Canada that produce or contract out the production of bulk wine from primary agricultural products, such as grapes, berries, other fruit, dandelions, rice and sap, will be eligible for support under the program. Support will be provided in the form of a grant based on the production of bulk wine fermented in Canada from domestic and/or imported primary agricultural products in the previous year. Individual payments will depend on the total litres of eligible wine submitted to the program and individual applicants’ total eligible wine production.

“Wine Growers Canada applauds this historic

investment and thanks Minister Marie-Claude Bibeau and the federal government for their commitment to the Canadian wine industry,” said Dan Paszkowski, president and CEO of Wine Growers Canada. “This federal support is a critical step forward in helping restore certainty and confidence throughout the sector, and will enable wineries to reinvest in their businesses and employees. A healthy and vibrant wine and grape sector will deliver billions of dollars in economic benefits to local and rural communities in the form of jobs, tax revenue, support for the hospitality sector and the entire wine and grape value chain.”

For details of the program, link here: <https://agriculture.canada.ca/en/agricultural-programs-and-services/wine-sector-support-program>

Source: Agriculture and Agri-Food Canada June 29, 2022 news release



Hon Marie-Claude Bibeau (L) announced the Wine Sector Support Program in Québec with Dan Paszkowski, president of Wine Growers Canada and Mélanie Gore, director of the Conseil des vins du Québec.

Eastern Canada continues to store more potatoes than the west

Canadian Potato Storage Holdings by Province (All Sectors)  
As of July 2022 (000 cwt)

Province	2018-19	2019-20	2020-21	2-yr. Average	2021-22	2022 vs. 3-yr. avg
Prince Edward I	0	3,402	2,286	2,844	5,582	96%
New Brunswick	0	1,378	0	689	1,512	119%
Quebec	0	957	655	806	1,525	89%
Ontario	0	180	314	247	489	98%
Eastern Canada	0	5,917	3,255	3,057	9,108	198%
Manitoba	0	2,305	2,500	2,402	2,672	11%
Alberta	0	3,514	327	1,921	531	-72%
British Columbia	0	2,469	177	334	12	-31%
Western Canada	0	5,821	2,839	2,887	3,208	11%
Total Canada	0	11,738	6,094	5,944	12,317	107%



The United Potato Growers of Canada have released the final holdings report of the season. Victoria Stamper, general manager, explains that in previous years, the final holdings report has been calculated in June. However since 2020, there have been reports in July, hence the zeroes in the 2018-19 column and this month’s report only includes

a two-year average. The table provides a good snapshot of the supply of old crop potatoes to finish the marketing season.

The eastern provinces continue to hold more stock than the west, as has been the trend during 2022, above two-year averages in all four reporting provinces. However,

the late planting season and delayed growth should give the time needed to deplete these additional stocks.

Source: United Potato Growers of Canada July 11, 2022 news release

NOVA SCOTIA

Blueberry pollination services encouraged to expand

Nova Scotia’s 700 blueberry farms are eligible to apply to the province’s Blueberry Pollination Expansion Program that’s been boosted by \$100,000.

“Beekeepers’ pollination services are essential to the production of blueberries and other crops in Nova Scotia,” said Greg Morrow, Nova Scotia minister of agriculture. “To grow more blueberries, we need more bees to pollinate the plants – it’s that simple.”

Applications are due by August 31, 2022 for blueberry growers to expand the number of hives they keep or purchase equipment to improve bee operations.

Eligible applicants must generate an annual eligible bee and/or blueberry-related gross commodity income of \$30,000, be registered under the Bee Industry Act and be a member in good standing of the Nova Scotia Beekeepers’ Association.

The province says that successful applicants can receive up to \$100 per hive to cover beehive expenses and up to \$50,000 for efficiency improvements between April 1 and December 31, 2022.

“Many indigenous bee species already contribute to wild blueberry pollination – but there aren’t enough to allow for dramatic growth in the sector,” said Jason Sproule, NS department of agriculture.

“Many beekeepers rent their hives to provide pollination service, but demand is growing. This funding will allow more growers to maintain their own hives for



pollination.”

The Blueberry Pollination Expansion Program has been in place for two years and has a total budget of \$350,000.

Nova Scotia’s blueberry growers sold more than 49 million pounds of fruit in 2021, generating revenue of \$39.2 million.



GREENHOUSE GROWER

Pure Flavor expands organic acreage and opens distribution center

After tripling the company’s acreage on its home site in Leamington over the last two years, Pure Flavor is now constructing a new 40-acre (16 ha.) high-tech, fully lit facility as well as a new 210,000 sq ft centralized packhouse Distribution Center on the same site. Half of the new greenhouse facility (20 acres) will be dedicated to supporting the company’s organic programs.

“Our year-over-year growth has prompted us to rapidly increase our acreage and distribution network to meet the needs of both our retail and foodservice customers”, said Jamie Moracci, president. Pure Flavor’s organic program continues to experience significant growth with the recent addition of organic roma tomatoes and organic cocktail tomatoes to its line-up in late 2021. With 11 different organic items available year-round, the company can now support all purchasing programs regardless of the season.

“The investments we are making in our infrastructure will ensure we are well



positioned to continue supporting our strategic plan of not only expanding our sales reach but increasing operational efficiencies. Once completed in late fall 2022, the new centralized pack house Distribution Center will support the entire

campus of Phase 1-4 that covers 115 acres of lit greenhouse vegetable production that will be growing year-round,” commented Moracci.

The brand is at the leading edge of another important trend in organic

produce: healthy snacking. According to Tiffany Sabelli, director of sales, Pure Flavor’s family-first organics program is helping provide an important boost of nutrition and flavour to homes across the country.

“Families — especially those with young children at home — have increased their healthy snacking habits in the past few years, a trend we expect to continue,” said Sabelli. “We’re seeing this impact organic options in a big way and are proud to grow a wide variety of organic snacking veggies year-round that have become family favourites.”

The Pure Flavor team will be exhibiting at the Organic Produce Summit (OPS) in Monterey, California on July 14th. To learn more about Pure Flavor’s Organic Program and recent expansion, visit: [www.pure-flavor.com/OPS2022/](http://www.pure-flavor.com/OPS2022/)

Source: Pure Flavor July 12, 2022 news release

Canadian greenhouse grower launches limited-time lettuce trio

Canadians love their romaine lettuce and this is a very special blend that will level-up burgers, wraps and Caesar salads all summer long.

~ RINDI BRISTOL



The Inspired Greens romaine trio will be available during July and August only, at major grocers

across Canada, disappearing from store shelves by early September.

Source: The Star Group July 6, 2022 news release

The Star Group, one of Canada’s leaders in growing, importing and distributing fresh produce, has launched a unique living lettuce trio under its Inspired Greens banner. Grown in the company’s state-of-the-art greenhouse near Coaldale, Alberta, the trio features a green lettuce varietal paired with two different romaine varietals including a Red-Gem type.

“We could not be more excited to launch this limited-time blend,” said Rindi Bristol, The Star Group’s senior director in charge of its lettuce operations. “Canadians love their romaine lettuce and this is a very special blend that is going to level-up burgers, wraps and Caesar salads across Canada all summer long.”

Inspired Greens specializes in ‘living lettuce,’ a greenhouse-grown lettuce that is harvested with its root ball intact, allowing for superior freshness and extended shelf-life. One of several controlled environment agriculture (CEA) innovations led by The Star Group, the living lettuce romaine trio has been in research-and-development for

more than 18 months.

“We had to rethink everything,” continued Bristol, “from the varieties selected to the seed stock to the growing environment, seasonality and adaptation of the plants to the Lethbridge County microclimate. This was not an easy task to say the least but thankfully we have some of the most talented growers in the CEA space and for them, this was a challenge they were committed to from the beginning. Remarkably, they were able to produce this unique, balanced and delicious trio with several other varieties growing in the same climate and, as always, without the use of chemical pesticides.”

To highlight this grown-at-home achievement, the new trio will be packaged in a unique maple leaf sleeve.

“There isn’t another greenhouse facility like this in Canada,” said Bristol, “and as a proudly Canadian company, we thought it was fitting to design packaging that celebrates the fact that all Inspired Greens products are 100% Canadian-grown.”

# ONWARD

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PERSPECTIVE

Urge your MP to support financial protection legislation for growers



QUINTON WOODS

The efforts to secure financial protection for produce growers and sellers in Canada took one step closer to becoming reality earlier this summer. That’s when Conservative MP Scot Davidson, who represents my riding of York–Simcoe just north of Toronto, introduced Bill C-280, a private member’s bill that will ensure fresh fruit and vegetable growers get paid in the event of a buyer bankruptcy.

Now, we need your help to make sure this legislation garners enough support in the House of Commons to pass Second Reading and move to the committee review stage. But first,

a bit of background.

The Ontario Fruit & Vegetable Growers’ Association (OFVGA), the Fruit and Vegetable Growers of Canada (FVGC), the Canadian Produce Marketing Association (CPMA), and many other organizations across Canada have long been asking the federal government for legislation, similar to the U.S. Perishable Agricultural Commodities Act (PACA) and at no cost to government, to financially protect growers during cases of buyer bankruptcy or insolvency.

We’ve had many meetings on this issue over the years with various federal government representatives and elected officials to make our case for why this legislation matters.

Essentially, under the current Bankruptcy and Insolvency Act, suppliers can recover their product if a buyer becomes insolvent, but these rights do not apply if the product has been resold or is no longer identifiable or in the same state.

Given how quickly product spoils, it would be exceedingly rare that fruits and vegetables would be available for repossession – and certainly not in a state

that would make them re-sellable.

In a most recent example of this in action, a New Brunswick-based produce retailer declared bankruptcy in the fall of 2021, owing more than \$3 million to creditors, including growers and produce wholesalers.

In our business at Gwillimdale Farms, we’ve had our own experience of loss with the insolvency of a U.S. buyer, so this issue is one that is of particular importance to me. And given the ongoing supply chain disruptions, price increases and general economic instability as a result of the COVID-19 pandemic, it’s not unlikely that our sector will be hit with more insolvencies in the future. This makes financial protection an issue that affects everyone in the produce industry.

Should it become law, Bill C-280 would be the first time that we will have guaranteed payment for goods we are selling. It would let anybody who sells produce, from growers and wholesalers to distributors, marketers and pack houses, to sell in trust and receive priority status in case of a bankruptcy or an insolvency.

Bill C-280 could also help Canada restore financial protection for sales to buyers in

the U.S. Until 2014, Canadian produce sellers had this kind of protection when exporting to the United States through preferential access to PACA, but this preferential status was revoked due to a lack of reciprocal protection for American produce sellers in Canada. We hope that with the passing of Bill C-280, we can regain reciprocal protection with our largest trading partner once again.

So, what can you do to support Bill C-280?

As a private member’s bill, the Second Reading vote on this legislation, expected this fall, will be open, meaning MPs can vote as they choose instead of following their party’s official position. That’s why it is critical that as many MPs as possible from all parties vote in support of this bill – and that’s where we need your help.

Between now and the end of August, before the MPs return to Ottawa, please take a few minutes to call, write or email your MP to bring Bill C-280 to their attention. Talk about why it matters and how important the fresh produce industry is to their communities, to local businesses and to our economy, and ask

them to support the bill during Second Reading.

If you feel comfortable doing so, add a personal touch to your communications by talking about your business, and the difference that this legislation will make for you, your family and fellow farmers. And spread the word to your customers and suppliers too – including urban consumers whom you may interact with at farmers’ markets, on-farm shops or on social media – and ask them to reach out to their MPs as well. A secure local food system matters to all Canadians, not just to farmers.

If you need help with messaging, please feel free to contact Gordon Stock at OFVGA [gstock@ofvga.org](mailto:gstock@ofvga.org) or 519-763-6160, ext 125.

*Quinton Woods is responsible for sales and plant operations at Gwillimdale Farms, Bradford, Ontario. He’s also a director of the Ontario Fruit and Vegetable Growers’ Association as well as chair, trade and marketing working group for the Fruit & Vegetable Growers of Canada.*

WEATHER VANE



Barbadian Shawn Agard (L) greets Prime Minister Justin Trudeau with Morris Gervais, owner, Barrie Hill Farms looking on. He shares his story as a temporary foreign worker. Hon. Helena Jacek listens to the exchange. Photo courtesy the Prime Minister’s Office.

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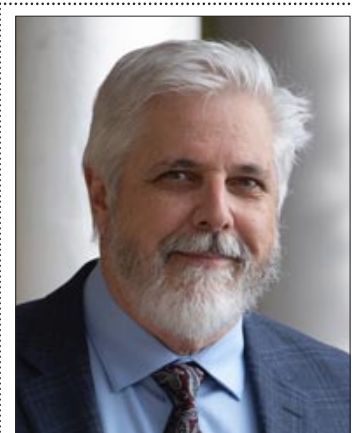
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**THE GROWER**



THE URBAN COWBOY

A lesson in cooperation, management and patience from California



OWEN ROBERTS

As July 2022 drew to a close, federal, provincial and territorial ministers met in Saskatoon to negotiate the next five years of funding that will govern government agriculture spending across Canada until 2028.

The lobby group called Farmers for Climate Solutions figured ministers needed some help. Prior to the meeting, it sent out a plea to the ag sector, urging participants to call, write or e-message their governments to follow the group’s climate mitigation plan. It made the plan available to ministers well in advance of the meeting.

The group says its grassroots plan would scale up the adoption of climate-friendly practices that reduce GHG emissions, increase carbon sequestration and strengthen resilience on farms, they say.

“It’s crunch time,” says the organization. “We need . . . our governments to work together towards a common strategy to tackle climate change in our sector.”

The ministers meet every year to exchange information and views. You may recall last year’s meeting produced a priority document called the “Guelph Statement.” Its first point: tackle climate change and environmental protection to support greenhouse gas emission reductions and the long-term vitality of the sector, while positioning producers and processors to seize economic opportunities from evolving consumer demands.

So on paper at least, the

ministers get it. The Guelph Statement was supposed to be a turning point and template for agriculture and the environment in this country.

But the chasm over the environment between governments and farmers has deepened and widened.

Ministers can and will point to well-intentioned efforts they’ve made in the past year to close the gap.

The governments they represent, however, have not shown the kind of leadership, commitment, cooperation or creativity that agriculture needs. Misguided, tone-deaf or politically motivated environmental policies have failed them, and they’ve failed agriculture.

Farmers for Climate Solutions is right: crunch time is indeed here, in Canada and around the world.

Days before the ministers were to meet, Europe was experiencing a heat wave of Biblical proportions. Britain recorded its highest temperature ever. Thousands of people in Spain, France and Greece were fleeing wildfires. Analysis was surfacing that showed heat had lowered the European Union’s GDP by 0.5 per cent.

Yet a cohesive plan remains elusive and climate change deniers continue to gain support, claiming governments everywhere are lying about the situation.

How much more evidence is needed?

Politically, the U.S. is struggling with the environment as much as Canada. President Joe Biden has invested billions into supporting environmental programs underpinning agriculture. But overall, the majority of Americans are not buying into his policies.

Maybe there’s hope. Seasonal weather events such as those in Europe have a way of changing people’s minds. The near-tropical Christmas in Ontario a few years ago was pivotal in opening the public’s eyes here to climate change.

But the textbook example is California, where the mother of



all climate change events just won’t quit.

The state has been in a significant drought for some 20 years. In June, 99.79 per cent of the state was experiencing drought, affecting 37.2 million people. Almost half of the state was in D3 category drought, the second-highest level.

I had the opportunity to experience it firsthand in July. After happily serving as best man at a friend’s wedding in Santa Clara, we took a week-long holiday in the Russian River Valley, one of California’s most productive wine-producing regions. It’s highly rural, very welcoming to visitors and much less glitzy than nearby Napa or Sonoma, which is part of its appeal.

Many of the grape vines here are very old – it’s not unusual to find vines 100-plus years old – so the roots are metres deep and less subject to drought. Still, growers are taking measures such as drip irrigation and mulching between rows to conserve what little water is available.

In some areas around Healdsburg, a Russian River

destination, a moratorium has been placed on new vine development. “It’s not sustainable,” said Andy Tester, manager at Limerick Lanes Cellars, which planted some of Sonoma County’s first Zinfandel grapes. “There’s just not enough water to support them.”

Despite the drought, fruit and vegetable producers at the vibrant and community-minded Healdsburg Farmers’ Market continue harvesting amazing peaches, blueberries, grapes, onions, flowers and olives. One market veteran, Lou Preston of Preston Farm and Winery, told me the municipality cut back his 125-acre farm’s water allocation because of the drought.

So, he cut back production. “It means I have less to sell, but I understand the situation,” he says. Diversity has helped with the bottom line -- in 2008, he started planting fruit and vegetables as well as wine grapes. He now runs a CSA from the farm and winery, as well . . . which ironically is located in Dry Creek Valley.

Winery management consultant David Vergari, who

runs tastings at the impressive Chalk Hill Estate Winery and has clients in B.C.’s Okanagan Valley, says local producers generously share management tips with each other, including ways to survive the drought.

He routinely encourages them to check out knowledge sources such as UC Davis Extension for management, and actively seek information from growers in similar climate regions.

“If I was a grower in your neck of the woods [Ontario], I would reach out to my brethren in the Finger Lakes,” he says. “A good many similarities exist.”

Cooperation, finely tuned management and patience prevail. But so does drought. And despite intense competition among wineries, a sense of camaraderie seems to be helping them pull through.

*Owen Roberts is a past-president of the International Federation of Agricultural Journalists and a communications instructor at the University of Illinois.*

*Photos by Owen Roberts.*

SCENE ON TWITTER



Erin Adriaansen @erinadriaansen · 13h

Happy little babies





SUMMER TOUR

# North American Strawberry Growers' Association to visit Ontario

The August 2022 tour is the third time that the North American Strawberry Growers' Association has come to Ontario. The very first tour dates back to 2007.

“NASGA is always looking for progressive growers and marketers and the landscape in Ontario has changed with several growers growing on table tops and others tailoring their markets for the increased demand for local produce,” says Kevin

Schooley, executive secretary, NASGA. “Most of the farms that we are visiting are NASGA members so it's nice for growers from other areas to be able to see farms of friends they have made at past NASGA events.”

The tour is nearing capacity but there are still a small number of seats remaining. For more details, link here: <https://bit.ly/3o9chUv>

## Itinerary for Day 1 – Tuesday August 16th

Location	Arrive/Load up/Depart
<b>Herrle’s Country Farm Market</b> 1243 Erbs Rd, St. Agatha, ON, N0B 2L0	Arrive - 8:30 Load up - 9:50 Depart - 10:00
<b>Heeman’s Strawberries</b> 20422 Nissouri Rd, London, ON, N0M 2P0	Arrive - 11:00 Load up - 1:20 Depart - 1:30
<b>Howe Family Farm Market</b> 48556 John Wise Line, Aylmer, ON, N5H 2R4	Arrive - 2:15 Load up - 3:50 Depart - 4:00
<b>Strawberry Tyme Farms Inc</b> 1250 St John's Rd W, Simcoe, ON, N3Y 4K1	Arrive - 4:45 Load up - 7:05 Depart - 7:15



## Itinerary Day 2 - Wednesday August 17th

Location	Arrive/Load up/Depart
<b>Blueberry Knoll Berry Farm</b> 1091 Hutchinson Rd, Lowbanks, ON, N0A 1K0	Arrive - 8:30 Load up - 9:50 Depart - 10:00
<b>Fenwick Berry Farm</b> 1367 Balfour St. Fenwick, Ontario, L0S 1C0	Arrive - 10:30 Load up - 12:35 Depart - 12:45
<b>Tigchelaar Berry Farm</b> 4161 Jordan Road, Jordan Station, L0R 1S0	Arrive - 1:00 Load up - 2:20 Depart - 2:30
<b>Springridge Farm</b> 7256 Bell School Line, Milton, ON, L9E 0N7	Arrive - 3:45 Load up - 4:20 Depart - 4:30



## COMING EVENTS 2022

Aug 4	Ontario Summer Apple Tour, Bowmanville, ON
Aug 11	Nova Scotia Fruit Growers' Summer Orchard Tour
Aug 11	Farm & Food Care Ontario Member Anniversary BBQ
Aug 13	August Fruit Day, University of Saskatchewan campus
Aug 16	Upper Canada Growers' Day, Hopetown Plant Labs, Harrow, ON
Aug 16, 17	North American Strawberry Growers Association Summer Tour, Southwestern Ontario
Aug 17	Potato Research Field Day, Elora Research Station, Elora, ON
Aug 18	Ontario Potato Field Day, HJV Equipment, Alliston, ON
Aug 18-19	U.S. Apple Outlook Conference, Ritz-Carlton Hotel, Chicago, IL
Aug 19	OMAFRA production and IPM garlic workshop, Fleetwood Hills Farm, Janetville, ON
Aug 19-20	Carrot Fest, Bradford, ON
Aug 26-28	Winona Peach Festival, Winona, ON
Aug 30	British Columbia Cranberry Field Day, Hopcott Farms, Pitt Meadows, BC
Sept 7	Berry Growers of Ontario Twilight Meeting, Watson Farms, Bowmanville, ON
Sept 13-15	Canada’s Outdoor Farm Show, Woodstock, ON
Sept 14	Grape Growers of Ontario 2022 Celebrity Luncheon, St. Catharines, ON
Sept 29-Oct 1	Canadian Farm Writers Federation Conference, Saskatoon, SK
Sept 3-9	Ontario Agriculture Week
Oct 5-6	Canadian Greenhouse Conference, Niagara Falls, ON
Oct 18-20	World Ag Robotics Forum, Fresno, CA
Oct 25-26	Canadian Centre for Food Integrity Public Trust Summit, Toronto Public Library, Toronto, ON
Nov 2-4	Grow Our People Summit, Sheraton Fallsview, Niagara Falls, ON
Nov 3	Best of CAMA, Niagara Falls, ON
Nov 2-4	Asia Fruit Logistica, Bangkok, Thailand
Nov 4-13	Royal Agricultural Winter Fair, Toronto, ON
Nov 5	Canadian Agricultural Hall of Fame induction ceremony, Liberty Grand, Toronto, ON
Nov 15-17	Alberta Potato Conference and Trade Show, Cambridge Hotel and Conference Centre, Red Deer, AB
Nov 17	Farm & Food Care Ontario Harvest Gala, Delta Hotel, Guelph, ON
Nov 17-19	Interpoma, Fiera Bolzano, Italy
Nov 21-22	Advancing Women Conference East, Sheraton Fallsview, Niagara Falls, ON



RETAIL NAVIGATOR

Don't put the cart before the horse



Producers and processors in the food industry are usually very passionate about their products. They love to grow them or figure out how to create them in their processing facility. A lot of resources and time are invested in the product.

Unfortunately, this can lead to frustration and missing out on opportunities. You have a much better chance of success if you design and develop products for consumers and customers. Avoid the temptation to just do what you want to do.

Producers and processors invest too much developing and growing products before they really think about who will buy them or why a retailer would want them in the store. Yes, they might be great products but if there is no demand or space in the store, chances are they will fail.

**Start with consumers**

Consumers will ultimately decide if your product is successful or not. They vote with a tap at the check-out every week. The products they pick up and buy are the ones retailers want more of and generate the sales and margin they crave.

Consumers are changing faster than ever. Do not assume they will buy your product, just because you think it is great. Consider how the pandemic has

impacted their eating, entertaining and meal planning.

Develop a profile of the consumer who will buy the product. This profile can include attributes such as demographics and psychographics. This will help you determine many of the features of your product. For example, if your target market is large families you will need a larger package and be able to deliver more value.

It is also a real benefit if you can understand why consumers will buy your product. This will help you promote the benefits that appeal to them. People buy for different reasons. Perhaps your product will be used as an ingredient and they will only need it once per month. Resealable packaging would be a benefit if it keeps the product fresh for them to use each time.

Once you understand who they are and why they buy, you can determine where you have the best chance of selling in retail. Different consumers shop in different stores. You might have a premium product, that appeals to people eating a plant-based diet. It is more likely you will find them at certain stores.

**Consider the category where your product will be sold**

No product will be sold in isolation. Consumers and customers will compare it to other products in the category. It is important to understand the different options in the category and how your product will deliver unique benefits. Otherwise, you have to question why it would be offered in the store.

Overall value is always a consideration. This is a combination of quality and price. There are other attributes but these are the two big ones. There is only one 'cheapest' and one that is the best. The rest fit in the middle.

Retailers' own brands, referred to as private label or control label can also influence your options in



Frozen, peeled garlic is a great example of a value-added product that offers convenience to the consumer and a unique selling proposition to the retailer. Photo by Glenn Lowson.

the category. Retailers will not usually take their own product off the shelf. You need to figure out how to be different – or perhaps offer to produce the private label.

**Determine how the product will benefit your customer**

Retailers will buy your products if they need them and they see a benefit to putting them in their stores. They will not buy them just because they are great products.

Retailers are looking for products that will grow the category sales and deliver the margin they need. If your product will bring new consumers to the category they will be interested. One more producer growing green cabbage might not be what they need. A producer who can get local green cabbage to the market earlier because of a microclimate or

growing in tunnels would be of more interest to your customer. They can offer local product with lower freight and no currency exchange.

How and where your product will be merchandised are also important factors to consider when looking at your customers. If your product requires packaging, you should experiment with the most effective layout to communicate your message.

**Now it is time to focus on the cart**

Once you have considered where the opportunities are with consumers, the category and customers, you should focus on the product. You know what you can do and what you like to do. Ultimately this should allow you to focus on what you want to do as opposed to trying to force a

product into a market.

As you plan to develop a new product or introduce new production to your operation, talk to your customers. They should be willing to share their perspective and give you an idea how big the opportunity could be.

Combine the needs of the market with your expertise and passion. This will provide you with the best chance of success.

*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.*

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FOCUS: EQUIPMENT & NEW TECHNOLOGY

# Intelligent weeder cuts labour costs

KAREN DAVIDSON

### Québec experience

Marc Van Winden says his intelligent weeder could be smarter, but the reality is that the eight-row device has paid for itself after eight years of service in muck soils at Sherrington, Québec. That’s a thumbs-up for the machine first spotted at an Agritechnica show in Hanover, Germany and manufactured in Stad aan’t Haringvliet, the Netherlands.

Manufacturer Steketee is not a familiar name in Canada. Yet a few growers in both Québec and Ontario have adopted the European technology in order to stay in the highly competitive field vegetable market. At Production Horticole, Marc Van Winden is a member of the three-generation family farm that’s operated by Denys, Claire, Sylvie and Daniel. In total, they farm 405 acres including onions, carrots, garlic, kohlrabi and squash. More than half of the acreage – 250 -- is devoted to iceberg and romaine lettuce. All are grown under the Fresh Attitude label.

“We can enter the specifications for the blade and go into the field 10 days after transplanting and know that we can catch weeds before the lettuce gets any bigger,” says Van Winden. “The machine is good for 80 per cent of the job.”

On muck soils, the challenge is to keep up with weeds on large acreages at critically important times of the growing season. Van Winden says that he assigns a tractor driver and a follow-up worker to catch any misses.

“It’s not perfect, but paying for two people is better than paying for 12 to hand-weed,” he says.

Robotic weeders are also in trials at the Sherrington farm, but Van Winden estimates another five to six years will be needed to make the technology viable for large-scale farms. To date, he says the weeder moves too slowly to pick one weed.

The computer has a hard time distinguishing the green colours and shapes of lettuce leaves from weeds. He doesn’t see a solution for robotic weeding his 200 acres of onions and carrots.

“I have a lot of questions about how this will work in black soils,” he says, pointing to the need for large wheels to avoid compaction. “We need a light machine.”

### Ontario experience

Henk Droogendyk has reorganized his Droogendyk’s Market Garden operations near Harley, Ontario to be more competitive in fulfilling orders for Bayshore Vegetable Shippers of Burlington and other customers. The 90 acres of lettuce and kale demand exceptional weed control to ensure uniformity of the crop throughout the growing season.

Difficulties in accessing



L-R: Denys, Claire, Marc, Sylvie and Daniel Van Winden have used the IC-Weeder for eight years.



The Steketee Intelligent Weeder has been used by Henk Droogendyk, Harley, Ontario.

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seasonal labour in the last two years have sharpened his approach. He can’t depend on hand hoeing two weeks after the transplants are in the ground. In the spring of 2022, he purchased a \$130,000 Steketee by Lemken Intelligent Concept weeder from GJ’s Harvest Centre and attached a fertilizer hopper.

“I was in a tough spot down four people from the usual 28 hands,” says Droogendyk. “This machine’s camera system can be optimized to within a half-centimeter on either side of the plug. Accuracy of weeding has improved. This machine is better than the human eye.”

This new equipment is enhancing the quality of his lettuce which does not fare well with weed pressure.

### The company story

Steketee provides this description of the technology on its website: [www.steketee.com/producten/ic-weeder-2/](http://www.steketee.com/producten/ic-weeder-2/)

The Intelligent Concept (IC) weeder delivers automated hoeing at the highest level says Matt Amey, product specialist for Lemken Canada Inc. Its cameras are mounted underneath cover

and reliably display the field of view, which is illuminated by LED lights, even in changing light conditions and at night. As a result, the IC-Weeder detects the precise position of plants based on their hue, size and position, and hoes precisely around them from both sides. A compressor provides the pneumatic pressure to move sickle-shaped knives actively intra-row (between the plants in one row). The inter-and intra-row tools are mounted on a parallelogram element to follow the contour of the ground easily. The support wheels guarantee the correct working depth of the knives, and via the side shift-frame the machine is steered precisely between the rows.

The IC-Weeder is essentially a moving photo studio that photographs every plant and identifies it and kills any that are not the crop. Camera-controlled weeding provides another benefit: control of weeds resistant to specific chemicals. Groundsel is one such example.

Steketee plans to open a state-of-the-art manufacturing facility by end of 2023 at a cost of \$18M euros.



FOCUS: EQUIPMENT & NEW TECHNOLOGY

# Valley Irrigation installs its first solar-powered pivot in Nebraska



Solar-powered installation in Nebraska.



A Valley Irrigation pivot at work in southern Alberta.

Valley Irrigation, based in Omaha, Nebraska, has partnered with Farmers National Company, the nation's leading land and mineral management firm, to complete the company's first ag solar installation within North America. The installation will provide sustainable power to the landowner by efficiently converting the sun's rays to clean energy.

Solar energy offers numerous benefits for agricultural irrigation, including energy savings, efficiency, reduced environmental impact and potential tax savings through

incentive programs.

The installation is located near Davenport, Nebraska, and will provide solar power to a Valley center pivot by offsetting energy consumption used to irrigate the field. Farmers National Company's landowner client invested in Tier 1 solar panels, which are the highest-quality panels and are also used on major utility-sized installations. They are built to withstand the often-harsh conditions of Nebraska weather, including strong winds and hail.

The components/inverters will provide greater than 94

per cent efficiency in converting DC (direct current) energy into AC (alternating current) energy. The pivot size and configuration will produce green renewable energy for the next 25 to 35 years, equaling the lifespan of the pivot. It will also produce recurring revenue for the landowner through a buy/sell agreement with the local utility group.

*Source: Valley Irrigation July 11, 2022 news release*



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FOCUS: EQUIPMENT & NEW TECHNOLOGY

# Three-row sprayer covers more acres with more precision



The 750-gallon (3,000 litre) tank and a height clearance for 12-foot, high-density apples are the hallmark of this new HOL Spraying System photographed in action at Algoma Orchards, Newcastle, Ontario on July 13, 2022. Photos by Eric Forrest.

KAREN DAVIDSON

At 3:30 am, the sprayer crew is filling one of 25 sprayer tanks at Algoma Orchards, Newcastle, Ontario. It’s mid-July and the application is calcium chloride, a product that fortifies cell walls in the developing apples and reduces the incidence of bitter pit. The disease is favoured by very warm or hot weather with occasional rainy periods – exactly what’s being experienced in southern Ontario during the summer of 2022.

What makes this wake-up call a little easier is a new three-row HOL Spraying System from Holland. The sprayer was

delivered by Provide Agro Corporation in June 2022. It’s one of the largest in Ontario with a 750-gallon (3,000 litre) tank and a height clearance for 12-foot, high-density apples. As Sean Bartlett, business unit manager, explains, this machine can cover three times what a one-row conventional sprayer can do.

“A big piece of the puzzle is the control box software which indicates the output, measures the flow and the pressure,” says Bartlett. “The rate controller tells you whether you’re within the parameters that you set for the machine.”

A large suction filter and self-cleaning pressure filter are standard equipment. If desired, GPS can be added.

“One of the benefits of this sprayer is its efficiency,” says Manus Boonzaire, farm manager for Algoma Orchards. “We can cover 75 acres per day and be done by 8 am.”

The large tank capacity saves time for refills. Boonzaire estimates the best-case scenario is a minimum of 30 minutes between nozzle shut-off time in the orchard and a fill-up, depending on travel distance from the orchard.

“This looks like an intimidating machine but after four or five hours of operation, it was easy to learn and then teach the spraying crew,” says Boonzaire. “We like the fact that it takes less horsepower (110 to 120 hp tractor) to operate

the fans that blow the mist.”

In summary, the tree fruit industry is asking suppliers such as Provide Agro Corporation about how to do more with less. Sean Bartlett indicates that autonomous sprayers will be delivered in the fall of 2022 to three apple growers in different growing regions of Ontario.

“We’re now able to incorporate traceability into these systems, looking from the ground level to the tip of the tree and recording the spray schedule for the life of the tree. The intelligent sprayer is here and now.”

# HJV brings revolutionary designs to the potato industry

HJV Engineering has designed the first transportable soak tank trailer developed to minimize the amount of foreign debris reaching the factory when shipping directly from the field. This revolutionary piece of equipment for the food industry is set to reach its new home in the Western United States for the 2022 French fry potato harvest season.

With food safety becoming increasingly important to consumers and growers, the purity of product reaching the processing facility is crucial. When a piece of foreign debris reaches the processing line it costs processors and growers time and money which is increasingly valuable in today’s world.

When shipping direct from the field to the factory approximately two to three per cent of dirt and foreign debris arrives to the processing facility with the product. With the field-to-field transportable soak tank trailer the foreign material is removed at the field, leaving dirt and debris at the field of origin to avoid transmitting diseases to other



farms. This process also results in a reduction in the volume of trucks required per farm.

The soak tank trailer or washer trailer system can be customized to any operation. These pieces are equipped with an integral destoner designed for high-volume potato flow to remove clods, rocks, and any other heavy objects from the product flow. Along with the destoner, the sludge remover has become a key feature to these systems by removing heavy sediment from

the water and reducing the amount of fresh water required to operate. Finally, the floating debris remover was invented to remove floating objects -- corn stalks, corn cobs, floating tops, grass, wood, tree roots, hollow potatoes and ungerminated seed-- from the flow of product.

The HJV Engineering team, based in Alliston, Ontario, works directly with customers to provide solutions for their individual needs and requirements. From working with existing buildings to brand new facilities they model all the layouts in 3D to allow you to walk around the entire system before ever manufacturing a component. For more information, link here: <https://hjvequip.com/>

Source: HJV Equipment





# All about celery leaf curl



Figure 1. Celery leaf curl (*Colletotrichum fioriniae*) symptoms curling leaves.



Figure 2. Celery leaf curl (*Colletotrichum fioriniae*) symptoms lesions on the stalks.



Figure 3. Celery leaf curl (*Colletotrichum fioriniae*) symptoms stunted, yellowing plant.

KATIE GOLDENHAR AND TRAVIS CRANMER

Celery leaf curl is caused primarily by the fungus *Colletotrichum fioriniae*. This disease can also be referred to as anthracnose. Celery leaf curl was first identified in Ontario in 2012. Infected celery plants are unmarketable due to leaf malformation and lesions on the stalks. The leaves, stalks and crown are all susceptible to infection. Leaf curl occurs every year in Ontario and can cause severe crop loss when temperatures are warm and wet.

## Symptoms

Characteristic symptoms of celery leaf curl are downward cupped leaves that are small and twisted (Figure 1), hence the disease name. This can look similar to 2,4-D herbicide injury, but the leaf cupping will always be downwards, whereas the herbicide injury can result in upward cupping.

As the infection progresses, brown lesions develop on leaf margins and tan-to-brown cracks and streaks develop on the celery stalks (Figure 2). As stalks grow, they become twisted and brittle, and growth slows. Crown rot often develops along with adventitious roots — roots that form from any non-root tissue — along the stalk. Once the fungus infects the celery crown, it will cause stunting and in severe cases, plant death (Figure 3).

Crown rot symptoms are similar to blackheart, caused by weather-related calcium

deficiency. The leaf curling symptoms can also be mistaken for early symptoms of aster yellows. To properly identify leaf curl, send samples to a diagnostic lab.

## PATHOGEN BIOLOGY AND SPREAD

*Colletotrichum fioriniae* is the main *Colletotrichum* species associated with leaf curl in Ontario and other northeastern states and provinces. Other species, including *C. nymphaeae*, the causal agent of anthracnose in strawberry, can cause leaf and stalk lesions and crown necrosis on celery, but has not been found to be the primary cause of leaf curl in plants collected from the field in Ontario.

*Colletotrichum fioriniae* has been isolated from non-celery host plants. Apples are the main crop where *C. fioriniae* causes the disease bitter rot. Weed hosts identified in Ontario include lamb’s quarters, redroot pigweed, common groundsel and oakleaf goosefoot. Landscape plants such as peony and box elder (Manitoba maple) have also been shown to be good hosts. Research has shown that *C. fioriniae* isolated from these other hosts can cross-infect, and these weed and landscape hosts could serve as inoculum sources for celery.

Temperatures from 25°C–30°C are optimum for disease development. Sporulation is triggered when at least 12 hours of leaf wetness have occurred. Immature leaves are more susceptible to infection than mature leaves. *Colletotrichum* species can have a long latent

infection, meaning an infected plant may not show any symptoms for days to weeks.

Spores are moved by splashing during rain or irrigation. Driving winds can move spores, but in general, spores do not travel well in wind. People and equipment can easily spread spores across fields and to other fields. Fields should be dry before worker and equipment entry to limit the spread.

## Management strategies

Growers should practise a three- to four-year crop rotation with non-host crops. Weed management is important in all crops as they can continue to harbour this disease in the absence of celery. Inspect and remove symptomatic seedlings prior to transplanting in the field. Keep transplants from different locations separate. Allow for good airflow and avoid prolonged periods of leaf wetness.

Seed treatment with a registered fungicide on *Colletotrichum spp.* may help reduce disease development. Research has shown that a hot water treatment at 50°C for 30 minutes was the best method to eradicate the celery leaf curl pathogen from seeds without significantly impacting germination. Some seed companies routinely use hot water to treat seed and may produce seed in regions with low disease pressure. Check with your seed company about seed treatments.

While all cultivars appear susceptible to infection, there are differences in susceptibility. Research reports from the

Cultivar	Susceptibility
Merengo	tolerant
Balada	tolerant
TZ 6010	tolerant – moderately tolerant
Sabroso tolerant	tolerant – moderately tolerant
Hadrian	moderately tolerant – susceptible
Geronimo	moderately tolerant – susceptible
Stetham	susceptible
TZ 0295	susceptible
TZ 6200	susceptible
TZ 6029	susceptible
Kelvin	susceptible – highly susceptible
Nero	susceptible – highly susceptible
TZ 9779	susceptible – highly susceptible
Plato	highly susceptible

Table 1. Celery cultivar susceptibility to leaf curl, based on research from the Ontario Crops Research Centre – Bradford from 2015 to 2018

Ontario Crops Research Centre, Bradford, from 2015 to 2018, suggest the levels of susceptibility in Table 1.

Scouting for celery leaf curl should include recording the location of diseased plants within a field. If a plant showing symptoms is touched, pause scouting, and remove plants by placing them in a garbage bag for identification and replace gloves. Once leaf curl has been identified in the field, continue to remove infected plants from the field using a plastic garbage bag. Manage irrigation to reduce the length of time the canopy is wet, for instance, irrigate at night when there would be dew on the leaves or irrigate in the early morning so wet leaves will dry quickly.

Fungicides can be effective when applied before infection and reapplied when conditions are favourable. Registered fungicides as of 2022 for control of celery leaf curl include: Switch 62.5 WG (cyprodinil – group 9 + fludioxonil – group 12) and Quadris flowable (azoxystrobin – group 11).

Other fungicides registered on celery may have efficacy on leaf curl, including: Pristine (boscalid – group 7 + pyraclostrobin – group 11), Luna Sensation (fluopyram – group 7 + trifloxystrobin – group 11), Flint (trifloxystrobin – group 11), Bravo ZN/Echo 90DF (chlorothalonil – group M5). Refer to publication 838, Vegetable Crop Protection Guide, for more information. Always read and follow the pesticide label.

Weather-based forecasting models for celery leaf curl have been developed in Ontario on susceptible varieties (TZ6200 and Kelvin). Using the TOMCAST system, fungicide applications at disease severity value (DSV) 15 resulted in similar disease severity as calendar sprays with fewer fungicide applications.

Using TOMCAST at DSV 15 allows for fungicide applications when favourable weather conditions persist and reduce the

amount of unnecessary fungicide applications.

If a field of celery has been infected, deep-plow residue immediately after harvest to encourage breakdown of plant debris.

### Fungicide resistance management

Fungicides can be an important tool in managing celery leaf curl. Resistance management needs to be followed for fungicides. *Colletotrichum spp.* including *C. finoriniae* and *C. nymphaeae* are at high risk of developing resistance. Group 11 fungicides (azoxystrobin, pyraclostrobin, trifloxystrobin) are at high risk of resistance development. Resistance management practices are very important for this disease in celery to maintain the efficacy of these products.

Alternating effective fungicide groups is the most important approach. Products containing group 11 fungicides (Quadris, Pristine, Luna Sensation and Flint) cannot be applied in succession. Where possible, tank-mix group 11 fungicides with a group M fungicide (i.e., mancozeb or chlorothalonil) or another effective group. This reduces the selection for resistance on each individual fungicide. If using a solo group 11 (Quadris, Flint), do not use these in more than one-third of all fungicide applications. If using a mixture where both actives are efficacious on the disease, do not use a group 11 in more than half the number of applications.

Additionally, keeping the celery crop as healthy as possible and using other management strategies such as tolerant cultivars can help reduce the reliance on fungicides for managing leaf curl.

Katie Goldenhar is plant pathologist, horticulture crops, OMAFRA. Travis Cranmer is a vegetable crops specialist, OMAFRA.



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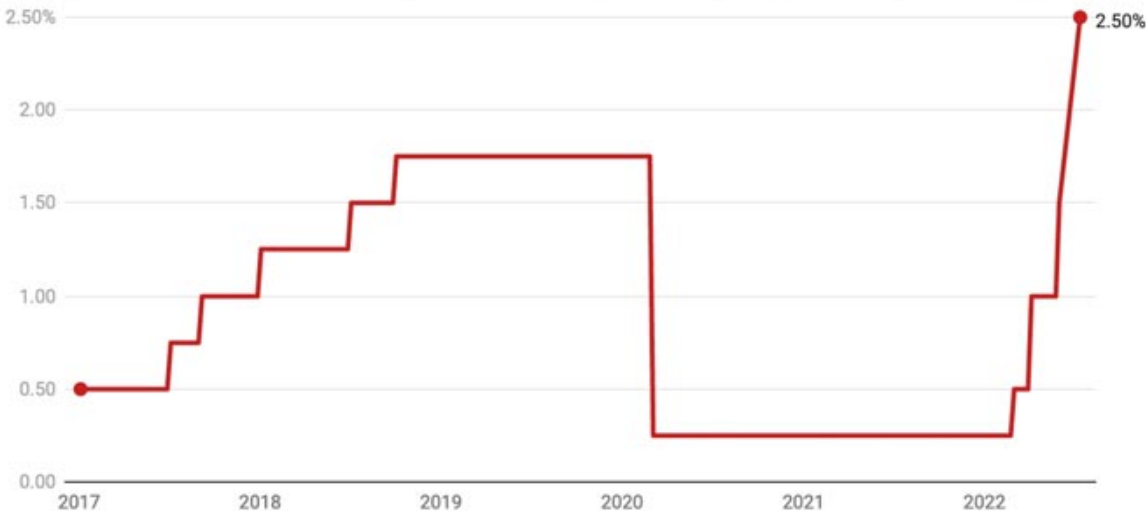
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## BITS AND BITES

# Bank of Canada hikes interest rate to 2.5%

## Interest rates rise by 100 basis points

July 13, 2022: Bank of Canada increases policy interest rate by 100 basis points; continues quantitative tightening



On July 13, the Bank of Canada raised the overnight lending rate by 100 basis points to 2.5 per cent, buoyed by strong economic growth while at the same time, hoping to temper household spending. The surprising 100 basis point announcement is ‘frontloading’ the path to higher interest rates, say analysts.

Canada’s agriculture industry is in a good position to weather inflationary pressures and higher interest rates, according to Farm Credit Canada’s (FCC) chief economist.

“We are in a unique position where record farm revenues are helping to offset the impact of a sharp increase in input costs and rising interest rates,” J.P. Gervais said. “The key for producers is to pay close attention to projected

income and expenses to avoid any cash flow challenges that could put pressure on operations.”

“The ability to service debt is arguably the most critical financial risk indicator for a farm operation,” he added.

Inflationary pressures on farm inputs are widespread. Fertilizer prices saw a year-over-year increase of at least 50 per cent, and even more than doubled in some cases. Feed prices climbed more than 40 per cent year-over-year and farm fuel has increased by more than 35 per cent. Inflationary pressures on farm inputs have dampened the outlook and contributed to an overall increase in farm debt, which rose by 7.1 per cent to \$129 billion at the end of 2021.

Gervais recommends producers test various scenarios

regarding commodity and farm input prices, yields and interest rates to better understand their financial risk exposure. They can then identify different strategies to mitigate those risks if they find themselves in situations that exceed their risk tolerance.

“If a producer is already carrying significant financial risk, then reducing the risk of rising interest rates may be a prudent strategy,” Gervais said. “I’m not saying that everyone should lock in, but every producer needs to understand how different scenarios could play out and to do what’s right for their business.”

The next Bank of Canada announcement is expected September 7, 2022.

Source: Farm Credit Canada July 13, 2022 news release

# BC to support tree and berry canopy cooling

B.C. farmers and ranchers can reduce their risks from extreme weather through a new pilot program that will help improve farms’ climate-change preparedness and resilience to wildfires, flooding and extreme heat.

“Over the past year, we’ve seen the extreme impacts of climate-related weather events on our farming communities, and we are taking action to support farmers and ranchers with climate-change adaptation tools and projects,” said Lana Popham, agriculture and food minister.

The Extreme Weather Preparedness for Agriculture program will support as much as \$1.5 million in projects this year to help famers conduct risk assessments and make infrastructure upgrades on their farms.

Examples of projects eligible for funding include:

- FireSmart Critical Infrastructure assessments;
- farm building retrofits for wildfire preparedness;
- improved on-farm fuel storage and well protection for flood preparedness;
- reconfiguration of high-value feed storage for flood preparedness;
- farm building retrofits to improve cooling during extreme heat;
- enhanced watering and shade to mitigate crop and livestock heat stress; and
- infrastructure improvements to support tree and berry canopy cooling as well as shade and heat protection for harvested fruit, berry or vegetable crops.

The program is open to farm and ranch



businesses throughout B.C., with applications initially being accepted from July 25 to Aug. 15, 2022. It is anticipated that the program will continue in 2023 and 2024, with the potential for adjustments based on experiences in the pilot year. Funding for the 2022 pilot intake will be allocated on a first-come, first-served basis for eligible agriculture businesses.

Eligible applicants can access as much as \$35,000 each in cost-shared funding for the first intake of the Extreme Weather Preparedness for Agriculture program.

Source: British Columbia Ministry of Agriculture and Food July 15, 2022 news release



CROP PROTECTION

# A mentorship program is a winning formula in Québec



LUC BÉRUBÉ

Each day of agronomy brings new challenges and issues. Working with animals, plants and soil, all combined with weather, makes a constantly changing environment. Any person involved in crop protection is facing these changing situations. New agronomists need to develop expertise in crop protection and it is not always easy. Each crop season represents a long cycle. There is no shortcut to building expertise – it takes time to face different situations. To help develop expertise among consultants in Québec, la Coordination des Services Conseils has put in place a team of mentors to guide agronomists willing to improve their knowledge.

Growers can be supported in their crop protection activities by various agronomists. Developing experience in crop protection can sometimes be puzzling. To help consultants develop their competencies in crop protection, a service of mentoring was established in 2017. Someone who needs to be accompanied is matched with a mentor. This is creating a sustainable relationship helping to build knowledge and competencies of the mentee. The service tracks the progress of each supported agronomist. The mentors have been identified for their competencies, knowledge and experience.

On my side, I am mentoring people interested in improving their competencies in crop protection. When starting with a new mentee, the first step is to identify what are his/her needs. Is it building knowledge about pests or pesticides? Is it developing skills about integrated pest management? Is it getting more



Photos courtesy of Groupe Pousse-Vert

confidence about dispensing advice about crop protection? Often, people are worried about their abilities. Simply having the possibility of talking and exchanging with someone else helps a lot. In the mentoring, it is important to identify with the mentee what are the tools easily available and how to use them. If nothing is available, I need to help develop what would be helpful as a reminder. A calendar of scouting is a good example.

Finally, sometimes everything is in place, but the mentee still needs to develop how to interact with growers. For example, how can I convince the grower that

this the best solution while he/she is convinced of something else? In mentoring, my approach is different than an expert. I have to support the agronomist to develop his/her own expertise and a way to guide growers. At the end of the day, the objective is to achieve a maximum of autonomy for the mentee. If I act as an expert, I will simply answer the questions of the mentee and, that way, take away from the objective of developing the expertise. Sometimes mentees are agronomists who are evolving in their knowledge of a new crop. In this way, it is important to work on knowledge and

competencies. Ninety-eight people are currently using the service of a mentor in four aspects of agronomy. Irrigation, fruits and vegetables, beef cattle and crop protection are the specialties covered by mentoring. Today twenty-one mentors are supporting these people across Québec.

Crop protection, with 44 mentees, was first started in 2017, followed by beef cattle in 2019. All others, started for the 2022 season.

Mentoring, at the start, is a relationship between mentor-mentee, but some group

activities are held during the year. In the high season of crop protection, there is a weekly meeting when mentors and mentees are connected by web or phone. This is an important opportunity for mentors to exchange observations and findings on different topics.

Sometimes, resource people are invited to join the weekly meeting and to bring specific information.

To reach people more rapidly and help to build better interaction, a private Facebook group is fed by mentors and mentees. Pictures, files and links are exchanged and this is a no-brainer that works.

To ensure quality of the mentoring, mentors are followed by a coach and receive annual training to help them perform well. This allows mentees to continue the relationship for numerous years, if needed.

Finally, the service of mentoring is definitively a hit. In fact, since 2017, 2470 hours of mentoring have been done for 3088 interventions with 100 mentees. On average, a mentee receives three days a year of service. Surveys show a satisfaction of 100% from mentees demonstrating that the service really responds to their needs. The mentoring program is financed by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec supported by the Canadian Agricultural Partnership in the Québec-Canada Agreement.

Source: Michel Dupuis, Coordination services-conseils

Luc Bérubé is a 1997 graduate in agronomy from Laval University, specializing in phytology. Since then, he's been a member of the "Ordre des Agronomes du Québec." Since 1999, Bérubé has worked as a consultant with producers within the Pousse-Vert Group which supports nearly 200 agricultural businesses. Advising 30 companies, he specializes in all aspects of potato and berry production. He is a part of the plant protection mentor team for club advisors across Québec. Additionally, he is a trainer for certification for the application of pesticides.

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CROP PROTECTION

# Emergency use registration granted for Switch 62.5 WG fungicide

JOSH MOSIONDZ

The Pest Management Regulatory Agency (PMRA) recently approved an Emergency Use Registration (EUR) for Switch 62.5 WG fungicide for suppression of Alternaria leaf blight (*Alternaria brassicicola*) on Brussels Sprouts, broccoli, and cauliflower in numerous provinces in Canada. This EUR for this product in listed Brassica crops can be used only in Ontario, Quebec, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador from July 8th, 2022, until July 7th, 2023.

Switch 62.5 WG fungicide is labeled for management of diseases on a wide range of crops in Canada. The use on Brussels sprouts, broccoli and cauliflower has already been submitted for review as a full label expansion via a provincial User Requested Minor Use Label Expansion (URMULE) with the hope for full registration by the 2023 field season. This EUR request was initiated by participating provinces in response to the reduced number of chlorothalonil applications permitted on the crops following RVD2018-11 and a lack of sufficient registered protective products to allow for proper rotation and season long disease protection. This EUR was led by Ontario in conjunction with the Fresh Vegetable Growers of Ontario (FVGO) and other participating province’s provincial Ministries of Agriculture and their local growers’ associations.

The following is provided as an abbreviated, general outline only. Users should be making disease management decisions within a robust integrated disease management program and should consult the complete emergency use label before using Switch 62.5 WG fungicide.

For these uses, Syngenta Canada Inc. has not fully

Crop(s)	Target	Rate (g product/ha)	Application Information	Pre-Harvest Interval (PHI) (days)
Brussels Sprouts, Broccoli, Cauliflower	Suppression of Alternaria Leaf Blight ( <i>Alternaria brassicicola</i> )	775 - 975	The first application should be made when disease first appears and continue on 7-to-10-day intervals. Apply in sufficient water volume to obtain thorough coverage; a minimum spray volume of 200 L/ha is recommended. Up to 3 applications per year may be made to the crop.	7

assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

For a copy of the emergency use label, Ontario growers may contact Josh Mosiondz, provincial minor use coordinator, OMAFRA, Guelph (226) 971-3407, Katie Goldenhar, pathologist – horticulture, OMAFRA, Guelph (519) 835-5792, or Travis Cranmer, vegetable crops specialist, OMAFRA, Guelph (519) 835-3382. Non-Ontario growers from participating provinces may contact their local provincial minor use coordinator or provincial crop specialist(s). Alternatively, you may contact your regional supply outlet, Syngenta Canada Inc. representatives, or visit the PMRA label site.

Josh Mosiondz is the minor use coordinator, OMAFRA.



## FMC strengthens biological pipeline with purchase of pheromone pioneer

Agricultural-sciences giant FMC Corp. will purchase pheromone pioneer BioPhero ApS for about \$200 million as part of the buyer’s expansion into sustainable pest control.

The move comes as the agribusiness industry searches for alternatives to chemical pesticides and manmade fertilizers, with farmers increasingly under pressure to adopt environmentally friendly practices. Pests and crop diseases also are growing more resistant to synthetic chemicals. BioPhero has developed a way to produce pheromones for insect control through yeast fermentation that it says makes it cheaper to produce at commercial scale.

“This is a perfect way to help biodiversity, help lower the total use of chemicals,” FMC said CEO Mark

Douglas. “All those things are top of mind to people. And I think as we really get ramped up in this area we will be able to convince growers, through our own trial work, that these products really do work and work well.”

Pheromones are used in pest control to disrupt mating. Today, pheromones are used on vegetables and are expensive to produce synthetically. But BioPhero’s technology can lower the costs, Douglas said. FMC, which began investing in the company through its venture-capital arm in 2021, hopes to bring the technology to multi billion-dollar row crops such as soybeans and corn.

“It’s very insect specific, so you maintain the ecosystem,” said FMC plant-health director Bénédicte Flambard.

As global director of FMC Plant Health, she expects to

bring around five products to market between 2024 and 2027 as the company scales up and accelerates production. The first product launch will target the cotton bollworm, which threatens cotton, soybeans and corn. The products will be sprayable using equipment farmers already own.

FMC will continue to expand its plant-health business and the company will announce more deals around technology and market-access in plant health, Douglas said.

Denmark-based BioPhero was founded in 2016 at the Technology University of Denmark and began operations in 2018. FMC expects to complete the acquisition by the end of the third quarter.

Source: Bloomberg June 30, 2022

## Nine members named to Science Advisory Committee

The Science Advisory Committee on Pest Control Products has been named, comprising a diverse range of expertise across Canada. The nomination process for the committee launched in January 2022 and closed in March 2022. The committee will act as in an advisory role to the Pest Management Regulatory Agency (PMRA). Members will provide expert, independent scientific advice to support Health Canada in evidence-based decision making on pesticides to better protect human health, wildlife and the environment. The members are:

- Dr. Maricor Arlos, University of Alberta

- Dr. Stéphane Bayen, McGill University
- Dr. Kyle Bobiwash, University of Manitoba
- Dr. Valérie Langlois, Institut national de la recherche scientifique, Eau Terre Environnement Research Centre
- Dr. Bruce Lanphear, Simon Fraser University
- Dr. Eric Liberda, Toronto Metropolitan University
- Dr. Christy A. Morrissey, University of Saskatchewan
- Dr. Sean Prager, University of Saskatchewan
- Dr. Xianming Zhang, Concordia University

Health Canada’s nomination criteria requested a wide range of relevant knowledge and

experience in the areas of pesticide use in Canada, environmental fate and modelling, health and environmental risk assessment, food and workplace exposure, pesticide value assessment, and Indigenous knowledge of pesticides and traditional land use. The members are representative of the diverse regional and linguistic communities in Canada.

SCENE ON TWITTER

Elaine Roddy @VegontheRidge · Jul 14

Cucurbit downy mildew was confirmed in East Elgin today. This is the first case of downy mildew in Ontario this year. The risk of further infections is now high. All growers should begin using downy mildew targeted fungicides.



# Optimize Fruit Bulking with “Science Driven Nutrition”™



Growers have four main windows of opportunity to maximize their harvest as the apple crop’s nutritional needs change through the season. Apple bulking, when fruit cells expand and the apple increases in size and weight, is an important opportunity to impact fruit development. Growers who use Science-Driven Nutrition™ to better understand their apple crop can support optimal growth and an enhanced marketable yield.

A proper nutrition plan ensures cohesiveness throughout the growing season. Bulking is the period of time when growers must focus on facilitating the production and movement of sugars into the cell structures. During cell division, the crop timing prior to the fruit bulking window, growers increased calcium applications to support fruit cell development and fruit firmness. When this opportunity to introduce calcium into the fruit ends four-to-six weeks post petal fall, maintenance applications using products like Agro-K’s **Vigor Cal™** or **Calcium 7%**, are required to support tree growth and fruit firmness.

In addition to supplemental calcium, the apple tree requires an increased amount of energy to support the rapid leaf expansion and shoot growth that occurs at this time. Agro-K’s **AgroBest 9-24-3** is an excellent source of phosphorous, which is a key nutrient behind the energy driving healthy cell development. Zinc assists with the leaf and vascular tissue development on the new growth, while magnesium, manganese, sulfur and iron synergize to maximize chlorophyll production and photosynthesis. Agro-K’s **Zinc Plus +5** is a great example of foliar products containing multiple micro nutrients designed to support leaf development and function during fruit bulking.

Potassium, which helps to move sugars throughout the plant and regulates plant moisture through the opening and closing of the stomata, is one of the most important nutrients during this time. The apple crop’s potassium needs increase exponentially during the summer months. Fruit color, weight and uniform maturity at harvest all hinge on maintaining proper potassium levels during cell bulking with products like Agro-K’s **KDL** and **Potassium 0-0-6**. Excessive nitrogen, an inhibitor to fruit color, must also be avoided during this crop window.

**Science-Driven Nutrition™**



Science-Driven Nutrition™ was developed to help growers manage the apple’s diverse and complex nutritional needs by following the **Agro-K’s Five R’s**: The Right nutrient applied at the Right time in the Right form in the Right mix targeting the Right location in the plant. This approach maximizes effectiveness and minimizes fertilizer waste.

During apple bulking, Agro-K’s soft foliar products ensure producers don’t inadvertently create fruit lenticel cell damage, a problem that inevitably worsens over time. Agro-K’s **Vigor** and **Dextro-Lac** product lines are designed to safely improve crop performance by enhancing nutrient uptake and utilization. Using soil testing, sap analysis, fruit sampling and other tools, growers determine which products will be most helpful for their unique orchard.

*For more information on using Science-Driven Nutrition™ to help your crop flourish throughout the season, visit [www.agro-k.com](http://www.agro-k.com).*

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