THE GROWER

APRIL 2023 CELEBRATING 144 YEARS AS CANADA'S PREMIER HORTICULTURAL PUBLICATION THEGROWER.ORG

WEST SIDE WELCOME

# Taking care of people is taking care of business

Jorge Osorio enjoys the driver's seat as he transports his fellow compañeros to lunch after a March morning in the Windset Farms' cucumber greenhouse near Delta, British Columbia. He is part of a 196-person contingent from Guatemala recruited under the AgStream program. Photo by Karen Davidson.

KAREN DAVIDSON

Compañero, the Spanish word for a male buddy or bro, is laden with more meaning than meets the eye when used between agricultural workers from Central America. It's a bond forged though long hours of hard work in a foreign country, undertaken to support family and put food on their table.

Such is the case for Jorge Osorio, one of 196 Guatemalans employed by Windset Farms. Since 2015, he's been making the trek from Santa Rosa, Guatemala each year to work on Windset's 68-acre greenhouse operation farm near Delta, British Columbia. Boasting a family back home with four young children, he is happy to give them educational opportunities he never had, including learning English.

At Windset, Jorge has, in his own words, "found a place where I fit in, my skills have improved over the years and my superiors have noticed so more responsibilities have been given to me and I like the fact that now I have more 'thinking' tasks. I feel that they trust me." Leaving behind very hard economic circumstances in Guatemala, he has improved his life dramatically at Windset, allowing him to become debt-free after his first two seasons.

> **"Living conditions in Canada are excellent – I like the housing that Windset provides and how safe it is here."**
>
> **~ JORGE OSORIO**

Osorio finds his living conditions at Windset to be comfortable, with all workers having equal access to all amenities. The safe living quarters at Windset inspired him to recreate a similar sense of security for his family in Guatemala, resulting in the construction of an 8-foot gated wall around the family home.

In the past, Windset brought in all its workers from Mexico under the Seasonal Agricultural Worker Program (SAWP) but, says foreign worker/health & safety manager, Tony Pacheco, "the program's restrictions didn't work for us. Workers can only be here for eight months, and all workers must leave by December 15th."

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# AT PRESS TIME...

**Harvest near Bow Island, Alberta.**

## McCain Foods to invest $600 million in Alberta potato processing plant

KAREN DAVIDSON

McCain Foods is making a history-making investment of $600 million to double the size of its facility and output near Chin, Alberta.

"The development in Alberta marks our largest global investment in our 65-year history, totalling $600 million, while underscoring our commitment to the future of agriculture and innovation in Canada," said Max Koeune, president & chief executive officer, McCain Foods. "This will fuel continued growth for the business, allowing us to serve key markets further by bringing customers high-quality potatoes that begin with our dedicated local farming community."

The news is welcomed by Terence Hochstein, executive director of the Potato Growers of Alberta. "When the plant is at full capacity, it will more than double its current production capacity here in Alberta. And the majority of that production will be under irrigation in southern Alberta."

Millions of dollars are currently deployed to build new irrigation infrastructure in Alberta, a development that is driving new investment for value-added processing.

"The spinoff benefits are huge for our seed potato industry in central and northern Alberta," said Hochstein. "It's not often that an opportunity arises for our market to expand right here in the province."

Aligned with McCain's sustainability commitments, best practices will be implemented to ensure the facility helps McCain continue to work towards its goal to cut greenhouse gas emissions across its global operations in half by the end of the decade. The expansion will include wind turbines and solar panels, providing 100% renewable electricity to the Chin site.

Additionally, renewable biogas generated at the wastewater treatment facility will be maximized and transported to the steam boilers to offset natural gas demands. To further build on sustainability efforts, a water recycling system will be implemented to produce clean potable water to be used in the manufacturing process.

The expansion will create two new state-of-the-art production lines. Once fully operational, the expansion project will add both hourly and salaried employees to work on these lines, more than doubling the workforce at Coaldale to 485. Construction on the expansion is expected to start later in 2023.

McCain Foods has operated a processing facility near Chin since 2000, currently employing 225 people and working with potato farmers across southern Alberta.

## Driscoll's to unfurl banner for Canadian-grown berries


Driscoll's will be offering Canadian-grown berries by region in 2023, according to its booth description for the Canadian Produce Marketing Association's trade show, April 25-27, 2023.

**British Columbia**
July-Sept: Raspberries, Blackberries & Blueberries
June-Oct: Strawberries
**Québec**
June-Sept: Raspberries
July-Sept: Blackberries
July-Oct: Strawberries
**Ontario**
Nov-May Strawberries (indoor)



# NEWSMAKERS

The Fruit and Vegetable Growers of Canada have honoured three individuals who have made significant contributions to the industry at the 100th anniversary annual general meeting in Vancouver. The Doug Connery Award was presented to **Deb Hart**, vice chair of the Seed Potato Sub Committee, for her commitment and passion for the potato industry. The Honourary Life Member Award was presented to **David Jones**, retiring as general manager of the Canadian Potato Council, after his tireless efforts in advancing issues affecting the Canadian potato industry over the last 11 years. Finally, the Outstanding Achievement Award was presented to **Don Brubacher**, former manager of the Ontario Potato Board, for his lifelong dedication and service to the potato industry.

**L-R: Jan VanderHout, Deb Hart, Rebecca Lee.**

Fruit and Vegetable Growers of Canada will continue to be helmed by **Jan VanderHout**, now in his third year as president. The 2023 board of directors consists of: 1st vice president: **Marcus Janzen**; 2nd vice-president, **Albert Cramer**; finance committee chair, **David Hoekstra**; **Jason Smith** (BC); **Beth Connery** (Prairies); **Charles Stevens** and **Quinton Woods** (ON); **Jocelyn Gibouleau**, **Pascal Forest** (QC); **Gerald Dykerman**, **Phillip Keddy** (Atlantic).

The Ontario Fruit & Vegetable Growers' Association has elected new leadership for 2023. Congratulations to potato grower **Shawn Brenn** who becomes chair and asparagus grower **Mike Chromczak** who becomes vice-chair and also serves as chair of the Safety Nets Section. The management committee is completed by grape grower **Matthias Oppenlaender**, tender fruit grower **Fred Meyers** and berry grower **Morris Gervais**. They are supported by the following directors: **Jan VanderHout** (greenhouse); **George Gilvesy** (greenhouse); **Glen Gilvesy**, ginseng; **Quinton Woods**, fresh muck vegetables; **Joann Chechalk**, fresh vegetables – other); **Tracy Gubbels**, processing vegetables; **Charles Stevens**, apples. Ex-officio members are: **Brian Rideout**, crop protection section; **Bill George**, labour section; **Brian Gilroy**, property, infrastructure, energy and food safety section.

**Shawn Brenn**

At the annual banquet of OFVGA, executive director **Alison Robertson** presented the 2023 Award of Merit to former chair **Brian Gilroy**. An apple grower from the Meaford area, Gilroy was president of FVGC from 2018-2022, has been involved with the OFVGA board in various capacities since 1990 and was chair of the organization from 2010 to 2012. Congratulations, Brian!

BC Cherry Association has re-elected its slate of directors for 2023. **Suhkpaul Bal** remains president and **David A. Geen** remains vice-president. **Graem Nelson** remains secretary and **Erin Carlson** is treasurer. Directors at large are: **Harman Bahniwal, Dr. David H. Geen, Richard Isaacs, Harsh Khela, Dariel Trottier and Neal Vanderhelm**.

BC Fruit Growers' Association has returned **Peter Simonsen** as president and **Sukhdeep** (**Deep**) **Brar** shifts to the vice-president's position after the passing of **Jeet Dukhia**. **Parm Dhaliwal**, a southern regional executive alternate was acclaimed to fill Brar's former position. Remaining board directors are: **Ravinder Bains, Joginder Dhand, Avi Gill, Mani Gill** and **Annelise Simonsen**.

The Canadian Federation of Agriculture will be headed by Ontario sweet corn and hay farmer **Keith Currie**. The Collingwood, Ontario farmer will be joined by **Todd Lewis**, first vice-president and former president of the Agricultural Producers Association of Saskatchewan and **Pierre Lampron**, second vice-president and currently president with the Dairy Farmers of Canada.

The United Potato Growers of Canada has bolstered its ranks with the rejoining of the Ontario Potato Board and Potatoes New Brunswick. Saskatchewan Seed Potato Growers' Association has joined for the first time. At the March 13 annual general meeting, new directors were elected. **Wayne Rempel**, Manitoba is chair, supported by **Gord Medynski**, Quebec as vice-chair. **Matt Hemphill**, New Brunswick is treasurer and **Greg Donald**, Prince Edward Island is secretary.

COVER STORY

# Taking care of people is taking care of business

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The annual greenhouse transition to new crops requires a clean-up late in the year. The need to bridge from late-season to new-season crops resulted in Windset pivoting to the AgStream program which allows two-year contracts. It's also an employer-to-employee relationship, sometimes brokered by a recruiter.

As Pacheco explains, the Guatemalan consulate was very helpful in the conversion and initially 10 workers arrived as part of a trial. "The AgStream program doesn't have the restrictions that SAWP has, so it works better for us," says Pacheco.

For its part, Windset Farms continues to work hard at strengthening the bonds with all its temporary workers. As marketing manager Randi Church explains, Farmworkers Awareness Week, the brainchild of a U.S. organization called Equitable Food Initiative (EFI), is March 27-31, 2023. It's an outreach program that partners with growers and retailers for a more transparent food chain. Special events are planned, but more importantly, the farm organizes soccer matches from spring to fall and on a regular basis,  brings a food truck on-site.

As the pandemic fades, it has left an unexpected legacy. The environmental, social and governance (ESG) movement is gaining steam as investors look to identify both material risks and growth opportunities. Bad housing for workers? Or illegal migrant workers? That's a black eye and a media nightmare.

ESG thinking has resulted in on-the-ground management practices that are holistic in their scope: making workers' daily lives more comfortable, making food packaging more planet-friendly, and measuring greenhouse gas emissions from transports. Food companies such as Windset Farms are beginning to tell their story using these new metrics, stories of being transparent about the journey and not pretending perfection.

"The fresh produce industry has been severely challenged in recent years by the combination of COVID, supply chain disruption, inflation, uneven regulation, labour shortages and more frequent extreme weather events," said Peter O'Driscoll, executive director, EFI. "As a multi-stakeholder collaboration, EFI's role is to support the industry to overcome these challenges through workforce engagement, in ways that bring measurable value to workers, employers, retailers and consumers alike."

One EFI project was to conduct more than 1,300 interviews with 650 guest farmworkers to understand their challenges and to gather potential improvements to the recruitment process. The report, 10 Ways to Improve Recruitment of Guest Workers, According to Farmworkers, is now available online.

Canada, of course, is not the only player in the temporary foreign worker marketplace and competition is fierce.  In the U.S., the H-2A program touts 317,000 foreign workers and counting as of fiscal 2021. As with any marketplace, such competition can't help but drive up costs.

British Columbia, through its Western Agriculture Labour Initiative (WALI), is focussed on maintaining a competitive edge for its agricultural employers. Reg Ens, general manager, supervised a new website that went live in 2022 with a login portal that allows employers to independently check the status of paperwork for temporary foreign workers. About 6,500 workers arrive in BC every year.

David Mutz, chair of WALI's labour committee, comments, "The system is not perfect, but employers have the ability to change arrival dates of workers under the Seasonal Agricultural Worker Program. The new system still requires a lot of staff in the background but the savings are in the back-and-forth of phone calls."

One area that demands improvement is the ability of BC employers to build new housing. Mutz adds that municipal and provincial regulations are hindering this process.

As highlighted by COVID pandemic disruptions, enhancing access to international labour sources has become a critical factor in Canadian food security. In fact, so pressing is the current dearth of workers that at the March 16th annual general meeting of the Fruit & Vegetable Growers of Canada a resolution was passed to identify foreign worker source countries beyond the current list of Barbados, eastern Caribbean, Jamaica, Mexico, Trinidad and some central American countries.

Support for farm employers across the country is currently provided through FARMS (Ontario and the Maritimes), FERME (Québec) and WALI (Western Agriculture Labour Initiative). Despite operating in different geographies, these organizations are dedicated to a common goal -- creating innovative solutions for employers and participating countries to support the cost-effective and reliable recruitment of temporary foreign workers. Today, and into the future.


**Windset Farms organizes a food truck with Spanish food on-site.**

**A soccer game brings out the best of emotions for this group of Guatemalan workers. Photos by Windset Farms.**

**At press time, The Grower is seeking a "Digging Deeper" interview with a representative of the Western Agriculture Labour Initiative, based in Abbotsford, British Columbia. This podcast is sponsored by Cohort Wholesale.**

## CROSS COUNTRY DIGEST

### BRITISH COLUMBIA

# Rising input costs vex BC fruit growers

MYRNA STARK LEADER

*Penticton, British Columbia* - Rising costs of inputs and labour to manage high-density orchards coupled with ever-shifting regulations have pushed some Okanagan fruit growers out of business.

Since 2018, apple and pear acreage has dropped from 8,500 acres to 6,700 acres. Pear acreage is about 500 acres and has been more stable than apples.

Several causes of the decline in apple acreage have been postulated says Glen Lucas, general manager, BC Fruit Growers' Association (BCFGA). They are:

- retail consolidation: buyers are motivated by short-term margins and volume, not by medium-term consistent, local, low-carbon supply
- internal competition leading to cutthroat pricing
- low prices result in cutbacks to farm expenses, resulting in more byproduct, which is attributed a packing charge and results in a further, compounding loss for growers
- greater government support in other competing areas
- more alternatives of other types of fruit in the marketplace
- the two-year financial impact of the 2021 heat dome on apple crops

The provincial government released the Tree Fruit Stabilization Plan in the fall of 2021, a roadmap forward. However, Peter Simonsen, re-elected BCFGA president, told 30 members at the February 28 annual general meeting that the car is in the ditch with four flat tires after years of poor market returns.

"Producers are neither weathering the storm nor thriving," he said.

Although Simonsen says growers were invited to join the recently formed apple marketers' association, it alone won't overcome marketing problems stemming from a lack of accurate and shared pricing data. This situation results in growers getting what's left over after packing and storage costs. He hopes practical solutions will be found by packers, the New Tree Fruit Varieties Development Council, BCFGA growers and government representatives.

In the meantime, he says modernization and improving efficiency can't wait for more talks.

"We first alerted our provincial ministry of agriculture of an apple market failure in early 2018 and since then we have lost 17 per cent of our apple acreage. Growers who remain are in a precarious position. A direct, one-time payment or credit of some kind is also vital," said Simonsen.

While lobbying for the province to fund a 2023 rescue program, BCFGA is providing limited funding for its members, through the association's incentive programs.

"Food safety is taking the fun out of growing fruit," said Kelowna orchardist Sam DiMaria to applause. His comment followed a resolution asking CanAgPlus to review unannounced audit requirements for work safety. Growers want auditors to give 24 hours notice if for some reason growers aren't harvesting during the prior agreed upon three-day audit time.

DiMaria called some of the current system redundant, inane and costly for growers, while stressing that he fully supports food safety.

"I've never seen the level of anger among growers on any other issue that I've seen on this," said Simonsen after the meeting. "It's been simmering for a while, but it's coming to a boil."

Insurance programs aren't meeting grower realities either.

"Perennial agriculture is not well understood and not covered well by programs compared to annual crops," said Katie Sardinha, an organic grower at Summerland.

"Crop insurance will cover you for quantity loss but Sudden Apple Decline is going to get worse. Heat domes, drought and pests are cumulative . . . I don't think government has a formula for this," said Denise MacDonald, another Summerland apple grower.

In his labour report, newly acclaimed vice-president Deep Brar said federal government's mandated wages are going up to $16.05 an hour and negotiations with Mexico were challenging under the Seasonal Agricultural Work Program.


**Peter Simonsen (L), president of the BC Fruit Growers' Association, takes questions at the annual general meeting with executive director Glen Lucas looking on. Photo by Myrna Stark Leader.**

"Half the time we were down there, we felt like we were fighting our own government," Brar commented. "The Mexicans know we need their workers so they can threaten non-participation, which no one wants."

The cost of apple production is estimated at $0.36/lb, according to a MNP study commissioned by BCFGA. The association intends to repeat the study annually so general manager Glen Lucas encouraged more of the 320 members to share their information to ensure a fully representative data set.

Keynote speaker, UBC academic director and agribusiness researcher Kelleen Wisemen also encouraged growers and packers to share data. Canadian statistics suggest that retail apple prices surged ahead of other fruits since 2016. Wisemen reported that retailers, not growers, have the power to choose apples from many countries.

Simonsen concurred:

"The public supports us. Growers are supportive. It seems sometimes, like the only people who don't really believe us are governments, so it's important to get independent third-party studies as evidence. It's also important for grower decision-making."

Looking to the future, Simonsen is positive in that BCFGA has turned a page in relations with the provincial government with a new minister, deputy minister and two new assistant deputy ministers.

Other motions, passed by majority, asked the BC government to exempt temporary foreign worker housing from development cost charges; to consider more flexible irrigation turn-on and off dates, given changing climate; and to reimplement a 70/30 split in federal government research funding.

The association is in good financial health, with resources to take on new research projects and the board was given authority to explore the sale of its 55-acre test orchard.



### QUÉBEC

# Top issues for veg growers

The Association des producteurs maraîchers du Québec (QPGA) has been busy this winter reports Catherine Lessard, deputy general manager, Québec Growers' Association. She summarizes the current issues for the Québec vegetable sector.

**Another outbreak of the virus?**

The 2022 growing season in Québec was plagued by a major Cucumber Mosaic Virus (CMV) outbreak. The virus was presumably spread by the large population of soybean aphids that has been moving from the United States with the hot air currents. "We estimate that dozens of vegetable farmers have been impacted, in some cases losing all their crops," says Lessard. "The presence of the virus in the weeds in surrounding fields could, if there is again a large population of aphids, cause a new outbreak for next season. The QPMA has been advocating for better risk management to alleviate the financial impacts of the outbreak."

**A regulation that causes problems**

Since 2022, the fruit and vegetable washing systems on farms must be approved by the Québec government. To obtain the approval certificate, the water discharged into the environment has to meet standards that vary depending on the water stream. In some cases, it is technically very difficult and expensive, for the grower to comply. So far, most fruit and vegetable washing systems are operating illegally given the lack of compliance. The QPMA is asking for the regulation to be delayed until affordable solutions are available.

## CROSS COUNTRY DIGEST

### PRINCE EDWARD ISLAND

# Top up your boots with PEI potatoes

To help offset rising food costs, four Island farms opened their potato storages to Islanders on March 11, 2023. Visitors helped themselves to unwashed potatoes directly from the pile in storage. More than 900 consumers visited, donating $3,500 to the PEI food bank.

The participating potato farms were:

• G Visser and Sons – 6346 Trans-Canada Hwy, Orwell Cove

• R.A. Rose and Sons Ltd. – 402 Northlake Harbour Rd, Lakeville

• Farmboys Inc. – 1472 Arlington Road, Richmond

• Vanco Farms – 280 Crooked Creek Road, Oyster Bed

During the U.S. border closure of 2021 and 2022, five Island farms opened their doors and invited Islanders to visit and bring home some potatoes as thanks for their support. Many potatoes had to be destroyed last year when the border closed, and these farms wanted to share with Islanders before the destruction was completed. More than 5,000 people picked up 160,000 pounds of potatoes, and the farms collected $8500 for the food bank.

PEI Potato farmers donate directly to food banks throughout the year. However, this is an opportunity for people to come directly to participating farms, gather up some potatoes, and learn a bit about farming.

*Source: PEI Potato Board March 7, 2023 news release*


### NOVA SCOTIA

# $15M for vineyards

Nova Scotia agriculture minister Greg Morrow has announced $15 million in relief funds to grape growers and other tree fruit growers whose crops were impacted by a cold snap on February 3-4, 2023. The advective freeze event occurred after an unseasonably mild winter. Assessments show that some Nova Scotia farms are expected to lose all of this year's grape, raspberry, peach, cherry and plum harvests due to the cold.

According to a report produced by Perennia and Ag Canada's Kentville Research and Development Centre, the freeze event was the coldest since 2009 and the fourth coldest annual minimum in 50 years. The average December and January temperatures were the warmest on record since 1914. The lack of grapevine acclimation has resulted in widespread bud damage.

Industry experts say it's impossible to accurately assess the long-term damage. Current predictions suggest that the majority of sites will recover.

"Every vineyard in Nova Scotia has been affected by this event," says Steve Ells, president of the 85-member Grape Growers Association of Nova Scotia. He says the province's vineyards lost at least 95 per cent of all viable vinifera buds, which are used in the production of Chardonnay, Pinot Noir, and Riesling, and anywhere from 40 to 90 per cent of hybrid buds, depending on the vineyard.

The loss of summer 2023 production means that winemakers may turn to Ontario's Niagara region to get the juice required to make wine. However, climate change has affected that region as well. Niagara vineyards suffered devastating freeze losses in 2022.

"It's very important to the industry to make sure production stays somewhat intact," Ells said, emphasizing the close link between tourism and the vineyards.

GREENHOUSE GROWER

# The Québec company behind Mirabel lettuce launches Gen V

L-R: Daniel Terrault, Francis Terrault, Valérie Terrault, Simon Terrault, Chantal Desjardins & Sylvain Terrault are pictured in one of their greenhouses.


**Gen V has launched two 15 second ads for March and April in the Québec market. The goal is to show that it's easier than you think to eat local vegetables during the winter. No need to stress or buy veggies from places you go on vacation! GenV does all the work for you. The company grows vegetables in Québec high-tech greenhouses all year round. GenV will also be on a cooking show called Savourer. In addition, the company partnered with Ricardo Media to create and promote 10 non-salad recipes that feature lettuce. Advertising will also appear on YouTube, Facebook, Instagram and programmatic.**

The multi-generational Terrault family business, a leader in greenhouse production headquartered in Ste-Clotilde, Québec, is launching Cultures Gen V Inc., unifying all its brands under the new Gen V banner. With this name change and a new visual identity, the company, which operates four greenhouse complexes across 74 acres, is joining forces with the next generation to breathe new life into the business.

In line with the Terrault family values, the second generation aims to continue to grow vegetables organically, hydroponically, without GMOs and without the systematic use of pesticides. They want to prioritize the use of green and renewable energy, the use of recyclable materials and the production of eco-conscious packaging. The company also wishes to continue to support the well-being of its employees and the communities it employs locally. It believes in Québec's food autonomy and is convinced that this will happen through organic and hydroponic greenhouse crops.

The company also wishes to embody this vision of modern agriculture by promoting the well-being of all of its employees including local and seasonal workers, as well as the small communities of Mirabel, Ham-Nord, Ste-Clotilde and Portneuf, where they operate.

"The human aspect is extremely important to us in this process," says Simon Terrault, general manager at Cultures Gen V Inc. "We bring people closer to what they eat by growing fresh, tasty and healthy local vegetables, but more than anything we want to grow these products in a way that respects people, communities and the environment."

The new Gen V brand launched March 1, 2023 permanently replacing the former Mirabel and VÔG brands. Gen V products include hydroponic lettuce, organic cucumbers, peppers and mini-cucumbers. Link here: www.gen-v.com

*Source: Cultures Gen V Inc March 7, 2023 news release*

# Tomato Brown Rugose Fruit Virus found in Slovakia

European countries continue to report incidences of the highly transmissible Tomato Brown Rugose Fruit Virus (ToBRFV) with the most recent find in February 2023 in western Slovakia. According to country authorities, the virus was detected in a 2.5 ha greenhouse producing tomato (*Solanum lycopersicum*) fruit. The seed originated in the Netherlands and the seedlings were grown by an Austrian company. Official measures include demarcating the area, incinerating infested plants and disinfecting the greenhouse and associated equipment.

The European Commission is reviewing whether more or less stringent measures are required for seeds and young plants after emergency regulations expire May 29, 2023.

Plant viruses are a major constraint to agriculture, accounting for nearly 50 per cent of newly emerging plant diseases and causing estimated economic losses worldwide greater than $30 billion annually (Yang et al., 2021).

GREENHOUSE GROWER

# Research uncovers a new approach to cooling greenhouse irrigation water

A research project at a southwestern Ontario greenhouse has found a sustainable method to cool the water that growers use to irrigate their greenhouse vegetable crops - improving both plant health and fruit quality in the process.

Using funding from the Greenhouse Competitiveness and Innovation Initiative (GCII), Under Sun Acres Inc. has identified that water from a greenhouse's stormwater management pond can be used to bring irrigation water to the ideal temperature the crops need, as opposed to using an electric or gas-powered cooling unit.

Irrigation water used for greenhouse crops is a combination of fresh water from natural sources such as wells and ponds, municipal sources, leach water that is disinfected and recirculated from within the greenhouse environment, and fertilizer. The ideal temperature for irrigation water is approximately 20-22°C throughout the growing season.

"Growers mix fresh water from the municipality with treated leach water to use for irrigation, but when it is 32°C in the greenhouse in the summer, the treated leach water is the same temperature," explains Lucas Semple of Under Sun Acres Inc. "As you lower the temperature of the irrigation water, it increases the health of the plant by reducing plant stress."

A lot of greenhouses, including Under Sun Acres, already use water from their stormwater management ponds to cool the fresh water they get from municipal sources, but they have no control over the temperature of the treated leach water. Its temperature would stay high no matter how much the municipal water was cooled unless they use cooling units.

"We began pulling water from our pond and using a heat exchanger to cool the treated leach water, which lets us cool and control it," he says. "The unknown for us was the pond – how will the pond water react and is the pond cool enough throughout the summer, for example?"

On top of the heat exchanger equipment, Semple installed a series of temperature sensors into the pond to monitor water temperature at different spots and help track where to take the water from during the growing season for the best results. The key is not being too aggressive in extracting cool water from the bottom of the pond early in the season so the

pond water will still be cool enough to meet their temperature requirements during the hottest days of summer.

"This was a new process, and we don't know of anyone else using pond water in this way," he says. "Simply put, irrigation water temperatures are too high in the summer, and we've been able to prove that it does work to use pond water to cool fresh and treated leach water for greenhouse irrigation."

The size and depth and amount of rainfall have a large influence on cooling capacity of the pond. Semple found, for example, that the pond's average temperature can increase by up to 1°C after big rainfalls. They're now looking to cover the pond to reduce the impact of rainfall and solar radiation on its water temperature.

When greenhouse operators are planning to build a new stormwater retention pond, which is required for all site plan approvals, Semple encourages them to consider how else the pond can be used. This may require some additional design work related to volume and depth at the onset but can provide added future benefits.

Semple worked with researchers from the University of Windsor on the project, which he feels is one of the biggest benefits from accessing GCII funding.

This project was supported through the Greenhouse Competitiveness and Innovation Initiative, a cost-share program funded by the Ontario government and delivered by the Agricultural Adaptation Council, on behalf of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

GREENHOUSE GROWER

# UP Vertical Farms partners with sales expert Oppy

After spending nearly a decade researching and developing the latest technology to grow crops at 350 times the yield of conventional field-grown greens, UP Vertical Farms has launched its inaugural facility in Pitt Meadows, British Columbia alongside its sales and marketing partner Oppy.

Grown using 99% less land, 99% less water, 99% less fertilizer, no pesticides, herbicides or fungicides, UP is fully automated from seeding through to harvest. Using recycled $CO_2$ and proprietary lighting technology, leaves are grown to custom brix levels and flavour profiles while lasting 22+ days refrigerated. And because greens are never touched by human hands, they are ready to eat right out of the package with no need to wash — making UP Canada's first hands-free vertical farming operation.

"We are thrilled to go live after many years of research, development and planning," said Bahram Rashti, co-founder of UP Vertical Farms. "With climate change affecting the fresh produce supply in a multitude of ways, we're honoured to do our part to help Canada navigate its food security issues — as with recent shortages experienced in the traditional leafy greens sector, for example. These limitations in supply will be a continuous issue, one that we had foreseen, and for which we developed a commercial scale solution to address."

Forecasting production of just under two million pounds — or 6.3 million bags — of salad greens per year, UP Vertical Farms also has the unique ability to fully customize packs specific to the individual needs of retailers and restaurants. Because crops are grown in an automated 13 to 21-day period, blends can be tailored and grown instantaneously to keep pace with ongoing trends, which adds to the quality and consistency only UP can deliver to its partners.

*Source: The Oppenheimer Group March 1, 2023 news release*

# New high-tech mini cucumber offers excellent uniformity, labour efficiency

Enza Zaden is introducing Analisa, a beautiful dark-green mini that provides a great addition to its growing cucumber program, which includes long-English types, slicers and pickling, along with minis.

"Over the past three years, Analisa has performed very well in the heated greenhouses of Ontario and Québec during the spring and summer months. We're excited to offer this great variety that delivers on taste, crunchiness and fruit size to more growers this year," says Roberto Haveroth, product development specialist, Enza Zaden.

Adaptable for high- and low-wire, Analisa was commercialized in 2022 and is Enza Zaden's first high-tech mini cucumber variety. Grower-friendly, Analisa features an open and compact plant type, excellent fruit quality and very high uniformity. In an industry challenged by escalating costs, the ideal consistency, size and quality of Analisa all contribute to efficient growing and optimized yields.

For trial seed or more information, contact Stephanie Driedger, Eastern Canada sales representative, at 519-562-0415.

# Andermatt Canada announces Bassidor biological for greenhouse use

Canadian greenhouse growers now have access to a new mode of action in their quest to control white flies and TSSM. These pests can be very difficult to control in an actively growing crop. Growers will often combat multiple generations of these pests in their greenhouse growing cycle.

Bassidor is a Beauveria bassiana developed from a unique strain identified for its efficacy under challenging conditions. Packaged in a 1 kg foil pouch, Bassidor is formulated as a wettable powder offering simplicity for application in commonly used application systems. The active ingredient is a naturally occurring insect-pathogenic fungus and is also a common soil-inhabiting fungus. The fungus forms numerous small conidia in solid or semi-solid state fermentation systems. It is these conidia that have  ability to germinate on and penetrate insects, leading to mycosis (fungal colonization of the insect contents) and lead to mortality of the insect.

Andermatt Canada Inc, based in Fredericton, New Brunswick, is a member of the Andermatt Group. Andermatt are specialists in developing biological control measures to assist growers in producing safe and healthy crops to meet consumer needs. For more information, contact:

*Source: Andermatt Canada February 28, 2023 news release*

# Automated dispenser optimizes bio-control with beneficials

Manually dispensing beneficials can be labour intensive says Hanne Steel, Biobest product portfolio manager for beneficials. "A repetitive task which requires high levels of focus, it can be difficult to assess if the task has been performed well," she says. "To optimize biocontrol strategies and its effectiveness, it is important to get even distribution of beneficials throughout the crop."

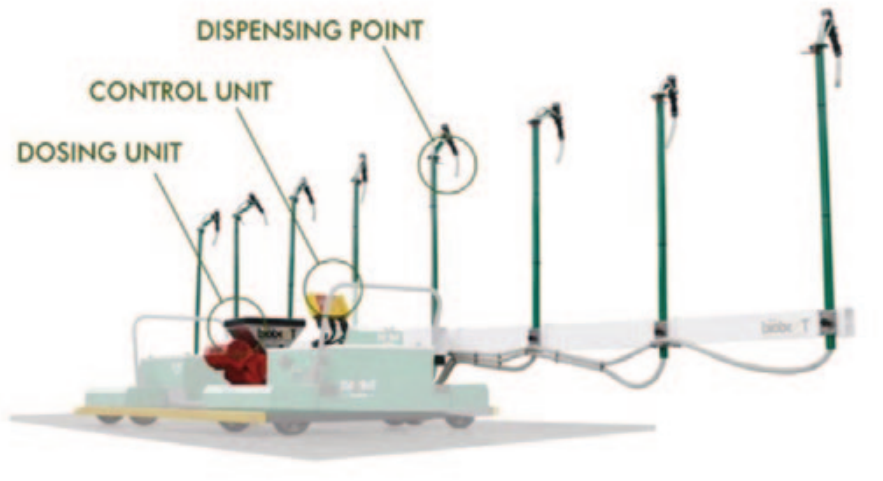
The Entomatic dispensing system is now available in North America for an accurate and homogenous flow of mite products including Phytoseiulus-System, Amblyseius-System, and Swirskii-System. The dispenser can also be used for suitable pupae and egg-based biocontrol products.

"Compared to other dispensers, Entomatic continuously and gently blows the mites onto the crop," explains HortiWorld's Rembrandt van Meegen. "By slowing down the airflow, more mites land on the leaves - where they are required – with minimal falling to the floor. The reservoir enables different products to be carried. When pre-mixed, an auger system provides continuous and homogenous supply to the dispensing points."

A simple modular system, the machine is highly adaptable and can be configured to suit almost all glasshouse crops – soft fruit, protected salads and ornamentals - and any growing system.

"Extensively trialed and tested, Entomatic can handle all common beneficial carrier materials – vermiculite, sawdust, bran, and buckwheat husk. With no requirement for a pipe rail system, it can be mounted on a cart, tractor, or spray equipment. All this adaptability brings benefits to us as manufacturers, Biobest as suppliers, and growers as users," he says.

It can be challenging to schedule and coordinate sufficient crop workers to manually apply biocontrols coinciding with deliveries. With two to 16 dispensing points, the Entomatic can automatically dispense beneficials in up to 16 rows simultaneously. Depending on the number of dispensing points and row length, it has a dispensing capacity of up to 1.5 ha per hour.




Summing up, Steel says: "While helping growers improve their labour efficiency, the Entomatic helps ensure the beneficials are dispensed evenly throughout the crop – a prerequisite of good biological control strategies."

In North America, Entomatic is available from Plant Products, a member of the Biobest Group.

*Source: Biobest Group*

GREENHOUSE GROWER

# Dynamic lighting offers flexibility in meeting cultivar needs

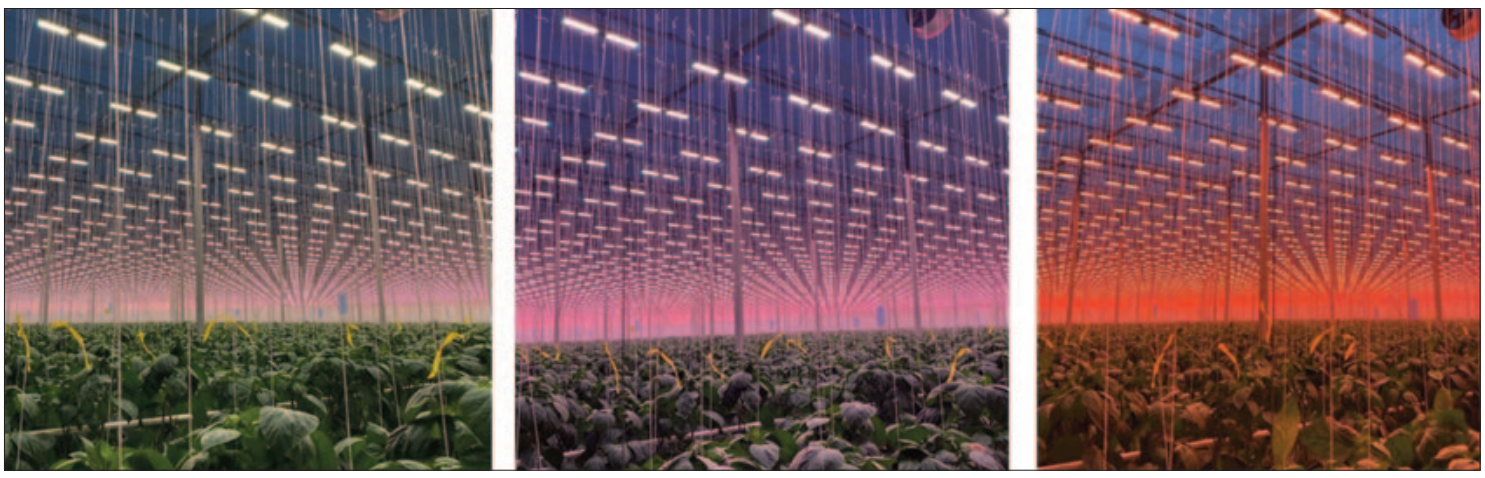
Sollum Technologies has released a white paper explaining how dynamic lighting works. It's a Montreal-based company that provides programmable, AI-powered LED lighting for multiple zones, offering real-time dimming capabilities of light spectra and light intensity throughout the greenhouse.

Also called adaptive lighting, it allows growers to tailor lighting for specific plants at different growth stages. Different crops have different lighting requirements as it relates to photoperiod, spectrum and light intensity, which can make it difficult to change crops and still get the most productivity out of the greenhouse.

Great Lakes Greenhouses has installed more than a thousand fixtures in two acres at Leamington, Ontario.

"We chose Sollum fixtures for our vegetable propagation operation, which represents a demanding and critical chunk of our business," says Mark Reimer, research & business development manager of Great Lakes Greenhouses. "We grow a variety of non-GMO and organic produce including cucumbers, peppers, tomatoes and eggplants, so we needed a supplemental lighting solution that could meet the precise needs of a diverse group of crops."

Like Great Lakes Greenhouses, many growers have diverse crops but sometimes they are forced to make crop changes due to market influences and pest/disease cycles. For example, Tomato Brown Ruguse Fruit Virus (ToBRFV) in tomatoes requires removal of the infected crop, thorough disinfection and often a complete change to cucumbers or peppers. Greenhouse growers can address these challenges by transitioning to dynamic lighting and adapting their lighting parameters to the new crop's specific requirements.



**These three photos show light treatments adapted to the specific needs of the crop and the modification of the spectrum at each growth stage. Photo by Sollum Technologies.**

ToBRFV is not the first disease to impact crop health and productivity across the greenhouse sector. The Cucumber Mosaic Virus previously wreaked havoc and a new cucurbit virus, the Cucurbit Aphid-Borne Yellow Virus (CABYC), has appeared in Europe and could prove problematic. Transitioning crops via dynamic lighting offers the opportunity to manage these issues and contribute to a profitable growing season.

Fine-tuning the lighting strategy according to cultivar is an essential aspect of greenhouse farming. For example, some lettuce cultivars grow best with a daily light integral of 16-17 mol/m2/day, while others can handle 20 mol/m2/day. The light spectrum can also affect pigmentation, with yellow and orange peppers susceptible to bronzing under high light intensities and high blue levels. On the other hand, high light intensities and high blue light levels can enhance the leaf colouration in red-leafed lettuce, whereas the opposite can produce a less saturated leaf colour.

In vine crops, cultivars are often described as predominantly vegetative or generative. When the plant is out of balance, growers can adjust the zoning, photoperiod, and spectrum to help bring the plants back into balance. For example, Sollum has worked with multiple growers to increase stem diameter when the head of the crop gets too leggy by temporarily increasing the blue light levels.

In summary, the lighting responses of plants are cultivar-specific, as each plant variety has unique morphological and physiological characteristics affecting how it uses light for growth and development. Growers can fine-tune cultivars' lighting strategy according to their optimum growth requirements, promoting crops' overall health and productivity and the fluidity of changing market conditions and pest/disease cycles.

For more information, link to https://sollumtechnologies.com/

FRUIT AND VEGETABLE GROWERS OF CANADA

# Be it resolved to meet again

Jan VanderHout, president, FVGC; Hon. Pam Alexis, British Columbia agriculture minister; Marcus Janzen, vice-president, FVGC.

L-R: Jason Smith, Quinton Woods, Marcus Janzen, Rebecca Lee (executive director), Pascal Forest, Albert Cramer, Gerald Dykerman, Jan VanderHout, Beth Connery, Jocelyn Gibouleau, Mike Chromczak and Charles Stevens.

KAREN DAVIDSON

If it could have been arranged, there would have been fireworks over the Vancouver harbour to celebrate the 100th anniversary meeting of the Fruit and Vegetable Growers (FVGC). But the stars did align for the federal minister of agriculture, Hon. Marie-Claude Bibeau, and British Columbia ag minister Hon. Pam Alexis to attend on March 15.

Hon. Bibeau is now four years in her role, first appointed as agriculture minister on March 1, 2019. Growers agree that she is deeply informed and passionate about agriculture. The personable Hon. Alexis is still learning the diversity of her portfolio, appointed three months ago on December 7, 2022.

This was the first in-person meeting of the FVGC in three years. In that interim, both a pandemic and new potato wart detections in Prince Edward Island have left their scars. The PEI potato industry is seeking immediate answers on when its growers may send seed to markets beyond its provincial border. While the second year of a national soil survey has found no evidence of the soil-borne fungal disease in the rest of Canada, the Canadian Food Inspection Agency (CFIA) is still analyzing soil samples from ongoing investigations in PEI.

Significantly, Hon. Bibeau told the 200 delegates that she was personally invested in "changing the culture" at CFIA with an emphasis on stakeholder relations. And she welcomed the arrival of a new CFIA president, Dr. Harpreet S. Kochhar, who assumed his role on February 27, 2023.

On the sidelines of the meeting, Hon Bibeau told **The Grower** that there are three partners in solving the potato wart issue:  the federal government, the PEI government in terms of land use, and the potato industry. "The industry needs to do its homework," she said.

For its part, the industry, including the Canadian Potato Council, has been working very hard through the CFIA/Industry Working Group, including the review of the Potato Wart Domestic Long-Term Management Plan Working Group.

As part of its homework, a resolution passed calling for the FVGC to advocate for the federal government to accept and implement the recommendations of the International Advisory Panel (IAP) so that PEI potatoes, vegetable root crops and horticultural plantlets produced from non-regulated fields in 2023 can move to domestic and international markets.

PEI potato growers refer to the panel findings that state: "Given the limited presence of the pathogen, the IAP considers most parts of PEI outside of the regulated fields as a pest-free area for *S. endobioticum*."

The Canadian Potato Council is now transitioning to a new executive director, Gary Stordy, who brings 15 years of experience in the pork industry where he led communication efforts in agricultural policy and served as the national spokesperson.

In other business, the meeting passed a motion that urges a pre-emptive emergency use registration to manage spotted lanternfly. The CFIA has recognized that this invasive pest threatens Canada's grape and fruit tree industry. Spotted lanternfly has been found in Pennsylvania, Michigan and New York state, as close as Buffalo. Pathways to entry into Canada include nursery stock, plants for planting, branches, logs and vehicles. Highest risk areas are in southern Ontario and parts of Québec. The worry is that there are currently no registered pest control options or longer term solutions to slow the movement of spotted lanternfly.

**Hon. Marie-Claude Bibeau spoke at the 100th anniversary celebrations of the Fruit and Vegetable Growers of Canada.**

The next annual general meeting of FVGC is March 5-7, 2024 in Ottawa.

The 2023 board of FVGC directors comprises:
President: Jan VanderHout
1st Vice President: Marcus Janzen
2nd Vice President: Albert Cramer
Finance Committee Chair: David Hoekstra
Members for BC: Jason Smith
Members for the Prairies: Beth Connery
Members for ON: Charles Stevens, Quinton Woods
Members for QC: Jocelyn Gibouleau, Pascal Forest
Members for the Atlantic: Gerald Dykerman, Phillip Keddy

# Chronic lack of pollination services is hobbling the blueberry industry

KAREN DAVIDSON

From coast to coast, blueberry growers are worried about the chronic insufficient bee colonies available to service the industry. The Berry Working Group under the auspices of the Fruit and Vegetable Growers of Canada (FVGC) met recently in Vancouver. Kevin Byers, a Prince Edward Island member of the group, summarizes the issues and implications.

Blueberry production without pollination is not sustainable, or profitable. Currently the pollination services provided in Canada represent only 50 per cent of the requirements. Lack of pollination services in Canada is not a new problem, but it has been challenged to a deeper degree for a multitude of reasons.

1. Beekeepers not able to access sufficient bee packages at an affordable cost and at appropriate timing to build colonies ready for pollination.
2. COVID restrictions caused disruptions in international transportation of imported packages resulting in fewer packages and untimely arrivals.
3. High over-wintering losses across Canada has resulted in "HIGH "need for replacement and no growth.
4. Federal and provincial regulations and protocols regarding health and transportation.
5. Large commercial beekeepers are exiting, changing the focus of their operation, or downsizing because of financial and regulatory issues.
6. Labour and transportation costs.

There have been many different groups working to address the issues, but frustration is brewing as, year over year, growers are unable to source sufficient colonies for adequate pollination. Compounding the pollination shortage, rental costs are escalating often for a less robust product due to so much splitting of hives to provide colony numbers rather than colony strength.

The Industry-Government Honey Bee Sustainability Working Group's priorities presented to the Berry Working Group at the FVGC AGM worry growers. That's due to the lack of industry contributions to the four action plans which, growers note, are a continuation of best management practices.

"Industry doesn't need more bureaucracy but progressive actions recognizing that food security is at stake," states Byers. "Growers feel that the Canadian Food Inspection Agency (CFIA), Agriculture and Agri-Food Canada (AAFC) and any other necessary stakeholders need to conduct a risk tolerance as well as the health risk assessment on U.S. honeybees and develop a working relationship with U.S. counterparts and their state apiarists."

Such action would allow for an open Canada/ U.S. border for access to reasonably priced, safe packages and queens to allow for a flourishing Canadian honey, fruits and vegetable industry. It's hoped that proper timing of packages can help build strong colonies and eliminate the need for costly air transportation.

Representatives from CFIA and USDA attended the meetings.

## CHAIR'S PERSPECTIVE

# Meet your new OFVGA chair

**SHAWN BRENN**

It's been about a month since I became the new chair of the Ontario Fruit and Vegetable Growers' Association (OFVGA). I appreciate the opportunity to lead this organization, to continue to build upon the foundations laid by our previous chairs and board members, and to work on behalf of the growers of this province for the betterment of our industry.

My brother and I are co-owners of our fourth-generation family farm in a rural area of the city of Hamilton. We grow potatoes and onions, fresh cilantro and dill, and corn, soybeans and wheat as rotation crops on approximately 2,300 owned and rented acres.

I've been part of the OFVGA board since 2018, when I joined as the director representing the potato sector and have been involved with both the crop protection and labour sections.

I'm also currently the chair of the Ontario Potato Board and vice chair of the Workplace Safety and Prevention Services (WSPS) advisory committee for agriculture and horticulture, as well as serving on the WSPS executive advisory committee.

The OFVGA chair represents the organization and the grower community across a variety of events and situations, and I'm looking forward to meeting new people both inside and outside of our sector. My first opportunity came only a couple of weeks after taking on this new role, when I had the chance to participate in a round table on sustainable agricultural strategy with our federal minister of agriculture, Marie-Claude Bibeau, and other farm leaders and government representatives.

As I look to the year ahead, I believe that safety nets and securing greater investment into the Risk Management Program/Self-Directed Risk Management (RMP/SDRM) will be one of the OFVGA's greatest priorities. Our safety net section chair Mike Chromczak and policy advisor Stefan Larrass have been leading the work on this file.

In an environment loaded with risk where it is so difficult to get fairly compensated for the fruits and vegetables we grow, it is currently the best tool growers have to combat the uncertainty around inflation and rising input costs. Our sector is very diverse, but this is one issue that touches all growers and a properly funded RMP/SDRM program is vital if we hope to preserve our long-term domestic food production capacity.

Labour also continues to be a key priority for our organization. For the last several years, the focus was on COVID policies and compliance but as we emerge from the pandemic, this is shifting more to housing and increased compliance audits by Employment and Social Development Canada (ESDC).

Bill George, who is no stranger to OFVGA as a former board chair, has taken on the role of labour section chair and we've already had our first committee meeting to start his involvement on that file. He takes over from Ken Forth, who stepped down from the labour section earlier this year. I would like to take this opportunity to sincerely thank Ken for his many years of service and hard work on behalf of growers. You truly made a difference!

Work also continues on addressing red tape challenges with Environmental Compliance Approvals, as well as pushing for enhanced federal funding for the Pest Management Centre and its important work in ensuring we have access to the technology we need to grow our crops.

As I write this, I'm getting ready to attend my first annual general meeting of the Fruit and Vegetable Growers of Canada as OFVGA chair. Many of the files we deal with at our board table are national in nature, and I look forward to continuing our work with FVGC on labour, crop protection and other key issues that matter to us as growers.

Internally, our board is continuing our governance review project that started last year. It's not a short or glamourous process, but it's an important one that will help chart a strong future path for our organization.

And of course, life is unpredictable, so we never know what issues or situations may be waiting for us around the corner that will suddenly jump to the top of our priority list. I'm proud of the professionalism of the team we have at OFVGA and of the work that this organization does on behalf of growers, and I'm honoured to have been given the responsibility to serve as your chair.

*Shawn Brenn, a potato grower from Waterdown, is chair of the Ontario Fruit & Vegetable Growers' Assoc.*

## WEATHER VANE

**Expect the world from us. That's the theme of The Oppenheimer Group's release of its sustainability report in March 2023. It's a worthwhile read from the perspective of the company's calculated approach to the issues of growing, refrigerating, packaging and transporting produce along the value chain. Photo courtesy The Oppenheimer Group.**

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THE URBAN COWBOY

# Look behind the scenes to better understand sustainability

OWEN ROBERTS

As the interest in sustainability grows, packaging has become more than a ways and means for the fruit and vegetable sector to protect delicate commodities. Growers see sustainable packaging as an investment in their operations; the public sees it as an environmental imperative. They're both right, and the industry is paying attention.

In its annual sustainability report released in March, the Oppenheimer Group – popularly known as Oppy – identifies packaging materials as one of five specific areas of focus throughout its supply chain. The others -- greenhouse gas (GHG) emissions, food waste, water use and impact on people and communities – have certainly grabbed a big share of the spotlight. But it's packaging that directly touches consumers the most . . . and concerns them, when they see it headed for the landfill.

Plastic is the biggest concern. Oppy is a member of the Canadian Produce Marketing Association's Plastics Working Group, charged with prioritizing and implementing system-wide changes in the industry. This group has worked with How2Recycle for three years to incorporate clear and concise consumer recycling instructions in packaging.

"Our team will continue to explore new ways of decreasing the amount of plastic used in our packaging and partnerships that improve pre- and post-consumer recycling and waste disposal infrastructure," says Oppy. "Measurable data of our progress will soon follow."

Meanwhile, it's working towards alternatives. Oppy says it supports a closed-loop recycling system and it works to ensure packaging is totally recyclable, whenever feasible. With that in mind, it's pursuing multiple


objectives when designing new packaging. That includes converting multilayer pouch bags to mono-layer, limiting plastic headspace to 30 per cent, avoiding large labels to facilitate recyclable packaging and changing mesh and film material to high-density polyethylene (HDPE) so it can be recycled together.

But there's a strong dose of reality in its sustainability report, as well, related to recycling. Oppy says that it remains interested in alternative materials such as compostable or biodegradable packaging. However, owing to a lack of disposal infrastructure in place, it's "not working" with these materials.

"Without the proper infrastructure, such as a commercial composting facility, these packs often end up in the landfill, decomposing alongside other waste and thus negating the widely promoted benefits of biodegradable and/or compostable packaging," it says.

Oppy remains focused on technology-based solutions. It's worked with Hazel Technologies, a leading shelf-life extension (SLE) company, on multiple trials, including tests on table grapes from South America in 2020 and table grapes from California in 2021. It says in both trials, Hazel's SLE sachets resulted in grapes with a crisper texture, greener and stronger stems. These grapes maintained higher quality for a longer duration of time.

And last summer Oppy carried out a pilot project with Saga Robotics, testing the application of UV-C light to mitigate the presence of powdery mildew, one of the most common diseases in California strawberry production. It compared the impact of using UV-C light instead of chemical controls to treat this disease. The data collection and analysis for this trial were managed by the Cal Poly Strawberry Center. The results suggested a UV-C treatment, applied twice per week, can significantly reduce powdery mildew compared to a fungicide program.

"While this type of study needs to be replicated for further validation, we are very encouraged by the results," says Oppy in its annual report. "A significant amount of research and trials are underway in the strawberry industry with early indications that also point to UV-C light potentially being a viable option for mitigating powdery mildew." Oppy will continue to support this research to determine if commercial implementation is feasible.

Consumers will likely never see these technologies in action. But they'll benefit when their produce stays fresher longer. Communicating what's going on behind the scenes, like Oppy does in its sustainability report, is vital to better widespread understanding of fruit and vegetable handling.

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

RETAIL NAVIGATOR

# Wrong questions, bad answers from Canada's grocery CEOs on food inflation

PETER CHAPMAN


Galen Weston, CEO of Loblaw Companies Limited, took a risk many years ago when he decided to be the face of the company on TV ads. Today, in an environment of spiralling food costs, he's the lightning rod for all Canadian grocers who take in $100 billion per year.

So when he and other grocery CEOs – Michael Medline, Empire Company Ltd and Eric La Flèche, Metro -- were summoned to a House of Commons committee, consumers were looking for transparency and atonement. They received neither.

The March 6 committee hearing was entertaining political theatre. Many committee members used their allotted time to express opinions, but I am not convinced we really got the answers about why food prices are outpacing overall inflation.

Theatre or substance?

The leaders of Canada's three largest food retailers were allowed to make a five- minute statement and then had to answer questions from MPs. One gaping hole in the process was the absence of Walmart and Costco. Combined, these two U.S.-headquartered retailers account for about 30 per cent of the Canadian grocery landscape. Whether they want to admit it or not, most retailers base their pricing on Walmart. If we want to understand food inflation, they need to be at the table.

Back to the hearings. Some of the politicians were making statements or accusations as opposed to questions. I am not a member of parliament, but it did get me thinking what questions would I ask if I was in the room?

Here are my questions and the rationale for asking them:

**1) What is your year-over-year percentage increase or decrease in gross margin in grocery, meat and produce?**

These departments represent approximately 75 per cent of food sales in these companies and they would be the best indicator if they are profiting more during this period of volatility. They know their margins in these departments and three simple numbers would illustrate if they are moving prices up and delivering more margin. Year-over-year percentage increase does not force them to divulge any results that would help their competitors.

**2) What are you doing to slow the impact of food inflation?**

**What impacts are these efforts having?**

I am not sure it is retailer's job to reduce inflation. Like any other business, they are working to get the best return for shareholders. That being said, they do believe when prices go up, sales slow down. It would be interesting to hear their perspective on what they are doing and more importantly if it is having an impact.

**3) What is the year-over-year percentage increase in over and above revenue?**

If retailers are putting more pressure on suppliers to spend over and above money, this will tell the story. Retail prices are one indicator of retailers leveraging their position and over and above spending is another. Year-over-year increase does not force the retailers to share any information that will be proprietary.

**4) What is the percentage year-over-year change in sales per labour hour?**

One metric that gets lost in the conversation about retailer profitability is their expenses or ability to get more efficient. During the pandemic, retail sales increased drastically when food service declined. This should have had a significant impact on retailer profits. Retailers also had to deal with increased costs like other businesses. Labour, utilities, energy are going up for retailers just as much as other businesses. Sales per labour hour is a measure of labour productivity. If sales per labour increased, this should have a positive impact on profits too.

**5) What is the year-over-year change in food sales as a percentage of your total business?**

Our food retailers continue to introduce non-food departments to deliver higher margins. Clothing such as Loblaw's Joe Fresh, health and beauty products such as cosmetics and seasonal general merchandise all should deliver higher margins than food categories. When retailers operate these departments properly, they can increase the melded margin. Retailers continue to use this as one reason for stronger profits. What is happening with the mix? Year-over-year percentage change in food sales as a percentage of the total?

**6) What is the year-over-year change in penetration of products produced or manufactured in Canada?**

The focus of the committee was supposed to be on food prices. It would be very difficult to prove the correlation between price and manufactured goods in Canada. Overall, a stronger, more sustainable food industry that is safe and secure for Canadians should include more food produced in Canada. Retailers have the ability to impact this. If we knew more about the amount of food being produced in Canada and sold in Canada, we could begin to make positive change.

These six questions, most of which can be quantified, would give us the answers we need. The reason for the session was to see if retailers are raising prices, faster than cost increases, during this period of food inflation.

During the committee meeting there was considerable talk about a future grocery code of conduct. Some people believe this will bring more transparency to a complicated industry. Others, such as Michael McCain from Maple Leaf Foods, believe it will be waste of time and energy. However, from all reports, it does sound like it will be implemented.

I do not see an industry code of conduct impacting pricing or inflation in the industry. We already have laws in Canada to govern commerce. Unfortunately, we did have the bread price-fixing scandal. It appears laws were broken but the fact we have seen no formal charges or prosecutions, does bring into question the enforcement. Where the code of conduct could have an impact is dispute resolution. With five retailers controlling more than 75-80 per cent of the volume of food sales, there are very few doors to knock on for suppliers. With a formal process to resolve disputes, we could see the industry operate better.

In our industry, we have to remember that food represents about 10 per cent of consumers' disposable income, a visible large expenditure. Pricing and the actions of members of the value chain will always be under scrutiny. If the Members of Parliament want to understand food inflation, they need to include members from each sector in the value chain and the other two large retailers who operate in Canada. They should also ask questions that will give us the answers we need.

*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.*

## COMING EVENTS 2023

| | |
|---|---|
| Apr 1 | Grape Growers Association of Nova Scotia AGM, Louis Millet Centre, New Minas, NS |
| Apr 5 | Grape Growers of Ontario Annual General Meeting, Club Roma, St. Catharines, ON |
| Apr 5-6 | Grower Information Days, Ontario Crops Research Centre, Bradford, ON |
| Apr 13 | Garlic Production and Pest Management Workshop, 1 Stone Road, Guelph, ON |
| Apr 13 | Farm & Food Care Ontario Annual General Meeting and Speakers Conference, GrandWay Event Centre, Elora, ON |
| Apr 13 | Cucumber Day, Best Western Stoneridge Inn, London, ON |
| Apr 26 | AgScape Annual General Meeting, The Arboretum, University of Guelph, Guelph, ON |
| Apr 18 | Ontario Craft Wine Conference, Niagara Falls Convention Centre, Niagara Falls, ON |
| Apr 25-27 | Canadian Produce Marketing Association Convention & Trade Show, Toronto, ON |
| Apr 26 | AgScape Annual General Meeting, The Arboretum, University of Guelph, Guelph, ON |
| May 3 | Ontario Produce Marketing Association's Young Professionals Network, The Parlour, Toronto, ON |
| June 1-2 | Dispute Resolution Corporation Annual General Meeting, Whistler, BC |

FARM & FOOD CARE

# Public trust comes from farmers telling their stories

AMBER ANDERSON

Both storytelling and public trust will be major themes at Farm & Food Care Ontario's annual conference on April 13th. The theme of the conference is 'Table Talk: Shifting Perspectives', and it will feature three speakers who will speak to how the farm sector in Ontario relates to consumers and can increase public trust.

Dr. Mike von Massow, OAC chair in Food System Leadership at University of Guelph, is a faculty member in the Department of Food, Agricultural, and Resource Economics at the University of Guelph. His talk is titled 'Food focus: The facts behind the headlines'. His research focuses on consumer perception of and demand for food in both retail and food service contexts. He also studies value/supply chains that bring food to the market.

Another speaker will be Stephani Roy McCallum, a facilitator, coach, trainer and leader of the most difficult conversations of our lives, who is giving a talk titled 'How brave, honest conversations can transform our lives, organizations and communities'. With her heart on her sleeve and a deep breath for courage, Steph wades into the messy, important, beautiful conversations that can bring us together - or tear us apart. She believes that brave, honest conversations are how we solve the challenges in our world, together.

Lastly, Hayden Fox will deliver a talk called 'Going viral with ag awareness: Connecting with consumers through TikTok'. Hayden is a Canadian TikTok star, famous for posting comedic videos often telling a story as he works on his fourth-generation cash crop farm in southern Ontario. His haydenjfox account has gained 1.8 million followers and 20 million likes since he began posting on the platform in April, 2020.

This event, which will feature a Taste of Ontario lunch and the presentation of the 2023 Farm & Food Champion Award, will take place in Elora at the GrandWay Events Centre, from 10 a.m. to 4 p.m. and will be available for streaming online. Tickets can be purchased at farmfoodcareon.org/conference2023/.

*Amber Anderson is communications manager, Farm & Food Care Ontario.*

FOCUS: STORAGE, CONTAINERS AND PACKAGING

# What's new in planet-friendly packaging

KAREN DAVIDSON

Look no farther than the New Product Showcase hosted by the Canadian Produce Marketing Association's trade show in Toronto, Ontario April 25 – 27. 2023. Here's a preview of what's new in packaging innovation. And link here, for full details: https://bit.ly/3JSTiJj

## Mucci Farms uses paper top-seal for snacking tomatoes

**What characteristics are important in the paper top-seal to maintain freshness and integrity of the product?**

The main components that allow product to stay fresh are ventilation, a securely fastened seal, and appropriate temperature for travel and storage.

**Is the entire container compostable? Recyclable?**

As a result of our innovative solution to replace the plastic lidding with paper, the package is now 100% recyclable. Prior iterations of top seal didn't allow for the lidding film to be recycled just the tray.

**What substance (glue?) is used to reseal?**

It's made from two different kind of substances, when combined with heat, create heat-sealable paper that is plastic-free.

**How much extra cost is there to this paper reseal system? Does it require new equipment on packaging line?**

There is a marginal increase in price. It runs smoothly on Pro Seal machines with no new equipment or tooling required.

**What has been the response of retailers?**

We are finding that our persistence is paying off and more and more retailers are requesting paper top seal. At this stage, it has been thoroughly tested for travel, storage, and quality, so any initial concerns have been alleviated.

**What Mucci produce items are being packed with this new paper topseal?**

Our initial offering includes a snacking tomato lineup of:
- Sun Drops sweet grape tomatoes
- Blended Flavours (Mixed snacking tomatoes)
- Cherto, gourmet cherry tomatoes

The item can be used for any snacking item.


**Is this product available in Canada?**

Canada and the U.S.

## Crawford Packaging launches next generation in top seal technology

Crawford Packaging is launching the next generation in top seal technology with Packaging Automation Ltd. After four years in research and development alongside the produce industry, the Evolution S will challenge industry limits and is the most advanced top seal machine to hit the market. When it comes to cleaning and maintenance, the intuitive design makes these routine tasks as pain-free and simple as possible.

- SyncroTechnology optimizes every stage of the packaging process.
- Features the latest robotic technology to avoid any costly errors.
- Packs 3 times faster than other top seal technology while operating in a continuous motion to have the highest output rate.
- Has the ability to package up to 250 packs per minute
- Enables high-speed feeding of the film for accurate and consistent printing
- Eliminates intermittent stopping, removing the need to stop to reposition the packs

"Evolution S – Packaging Automation has created the most advanced tray sealing solution in the world," says Stuart Jackson, vice-president of produce packaging, Crawford Packaging. "They have raised the bar for accuracy and high sealing speeds while reducing the required footprint for the packaging area in a single lane format. This technological breakthrough exceeds industry standards and will help our clients optimize the high production rates they require."

"With our new high-speed tray sealing machine, we now have a machine that can seal up to 250 packs per minute in a single lane format. This makes it the world's most efficient tray sealer. We have developed new technology – SyncroTechnology – and in doing so have addressed all the areas that can potentially slow a typical tray sealing machine down with added precision control and reliability.


**GrowPack net trays are the newest fresh produce packaging trays in the market using up to 50 per cent less plastic while reducing carbon footprint. The mesh design allows for easy washing, reduced waste, and are unique in the produce packaging market.**

## Bandall Inc. offers banding

Bandall is a growing and international family-owned business specialized in developing and producing bundle and banding machines. The Canadian office officially became a part of the international Bandall family in 2020. The banding technology offers help in reducing packaging waste and limits the use of plastic.

With a Bandall banding machine and an integrated printer, you can print unlimited information during the banding process. On the entirety of the band: meaning the entire width and length. With the positioned banding process, the print is always printed onto the correct spot of the band and is always in the correct position in comparison to the product. A useful technique for variable information such as QR codes, barcodes or the sell-by date. But also think of full product descriptions, storytelling, recipes and so on.

An important advantage is that you are able to carry fewer labelling materials in stock. You also prevent any dated materials that would have to go to waste when product information is updated.


## Omnia Packaging Inc. introduces mustang paper trays

Omnia Packaging Inc. is the Canadian subsidiary of Gruppo Sunino from Italy - a family owned business - which specializes in injection plastic molding for more than half a century. The 90,000 sq ft industrial plant in Guelph, Ontario will be producing sustainable food packaging solutions in paper and in plastic.

The company has acquired exclusivity for production of mustang paper trays which are completely recyclable and compostable, made from virgin paper, thermoformed and heat-sealed without any glue added. They are top sealable, stackable, humidity resistant and food safe.

## Volm Companies offer a fully recyclable laminated pouch bag

Volm Companies now offer MDO (Machine Direction Oriented) and HiC2 (Hi Clarity 2), which are HDPE CoEX films that replace current PET film as print web. Lamination to HDPE or LDPE film creates a fully recyclable single film structure laminated pouch bag.

FOCUS: STORAGE, CONTAINERS AND PACKAGING

# Apples, boxed in, to protect fruit integrity




**Martin's Family Fruit Farm has trademarked the Apple Caddy corrugated box (5.5 lbs) for Honeycrisp apples exclusive to Costco. A similar box is used for its orchard market. The trademarked Apple Jacket cradles apples in a six-pack and two-pack.**

KAREN DAVIDSON

The last mile to market is the end of a marathon. That's the thinking of Martin's Family Fruit Farm, Waterloo Ontario, who consider delivery to the grocery store -- even if it's local – to be worthy of packaging attention.

"We developed these corrugated boxes in the late summer of 2020," explains Greg Nogler, COO, for Martin's Family Fruit Farm. "And then shared the design with other apple suppliers to Costco in British Columbia and Nova Scotia."

The design for 5.5 pounds of Honeycrisp apples is exclusive to Costco. The corrugated cardboard consists of 100 per cent post-consumer waste and is recyclable. But just as importantly, Nogler points out that the box protects the integrity of the fruit. First, the fruit does not need to be handled by employees. And secondly, the bonus is that consumers aren't touching the fruit either. The box is sealed and closed.

"I'm big on trademarking our efforts," says Nogler. We have trademarked the name Apple Caddy™ with its two layers of apples separated by a paper pad which prevents jostling in transit. Apples are also held in place if there's side-to-side motion. The Honeycrisp box typically holds 11 to 12 apples. As most growers will attest, fragile Honeycrisp apples benefit with packing care.

Also, about the same time, the company experimented with flat paperboard wrapped around two-pack and six-pack apples. Nogler says that less handling means better fruit quality and less waste.

Martin's Family Fruit Farm has not changed its habits for purchasing packaging, staying local to North American suppliers. "Many of our suppliers are actually in Canada," says Nogler. "We do have a preference for closer to home."

Apples bagged in plastic and fastened with a ponytail clip are still popular. However, discerning consumers will notice that the clip is no longer plastic but made of bio-fibres. It's one more bullet point in the sustainability story of Martin's Family Fruit Farm.

FOCUS: STORAGE, CONTAINERS AND PACKAGING

# This vegetable tray ticks (almost) all the boxes

KAREN DAVIDSON


**The Moore-Guard tray is designed for an array of vegetables that are field-packed then transported to cooling sheds.**

**Hillside Gardens used the repulpable, CFIA-compliant cauliflower trays during the 2022 season in its Bradford, Ontario operation. Photos courtesy of Jeff Abbott.**

Hand harvesting cauliflower is hard work. Heads are heavy. The vegetables are often moist. And the white florets are easily bruised.

All of that means the specification requirements for containers are daunting. Corrugated trays must be easy to assemble, strong enough for stacking, and durable enough not to sag with condensation going from hot fields to cold packing sheds. A new demand is for environmentally sustainable containers -- without wax – that can be repulped.

Moore Packaging Corporation was challenged by Hillside Gardens, a major vegetable grower in Ontario's Holland Marsh, to design a better cauliflower tray that could stand up to these rigours of field harvest and go through the entire cold chain to the retail store.

"Our design and technical department worked on this for a year and launched the Moore-Guard tray in 2022," says Jeff Abbott, director of sales, Moore Packaging Corporation, Barrie, Ontario.

The end product is repulpable at the end of its life cycle – a key requirement of retailers who are looking to avoid landfills and to reduce waste disposal costs. But one of the most challenging design elements was to find a corrugated solution strong enough for the weight of vegetables but also coated with vegetable-based, water-soluble inks.

"The tricky part was formulating liners that were coatable and printable," says Abbott. "They must be CFIA and FDA-compliant."

Fortunately, the packaging company was able to source the wax replacement in Canada.

The new Moore-Guard tray can withstand going from hot to cold, cold to hot. In some instances, these trays go right to the grocer and are unpacked at the retail shelf. The stackability of these trays is important for saving freight but also protecting the cauliflower from bruising and discolouration which renders the vegetable unmarketable.

The trays have been used in other vegetable crops including: celery root, cabbage, peppers, zucchini, rhubarb, potatoes and snow peas.

Close to 50 per cent of Hillside Gardens' 2022 cauliflower crop was packed in the new trays says Steven Kamenar, general manager Canada, Hillside Gardens, Bradford, Ontario.

"Under some harsh conditions – such as heavy rain or high humidity – we must pack in waxed cardboard," says Kamenar. "Sometimes, we have a flush of vegetables in the field and we need to store longer than the usual 24-36 hours so we'll use the waxed trays."

From the retailer's standpoint, the repulpable corrugated packaging is a positive in that it can be sold as an end-of-life revenue source rather a cost going to landfill. From Kamenar's standpoint, he wants to experiment with packaging before new standards are mandated. A year's notice, for instance, wouldn't be enough time to transition.

"Celery is the next target," says Kamenar. "But creating a tray for celery will be challenging because it has such a high water content and celery gets washed before going into the tray."

The packaging technology is improving all the time. Pulped paper naturally wants to absorb moisture but coatings can slow down that process. And some plant-sourced coatings are not as harsh as wax. The cost of these trays is about five to 10 per cent higher than waxed.

# Little Potato Company rebrands

The Little Potato Company, the number one creamer potato company in North America, has unveiled a new brand look and feel. The new visual identity features modern, vibrant, fresh colours and a new logo. The rebrand also includes new family-friendly packaging with updated product names, new brand characters, a refreshed website and social channels and a new digital ad campaign.

"We did extensive research to deeply understand our consumers, and what they care about is feeding their families with healthy, easy meals and finding moments of connection and joy together, said Angela Santiago, CEO and co-founder of The Little Potato Company. "We refreshed the brand with a new brand promise, to bring little moments of happiness to busy families. We bring that to life in every element of our relaunch, from the colourful logo, to our characters, and our heartwarming ad campaign."

The new packaging is designed to stand out on shelf, with a clear window to spotlight the fresh, whole food within. The new packaging further brings the brand's positioning to life by highlighting key differentiators, such as the easy prep with no need to wash or peel, and the short cooking time, in as little as five minutes, as well as cooking methods – such as air frying – to make preparation even easier. Additionally, it includes a family message from the brand's father-and-daughter founders and sustainability messaging about the family farms. The refresh includes simplified product names with the prefix "little," to reinforce the branding and highlight the size of potatoes, along with the colour/varietal or flavour.

New brand characters are also featured on pack: the Spuddies are yellow, red and purple Little Potatoes who share messages such as "enjoy the little things," "fresh from our family farms," and "a little win for a busy night at home."

Starting March 28th, the brand refresh will be supported by a digital ad campaign running across North America featuring heartwarming videos of the Spuddies sharing dinnertime wisdom. The new packaging is beginning to roll out on shelves now, and the refreshed website and social channels are live as of March 15.

*Source: Little Potato Company March 15, 2023 news release*

FOCUS: STORAGE, CONTAINERS AND PACKAGING

# Seeking closure the Kwik Lok way

KAREN DAVIDSON

The Kwik Lok bag closure is ubiquitous. In 1954, Floyd Paxton engineered a better way to keep Washington State apples safe and fresh. And the changes, while subtle, have kept coming over the years for not only the produce industry but the bakery industry too.

Headquartered in Yakima, Washington, the company has kept up with the environmental movement. Ryan Towry, vice president of engineering and innovation, explains that two new closures reflect the evolution of materials.

Launched in 2019, the Eco-Lok feels like traditional plastic but includes renewable plant-based starches from potatoes and corn which lessens the amount of petroleum-based product by up to 20 per cent. It's best suited to the produce sector which needs to protect heavy-weight packages such as apples and potatoes as well as products in a wet environment.

Fibre-Lok, the second sustainable option recently launched by Kwik Lok, looks and feels different because it's made from cellulose which comes from fibres such as wood and cotton. The cellulose-based material can be used for packaging product that isn't stored or displayed in a wet environment. Printable and reusable, this zero-plastic product is being tested in Canada.

"We're making sure that the closures work in the current machines," explains Towry. "We take very seriously the importance of reliability of our machines. The closures have to fulfill the brand promise of being reclosable and keeping produce safe."

The cost of Kwik Lok closures depends on a variety of criteria including the sizes and openings explains Karen Reed, director, global marketing communications.

"The closure is the least costly part of the packaging, but every penny adds up," she says. "For us, meeting sustainability goals and the bottom line are both important."

Early adopters are using Eco-Lok and Fibre-Lok as part of their sustainability goals without having to invest in new machines.


Materials scientists have a delicate balance to achieve, searching for options with strength, flexibility and are recyclable or compostable.

"It's a tightrope walk to determine what materials will break down quickly and will also hold up through the life of the product," says Reed.

While companies such as Kwik Lok are innovating in the materials space, consumers are looking to their solid waste providers for innovative ways to manage the sorting process so more materials are recyclable.

Some consumers may ask for compostable solutions. It's great if a material is compostable but if there isn't a composting facility in the area, then compostable materials have no place to go at the end of their life and must go to the landfill.

"Our goal is to have products that are high quality, reliable, reusable, compostable or recyclable in order to be part of the circular economy," says Towry.

**"We're making sure that the closures work in the current machines."**

**~ RYAN TOWRY**


Ryan Towry, vice president of engineering and innovation

STORAGE

# Common storage disorders of 'Honeycrisp' apples

DR JENNIFER DeELL

**Soft scald** is a major chilling-related disorder that is characterized by sharply defined, irregularly shaped, smooth, brown lesions of the skin. Peel tissue is initially affected, and then hypodermal tissue is damaged as the disorder continues to develop. Skin lesions are often then invaded by secondary pathogens and disease. Prior to cold storage at 3°C, conditioning at 10°C for one week is recommended to reduce the incidence of soft scald and soggy breakdown.

**Soggy breakdown** is another major chilling-related disorder, which is distinguished by moist, soft, brown, spongy flesh tissue. It can form complete rings in severe cases. Apples harvested at advanced maturity are more susceptible to soft scald and soggy breakdown, while chilling temperatures in the orchard before harvest will further promote development. Both disorders have also been found in 'Honeycrisp' apples prior to harvest.

**Bitter pit** may appear prior to harvest or during storage, and usually develops in the calyx end of the fruit. Pits are dark, sunken lesions at or beneath the fruit surface. Bitter pit can develop more rapidly at warmer temperatures, so conditioning at 10°C is a compromise between bitter pit development and chilling-related disorders such as soft scald. The cause for bitter pit is a mineral imbalance in the apple flesh, associated with low levels of calcium. There is sometimes confusion between bitter pit and lenticel breakdown.

**Lenticel breakdown** is characterized by darkened or black lenticels, or superficial brown spots surrounding lenticels.The lesions may become sunken over time and allow for the invasion of pathogens. Fruit with advanced fruit maturity is more susceptible, as well as those in long-term storage. The disorder can be aggravated by various chemicals and coatings.

**Peel blotch** or lenticel blotch pit is similar to both bitter pit and lenticel breakdown, characterized by irregular-shaped sunken patches around lenticels. Larger lesions often coalesce, and it is more common around the calyx end, like bitter pit. Peel blotch severity increases with extended storage durations and warmer temperatures, and it can be exacerbated by 1-methylcyclopropene (1-MCP). Severe cases are sometimes called leather blotch.

**Internal browning**, or diffuse flesh browning, has no definite outline of the injured area. It may affect outer flesh or core tissue, or both areas. Vascular elements often appear normal and there are usually no external symptoms. Apples harvested at advanced maturity are more susceptible to internal browning, for which it is sometimes called senescent browning in 'Honeycrisp'.

**Soft scald (top left), soggy breakdown (top middle), bitter pit and peel blotch (top right), lenticel breakdown (bottom left), internal browning (bottom center), and internal $CO_2$ injury (bottom right) in 'Honeycrisp' apples. Photos by Jennifer DeEll.**

**$CO_2$-injury** can easily develop in 'Honeycrisp', as it is very sensitive to $CO_2$. Internal $CO_2$ injury, with or without flesh cavities, can be common in 'Honeycrisp' stored in controlled atmosphere (CA), but it has also been observed in ambient air storage. Risk of this injury is slightly higher in less mature fruit and the use of 1-MCP can enhance it. Delaying CA establishment for one to two months has been shown to reduce the disorder. CA consisting of 3% $O_2$ + 1.5-3% $CO_2$ at 3°C is recommended for 'Honeycrisp'. Treatment with diphenylamine (DPA) can also decrease the incidence of $CO_2$ injury, and thus allow for the higher end of $CO_2$ concentrations (3%) in CA storage.

**Acknowledgements**

Thanks to the Ontario Apple Growers, Apple Marketers' Association of Ontario, AgroFresh Inc., and Storage Control Systems Inc. for their generous support; as well as to Norfolk Fruit Growers' Association and Pommes Philip Cassidy Inc. for their direct collaboration. Recent work pertaining to 'Honeycrisp' storage was funded in part through the Canadian Agri-Science Cluster for Horticulture 3, in cooperation with Agriculture and Agri-Food Canada's AgriScience Program, a Canadian Agricultural Partnership initiative, the Fruit and Vegetable Growers of Canada and industry contributors.

*Dr Jennifer DeEll is fresh market quality specialist – hort crops for the Ontario Ministry of Agriculture, Food & Rural Affairs, Simcoe, Ontario.*

# New guidance on migrating to compostable PLU stickers

The Canadian Produce Marketing Association (CPMA) recognizes increasing concerns regarding the environmental impact of PLU stickers. CPMA's Plastic Packaging Working Group has released a guidance document for the industry entitled Rational and Guidance for Migrating to Certified Industrial Compostable PLU Stickers.

Price Look Up (PLU) stickers are the small stickers on fresh fruits and vegetables used globally to ensure that consumers pay the correct price for produce and accuracy in produce identification.

"It is crucial now more than ever to support food security by ensuring that consumers can choose the amount of fresh produce they want and be charged the correct amount for it," stated Ron Lemaire, CPMA president. "PLU stickers enable the sale of bulk produce and reduce the need to package some fruits and vegetables ensuring efficiency within the supply chain."

CPMA formed the Plastic Packaging Working Group in 2019 to proactively determine guidance for industry in its sustainability efforts relative to produce packaging. The newly published guidance is based on significant input from industry and from the Compost Council of Canada to ensure an efficacious path to mitigating the impact of PLU stickers on Canada's industrial composting industry while meeting industry's sustainability goals.

"The fresh produce industry has a long history of stewardship and sustainability efforts to ensure the industry can continue to feed the world while contributing positively to the planet and people everywhere. The recent efforts to support the industry's journey to a more compostable PLU sticker is just one example of the many initiatives it has undertaken," noted Mario Masellis, CPMA chair.

"The CPMA and its members' commitment to transition to certified compostable produce stickers is a very great game-changer for the organics recycling industry," said Susan Antler, executive director, The Compost Council of Canada. "To have another industry recognize its impacts on our ability to effectively process organic residuals, transforming them to all-important compost which is being returned to our soils, is outstanding."

*Source: Canadian Produce Marketing Association March 2, 2023 news release*

# Science Driven Nutrition™ Improves Crop Quality and Yield - Bloom to Petal Fall

Apple growers who want to maximize their marketable economic yield must capitalize on limited opportunities to positively impact the crop. Science-Driven Nutrition™ empowers growers with the information, tools, and roadmap they need to succeed throughout the season.

When integrating a foliar nutrition program, the bloom through petal fall period is a critical window of opportunity and Agro-K's pollinator friendly products have a strong fit. This is when the crop begins to enter fruit cell division, and the right mix of nutrients are required to support and energize this process.

During this point of the season growers can have a significant number of products in the tank. Science-Driven Nutrition™ ensures growers only apply the nutrients necessary to produce consistently high-quality apples. Using sap analysis testing, growers quickly learn what their crop needs to perform its best, ultimately saving time, money, and tank mix conflicts.

Certain nutrients are critical at this stage. Calcium, for example, optimizes the bloom window and maximizes pack out at the end of the season. Effectively applying foliar calcium using products like Agro-K's **Vigor Cal** require growers to appreciate the limited timeframe for getting the nutrient into the fruit.

Calcium applied from pre-bloom until four-to-six weeks post-petal fall can positively impact the fruit cells that are forming within the apple. After cell division ends, calcium applications help to maintain the crop's nutrient levels from depleting but do not influence the fruit cell development. When boron is combined with the calcium applications, such as with Agro-K's **Vigor Cal-Bor-Moly**, there is a synergistic effect that increases the uptake of both nutrients. Boron is essential for pollen viability, pollen production and flower health making Agro-K's **Top Set DL** another ideal tool for this window of opportunity.

***Science-Driven Nutrition™***

During fruit cell division phosphorus helps energize the crop and maximize fruit size. To ensure foliar uptake it is important to use a 100% ortho phosphorus based, food grade product such as Agro-K's **AgroBest 9-24-3**. Balanced with nitrogen to ensure continuing development, and a minimal amount of potassium to avoid antagonizing calcium, **AgroBest 9-24-3** provides the essential nutrition needed for bloom and early fruit formation.

To help maximize their investment in crop nutrition, Agro-K sets growers up to make smart decisions using Five Rs: The Right nutrient applied at the Right time in the Right form in the Right mix targeting the Right location in the plant. Science -Driven Nutrition™ is implemented to determine crop nutrient levels and foliar product applications ensuring the apples get what they need to thrive.

*For more information on using science-driven nutrition to help your crop flourish throughout the season, visit www.agro-k.com.*

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BITS AND BITES

# Some facts about sulphur

TEJENDRA CHAPAGAIN

**Does your soil need sulphur?**

Sulphur (S) is a secondary nutrient required for growth and development of crops. While it is called a secondary nutrient, this does not mean it plays a secondary role in plant growth. Secondary nutrients are as important to plant nutrition as primary nutrients, but they are considered secondary as plants don't usually require as much of them. Sulphur increases protein levels in grain crops, encourages the formation of nodules in legumes, and helps develop the characteristic smell and taste of onions and garlic (NSA, 2011).

Most sulphur is found in organic matter and must be converted to sulphate for the crop to use it. Also, it comes naturally from regional rocks and acid rain. Many Southwestern Ontario farms still receive considerable amounts of sulphur in the form of acid rain, although deposition has decreased in the past 20 years. It is estimated that 8–13 kg/ha of sulphur are deposited each year in rainfall (OMAFRA, 2022). However, sulphur deficiencies occasionally may occur on coarse, sandy-loam, and low pH soils.

**Does a standard soil test for sulphur give adequate results?**

Sulphur testing on soil samples is not accredited in Ontario by the Ministry of Agriculture, Food and Rural Affairs (OMAFRA). OMAFRA monitors reports for eight accredited nutrients (pH, Buffer pH, Nitrate-N, Phosphorus, Potassium, Magnesium, Zinc Index and Manganese Index), which are submitted by the labs to the ministry on a quarterly basis.

Phosphate ion extraction method (PO4 extraction) is currently being used as a standard soil test method for sulphur (SO4-S) by the North American Proficiency Testing Program (NAPT). However, results have not been consistent when testing Ontario soils.

**Is sulphur availability and uptake by plants affected by soil pH?**

Yes. In general, sulphur availability and uptake by plants increases if the soil pH is greater than 6.

**Does a reduction in acid rain decrease sulphur availability to plants?**

Yes, it does. But the effect of acid rain on soil pH is minimal because soil acidity is mainly affected by parent materials (e.g., limestone-based parent materials, soil textures, Cation Exchange Capacity, etc.), organic matter decay (that leads to release of organic acids), native vegetation, soil depth, crops grown, and Nitrogen fertilization (conversion of ammonium form of nitrogen to nitrate), etc. Growers should take soil tests regularly and follow what the soil test recommends.

**How do you increase sulphur level in your soil?**

Improving soil organic matter will help increase soil sulphur concentrations. In addition, many livestock manures also contain significant amounts of sulphur. Sulphur can be added to the soil through the application of sulphate-containing fertilizers such as Ammonium Sulphate (AS), Potassium Sulphate, Calcium Sulphate, Magnesium Sulphate, etc.,

**How much sulphur is needed for a crop?**

There has been enough work done with sulphur in a variety of field crops to suggest that certain crops can benefit from sulfur application. For example, improved corn yields were recorded in Minnesota when sulphur was applied @10-20 lb/acre along with nitrogen. In Ontario, response varies by soil type and crop. In general, alfalfa and canola show strong response, wheat and corn will often show yield increases, and soybeans rarely respond to added sulphur.

Given that vegetables are generally grown on lighter soils with lower organic matter and that sulphur is a mobile nutrient similar to N, this is also critical for vegetable crops. Some literatures suggest that the soil is good in Sulphur if it contains a level over 20 kg/ha (i.e., >10ppm of SO4-S using PO4 extraction) (Horneck et al., 2019; NSA, 2011; Sahota, 2022). The need for

sulphur is also closely related to the amounts of N available to crop plants. Scientists have suggested that the total N to total S ratio (N:S) in plants is a good diagnostic guide for determining S deficiency. Ratios of 7:1, 10:1, 11:1, 15:1, and others have been considered. Whether or not such ratios are valid, there is a strong relationship between N and S since both are constituents of proteins and are associated with chlorophyll formation.

Plant analysis and soil testing, including subsoil, are recommended on those soils suspected of being marginal or deficient in sulphur. Similarly, there is an opportunity to set up a small plot trial with one variety or with a range of varieties to observe if sulphur response is variety specific.

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*Dr. Tejendra Chapagain is soil fertility specialist with Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) based in Guelph. He is also coordinating OMAFRA's soil test labs accreditation program.*



## Business transitions

OVES orchard & Vine equipment solutions

Orchard & Vine Equipment Solutions (OVES) have acquired Don Arthur Orchard Equipment. Don Arthur started his career as an apple grower, later becoming a well-respected dealer for Turbo-Mist Sprayers, rotary mowers and flail mulchers, and bin trailers for more than 25 years.

OVES will continue to serve existing and new customers with the highest quality orchard and vineyard equipment. With this acquisition, we are excited to introduce fresh ideas, cost-saving technologies, quality equipment, and proven methods to ensure our customers see a tangible return on investment.

Our expertise in the orchard and vineyard market is backed by a team of professionals who negotiate with select OEM partners to buy equipment in volume. Focusing on short-line manufacturers, we have acquired in-depth knowledge of OEM lines and competitors' products to ensure our customers always get the best equipment at the best price.

Wayne Riddle leads our team and has spent almost a decade working with Turbo-Mist, covering orchards and vineyards across North America. His experience in product development, troubleshooting sprayers, calibration of sprayers and resolving complex customer issues has given him exceptional technical knowledge, making him a valuable resource for customers, dealerships and colleagues.

OVES carries Turbo-Mist Sprayers, Chinook Wind Machines, and Chemical Automated Tender Systems, plus offers the latest technology proven to save money for customers while resulting in superior applications. For more information, contact Wayne Riddle at 289-213-6855 or sales@oves.ca


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

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Ontario
Canada


# Clearing the cobwebs on copper

**Table 1. Copper products registered in various vegetable crops and their corresponding metallic copper content. Always consult the product label before use.**

| Product | PCP# | active ingredient | metallic copper | Bee toxicity rank[1] |
|---|---|---|---|---|
| Copper 53W | 9934 | basic copper sulphate | 53% | III |
| Guardsman Copper Oxychloride 50 | 13245 | copper oxychloride | 50% | II |
| Copper Spray | 19146 | copper oxychloride | 50% | II |
| Coppercide XLR | 33124 | copper hydroxide | 50% | II |
| Kocide 3000-O | 33518 | copper hydroxide | 30% | II |
| Parasol Flowable | 25901 | copper hydroxide | 24.4% | II |
| Parasol WG | 29063 | copper hydroxide | 50% | II |
| Nu-Cop 30 HB | 33329 | copper hydroxide | 30% | II |
| Cueva Commercial | 31825 | copper octanoate | 1.8% | not listed |

[1]*from University of California - Ranking of pesticides according to whether (I) the product should not be applied to flowers, (II) the product should not be applied to flowers except between sunset and midnight, or (III) no bee precaution except what is listed on label. https://ipm.ucanr.edu/bee-precaution-pesticide-ratings/*

KATIE GOLDENHAR

Do you really know how copper fungicides work? With so many on the market, if you're considering using a copper product in your disease management program, there are some important factors to consider.

Copper is one of the original fungicides and yet there are constantly new copper products coming to the market. Copper is an inorganic compound that does not break down like organic compounds and therefore too much copper fungicide use can lead to build up in the soil, negatively impacting soil health, so judicial use is required.

Copper is a general, non-selective biocide, meaning it works as a bactericide, fungicide and when used incorrectly, herbicide. When copper particles degrade in water, they release ions that inhibit critical enzymes in cells. Hence, the use of any copper product will come with cautions to avoid phytotoxicity. Copper products are the most effective on pathogens that need free water to infect the plant (such as bacteria) and copper is one of the only crop protection materials that can help manage bacterial diseases (figure 1).

There are two main types of copper products: soluble and fixed. Soluble copper products have copper ions available in solution and are all available when sprayed. Residue is quicky removed from overhead irrigation or rain. Currently, there is only one type of copper (copper sulfate pentahydrate) that falls within the soluble category, and it is not registered on outdoor vegetables in Canada.

In the United States, Mastercop and Phyton are registered. Fixed or insoluble copper products contain copper that releases ions at slower rates that continue after application when there are wetting events. Particles can persist on the leaf after drying and continually release ions when there is moisture present. Not all fixed coppers have the same level of insolubility, for example copper hydroxide (ex. Parasol WG, Kocide 3000-O) are more soluble in water than basic copper sulfate (ex. Copper 53W). Typically, there is longer residual control with fixed coppers. The challenge is that there needs to be enough ions present to kill the target pathogen without injuring the crop.

Generally, fixed copper products reduce the chances of phytotoxicity since not all the ions are present at once. Adding hydrated lime can make any copper product less soluble but some coppers are not compatible with lime, so always consult the product label.

An important factor to consider when using copper is that copper does not move within a plant – it stays where it lands and has no post-infection activity. Spray coverage and preventative applications are important when applying a copper product. Copper particle size is another factor influencing efficacy, primarily determined by how finely the product is ground. Large particles will easily be removed by wind or rain after application has dried whereas small particles will provide better coverage of the leaf, adhere to plant surface, and provide longer residual control.

In Canada, the metallic copper content is present on the label as the per cent available elemental copper. Table 1 shows some copper products registered in Canada and their corresponding copper content. If you want to compare the amount of copper being applied in each product, multiply the metallic copper content by the rate per hectare. For example, in cucurbit crops the max rate of Copper 53W (53%) is 1.59 kg of metallic copper per hectare which is equivalent to Copper Spray (50%) which delivers the equivalent level of 1.6 kg metallic copper per hectare.

Copper fungicides belong to the FRAC group M1. The "M" stands for multi-site and is thought to be at low risk for resistance development. However, there are cases of copper resistance in bacterial pathogens of vegetable crops. Tomatoes and peppers are susceptible to bacteria within the *Xanthomonas genus* which cause leaf and fruit spot.

Studies across the northeastern U.S. and Ontario have shown that most Xanthomonas species in tomato and pepper crops are resistant to copper. Dr. Pervaiz Abbasi from Agriculture and Agri-Food Canada reported that more than 70 per cent of bacterial spot causing *Xanthomonas spp*. isolated from tomato in southern Ontario in 2012 were resistant to copper. Using copper in tomato and pepper for bacterial spot control is no longer recommended.

Other factors to consider include pH (generally, the lower the pH, the more soluble copper becomes which increases the chance of phytotoxicity), tank mixing (compatibility and phytotoxicity – it is well known that foliar fertilizers and phosphorous acid products cannot be used with copper), weather factors (slow drying will increase the chance of phytotoxicity, heavy rain may reduce residue), application rate and frequency.

The more questions you ask the better, so reach out to your OMAFRA specialist, agronomist, or copper fungicide supplier for more information on disease management using copper.

**Figure 1. Bacterial diseases on tomato, pepper and squash.**

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*Katie Goldenhar is plant pathologist for Ontario Ministry of Agriculture, Food and Rural Affairs.*

ONTARIO VEGETABLE NEWS

# Strip-till vegetables – more than just erosion prevention

ELAINE RODDY

Anne Verhallen, the OMAFRA soil management specialist for horticulture crops will be hanging up her soil probe in April. While she will be greatly missed, it is encouraging that the OMAFRA management team have already started to look for her replacement.

After 20 plus years of being office neighbours, I like to think I have learned a thing or two from her about methods to maintain and enhance healthy soils. One area that seems to be gaining momentum in vegetable crops is reduced tillage, in particular strip-tillage.

Vegetable crops can be hard on the soil. They are commonly grown on coarser textured soils that are more prone to compaction and erosion. Most vegetable crops have sparse, shallow root systems that lack the fibrous network of cereal crops. Fibrous roots promote soil structure and help to keep it "open" and more resilient to traffic loads. Vegetable crop residue is also sparse and has a low carbon-to-nitrogen ratio. This means residue breaks down quickly and isn't contributing much to stable organic matter levels in the soil. The short-season vegetable crops also tend to leave the soil bare and susceptible to erosion for much of the year unless cover crops are used after harvest.

In the past, a 30 per cent residue cover was used as the main target for tillage reduction. It was chosen because 30 per cent residue cover results in a 60 per cent reduction in erosion, one of the key targets for early reduced tillage adoption.

Today we find that erosion control is only one of the benefits leading growers to reduced tillage. Pumpkin growers have found that planting the crop into a heavy mulch of rye residue can help to suppress weeds while providing the added benefit of cleaner fruit at harvest time because the pumpkins are resting on the rye mat instead of bare soil.

In sweet corn, other growers have invested in strip-tillage equipment to reduce the fuel costs and labour associated with multiple trips across the field doing primary and secondary tillage. By applying phosphorus and potassium fertilizer to the tillage strips, it also follows one of the tenants of sustainable fertilizer use: apply nutrients where they are most accessible to the crop.

Experienced strip-till growers also report that strip-tilled fields are firmer during a wet harvest season, resulting in less rutting and compaction. The added organic matter on the surface allows for increased water conservation in a dry year and increased microbial activity too.

Strip tillage equipment is as varied as anything else in agriculture, but in general most units use a coulter system to slice through the residue, followed by row cleaners that clear the residue out of the row. Rear coulters can be used to further lift and break up the soil, creating a slightly elevated mini-berm. When created in the fall, this area will dry and warm-up faster in the spring than a traditional no-till system. Some growers like to refresh the strips in the spring, others prefer to plant directly into them.

When relying on strip tillage for improved weed control, it is important to start with a dense cover crop. Seed winter rye at a heavy rate to ensure a thick stand. Allowing the rye to head out before terminating will maximize the amount of biomass on the soil surface shading out any germinating annual weed seeds. The rye cover crop is then flattened with a roller-crimper. The tillage strips can either be created in the fall and refreshed after the rye is rolled or created newly in the spring after rolling. This system has become quite popular with pumpkin and squash growers.

One thing to consider when planting into a dense rye residue is nitrogen fertility. The rye residue may tie up the available soil nitrogen for a period of time after planting. Especially if the soils are cold and the crop roots are slow to establish. This can be countered by applying an additional 15 lbs of nitrogen fertilizer in the pre-plant mix.

As we saw with no-till production in field crops, under a strip-till system there may be a shift to winter annual and perennial weeds over time, resulting in the need for burn-down herbicides pre-plant as well as selective herbicides in the cover crop in the fall prior to planting. These herbicides must be compatible with the commercial vegetable crop the following year.

As with any new system, there are a lot of growing pains. The Farm and Food Care website has a series of videos in which strip-till growers share their experience with this cropping system. www.farmfoodcareon.org/farming-and-the-environment/soil-health/

Most vegetable growers who have made the switch are generally happy with the benefits of this system. They include:

- reduction in fuel and labour associated with multiple tillage passes
- spring work load can be moved into Aug/Sept
- water conservation
- suppression of small-seeded annual weeds (when combined with a cover crop)
- reduced wind and water erosion
- cleaner produce at harvest
- soil more resilient to stresses such as heavy wheel traffic

*Elaine Roddy is vegetable crops specialist, OMAFRA, based in Ridgetown.*

ONTARIO VEGETABLE NEWS

# Why there is a need for a New Clean Plant Hub in New Liskeard

TRAVIS CRANMER

At the Ontario Fruit and Vegetable Growers Association (OFVGA) annual general meeting, a resolution was passed highlighting the need for upgrades to the SPUD Unit at the University of Guelph Ontario Crops Research Centre – New Liskeard. The resolution is focused on prioritizing construction of a new tissue culture laboratory to meet the demand from Ontario's fruit and vegetable sector and secure the future of the facility.

The SPUD Unit, or 'Seed Potato Upgrade and Distribution Unit' was initially established in 1983 to help service the seed potato industry. The goal of the SPUD Unit was to create enough early generation, disease-indexed seed potato stock to supply 80 per cent of Ontario's seed potato needs.

Producing virus-indexed planting stock is important for a wide variety of fruits and vegetables. For a wide range of crops, viruses can cause a significant yield drag, and tissue culture is the only method of producing virus-indexed planting and breeding stock. Since the late 1980s, the SPUD unit has diversified and expanded to include virus-indexed multiplication of a multitude of different crops in addition to potatoes, including asparagus, blueberries, cucumbers, garlic, haskaps, hazelnuts, hemp, raspberries, strawberries, and sweet potato.

The location chosen to build the SPUD Unit in northern Ontario was carefully considered in an effort to minimize the impacts of insect and disease pressure common to central and southern Ontario. New Liskeard is an ideal location based on several factors. The northern latitude still experiences enough growing degree days for field propagation, yet it is typically sheltered from the effects of the jet-stream throughout most of the growing season. This is important, as the jet-stream has been known to carry virus-transmitting insects. This location has allowed for the amplification of clean planting stock with a lower risk of virus infection.

In addition to a lower risk of virus infection, the cool northern Ontario climate offers a reduced

exposure to environments that are conducive for disease development and the long days are ideal for tuber production. Both factors are important for early generation potato production.

In berries, New Liskeard experiences longer days which is especially ideal for day-neutral strawberry propagation. Early winters in northeastern Ontario allow for sufficient time for strawberry and raspberry plants to receive a cold temperature dormancy in the fall, allowing for quicker winterization of the plants going into storage. The SPUD Unit reduces Canada's dependency on importing clean berry planting stock from other countries.

For potatoes, the SPUD Unit is one of the few facilities in Canada that produces the nuclear seed stock required for the federally regulated certified seed program. The importance of diversifying locations of seed stock became very apparent last year, when potato wart shut down the export of potatoes from Prince Edward Island, including seed potatoes.

In garlic, the yield drag from viruses has been estimated to be anywhere from 25–50 per cent. The Garlic Growers Association of Ontario, which started its clean seed program in the early 2000s, has seen rapid increase in demand for clean seed over the years. The current demand for clean seed garlic is at least five times what the SPUD Unit is currently able to produce given the space that is available.

There are only a handful of labs in the world that have been able to produce garlic clean seed, and of those other labs, none of them have garlic cultivars that are best suited for Ontario growing environments. Nonetheless, growers have tried over the years to import clean seed from other countries, such as France or Spain, but orders from French or Spanish growers are filled first. This means that clean seed is often unintentionally delayed in transit or at the port, resulting in growers missing their planting window to get the crop in the ground. In addition to the problems of importation, the cultivars grown in other countries take a few years to acclimatize to Ontario growing conditions, whereas the clean seed produced at the SPUD Unit is ideal for Ontario.

The SPUD Unit already requires additional space to meet the current demand for clean planting material for these commodities. The demand in the future will be even higher. The importance of local food production has been highlighted by the supply chain issues we have experienced throughout the pandemic. In order for many commodities to expand, the growers of Ontario require a new SPUD Unit facility, or clean plant hub. This facility should be stationed in northeastern Ontario to take advantage of the lower pest pressure, unique skill set, and land that are ideal for early generation production of these crops.

The SPUD Unit is operated by the University of Guelph. In 2021, the Agricultural Research Institute of Ontario (ARIO) sold the land that SPUD Unit resides on to a private developer. The sale included a condition that all the land and buildings that were currently in use by the university will be leased back to ARIO for up to five years, Under the lease-back arrangement, the university has continued to pay operation and maintenance costs as currently budgeted. The OFVGA resolution states that this leaseback agreement from the sale expires in 2026, and the SPUD unit facility is now 40 years old. The structure and equipment cannot feasibly be sustained for the long term without major refurbishing, even under this leaseback agreement. In addition, the facilities are often at full capacity and therefore cannot currently accommodate for growth by the numerous commodities.

The resolution passed by OFVGA and multiple member organizations place "the highest level of urgency and priority on the federal and provincial governments to construct a replacement tissue-culture laboratory, with greenhouses and cold rooms that would be a state-of-the-art facility as part of the newly constructed agronomy research station in New Liskeard."

Many commodities depend on the SPUD Unit and the highly skilled technicians who work there. The federal and provincial governments are concerned about the stability and resiliency of our agricultural production and have set goals to grow production to meet provincial needs and sell overflow into the United States. The SPUD Unit and other similar tissue culture labs are the best and fastest ways to increase production and to minimize the use of crop protection products. It is imperative that federal and provincial governments move quickly and work with the University of Guelph to ensure the future stability of this facility.

*Travis Cranmer is a vegetable crop specialist, OMAFRA.*

BITS AND BITES

# Canada's farmland values continued to climb in 2022

The average value of Canadian farmland increased by 12.8 per cent in 2022, amid strong farm income, elevated input prices and rising interest rates. The demand for farmland remained robust and the supply of farmland available for sale continues to be limited, according to the latest FCC Farmland Values Report.

In Ontario, average farmland values increased by 19.4 per cent in 2022, following gains of 22.2 per cent in 2021 and 4.7 per cent in 2020.

"Challenging economic conditions could have been expected to slow the demand for farmland and the resulting price buyers paid for land in 2022," said J.P. Gervais, FCC's chief economist. "But the underlying fundamental factors in the farmland market tell another story."

FCC estimates that receipts of grains, oilseeds and pulses in Canada have increased 18.3 per cent in 2022, and are projected to grow 9.4 per cent in 2023.

"Higher farm revenues are driving the demand for farmland, but higher borrowing costs and increased input prices are expected to lead to declines in the number of sales in 2023," according to Gervais.

The highest average provincial increases in farmland values were observed in Ontario, Prince Edward Island and New Brunswick, with increases of 19.4, 18.7 and 17.1 per cent, respectively. Saskatchewan followed with a 14.2 per cent increase. Five provinces had average increases below the national average at 11.6 per cent in Nova Scotia, 11.2 per cent in Manitoba, 11.0 per cent in Québec and 10.0 per cent in Alberta.

British Columbia is the only province to have recorded a single-digit increase at 8.0 per cent, but it is also a market where land values are the highest on average.

"It's good practice to have and maintain a risk management plan that takes into account possible economic changes," said Gervais. "When producers ensure their budgets have room to flex if commodity prices, yields or interest rates shift, they're better off in the long run." FCC also suggests producers to exercise caution, especially in regions where the growth rate of farmland values exceeded that of farm income in recent years, which was the case in most provinces.

| % Change in farmland values | | |
|---|---|---|
| **Provinces** | **2022** | **2021** |
| B.C. | 8.0% | 18.1% |
| Alta. | 10.0% | 3.6% |
| Sask. | 14.2% | 7.4% |
| Man. | 11.2% | 9.9% |
| Ont. | 19.4% | 22.2% |
| Que. | 11.0% | 10.0% |
| N.B. | 17.1% | 5.2% |
| N.S. | 11.6% | 12.3% |
| P.E.I. | 18.7% | 15.2% |
| N.L., N.W.T., Nvt. and Yukon | N/A* | N/A* |
| Canada | 12.8% | 8.3% |

*There was an insufficient number of publicly reported transactions to accurately assess farmland values in Newfoundland and Labrador, Northwest Territories, Nunavut and Yukon.

*Source: Farm Credit Canada March 13, 2023 news release*

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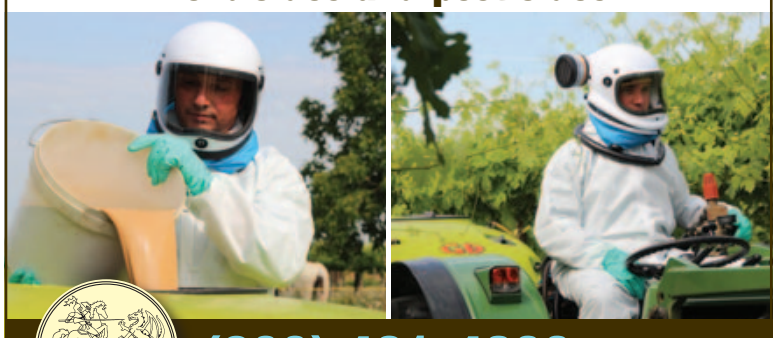

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CROP PROTECTION

# Crop protection at FVGC: a look back at 2022 and moving forward into 2023

CALEIGH HALLINK-IRWIN

The Crop Protection Advisory Group (CPAG) of the Fruit and Vegetable Growers of Canada (FVGC) worked hard in 2022 on behalf of growers to advocate for their crop protection needs and in aid of ensuring the continued, successful production of fruits and vegetables, and of food security in Canada.

We continue to have many active files ongoing, and hope to see even more progress in 2023!

**Funding for the Pest Management Centre**

FVGC, through CPAG, meets frequently with the Pest Management Regulatory Agency (PMRA), Pest Management Centre (PMC), and Members of Parliament in order to discuss the crop protection issues and concerns of Canada's fruit and vegetable growers. One of the primary concerns in the past few years has been funding for both the PMRA and PMC.

Fruit and vegetable growers know just how vital the Pest Management Centre (PMC) is to Canadian agriculture. It is through PMC's minor use program and the associated priority setting workshop that Canadian fruit and vegetable growers are able to access the crop protection tools that they do.

Frustratingly, PMC has not had a budgetary increase in more than 10 years. As such, they have had to reduce their project capacity in order to prioritize their workload and ensure that they're able to finish the projects they begin. FVGC is therefore continuing our ask for an immediate $5 million budget increase to PMC, with full annual inflationary increases thereafter.

How can you help? Speak out about how the PMC has made a difference to you and your farm. Engage with us at FVGC, and we can pass along these messages, and together we can make a difference.

**Re-evaluations at the PMRA**

This past year, the PMRA came to FVGC with questions about the field use of four crop protection active ingredients: chlorothalonil, phorate, fluazinam and methoxyfenozide. FVGC prepared bilingual anonymous surveys of the use of these products on fruits, vegetables and potatoes and we are very thankful to the growers who completed them! The information from these surveys helps make PMRA's health and environmental risk assessments of crop protection products more realistic, so that more products and uses survive the re-evaluation process. Without this information, PMRA must make the most conservative ( i.e., worst-case assumptions) regarding use patterns for crop protection products in performing their risk assessments.

In 2022 the PMRA re-evaluated quizalofop-p-ethyl (Assure II, Yuma, Leopard), zoxamide (Zoxium), Bacillus subtilis cluster, picoxystrobin, and chlorothalonil. Of note, the PMRA has proposed to cancel all uses (except on greenhouse ornamentals) of chlorothalonil due to risks to human health and the environment. This would affect use on many fruit and vegetable crops, including: carrot, parsnip, potato, onions, brassica crops (broccoli, Brussels sprouts, cauliflower, cabbage), processing tomatoes, asparagus, highbush blueberries, sweet and sour cherry, sweet corn, peach, nectarine, and cranberry.

If the PMRA is on-schedule for 2023, we anticipate seeing proposed re-evaluation decisions published for the following products: azoxystrobin (Quadris), fenbuconazole (Indar), fenamidone (Reason), abamectin (Avid, Agri-Mek), acetamiprid (Assail), clothianidin (Clutch), thiamethoxam (Cruiser, Actara), S-metolachlor & R-enantiomer (Dual Magnum), glufosinate ammonium (Ignite, Liberty), and dicamba (Banvel, Oracle, Engenia).

*Photo by Glenn Lowson*

**PMRA's Transformation**

The PMRA began reviewing their re-evaluation process in 2018, as it was recognized that the process was inefficient and often ends up leaving growers and the public confused.

In 2021, PMRA was granted 3 years of funding in order to undergo a transformation project that is intended to "further strengthen environmental and human health protection through modernized business processes," "improve transparency and access to information," and "increase the use of real-world data and independent advice." Additionally, PMRA is conducting a targeted review of the Pest Control Products Act (PCPA), the legislation under which it operates. FVGC representatives are actively participating on all five of PMRA's transformation technical working groups as well as its transformation steering committee to ensure that FVGC understands these initiatives and that the needs of fruit and vegetable growers are communicated to PMRA. FVGC has also worked closely with other agricultural stakeholder groups to, as much as possible, ensure that our positions are aligned.

As a part of transformation, the PMRA is looking to collect better data on the use of crop protection products and to conduct water monitoring. Both of these efforts will help PMRA's re-evaluations of these products to be more field-realistic, which we hope will help products survive the re-evaluation process. FVGC has begun lobbying the federal government for this additional funding to be extended after 2024 in aid of PMRA's core work, and to ensure the continued collection of this information

**Mancozeb**

One of the big changes we are going to see coming into effect this year is in the use of Mancozeb, which will affect many fruit and vegetable growers.

In 2018, PMRA published the Mancozeb proposed re-evaluation decision, in which all uses were proposed to be cancelled. In response, a task force was assembled, made up of registrants, growers, grower groups, provincial agricultural ministries, academia, industry, aerial applicators, and more.

FVGC sent out surveys to our members on the use of mancozeb. We were fortunate to have many members fill in these surveys, which helped to shape FVGC's comments to the PMRA. It was with these stakeholder comments and additional data the registrant submitted that resulted in revisions to the PMRA's risk assessments, and, ultimately, change.

In 2020, PMRA published their final re-evaluation decision, which did result in changes to use patterns, but not the widespread cancellation we saw before. This was a big victory for Canadian growers!

Uses cancelled on fruit and vegetables include: All seed treatments (incl. potato), greenhouse use, pears, carrots, celery, lettuce, and watermelon.

However, with changes to maximum use rates, application numbers, PHIs, buffer zones and more, the following fruit and vegetables were approved for continued use: Potato, apple, sugar beet, ginseng, field cucumber, field tomato, grape, pumpkin, squash, melon (including cantaloupe, excluding watermelon), and onion (foliar and in-furrow).

Everyone was given 2 years to update labels and comply with these new regulations, so as of November 2022 we are under the new label rules. Therefore, please consult the label before using mancozeb this year!

**Looking Ahead**

In conclusion, FVGC and CPAG have been working diligently to advocate for the crop protection needs of Canadian fruit and vegetable growers. Our ongoing efforts to secure funding for PMC, consult on re-evaluations at PMRA, and support PMRA's transformation project are all aimed at ensuring the continued success of Canada's fruit and vegetable growers, and food security in this country. By raising awareness about the importance of these initiatives, engaging with FVGC, and providing feedback on how the PMC has made a difference, growers can help support these critical efforts. Through continued advocacy and collaboration, FVGC and CPAG are poised to make even more progress in 2023 and beyond.

*Caleigh Hallink-Irwin is manager, crop protection, Fruit & Vegetable Growers of Canada.*

CROP PROTECTION

# Lambda-cyhalorthrin insecticide to be sold across Canada

ADAMA Canada will continue to make lambda-cyhalorthrin products available to retailers and farmers across Canada. The March 8, 2023 decision came after several months of consulting with retailers, farmers and industry groups on the implications of the Pest Management Regulatory Agency's (PMRA) ruling to re-evaluate the permitted uses of the insecticide.

The PMRA's April 2021 decision required lambda-cyhalothrin products to be relabeled with new usage guidelines. To comply with this decision, ADAMA Canada has now completed the relabelling of existing inventories of Silencer and Zivata ensuring farmers have the most up-to-date information for the 2023 season.

A reminder to those in horticulture, the products are no longer available for growers of the following crops: leaf and head lettuce, greenhouse lettuce, bulb vegetables (crop group 3: garlic, elephant garlic, leek, dry bulb, green and welch onion, shallots)

"We will continue to sell our lambda-cy products, Silencer and Zivata, with the new labelling across Canada," said Cornie Thiessen, general manager of ADAMA Canada. "After a great deal of discussion and consideration, we have confidence in our retail partners to provide good advice to growers and we trust growers themselves to use the product responsibly and within permitted guidelines."

"Our lambda-cy products are valued because they're effective," he said. "The bottom line for growers is to read the labeling guidelines carefully. Talk to your full-service input retailer and to your crop buyers so you can make an informed decision about if and when to apply the product."

Lambda-cyhalothrin is the active ingredient in two ADAMA products available in Canada - Silencer and Zivata – which are both marketed for use on multiple crops.

*Source: ADAMA Canada March 8, 2023 news release*


# Upcoming IPM Workshops for commercial growers and scouts

The dates have been set for spring integrated pest management workshops, hosted by various OMAFRA specialists. Workshops will focus on proper identification of vegetable pests and pathogens and provide reference material for the field season. All workshops are free to attend and lunch is on your own. Registration is required. To register, please call the Ontario Agriculture Information Contact Centre at 1 877-424-1300.

April 27 – Brassica Crops – Guelph and Virtual
May 3 – Intro to IPM – Guelph and Virtual
May 4 – Carrot / Onion – Guelph and Virtual
May 10 – Sweet Corn – Ridgetown and Virtual
May 11 – Tomatoes – In person at Ridgetown only
May 17 – Cucurbits – Ridgetown and Virtual

**Photo right: Travis Cranmer, (L) OMAFRA vegetable specialist, inspects sticky traps with onion set grower, Nathan Teetzel, near Exeter, Ontario. Photo by Glenn Lowson.**