

MARKET MOVERS

## Greenhouse branding: from the boardroom to the kitchen



The branding of greenhouse vegetables – and fruits – has reached such sophistication that a kitchen was built inside the new marketing quarters of Pure Hothouse Foods’ sprawling greenhouse at Leamington, Ontario. The open concept is equipped with lights that can accommodate food photography but also provide a hub for team brainstorming. Here, Chris Veillon (l), chief marketing officer for the Pure Flavor brand consults with in-house chef Michael Giannotti on a new recipe for the next edition of the Live Deliciously eMagazine. Photo by PureFlavor.

KAREN DAVIDSON

Touchless faucets, check. Open shelving, check. Stainless steel appliances, check. The backdrop of this kitchen looks like a glossy shot from *Canadian House & Home*.

Rather, it’s the new kitchen next door to the 10-person marketing department at Pure Hothouse Foods Inc. Its purpose is as hard-nosed as the executive team that must coordinate the growing, packaging and sales of hundreds of acres of tomatoes, peppers and cucumbers grown in Leamington, Ontario.

What might be considered a place for a java perk for the staff is actually a multi-functional work space for food photography, brainstorming and hosting visitors. The visual backdrop of thousands of greenhouse peppers is a constant reminder of the real focus: marketing vegetables to meet surging demand across North America.

“A decade ago, marketing wasn’t the powerhouse that it

is today for produce companies,” says Chris Veillon, chief marketing officer for Pure Hothouse Foods Inc. “In those days, very small groups of people managed a couple of trade shows, created Powerpoint presentations, handed out product at community events and that was it.”

Today, the 15-year veteran of marketing for three different greenhouse growers is now part of the executive leadership of the Pure Flavor brand. His specific responsibilities include business and market development, market research and planning, strategic direction for promotion and advertising, coordination with sales, and directing the day-to-day activities of the Strategic Marketing Group. That’s a cool job that has him running at Olympic speed in his Adidas sneakers to Mexico, the United States and Europe in the last three months.

“As a kid, I was always fascinated with brands -- how they positioned themselves with colours, messaging and purpose,” recalls Veillon. “We are not a bag of Lays chips or a bottle of Coke or Pop tarts. Fifteen years ago, there was only a handful of well-known brands in fresh produce

and everything was a commodity. What we have learned is that we can sell more than red produce that consumers associate with sweetness and juiciness. Other produce can be flavourful too.”

The emergence of specialty crops has been matched by varieties that not only yield well, but provide a unique tasting experience. For Veillon, new greenhouse products such as the two-bite snacking cucumber require a story about the grower, the packer and the IPM manager, so that the parent is confident about buying it for school lunches. At the retail counter, it’s known as the Uno Bites Nano cucumber.

But for the retail category manager, with a Pure Flavor product guide in hand, the Uno Bites Nano cucumber is promoted as an ideal snacking item that goes well with lime juice, dill and mint. It can be paired with bell peppers, black olives and chicken. And for the epicurious, consumers can go to the website for the recipe: Cucumber Citrus Salad.

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AT PRESS TIME...



(L to R): Niagara West MPP Sam Oosterhoff, Joe Schenck, Ontario Premier Doug Ford, Erwin Wiens, Ag Minister Lisa Thompson, Chair Matthias Oppenlaender, GGO, Will George.

Ontario grape crop could be cut in half

Winter injury in Ontario grapevines is so severe that the Grape Growers of Ontario (GGO) estimate that only half a crop will be harvested in fall 2022, a major hit to the sector that realized \$110 million farmgate value last year. Replacement costs can top \$45,000 per acre. And it will take several years for new vines to come into production.

That’s why GGO invited Premier Doug Ford, ag minister Lisa Thompson and MPP Sam Oosterhoff to view the winter injury first-hand on August 10, 2022 and to communicate the long-term ripple effects on the economy. George II Farms and Huebel Grapes Estates hosted the event, while board members Erwin Wiens and Joe Schenck shared their experiences.

“We were very hopeful going into the season with estimates of

60 per cent bud survival,” explains Matthias Oppenlaender, GGO chair. “But the buds stalled and collapsed.”

If growers choose to replace vines, the time to order is now. A two-year lead time is required for delivery. That’s an unexpected outlay of capital with the knowledge that this year’s cash flow will be crimped. It’s particularly tough on the next generation of grape

As the grape growers explained to the premier, crop insurance covers some of the costs, but only for one year. It does not cover the long-lasting damage to the vineyards. It’s hoped that Agri-Recovery, the cost-shared program with the federal government, will be initiated by the Ontario government. That’s one of the avenues of support which could be tapped going forward.

The premier’s visit came just days after he tabled the provincial government’s 2022/23 budget. While not included in the budget

narrative, GGO confirmed that the following commitments are included in the fiscal budget:

- \$10 million in 2022–23 for ongoing support and expansion of the Enhanced Agri-Food Workplace Protection Program to help farms and agri-food operations take additional measures to support the health and safety of agri-food workers;
- \$10 million COVID recovery fund for Ontario wineries and cideries to help them address the challenges posed by COVID. Wineries will be able to use these funds to invest in many activities including promotion, market development and tourism recovery;
- Expanded, multi-year funding of the VQA support program through 2024/25.

South Korean market opens to BC cherries

British Columbia’s cherry growers have an extra reason to be happy about this season’s harvest with the federal government’s news that South Korea is now open to the high-quality fruit.

“The BC Cherry Association is extremely pleased that efforts from government and industry have secured access to the South Korean market for Canadian cherries,” says Sukhpaul Bal, president, British Columbia Cherry Association “Our growers and industry partners look forward to building long-lasting relationships with Korean customers and cannot wait to see cherries branded with the maple leaf in stores across South Korea.”

NEWSMAKERS

Congratulations! The 2022 Atlantic Canada Outstanding Young Farmers are **Morgan and Karissa Smallman**, of Knutsford, Prince Edward Island. Smallman is a sixth-generation spud farmer who works with his father and uncle. They grow for W.D. Potato which supplies the Frito-Lay plant in New Minas, Nova Scotia.



Morgan Smallman

The spotlight goes to **David Kozuki**, president of Golden Retreat Vineyard Ltd. in Summerland. He’s the winner of the BC Grapegrowers’ Association Viticulturist of the Year Award, now presented by Cohort Wholesale. In 2007, he replanted his grandfather’s tender fruit orchard to grapes and learned the terroir.

Condolences to the family and friends of **Portia MacDonald-Dewhirst**, who passed on July 24, 2022 from brain cancer. She was the executive director of the Canadian Agricultural Human Resource Council (CAHRC). Portia was a highly respected, tireless champion of Canadian agriculture, leading CAHRC for 10 years. Among her many accomplishments, she spearheaded the Labour Task Force and Workforce Action Plan to address labour shortages and supported the growth and continued success of the agriculture industry. Along the way, she also built strong relationships with many industry stakeholders and raised awareness of the significant impact of labour shortages in agriculture as well as the resiliency and strength of the industry in Canada.



Portia MacDonald-Dewhirst

**Dr. Debbie Inglis**, director of Brock University’s Cool Climate Oenology and Viticulture Institute (CCOVI) is the proud recipient of the Wine Industry Champion Award at the 2022 Canadian Wine Industry Awards, which took place as part of the 2022 Canadian Wine Growers Symposium on July 11. Besides being an exemplary researcher, she is a gifted team builder.

The Canadian Wine Industry Award of Distinction was given to Pillitteri Estates Winery founder **Gary Pillitteri**, and the Karl Kaiser Canadian Winemaker Award was given to the late **Paul Pender** of Tawse Winery.



Dr. Debbie Inglis

**Trevor Latta** is the new manager of Cohort Wholesale, bringing 25 years of agricultural retail and manufacturer sales, account management and marketing experience. Most recently he was responsible for BASF Canada’s national corn and soybean marketing and oversaw its national outdoor fruit and vegetable portfolio. His previous sales and sales management experience with two of Cohort Wholesale’s channel customers provides excellent perspective to support the customer-focussed growth of the business.

**Scott Hodgins** has taken on a new role as market and business development manager with Plant Products. The company, purchased by Biobest in early 2022, specializes in the vegetable greenhouse sector, nursery and turf. Hodgins will be focussing on the greenhouse industry in North America.

Kudos to **Ron Lemaire**, president of the Canadian Produce Marketing Association. He’s one of 31 to be inducted into the 2022 Grocery Business Hall of Fame in the category of Industry Stewardship. The citation reads: Ron Lemaire brings “a keen focus on vertically integrated supply chains and systems philosophy” to the produce industry. In 1998, Lemaire launched Canada’s 5 to 10 a-day program in collaboration with the Heart and Stroke Foundation and the Canadian Cancer Society. In 2011, Lemaire became the fourth association president in the Canadian Produce Marketing Association’s (CPMA) 94-year history.”

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COVER STORY

# Greenhouse branding: from the boardroom to the kitchen



Greenhouse cucumbers are elevated from a commodity crop to a branded product called Uno Bites Nano cucumbers. Photos by Pure Flavor.



Ryan Cramer, president, Big Marble Farms, is passionate about marketing greenhouse produce to the prairies. See the company video here: [www.bigmarble.ca](http://www.bigmarble.ca). Photos by Big Marble Farms.

Continued from page 1

Today’s omni-channel media environment is a tool for defining the Pure Flavor’s value proposition in photos and video vignettes. Five years ago, the Facebook page had fewer than a thousand followers. Today, more than 200,000 consumers in Canada and the U.S. are plugged in. Through the use of geo-fencing, Veillon says the company is able to segment the audience not just by geography or demographics, but by lifestyles. As he explains, there’s no sense in sending cucumber recipes to someone who only eats tomatoes.

Another tactic to reach narrow slices of consumer segments is to employ nano-influencers to tell the story. These are content creators who have as few as a thousand followers. They tend to have higher engagement rates with their audiences because they are regarded as authentic. And they’re cost effective.

Prairie perspective

The race to brand greenhouse commodities is echoed on the prairies where the Big Marble Farms brand was introduced in 2016. The Red Hat Co-operative, located in Redcliff, Alberta is comprised of about 20 greenhouse growers. They have reimagined their structure, governance and marketing since the untimely death of general manager Lyle Aleman in 2015. He had guided many aspects of the greenhouse co-operative but was particularly active as a promoter.

Ryan Cramer, whose family operates one of the biggest operations, had a vision to reposition the produce from 180 acres under glass. The result was Big Marble Farms, a unique and memorable name for Planet Earth, under which the sustainability message can be told in terms of water conservation, heat recovery and cardboard or compostable packaging.

“It’s important to tell the story

from a prairie perspective,” says Cramer. “We’re not out to dominate the world. We want to be the premier supplier for the prairies.”

One of the pillars of the brand is joyful vitality. And that’s captured in videos of employees doing their work with purpose and pride. In social media outreach, it’s important to demonstrate how food comes to the plate in a way that’s respectful to the employees. Cramer admits that his artistic streak can be expressed in videomaking. He’s not averse to being behind the camera. That’s a millennial take on a president’s job description: flexible and creative.

Taking the marketing portfolio in-house mirrors what the big consumer companies are doing. Kraft Heinz Canada is a recent example that’s created an in-house agency called The Kitchen, staffed by marketing pros.

Future trends

Today, Canada’s greenhouse vegetable sector has a farmgate value of about \$2 billion. The cucumbers, tomatoes and peppers are boosted by eggplant and lettuce, with strawberries and even melons coming on stream in the controlled environments. This growth trend will only continue as consumers buy into the story of less water and pesticide use, and the benefits of regionally-produced vegetables.

“The growth of a multi-billion-dollar industry needed greater sophistication to manage the significant demand that growers and marketers are experiencing,” explains Veillon. “The need for investors to help plan and fund that expansion has created a content war. The need to ramp up product information to feed the masses is real.”

Both Veillon and Cramer would agree that their marketing and branding credentials have evolved in the last decade. They

are storytellers, executive producers, and content creators requiring the talents of on-staff photographers, videographers and social media specialists.

Let the credits roll.

**The Grower is “Digging Deeper” with Chris Veillon, chief marketing officer for Pure Hothouse Foods Inc. Leamington Ontario. He shares how branding has changed the marketing of greenhouse-grown produce to meet consumer expectations for mouth-watering moments. This podcast is sponsored by Cohort Wholesale.**





CROSS COUNTRY DIGEST

BRITISH COLUMBIA

Pilot program connects Okanagan farms with domestic workers

LIAM VERSTER

A provincial pilot program aimed at helping connect seasonal domestic workers with employment in Okanagan orchards and vineyards has experienced a successful start. Since the initial launch in June 2022, B.C. Fruit Works has secured 90 branch hands for fruit-harvesting jobs and 60 farmers interested in training and adopting technology to maximize profit and minimize food waste throughout the Okanagan.

“The new BC Fruit Works program represents the future for hiring Canadians to work in B.C. orchards,” said Sukhpaul Bal,

president of the BC Cherry Association. “It includes an app that is elegant and simple to use for both growers and people looking for summer work picking fruit in the Okanagan sunshine.”

B.C Fruit Works is a collaboration between the B.C. Grape Growers’ Association, B.C. Cherry Association, B.C. Fruit Growers’ Association (BCFGA) and the B.C. Tree Fruit Cooperative, with support from the BC Ministry of Agriculture and Food.

“The BCFGa is happy to be included in the creation and implementation of this project as the representatives of fruit growers across the province,” said Annelise Simonsen, director of

the B.C. Fruit Growers’ Association. “B.C. Fruit Works had a dedicated team of creative and energetic people working on this project, and I am looking forward to seeing how it builds and grows now that it is being used within the industry.”

John Bayley, president of the BC Grape Growers’ Association, added that “the B.C. Fruit Works program has the potential to shift our fruit industries into a more organized, collaborative unit, ensuring more efficient communication and feedback on the casual workforce that we require to operate as a successful industry. It’s a much-needed step toward stabilizing our labour issues throughout all fruit



sectors.”

The B.C. government is providing up to \$90,000 to support B.C. Fruit Works.

The province noted that developing a comprehensive agriculture-centric labour strategy to support the industry’s efforts to access labour pools was part of the recommendations outlined in the 2021 Path Forward: A Blueprint for B.C.’s Tree Fruit Industry (Tree Fruit Industry Stabilization Plan).

“B.C. Fruit Works is part of our government’s Tree Fruit

Industry Stabilization initiative as we look at ways to co-ordinate various agencies through an industry labour strategy,” said Lana Popham, Minister of Agriculture and Food.

“This collaborative approach is strengthening the B.C. tree-fruit and wine sector, and ensuring their delicious and high-quality products will continue to get into the hands of consumers this summer and in the future.”

Source: *Vernon Matters*, August 9, 2022

ALBERTA

Little Potato Company turns sod on new headquarters

The Little Potato Company and Leduc County representatives celebrated the sod-turning on a 200,000 sq. ft.-plus packaging facility and head office on June 28, 2022. The family business is investing upwards of \$25 million to expand production of its renowned creamer potatoes.

“This is a significant step for The Little Potato Company, which my Dad and I founded together in Edmonton more than 25 years ago,” said Angela Santiago, CEO of The Little Potato Company. “With the incredible support of our community, we are honoured to continue to grow our business here and provide a fresh, nutritious food to families across North America.”

Located south of Edmonton, the Nisku, Alberta facility represents the company’s first major expansion since the opening of the U.S. packaging facility in DeForest, Wisconsin in 2017.

“Demand continues to grow for our little potatoes because they can be on the table in as little as five minutes, allowing

families more time for what matters,” said Sanford Gleddie, executive VP of sales, marketing and business development. “Boosting packing capacity in the capital region of Alberta will allow us to meet demand by investing in growing more potatoes on family farms in Alberta and Saskatchewan.”

The state-of-the-art potato packaging facility plant will allow the company to offer a wider variety of products and utilize the latest technology to ensure the highest quality of potatoes.

“This packing facility could help us reach millions as we bring little potatoes grown on our prairie farms to dinner tables from Ontario to British Columbia, Montana to New Mexico,” said Scott Hine, executive vp of agriculture and operations. “The facility will have solar panels to provide one full gigawatt of power each year and decrease water consumption by recycling and cleaning the water it uses. This was important to Frank



Santiago, director of capital assets, as he designed the machine plan for the new facility.

“Taking care of the land for future generations is one of our biggest priorities as a family-based business and the parents of four children,” said Frank Santiago.

Both Frank and Angela visited the site more than a year ago, and were impressed by its proximity to highways that connect to both farms and customers. Beyond the practical benefits, they both felt strongly that the site was right for the next chapter of their story as a family business.

Construction is expected to be complete early next year, with operations scheduled to begin in May 2023.

Source: *The Little Potato Company*, June 28, 2022 news release



Angela Santiago and her father Frank.

NOVA SCOTIA

Nova Scotia orchardists host in-person tour

EMILY LUTZ

The Nova Scotia Fruit Growers’ Association held its first in-person orchard tour since 2019 on August 11, 2022 in the eastern end of the Annapolis Valley. After a brief opening at Miner’s Marsh trailhead in Kenville, the tour began at Sarsfield Farms in Medford where several pieces of equipment were showcased, including a leaf blower and harvest aid. The harvest aid demonstration generated lots of discussion, led by grower Alex Sarsfield. The tour then travelled a short distance down the road for a great discussion on harvest management and Retain use with grower David Power of Power Farms. The tour then proceeded to Lakeville to visit Van Meekeren Farms owned by brothers Stephen and Michael Van Meekeren. Keith Fuller, researcher at AAFC Kentville, guided a discussion on a fumigation

trial, and the tour was able to see how thinning Gala was most effective for increased size.

After lunch, brothers Andrew and Tim Stirling provided a glimpse into the various things they have tried at their orchards at Stirling Mountainside Farms, including methods of pruning young trees to reach the seventh wire of a trellis system and get them to full production as quickly as possible, various methods of trellis and tree supports, as well as using straw and hay to mulch their orchard rows and the benefit and risks in terms of pests, moisture retention, and decreased herbicide application. The tour concluded with a visit to a stone fruit block at Noggins Corner Farm as well as a market tour and cider tasting.

Emily Lutz is executive director, Nova Scotia Fruit Growers’ Association.



Photo caption: L-R: Sam Bourgeois, Verger Belliveau Orchards, NB; Andrew Stirling, Stirling Mountainside Farms; Travis Pearson, Kimberlee Farms; Evan Farris, OceanCrisp.





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ONTARIO APPLE ORCHARD TOUR

KAREN DAVIDSON

This year’s in-person event, August 4, was attended by 200 apple growers keen to learn about trials and what’s new in the sector. The tour visited Fred Archibald,

Archibald’s Orchard and Winery, Bowmanville. Algoma Orchards welcomed the tour to two locations near Newcastle: the Gamsby Orchard where farm manager Manus Boonzaire talked about growing Honeycrisp and new varieties and the packinghouse where

plant manager Deon Boonzaire and owner Kirk Kemp hosted separate groups. At the last stop, Wilmot Orchards, Ian Parker shared learnings from young tree trials.

Pollen tube growth model: preliminary findings in Ontario

ERIKA DeBROUWER

Background

The pollen tube growth model (PTGM) was developed to better inform growers when to apply their chemical bloom thinners and has proven to aid in this decision in various states across the U.S. The model is currently being validated in Ontario and was trialled at various locations across the province. This data represents findings from one location in the first year of the trial.

Methods

The model uses per cent fertilization as the indicator to apple bloom thinner and it is recommended to spray once the model reaches 100 per cent. The model can be restarted to apply as many bloom thinners as you wish. This trial was performed on Honeycrisp apples grafted onto an M.9 rootstock in a pedestrian style, pick-your-own orchard.

**Control Treatment:**

- Pruned
- No bud thinning
- No fruitlet thinning

**Treatment 1 (T1):**

- Sprayed with 2.5% ATS when the model reached 60% fertilization on May 20, 2022
- Bud thinned and pruned prior to treatment



- No fruitlet thinning occurred after treatment

**Treatment 2 (T2):**

- Sprayed with 2.5% ATS at the 60% fertilization and again a few days later when the model reached 100% fertilization on May 23.
- Bud thinned and pruned prior to treatment
- No fruitlet thinning occurred after treatment

To validate the model, we looked at various aspects throughout the growing season, such as crop load, fruitlet size, harvest size, weight and yield, along with return bloom. Return bloom is of great

importance, especially in the Honeycrisp variety as the PTGM hopes to reduce the biennial bearing nature of the variety.

Findings

Preliminary findings are below, taken nine weeks after bloom thinner application:

- Fruitlet drop continued post blossom thinner application in all treatments and slowed as the season progressed
- The greatest fruit drop was seen in T1, dropping 130 fruitlets
- T2 dropped 109 fruitlets
- The control treatment had the highest fruit count, averaging 185 fruit

- Fruit count is similar between T1 and T2, 109 and 108 respectively
- T1 had fruit that were 20% larger compared to the control treatment apples
- T2 had fruit that were 11% larger compared to the control treatment apples

Conclusion

Overall, both thinning applications demonstrated that without any crop load strategies, fruit will be smaller in abundance. Treatment 1 had the most significant drop, possibly due to the initial larger crop load. Treatment 1 and Treatment 2 ended up with similar fruit counts, suggesting that the timing of chemical bloom thinner application is critical to reaching your ideal crop load. Treatment 1 also had the largest fruit, making it the most successful treatment due to size and crop load. Further conclusions can be drawn in the future after harvest measures and return bloom counts are collected, giving a better indication of the success of the PTGM.

This is a preliminary trial from one location. The PTGM is not currently available in Ontario and is still being validated. If you are considering blossom thinning, I suggest you do a trial block in a small area of your orchard.

Erika DeBrouwer is tree fruit specialist for OMAFRA.

Bloomtime friends and foes

KRISTY GRIGG-McGUFFIN

Relying on a petal fall insect management program alone does not always provide full protection from pest damage each year, particularly with the changing climate during bloom, new or emerging early season pest issues, challenges with immediate post-bloom control and the varying bloom times of different cultivars.

Some advantages to not following a prebloom program include:

- Natural enemy populations can build.
- There is less risk of exposure to pollinators.
- More options are left for postbloom management.
- It's money saved on input costs.
- Overall reduced pesticide load.

Early season pest management also involves the fine balance between preventing economic injury while still supporting pollinator and natural enemy populations in and around the orchard. It is possible that insecticide applications can be delayed with the presence of natural enemies. Native pollinator communities can also supplement (or replace) pollination services.

Enhancing beneficial insect habitat in and around the orchard will help support and encourage populations. Reduce mowing and herbicide use between rows or in field edges to allow protected areas for non-crop plants such as dandelion, clover,



In this orchard, row middles were left unmowed to establish native flowering plants such as clover, milkweed, dandelion and wild carrot, creating alternative habitat for beneficial insect populations. However, it is important to regularly monitor these blocks as alternative habitat can also encourage orchard pests such as tarnished plant bug and mullein bug.

alyssum and wild carrot. Be mindful of pesticide use in these areas as certain products can be toxic or disruptive to beneficial insects and pollinators.

However, apple leafcurling midge (ALCM), European apple sawfly (EAS), tarnished plant bug (TPB), mullein bug and plum curculio are just some of the pests that can cause extensive early season damage and are strongly dependent on the temperature prior to and during bloom. Diversified landscape in and around the orchard may provide shelter for the very pests you are trying to control.

Consider the following factors when deciding if a prebloom insecticide is worth it:

**1. Presence of insect pest(s) in orchard has historically caused injury to developing flowers or fruitlets** - Understanding the biology and period of activity of the target pest will help determine if control at pink will reduce populations compared to an early petal fall application. For instance, in Ontario, monitoring of ALCM has found pre-bloom adult activity typically beginning

early May. Regions with established EAS populations see adults emerge pink through to bloom, laying eggs in the flower base. However, plum curculio activity generally starts moving back into the orchard at bloom, with the greatest migration occurring within 14 days after petal fall. As well, peak emergence for mullein bug hatch is at early petal fall.

**2. Likelihood of making a timely petal fall application** - Do your blocks have a mix of early and late blooming cultivars that may delay a petal fall application? Is the bloom period predicted to be cool, wet and therefore prolonged? Any delay to a petal fall application can have serious implications in an orchard block with high pest pressure such as EAS, TPB, plum curculio or mullein bug.

**3. Whether an early season application would reduce the need for later season treatments** – For pests with multiple generations, early intervention can prevent populations from building exponentially over the season. For instance, prebloom ALCM trap catches are consistently lower than late season generations each year in monitored orchards. As well, recent trials are suggesting certain prebloom insecticides could help reduce San Jose scale pressure prior to fruit being vulnerable to summer crawler emergence.

Kristy Grigg-McGuffin is OMAFRA horticulture IPM specialist (Apples).



INDUSTRY AFFAIRS

More work needed to reach alignment on Grocery Industry Code of Conduct

The group representing Canadian retailers, food, health & consumer goods manufacturing companies and agricultural producers currently working on developing a grocery industry Code of Conduct report that while continued progress is being made, key issues remain unresolved and will require more discussion before alignment is reached.

The report, provided to the FPT (Federal, Provincial, Territorial) Ministers of Agriculture on July 21, provides an update to ongoing talks between industry and retailers aimed at developing an Industry Code of Conduct to improve transparency, predictability and fairness between Canada’s retail and supplier community.

The complex negotiations moved from high level to detailed talks at the beginning of April, focusing primarily on the specific needs of a broad mix of industry and retail partners. Despite finding common ground on many of key issues, the group continues to negotiate specifics tied to scope, what sorts of products and dealings should be covered by a code and payments, deductions, fines and fees. Both groups earlier agreed that the code should be mandatory and enforceable, once developed.

The complexity of developing a grocery industry Code of Conduct cannot be overstated. It involves many constituents,



representing a broad mix of industry and retail partners; each with diverse needs and concerns and this process takes time. Our first goal continues to be the development of a mandatory and enforceable Code of Conduct with all participants engaged and unanimous in their support. We are hopeful that continued discussion regarding scope, payments, fees, fines, and deductions will bear positive results.

The report also reinforces the

critical importance of FPT minister leadership and support in convening the Code development process. In doing so, it acknowledges that future government intervention may be requested in the event that alignment is not achieved. That could include implementing a deadline for Code development discussions.

Upon resolution of the outstanding issues, the Steering Committee anticipates an

additional phase that involves introducing the draft Code of Conduct to a broader audience through a consultation process to inform and discuss key components. It is crucial to seek input from many stakeholders and ensure a representative process of different interests has a voice in the Code development.

The Steering Committee remains strongly committed to taking all necessary steps to ensure a Grocery Industry Code

of Conduct that supports fairness in the commercial dealings between suppliers, Independent retailers and large Canadian retailers, to ensure that we support the long-term sustainability and growth of this country’s agricultural community, Canadian food, health and consumer goods manufacturing sectors and Canadian retailers of all sizes.

Steering Committee Members

- Michael Graydon/ Food Health & Consumer Products – Co-Chair
- Diane Brisebois/ Retail Council of Canada – Co-Chair
- Denise Allen /Food Producers of Canada
- Kathleen Sullivan / Food & Beverage Canada
- Mathieu Frigon / Dairy Producers Association of Canada
- Scott Ross / Canadian Federation of Agriculture
- Gary Sands / Canadian Federation of Independent Grocers
- Ron Lemaire / Canadian Produce Marketing Association
- Rebecca Lee / Fruit & Vegetable Growers of Canada
- Marcel Groleau / L’Union des Producteurs Agricoles

Source: Fruit & Vegetable Growers of Canada July 21, 2022 news release

CANADIAN APPLE OUTLOOK

Growers anticipate good harvest in all major producing regions

The total Canadian estimate is 18.5 million bushels of apples which is up one per cent compared to 2021 and down four per cent from the five-year average. The numbers were presented at the annual U.S. Apple Outlook Conference in Chicago on August 18.

Here are the provincial breakdowns:

British Columbia

The season got off to a slow start with cool spring weather, but the crop is catching up now with some hot temperatures. Harvest will be about two weeks later than normal. There is a further reduction in apple acreage in the province. That means 3.2 million bushels are predicted – a 23.6 per cent reduction in volume compared to 2021.

Ontario

Most of the province has been dry and rain would be welcomed. The good news is that there was little frost damage in the spring. The estimate is for 7.6 million



Apple harvest at Wilmot Orchards, Newcastle, Ontario. Photo by Glenn Lowson.

bushels to be harvested, up 12.9 per cent from 2021.

Québec

Some areas experienced winter damage and spring frosts, and

unfortunately some growers experienced hail in June. But ample rain in May and June have spurred the crop. Average harvest

timing is expected and the sizing of fruit is good. The estimate is for 5.5 million bushels – up 7.5 per cent versus 2021.

New Brunswick

Growers report good bloom and pollination with no major pest concerns. Some new acreage is being planted. The estimate is for 207,000 bushels – up 0.8 per cent versus 2021.

Nova Scotia

An average crop is expected. Good growing conditions were experienced in the spring, but the crop is thirsty for rain now. Some new acreage is being planted. The estimate is for two million bushels – down 3.7 per cent compared to 2021.

Source: Fruit and Vegetable Growers of Canada Apple Working Group August 22, 2022



CHAIR'S PERSPECTIVE

Returning to work with the provincial government



CHARLES STEVENS

Earlier this year, Ontario came through a provincial election, and as I write this, the new legislative session has just begun. Different people have different feelings about the outcome of the election, but as chair of a lobby organization working on behalf of farmers, I can tell you that there are benefits to consistency. That's because government relations and advocacy are built on relationships, and it takes time to cultivate the kind of trust and understanding that results in a willingness to work together to find solutions. And as we all know, horticulture is a complex

industry with many crops and diverse operations and production methods – and it can take time for those outside the sector to come to have a good understanding of who we are and what we do. In this new government, the ministers of portfolios particularly important to horticulture remain unchanged from the previous session. We are eager to resume our work with Minister of Agriculture, Food & Rural Affairs Lisa Thompson, Minister of the Environment, Conservation and Parks David Piccini and Minister of Labour, Immigration, Training and Skills Development Monte McNaughton. We are also looking forward to getting to know the two new Parliamentary Assistants to the Minister of Agriculture, Food and Rural Affairs Rob Flack, MPP for Elgin-Middlesex-London, and Trevor Jones, MPP for Chatham-Kent-Leamington. And we hope to meet with many MPPs, ministers and their staff at our upcoming fall Queen's Park event, which is returning in-person after a two-year hiatus. Since March 2020, most of the

time of the Ontario Fruit and Vegetable Growers' Association (OFVGA) has been spent with the COVID-19 pandemic, which has been the dominant challenge. Now, we have an opportunity to return our focus to other issues that also affect our industry and our farms: the business of feeding people and ensuring our sector can grow sustainably, profitably and competitively. Here are some of those issues: The biggest problem facing our industry currently is the share of the consumer dollar that goes to growers. Food prices for consumers have been rising, but there's been no comparative increase in the prices that growers receive for the crops we sell. We produce in a global market, making us price takers with little to no ability to pass along cost increases as other sectors can, and we face strong pressure from retailers. This is a time of extraordinary pressures on our industry, as we're dealing with inflation, supply chain shortages and delays, labour issues and other challenges that combine to make our production costs higher than in many other parts of the world.

That's part of what makes strong business risk management programming so important for growers. We appreciate the work of Minister Thompson in helping to secure improvements to those programs for the next agricultural policy framework at the recent federal-provincial-territorial ministers of agriculture meeting. These are changes fruit and vegetable growers, along with many other sectors, have long been asking for. We are also encouraging the provincial government to increase funding for the Risk Management Program/Self-Directed Risk Management program. Together with our partners in the Ontario Agriculture Sustainability Coalition, we are asking for an extra \$100 million in funding for all participating commodities combined to help alleviate some of these pressures and provide growers with more of a safety net. Another major issue facing many Ontario growers currently are challenges surrounding Environmental Compliance Approvals (ECAs). These are permits issued by the Ministry of the Environment, Conservation

and Parks related to emissions and discharges; in this case, they are specific to vegetable wash water in the Holland Marsh and stormwater in greenhouse production. They are also required for septic system installations for some larger on-farm worker housing projects. ECA targets are not consistent between farms or regions, and the process to obtain an ECA – not to implement it – is expensive and lengthy. As well, many Compliance Officers are taking an enforcement approach when visiting farms rather than supporting growers in improving their environmental performance. It's an issue serious enough to result in some growers leaving the sector or deciding against expansion of their businesses in Ontario. OFVGA has brought this issue to the attention of Minister Piccini in hopes of finding solutions that balance the need for efficient domestic food production with the province's environmental goals. Charles Stevens is chair, Ontario Fruit and Vegetable Growers' Association.

WEATHER VANE



This drone shot shows six irrigation guns in a 40-acre carrot field near Newmarket Ontario. While timely rains have been welcomed through the growing season, regular supplemental irrigation helps to size the crop says Doug Van Luyk, Holland Acres. For photo updates on harvest progress, follow his son on Twitter @bradleyvanluyk.

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**THE GROWER**



THE URBAN COWBOY

U.S. checks many boxes with new climate law



Few pieces of government legislation anywhere in the free world have drawn attention like the \$369 billion U.S. Inflation Reduction Act (IRA). It's many things to many people, but to the agri-food sector, it's the start of recognition that farmers, ranchers, growers and others who put food on the world's table are allies and partners, not enemies. Politically, the IRA addresses two of U.S. President Joe Biden's most pressing issues: inflation and the environment. In May, the Pew Research Center said inflation was the top worry for seven out of 10 Americans. Inflation hits home hard every day in American

kitchens with escalating grocery bills. It also gets the attention of a U.S. government that's faltering in the eyes of the public. The IRA brings the Biden environmental agenda back into view. The Pew research showed climate change was considered a "very big problem" by just a little more than four out of every 10 Americans. That finding put climate change way behind inflation, as a woe. But climate change reminders are many and easily triggered by new developments. For example, in mid-August, the non-profit group First Street Foundation predicted that in 30 years, more than 1,000 U.S. counties with 107 million citizens will experience at least one day above 51° Celsius (125° Fahrenheit). They're part of what the foundation describes as an emerging extreme heat belt, stretching from northern Texas and Louisiana to as far north as Illinois, Indiana and Wisconsin. That includes a lot of agricultural land. Biden, though, didn't deal with the environment and inflation separately. Wisely – maybe even brilliantly – he wrapped them in the same piece of legislation.

Activists gushed with praise. "The law will put us on a path to 40 per cent emissions reduction by 2030 and restore U.S. credibility to lead climate action around the world," said the U.S. group Climate Solutions. It praised Biden for signing "the most consequential federal climate policy in our nation's history into law." Many other pro-environment groups were equally impressed. Farmers are a key part of the solution, in a practical, on-farm way. Nearly \$20 billion of the Inflation Reduction Act is for new conservation funding to support climate-smart agriculture. This money will bolster the USDA's Natural Resources Conservation Service's efforts to improve opportunities for nutrient management. This arm of the government will target funding, increasing program flexibilities, launch a new outreach campaign to promote nutrient management's economic benefits, and expand partnerships to develop nutrient management plans. "This is part of USDA's broader effort to address future fertilizer availability and cost challenges for U.S. producers," it says. I'm most curious to see how the outreach campaign – called

the Nutrient Management Economic Benefits Outreach Campaign – will work. It goes to great lengths to highlight the economic benefits of nutrient management planning for farmers. For example, the USDA says the potential net savings to farmers who adopt a nutrient management plan is estimated to be an average of \$30 per acre for cropland. Doing the math, the department estimates there are 89 million acres of cropland (almost 30% of total U.S. cropland) now exceeding the nitrogen loss threshold. It says if all those acres implemented a nutrient management plan, the average net savings to producers would be more than \$2.5 billion. Further, a huge chunk of the IRA money for agriculture, more than \$8 billion, will go towards the Environmental Quality Incentives Program. It provides financial and technical assistance to producers and others to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, increased soil health and reduced soil erosion and sedimentation, improved or created wildlife habitat, and mitigation against drought and

increasing weather volatility. Part of the reason that this program is possible is because the U.S. has such a strong and enviable extension system connected to its agricultural universities. Fruit and vegetable growers in the U.S. didn't see anything specifically in the IRA for them. For the most part, the act will help corn producers, thanks to a huge emphasis on support for ethanol, biofuel and renewable fuel. Overall, the thinking is that farm-related savings of any type can be passed on to consumers, in the form of lower food and fuel costs, while simultaneously offering some relief to the environment. All this may be a sign that the U.S. is moving away from blaming farmers for being environmental pariahs, to supporting them and perhaps even calling them problem solvers. That recognition is exactly what farm communities everywhere are clamouring for. They are the ones at the center of nutrient management, as well as greenhouse gas sequestration. And it will be them who turn the IRA into real environmental change, and ultimately, inflation relief.

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FARM & FOOD CARE

# Return to in-person events makes for busy autumn

AMBER ANDERSON

Farm & Food Care Ontario (FFCO) has had a busy 2022, as we all adjust to in-person events again. To date, FFCO has hosted an in-person annual conference, had hundreds of urban neighbours attend Breakfast from the Farm in Paris in June and had hundreds of our members and friends come out in August for a barbecue in celebration of the organization’s 10th anniversary.

As we continue into the fall, the FFCO events schedule continues.

In September, Toronto food influencers will tour a berry farm and an apple orchard in Norfolk and dine on a Caribbean-themed meal with a number of Norfolk County growers and seasonal agricultural workers. That tour is being sponsored, in part, by the More than a Migrant Worker initiative.

FFCO will also be hosting four tours for culinary students across the province and a tour in the Hamilton area for registered dietitians. It is important that those working in the food sector hear directly from farmers and see first-hand how their food is made, and we’re pleased to provide these in-person experiences.

Ontario Agriculture Week, October 3-9, will be a busy one for FFCO. In 2021, we partnered with the Ontario Federation of Agriculture on a new

public trust initiative called “Source Local.” This summer, a number of local federations have undertaken projects to let their neighbours know why they should “Source Local” when choosing food, fiber and flowers. Events have included hosting events at drive-in movie theatres, creating trail signage and a local food colouring book.

For Ontario Agriculture Week, FFCO is organizing four events to celebrate local food in the cities of Thunder Bay, London, Ottawa and Halton to Source Local. More information about these events is available at SourceLocalOntario.ca.

On October 8, FFCO will be partnering with the Halton Agricultural Society to host our last Breakfast from the Farm event in 2022 at the Milton fairgrounds. Finally, FFCO will be at the Outdoor Farm Show in Federation House in September. We will also help to host the Food & Nutrition Forum at the 100th anniversary of the Royal Agricultural Winter Fair in Toronto in November.

People want to see each other face-to-face again and FFCO’s board and staff are excited about being live and in person as well.

Information about all our upcoming events is available at FarmFoodCareON.org.

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

SCENE ON TWITTER



Paul Sawatzky @paul\_sawatzky · Aug 4  
Looking at some Alberta grown Constance seed potatoes today.



Ontario Federation of Agriculture @OntarioFarms  
The sun sets after a busy day of farming. There's silence. But you don't have to stay silent about your mental health.



## COMING EVENTS 2022

Sept 7	Berry Growers of Ontario Twilight Meeting, Watson Farms, Bowmanville, ON
Sept 13-15	Canada’s Outdoor Farm Show, Woodstock, ON
Sept 14	Grape Growers of Ontario 2022 Celebrity Luncheon, St. Catharines, ON
Sept 20-24	International Plowing Match & Rural Expo, Kemptville Campus, Kemptville, ON
Sept 29-Oct 1	Canadian Farm Writers Federation Conference, Saskatoon, SK
Oct 3-9	Ontario Agriculture Week
Oct 5-6	Canadian Greenhouse Conference, Niagara Falls, ON
Oct 18-20	World Ag Robotics Forum, Fresno, CA
Oct 25-26	Canadian Centre for Food Integrity Public Trust Summit, Toronto Public Library, Toronto, ON
Nov 2-4	Grow Our People Summit, Sheraton Fallsview, Niagara Falls, ON
Nov 3	Best of CAMA, Niagara Falls, ON
Nov 2-4	Asia Fruit Logistica, Bangkok, Thailand
Nov 4-13	Royal Agricultural Winter Fair, Toronto, ON
Nov 5	Canadian Agricultural Hall of Fame induction ceremony, Liberty Grand, Toronto, ON
Nov 15-17	Alberta Potato Conference and Trade Show, Cambridge Hotel and Conference Centre, Red Deer, AB
Nov 17	Farm & Food Care Ontario Harvest Gala, Delta Hotel, Guelph, ON
Nov 17-19	Interpoma, Fiera Bolzano, Italy
Nov 21-22	Advancing Women Conference East, Sheraton Fallsview, Niagara Falls, ON
Dec 6-8	Great Lakes Expo, Grand Rapids, MI
2023	
Jan 4-5	Potato Expo, Aurora, CO
Jan 23-29	Guelph Organic Conference & Trade Show, University of Guelph Campus

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RETAIL NAVIGATOR

How is your relationship with your customers?



It is easy to get busy. Producing, harvesting, grading, processing, packaging and delivering can take a lot of time and effort. Sometimes we don't spend enough time evaluating the relationship with customers. Evaluating where you stand with the people who pay for your product is just as important as all of the things you do to get the product for them.

In the food industry, it is usually one business (retailer, wholesaler or distributor) buying product from another business (producers and processors). It is two businesses interacting, but it is the people in the business who make the decisions. The relationships you have are valuable and you need them to be as good as they can be. It is unlikely they will be perfect all of the time, so you need to assess what they are thinking. The quality of your relationships impact your volume and price in future years.

Use the interactions you have to test your relationships. Their responses to questions and willingness to work with you are great indicators for you. Listen to their answers carefully and take the time to determine if you are an important part of their supplier group or dispensable.

Listen to the answers to your questions

During my time working with a major retailer, I dealt with many suppliers. Some were interested in a two-way conversation and others just wanted to go on and on about everything in their business. These suppliers did not always listen to what I said or where our business was going.

Yes, you need to share information about your business and make sure your customers understand your capabilities and accomplishments. You also need to ask questions and learn about their business. Their willingness to share information is a great indicator of the type of relationship you have.

Their answers to these three questions will tell you a lot about the trust they have with you and if they are interested in working with you:

1. How are our sales relative to the category or department?
2. How is our service level relative to the category or department?
3. Did our product sell-through meet or exceed your expectations?

The first two questions will indicate if they are willing to share information that is not public knowledge. You should know your sales and service level so if they share that your sales are better than the average you know you are better than many others. Conversely, if they indicate your service level is below the average you know you have work to do and this should be something you report on at future meetings.

The third question helps you understand how carefully they are looking at your products. If you are better than expectations, you know they were watching but you did well. If you are below, you need to focus on more efforts to drive sales or you are at risk of getting less volume or even de-listed.

Overall, their willingness to answer these questions tells you a lot. If they do not answer the questions, you should be concerned they might not trust you with the information or that your products are not on their radar. In other words, they are focused somewhere else.

Opportunities you receive are good indicators

Retailers and distributors need to plan and they are always looking for opportunities to drive sales and margin. Every time you have the chance you should be asking about opportunities. This could be based on something you saw in the store, participated in last year or perhaps saw somewhere else.

If they do not seem willing to work with you on opportunities, there could be an issue. Perhaps your competitor already got in there or they were frustrated with your service level last year and want to work with someone else.

If they put several opportunities on the table you should assess what is right for you and exceed their expectations. If you are getting opportunities, your relationship is probably in a good place. They usually want to work with people they believe will deliver, not be a frustration.

Get past your key contact

Retailers can be large, complex organizations. If you have a good relationship with your key contact, they will introduce you to others in their business. People who work in food safety, operations, logistics or supply chain are always good contacts to have.

As you develop relationships and volume grows, it will be important to know who to work



with on different issues. The category manager will always be the key point of contact and when they trust you, they will introduce you to others.

If they are not willing to introduce you to others in their organization, you should ask yourself why? Is it a trust issue or do they want to avoid wasting the time of their colleagues?

When you are a trusted supplier, you will get to know people throughout their business.

Future planning is a sign of a good relationship

Most retailers are making

plans for the future. These could be related to merchandising fixtures, merchandising programs or store openings/renovations. Awareness of where they are going helps you to be a better supplier.

When you ask the question about future plans their willingness to share is a good indication of the relationship you have. They might not always know the answers but if they do or perhaps get back to you it is very positive. This is an indication they trust you and see you as an integral part of the plan moving forward.

If you cannot get any answers you need to decide if they have the information and are not willing to share or simply do not want to share. There is a difference.

Problems can strengthen relationships

Most retailer/supplier relationships will have some problems. These could be recalls,

competitors with better ad prices or quality. The response and the resolution to the problems will tell you a lot about your relationships.

If you are proactive and transparent, a problem can actually strengthen your relationship.

Take the time to assess your relationship with your customers. It is a lot of work to produce products and get them delivered, but it is also a lot of work to develop relationships. When you know where you stand, you will know what work you must do. Good relationships can pay a lot of dividends for your business and separate you from your competition.

*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.*





## Trabajo y Seguridad Social

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## Trabajo y Seguridad Social

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### FAQ

**How do I make my job offer?**  
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**Does the employer have to visit Honduras to coordinate recruitment, selection and hiring?**  
It is not necessary to visit Honduras to coordinate recruitment, and selected workers are ready to travel.

**How soon will I have my workers?**  
Once selected, the visa process takes around 6 weeks.

**What is the cost for recruitment?**  
All PTTE recruitment and selection services are free for both employers and workers.

**Who can help if the workers or the company needs assistance in Canada?**  
Honduras collaborates with F.A.R.M.S. (Ontario). Also, the PTTE and the Consulate of Honduras provides assistance to both parties throughout the entire process.



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FOCUS: GREENHOUSE INNOVATION

# The regulatory impact of ToBRFV is counted in the millions of dollars

KAREN DAVIDSON

Village Farms, with greenhouses in both Canada and the United States, has a unique perspective on the Tomato Brown Rugose Fruit Virus (ToBRFV), having experienced hundreds of thousands of dollars in lost sales due to rejected loads at the Blaine, Washington border with Canada.

The Animal and Plant Health Inspection Service (APHIS) issued a Federal Order that came into effect November 22, 2019, restricting imports of tomato and pepper seed lots, transplants, and fruit from all countries where ToBRFV exists. Between that day and January 1, 2020, 57 per cent of 30 Village Farms’ truck loads between Canada and the Blaine, Washington border were rejected. It took up to eight days to get testing results. All tests were negative but the losses were devastating due to cancelled orders and aged fruit recalls Dr. Michael Bledsoe, vice president, food safety and regulatory affairs, Village Farms.

The most memorable example occurred the week of December 4-11, 2019. The cost of unloading rejected trucks -- \$722 per load on average -- and disposing of aged fruit was \$150,000. It was an astonishing hit within the first days of APHIS enacting the ToBRFV Federal



Tomatoes and peppers are the two main hosts. Symptoms caused by ToBRFV include bubbling and mosaic patterns on leaves of susceptible pepper, and fern leaf and mosaic patterns on tomato leaves. On fruit, symptoms include smaller fruit size with a rough surface, fruit drop, delay in ripening, and fruit discoloration including blotching, pale colour and/or brown necrotic spots. Infected tomato fruits can be unmarketable or reduced in quality.

Order. Confusion reigned at the ports of entry because Customs and Border Protection agents were ill equipped and insufficiently trained.

The Federal Order had included tomato and pepper fruit inspection at the U.S.

border for the first time ever. It included three main areas of phytosanitation concerns: seed, propagation, and unique to the U.S., tomato and pepper fruit inspections crossing the borders into the U.S. The desire of APHIS to protect field

growers was at the cost of the greenhouse industry.

Those were early days in the struggle to understand the virus, as Bledsoe explained to the ToBRFV research symposium on August 18, 2022 in Toronto. This was before it was understood that the fresh fruit of the host species should not be regulated. And that only a limited number of ways are available to manage crop pathogens.

The problem with fruit inspection is multifold, starting with costly errors in inspection. But importantly, Tobamoviruses have never been a problem for field tomatoes and peppers, which was the initial rationale for fruit inspection. Since the only way that Tobamoviruses have been managed in the past is by breeding resistance, even resistant varieties could test positive and be rejected at the U.S. border.

In the interim, increased phytosanitary efforts are underway with research ongoing with disinfectants that are effective for managing Tobamovirus.

“To date, there’s been a \$100 million cost to Canadian growers as a conservative number,” says Bledsoe. “The greenhouse industry is integrated across North America so ToBRFV is an issue for all.”

Village Farms is now spending \$70,000 to \$80,000 per year in seed testing as a preventative measure.

## Harmonizing diagnostic protocols

The North American Plant Protection Organization is currently conducting a pilot for harmonizing molecular (PCR-based) diagnostic protocols for seed pests focussed on ToBRFV says Patricia McAllister, national manager, horticulture section for the Canadian Food Inspection

Agency.

A 20-person expert group from Canada, the United States and Mexico is overseeing the project with hopes to alleviate any delays or costs resulting from conflicting test results. A successful model for harmonizing seed diagnostics will also avoid

unnecessary retesting and could be used as a reference for future harmonization work on seed pests.

McAllister expects that a Risk Management Decision document will be distributed in the fall of 2022 for further stakeholder consultation. She anticipates

minimal impact outside of seed imports from the U.S. Most importantly, she says the CFIA intends to recognize the United States – Canada Greenhouse-Grown Plant Certification Program as an acceptable systems approach when a ‘ToBRFV pest module’ is in place.

Research and regulatory testing are active at the CFIA’s Charlottetown Laboratory.

- Developing molecular and amplicon-based metagenomics tools for the detection of viruses and viroids in tomato plants and botanical seeds (2019-2023)
- Developing and validating high throughput sequencing and PCR-

based diagnostic procedures for the detection of newly emerging viruses and *Pospiviroids* in tomato plants and seeds (2022-2025).

- Detecting ToBRFV in tomato and pepper seeds to validate ToBRFV testing procedures (February 2022)
- Participated in the NAPPO seed testing project to validate RT-PCR/RT-qPCR for detecting ToBRFV in tomato and pepper seeds
- Regulatory testing: import surveillance and export certification of tomato and pepper seeds in addition to investigation and confirmatory testing



# ONWARD

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FOCUS: GREENHOUSE INNOVATION

Joint venture to examine potential for wind to power greenhouses

The University of Windsor is partnering with the Ontario Greenhouse Vegetable Growers (OGVG) and Kruger Energy to investigate using existing wind farms to power and heat greenhouses in southwestern Ontario.

Dubbed the HIGH Energy project, an acronym for Hydrogen Integrated Greenhouse Horticultural Energy project, the new joint venture proposes using wind turbines to generate clean electricity and hydrogen for use in the area’s \$2 billion greenhouse sector.

“Farmers are looking to expand operations and increase their access to low carbon energy solutions,” said Aaron Coristine, OGVG’s manager of science, regulatory affairs, and government relations. “This joint venture will construct pathways to achieve this with novel adaptations of clean, proven energy technologies.”

Southwestern Ontario boasts the highest concentration of greenhouses in North America with more than 3,500 acres under glass. The greenhouse sector has been rapidly growing by about six to seven per cent annually, but

further expansion is thwarted by a lack of locally available energy. Wind farms already standing in the area could provide a solution, delivering electricity and hydrogen directly to greenhouses.

Kruger Energy currently generates 200 megawatts of wind energy in southwestern Ontario, which is enough to potentially power approximately 60,000 homes.

“We’re pleased at the prospect of an additional market for our product,” said JJ Davis, Kruger Energy’s general manager of Canadian operations.

“Kruger is a leader in sustainability and strategic asset management which will enable us to reliably supply clean energy to the vegetable greenhouse sector with our long-established wind farms.”

The project proposes building a commercial facility that takes locally captured wind energy,



Rupp Carriveau

turning it into electricity and hydrogen for greenhouses that grow tomatoes, peppers, cucumbers, strawberries, and other crops. The first step of the project is to do the economic and regulatory modeling to make the business case for the venture.

“There will be a number of firsts in this project,” said Rupp Carriveau (BASc 1994), an

engineering professor and director of the Environmental Energy Institute at the University of Windsor, who is leading the modelling efforts.

“We anticipate a lot of learning in both the engineering and policy spaces,” he said. “The HIGH Energy project excites us. Using proven existing assets in a new way to improve things or

solve a problem, sounds practical and resourceful. We love solutions like that.”

This project aligns with the direction of senior levels of government in meeting the energy and food needs of communities across Ontario, and indeed, Canada.

Source: University of Windsor.

It’s GO! time for the Greenhouse Conference

Back in person for the first time in two years, the Canadian Greenhouse Conference is much anticipated for October 5 and 6, 2022 in Niagara Falls.

“The Canadian Greenhouse Conference is moving ONWARD by welcoming attendees, speakers, and exhibitors back for 2022,” says executive coordinator, Carol Pupo. “It’s an event not to be missed.”

There are 200-plus exhibitors registered and 50 speakers invited. There will be no pre-event bus tour.

**October 5 highlights include:**

- Water management
- Disease management
- Lighting and abatement
- IPM: New pests, old tricks
- Energy
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GREENHOUSE GROWER

# Nature Fresh Farms launches Snack Supplies



With the start of the school year imminent, Nature Fresh Farms is introducing Snack Supplies for busy parents who want to fuel their families with convenient, nutritious snacks to get them through the day.

“We wanted to bring something to market that was a fun, high flavour alternative to traditional sugary snacks, that kids and parents could be excited about,” explained Jane Rhyno, vice president,

marketing and category development, Nature Fresh Farms, Leamington, Ontario.

Available in four-ounce varieties including Medley Tomatoes, Tiny Cocktail Cucumbers and Mini Sweet Peppers, Nature Fresh Farms Snack Supplies grab-and-go snack bags include a three-pack of collectable stickers, plus a kid-friendly game such as a word search, maze, or crossword puzzle with every package.

“When we were discussing packaging, our team reminisced about the games on the back of cereal boxes and the toys inside them that used to draw us in as kids. We thought these same concepts could work for our Snack Supplies,” recalls Rhyno, adding that the team designed the packaging to be bright, colourful, and school-themed to get kids excited about picking healthy snack options for their lunches.

For families looking for snack alternatives that will fuel them through an entire week, Nature Fresh Farms Snack Supplies also offers one-and-a-half-pound top seal options in both Medley Tomato and Red Grape Tomato varieties, which can be easily portioned for a week’s worth of lunches.

*Source: Nature Fresh Farms August 9, 2022 news release*



# Funding for new greenhouse model for Québec

Together, the Government of Canada and provincial government of Québec have pledged \$1,956,876 in funding to Université Laval and the École de technologie supérieure to support research in the greenhouse sector in Québec.

The funding is being provided through the Agri-Food Innovation Partnership Program under the Canadian Agricultural Partnership.

The investment will help establish two research and teaching chairs at Université Laval and develop a new greenhouse model, specific to Québec, with sustainable materials, by the École de technologie supérieure.

“By extending our production season and diversifying our product offering, we are working towards sustainable food autonomy for Québec,” said André Lamontagne, minister of agriculture, fisheries and food. “The way to achieve this, however, calls for innovation and



developing new ways of farming. Greenhouse cultivation is a way forward to feed Quebecers, and our government is proud to support research in this sector.”

The Chair of Teaching Leadership in the Optimization and Management of Greenhouse Energy and Climate in Québec is dedicated to greenhouse energy

management and providing training to engineers, agronomists, advisors and producers through innovative knowledge transfer.

The Research Chair in Greenhouse Plant Protection is to create a translational research program focused on diseases and pests present in Québec greenhouses.

The main objective of the École de technologie supérieure project is to develop a new Québec greenhouse model for small and medium-sized greenhouse enterprises with sustainable materials produced from a circular economy perspective. Different covering. Materials and structures will be studied.

In May 2021, the Agri-Food Innovation Partnership Program granted \$500,000 for research by the Department of Mechanical Engineering at Université Laval on the efficient use of electricity for greenhouse heating and lighting.

*Source: Agriculture and Agri-Food Canada June 22, 2022 news release*

# Ever Tru Farms launches 15-acre expansion

Ever Tru Farms is launching Phase Two of its expansion with 15 more acres (653,000 SF), bringing the farm to a total of 40 acres of production. The company started planting in early August, with harvesting coming near the end of September for the expanded facility.

“Ever Tru Farms has been looking forward to the farm’s expansion since inception,” says Paul J. Mastronardi, director of

sales for Ever Tru Farms. “We have seen positive feedback from customers and consumers and are excited to grow the farm to meet that demand.”

Ever Tru strawberries are grown year-round with supplemental lighting to achieve consistent production, especially during the winter season.

“Partnering with local Canadian retailers and U.S. retail partners, we can deliver our

berries within 24 hours to ensure that consumers can rely on our premium berries year-round,” states Mastronardi. “Consumers won’t have to sacrifice quality or taste due to the consistent supply Ever Tru Farms provides. Indoor growing allows us to be unaffected by harsh natural elements and weather conditions that impact traditional outdoor farms.”



*Source: Ever Tru Farms August 8, 2022 news release*



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# Ontario Berry Grower

Ministry of Agriculture,  
Food and Rural Affairs

Ontario

## Management of raspberry borers

HANNAH FRASER  
& ERICA PATE

If borers are hobbling the health of your raspberry canes, take action this fall (and again next year) to help reduce pest pressure going forward.

There are two types of borers attacking raspberries and other *Rubus* species in Ontario: raspberry crown borers (moths) and cane borers (beetles). In both cases, it is the larval stage that causes economic injury by killing canes and entire plants. Management strategies vary by pest, so the first step involves identification.

Red-neckedcane borer, one of two beetle pests, is a small (6-7 mm long), slender metallic insect with a copper-coloured area behind the head. You might find adult red-necked cane borers feeding on the leaf margins. The females lay their eggs under the bark in the lower portion of primocanes. Larvae are white, legless, with a flattened and enlarged head region. They tunnel in a spiral fashion, damaging the tissues, with a resulting swelling or gall. Bark covering the galled areas will often split. Canes become dried and brittle above the swellings and are easily blown over. Injury is most frequently observed in late summer, fall or winter when infested canes break off.

Infested canes are fairly obvious during scouting, and one of the most effective management strategies is to remove and destroy them before the new adults emerge in the spring. There is one generation per year. There are no insecticides labeled for red-necked cane borer in Canada, but the adults are likely knocked back by products used to manage other pests.

Did you find canes with wilted tips this summer? And did these have two rows of zipper-like punctures below the wilting point (Figure 1)?

It was probably injury caused by another beetle, the raspberry cane borer. The adults are slender, black, with a yellow-orange thorax (area behind the head) and relatively long antennae. Females lay eggs in the top 15 cm of new canes. They chew two rows of punctures around cane, below and above egg-laying point. Why do they take this extra step? Because it helps ensure successful egg hatch and facilitates downward

movement of the larva. The larvae hatch mid-summer and burrow down into the cane, making their way to the base, near the roots. The feeding tunnel should be obvious if you cut into the cane slightly below the puncture holes and slice the cane vertically.

Although Altacor (*chlorantraniliprole*) is registered for use as a foliar spray to target the adults, raspberry cane borer management usually doesn't require insecticides. Save your money, use the product where it's really needed, and focus on removal of infested canes – which you need to do anyway. During the summer, identify wilting tips and cut canes about 10 cm below the punctures to remove any larvae. It's possible to remove infested canes in the fall, but you will have to remove the entire cane before the larva makes its way to the base to overwinter and where it will cause even more injury next year. This is very rarely an economic pest of raspberry if caught early.

Now onto a much more challenging pest.

Raspberry crown borers are members of the clear-winged moth family, many of which are excellent bee or wasp mimics. Not just in terms of looks either. Even their flight patterns are more bee-like (hover and dart) than moth-like (flutter like a butterfly). These features are important as a survival tactic, because the adults are active during the day, and resembling a stinging insect likely helps them from predation. It also makes them easier to identify. Raspberry crown borer moths have a wingspan of 25-30 mm and look like a big furry yellow-jacket, with alternating black and yellow stripes on the abdomen and thorax.

Females lay reddish-brown eggs singly on the underside of leaves (laying about 200 in her lifetime). The egg hatches several weeks later, and the larva migrates to the base of the canes, where it either excavates a small cavity or finds a protected place in the bark to overwinter. Early the following spring, the larva moves through the cambium and into the crown, where it continues to feed through another entire year. The larva spends most of its two-year life cycle protected within the plant, feeding on the crown, at the base of the canes and larger roots. In other words, raspberry crown borer has a two-year life cycle and is protected

from insecticides over most of that period. The longer a field is in production, the higher the risk, especially if the pest is left unmanaged. High tunnel, soilless production are unlikely to be at risk for infestation.

The first step in control is to recognize raspberry crown borer before it causes significant damage. Watch for wilting or dying primocanes and areas of weak growth in the spring.

By early summer, infested canes will pull out easily from the crown with a sharp tug. Dig up the crown, clip off the canes and cut through the crown to look for frass, larvae, and tunnelling.

Destroy infested canes and crowns in the late summer and fall.

Timing really is everything in terms of managing raspberry crown borer. And we're in one of two windows of opportunity right now, in the early fall. You'll have another opportunity again in the spring, and we recommend targeting this pest again then. New adults emerge in the late summer to early fall, with females laying eggs into late September. If we had a reliable pheromone trapping system and a degree day model, it would be easier to track their emergence and activity, helping us to time insecticide applications targeting hatching eggs. Unfortunately, published research from B.C. indicates the pheromone is unstable under field conditions.

Management involves identifying infested plants and the timely application of insecticides. Since raspberry crown borer has a two-year life cycle and the larvae are at different stages of development at any given time, you need to target the pest over multiple years. This means fall applications to intercept newly hatched larvae as they move down the cane to the base of the crown and again the following spring before they burrow into the crown. You will need to repeat this process over two consecutive years for effective control.

There are few remaining insecticides labelled for raspberry crown borer in Canada. Altacor will control hatching eggs and young larvae. Research by McKern et al. (2006) in Arkansas indicated excellent control (100%) using Altacor drenches with early November timing. We recommend applying the first spray in late August or early September when eggs are hatching, ensuring good coverage of the whole plant.



Figure 1 Damage from raspberry cane borer



Figure 2 Decline from raspberry crown borer



Figure 3 Raspberry crown borer pupa found in the crown.

Follow this with a second application in early to mid-October, using a high-volume spray to the base of the cane to target overwintering larvae. Spring applications (April) target the larvae before they move into the crown. Diazinon 50 EC / 500 E (1 application per year) should be applied using a high volume of water to drench the crown area when the new canes reach about 10 cm in height. Summer applications of entomopathogenic nematodes such as *Steinernema feltiae* that actively hunt raspberry crown borer (even once in the crown) may help to reduce numbers (Capinera, 1986); soils

are too cold in the spring for these predators to be effective (McKern et al., 2006). Nematodes have not been evaluated in Ontario for management of raspberry crown borer.

For more information and pictures of these pests, visit <http://www.omafra.gov.on.ca/IPM/english/raspberries/insects/index.html>

*Hannah Fraser is entomologist – horticulture and Erica Pate is fruit crop specialist for OMAFRA.*



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## BITS AND BITES

# U.S. Apple Association predicts slightly smaller crop



The U.S. apple outlook, released August 18, 2022, predicts that at the varietal level, Gala is expected to retain the top spot with almost 46 million bushels produced, accounting for around 18 per cent of the U.S. apple market. Rounding out the top five are Red Delicious (34 m bu), Fuji (26 m bu), Honeycrisp (25 m bu) and Granny Smith (24 m bu). Photo by Glenn Lowson.

The U.S. Apple Association released its annual outlook report on August 18 at its annual conference in Chicago, predicting a smaller crop than the five-year average. Washington, the country's biggest apple-producing state, will be down from 120 million boxes for the 2021-2022 season to somewhere between 108 to 112 million fresh boxes for 2022-2023 season.

The super heat dome of 2021 damaged return bloom in this year's spring season. An unusually cold spring in 2022 resulted in less than perfect pollination, denting overall fresh apple volumes.

US Apple's "Industry Outlook 2022" provides the most up-to-date data and analysis on U.S. and global apple production, utilization and trade. Authored by US Apple director of industry analytics Chris Gerlach, the report takes an in-depth look at the many trends and forces to shape the U.S. apple industry.

### Production

According to a US Apple analysis of Agriculture Department data, total U.S. apple production for the 2022/23 CY will be more than 10.7 billion pounds or 255 million bushels. This represents a 2.7% increase compared to last year's production figure and is 3.5 per cent less than the five-year production average.

Gerlach noted that these figures are more comprehensive than USDA data, which only look at the top seven apple-producing states. "We've analyzed

the production from states outside of the top seven and added that back to USDA's figure," explained Gerlach.

### Varieties

At the varietal level, Gala is expected to retain the top spot with almost 46 million bushels produced, accounting for around 18 per cent of the U.S. apple market. Rounding out the top five are Red Delicious (34 m bu), Fuji (26 m bu), Honeycrisp (25 m bu) and Granny Smith (24 m bu)."

In general, the varieties on the rise include Honeycrisp, Pink Lady/Cripps Pink and Cosmic Crisp. Fuji, Granny Smith and Rome varieties have remained relatively consistent compared to 2017/18 production volumes. Varieties on the decline include Golden Delicious, Gala and Red Delicious.

"On the positive side, Honeycrisp production has increased by 48 per cent or eight million bushels in the past five years," said Gerlach. "Conversely, Red Delicious decreased by 41 per cent or 24 million bushels during the same period."

### Trade

With respect to fresh apple imports and exports, the U.S. still retains a healthy positive trade balance. In the 2021/22 CY (July to June), the U.S. exported more than 38.5 million bushels of fresh apples while only importing around 6.3 million bushels. These net exports (32.2 m bu) are valued

at almost \$730 million.

"On a year-over-year basis, the balance of trade has declined with respect to both quantity and value," said Gerlach. "On the quantity side, imports have increased by 20 per cent over 2020/21 CY levels while exports have declined. On the value side, exports have increased marginally, but imports are up almost 30 per cent. This means that in the 2021/22 CY, the U.S. was bringing in a greater amount of more expensive fruit and sending out a smaller amount of slightly more expensive fresh apples."

### Newton Database

Gerlach also introduced the Newton Database & Dashboard. Several years in the making, Newton is a one-stop-shop for apple-related statistics. From annual production to monthly storages, Newton gives users the ability to view preset reports or create custom queries for download. Newton's dashboard also keeps users up to date on the latest trends in apple prices and trade.

"We are extremely excited to launch this unique US Apple member benefit," said Gerlach. "Newton consolidates data from US Apple and multiple USDA sources to one place giving users up-to-date information on apple production, utilization, trade, prices, storages, movement, economic impacts and more."

Source: US Apple August 18, 2022 news release

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CROP PROTECTION

# Resilient Tomato Virus frustrates growers



CHRIS DUYVELSHOFF

Eight years after its discovery, tomato growers are still frustrated with a resilient virus that so far has proven difficult to manage. The rapid spread of tomato brown rugose fruit virus (ToBRFV) across the world has caused devastation in tomato greenhouses from Canada to China.

First observed in tomato plants in Israel in 2014, ToBRFV was formally reported as a new viral disease by researchers in Jordan in 2016. European observations followed shortly afterwards in several countries. By fall of 2018, the virus was reported in North America at a California greenhouse facility. It is likely ToBRFV was present soon afterwards in Canada with the first reports in 2019. The virus has now been officially recorded in more than 20 countries globally, with researchers suspecting its distribution is far larger than records indicate.

The symptoms of ToBRFV range widely from different growing regions, growing systems, and tomato varieties around the world. The virus may be hardly noticeable on foliage while it has also been reported to kill plants outright. It is the impact on the fruit however that causes the most economic damage. Tomato fruit from infected plants are often blotchy, pale, ripen unevenly, malformed, and can be undersized. Up to 100 per cent of fruits from infected plants can be rendered unmarketable.

Greenhouse tomato crops are most affected by ToBRFV. It has not been an issue with field-grown tomatoes in Canada, possibly due to their much shorter growing cycle and reduced human contact.

Categorized as a type of



Dr. Adrian Fox, senior plant virologist, Fera Science Ltd., United Kingdom, was one of a dozen or more international researchers who convened in Toronto, Ontario for the Tomato Brown Rugose Fruit Virus Research Symposium, August 17-18, 2022. It was sponsored and organized by the Ontario Greenhouse Vegetable Growers, the Ontario Fruit & Vegetable Growers' Association, Flowers Canada, the Ontario Ministry of Agriculture, Food and Rural Affairs, and the Government of Canada.

“  
Once ToBRFV is present in a greenhouse, it can be found everywhere –  
from the roof, on the walls, to the floor.  
”

~ DR. ADRIAN FOX

tobamovirus, ToBRFV is related to other commercially important viruses such as the tomato mosaic virus (ToMV). Tomato growers have had a management tool for genetic resistance to these previous tobamoviruses such as ToMV in the form of the Tm-2<sup>2</sup> gene. Varieties that incorporated this gene have had effective protection from these viruses for more than 50 years. But it fails to protect from ToBRFV.

Adding to the difficulty of managing ToBRFV, researchers have discovered that the virus is exceptionally stable in the environment. While viruses are considered obligate parasites and need a live host to reproduce, trials have found ToBRFV can survive months or even years on plastic, metal, or concrete surfaces and still remain infectious. This stability is a key factor in why managing this virus has proved so difficult.

Transmission of ToBRFV can include seed which is a key first pathway to infection of a new crop. Researchers have evaluated various seed treating methods with some good results, however, seed washes may not be completely perfect. Some commercial greenhouses now invest significantly in their own seed testing of new seed lots prior to propagation to detect any presence of the virus. It may only take one infected plant to contaminate an entire crop so avoiding infection in the first place is the best outcome.

Once ToBRFV is present in a greenhouse, it is primarily spread through mechanical contact by employees from their activities on each plant such as training, pruning and harvesting. This may be upwards of 150 contact events per plant each growing cycle. In an infected greenhouse, researchers have demonstrated

ToBRFV can be found everywhere. From the roof, walls, ceiling, floor to employee clothing, door handles, and break rooms. Virus has been recovered from computer keyboards and mice to the washrooms.

Sanitation is critical to avoid further movement of the virus in the greenhouse. Researchers have evaluated numerous disinfectants and there are effective solutions being implemented. Fully eradicating every virus particle from an infected greenhouse remains elusive. Despite some growers' best efforts to sanitize everything, re-infection has occurred.

One method of dealing with ToBRFV is changing crops. Greenhouses that previously grew tomatoes have been switched to cucumbers, peppers, strawberries, lettuce, eggplant, or cannabis in an effort to avoid severe crop losses. Customers will still be

looking for tomatoes however, so avoiding the crop all together is not a permanent fix. With complete eradication of the virus challenging, growers are going to need tools to be able to cope with ToBRFV potentially being in the environment.

More permanent solutions are in development. Private and public breeders have been tirelessly screening domesticated and wild plant material for ToBRFV resistance for several years. Fortunately, resistant lines have been discovered. Major commercial seed companies are already or will be shortly offering ToBRFV-resistant tomatoes in their catalogues. However, the genes conferring resistance to this virus are not well understood and will take further years to investigate. Incorporating ToBRFV resistance into all popular greenhouse tomatoes will take yet further breeding efforts. It is also unclear how the fruit of resistant varieties – which may potentially still host small quantities of the virus without symptoms – will be accepted by phytosanitary screening standards in international trade.

Work is also underway to develop a ToBRFV-specific vaccine. Plant vaccines already exist for pepino mosaic virus in tomato where a mild form of the virus is used to infect young tomato plants. Vaccinated plants then have protection against more severe forms of the virus that plants may be exposed to. A similar strategy is under development for ToBRFV but this is likely some years away from receiving regulatory approval.

There is no single silver bullet available right now to address ToBRFV. The best advice from experts in the field is an integrated approach that layers several reasonably effective measures including clean seed and sanitation with future genetic resistance tools and potentially a virus-specific vaccine. The understanding of ToBRFV continues to evolve rapidly but further losses are likely until these comprehensive tools are available.

*Chris Duyvelshoff is crop protection advisor, Ontario Fruit & Vegetable Growers' Association.*



CROP PROTECTION

# Purespray Green spray oil label expanded



Signs and symptoms of codling moth larvae infested apple. Note the brown material (frass) being pushed out from larval entry holes and the dark red discolouration about each hole.

JOSH MOSIONDZ

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion registration for Purespray Green spray oil for management of numerous insects and powdery mildew on various crops and crop groups in Canada. Purespray Green spray oil was already labeled for management of insects and powdery mildew on a wide range of crops in Canada. These minor use proposals were submitted by the British Columbia Ministry of Agriculture, Food and Fisheries (BCMAFF); Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA); and Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ), and Agriculture and Agri-Food Canada's Pest Management Centre (AAFC-PMC) as a result of minor use priorities established by growers and extension personnel.

The following is provided as an abbreviated, general outline only. Users should be making insect and disease management

Crop(s)	Target	Rate (L product / specified L of water)	Application Information
Crop Group 4-13 (Leafy Vegetables) ***	Deterrence of feeding by Aphids	10L in 1000L of water	Ground application only. Begin when aphids appear. Apply at 7-14 day intervals. Maximum 8 applications per year. 1 day PHI
Crop Group 13-07 (Small fruit and berries) ***	Control of Scale	20L in 1000L of water	Dormant to Green tip up to 1 cm green or first leaf. Foliar spray using ground application equipment only. For Lecanium Scale in highbush blueberry, apply one application as dormant spray in late winter. Use 1000L/ha for small bushes – 1500L/ha for large bushes. Maximum of two dormant applications per year if summer spray applications are expected during the growing season. Apply at 7 – 14 day intervals.
Croup Group 25 (Herbs) (field and greenhouse) **	Suppression of powdery mildew ( <i>Podosphaera spp.</i> ) on crops that are susceptible to these diseases; suppression of mites; deter the feeding of aphids	10L in 1000L of water	Mites, aphids: begin when mites and/or aphids appear. Minimum reapplication interval of 7 days. Powdery mildew: begin when conditions are favourable for disease development and/or when first symptoms appear. Reapplication interval of 7 – 14 days.
Crop Group 26 (Spices) (field and greenhouse) **			
Apples*	Control of Codling Moth	10L in 1000L of water	For codling moth overwintering, 1st summer and 2nd summer generations: apply at or just prior to first egg hatch and during egg laying. Apply every 7-14 days depending upon level of pest pressure. Do not exceed more than 10 L oil per ha per application for summer treatments. For apples and pears do not use oil within 14 days before or after captan fungicide. Do not apply as dormant spray.
Pears*			
Grapes *	Suppression of Leafhopper Nymphs	10L in 1000L of water	Eight (8) summer spray applications with a 10-14 day interval. Begin applications when eggs or small nymphs are present. Thorough coverage is essential. PHI is 14 days for table grapes as oil will remove bloom on grapes. On grapes, do not tank mix oil and copper more than once per season. Do not use copper and oil together with fruit present. Do not use oil within 14 days before or after captan fungicide.
Wasabi ****	Aphids	6.8 – 9L in 900L of water	Begin when aphids appear. Apply at 7 day interval. Pre-Harvest Interval (PHI): 14 days

\* - submitted by BCMAFF, \*\* - submitted by OMAFRA, \*\*\* - submitted by MAPAQ, \*\*\*\* - submitted by AAFC-PMC

decisions within a robust integrated pest management program and should consult the complete label before using Purespray Green spray oil.

TOXIC to aquatic organisms. Observe BUFFER ZONES specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats avoid application to areas

with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body. For terrestrial uses: Do not apply directly to water, or to areas where surface water is

present or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Follow all other precautions, restrictions, and directions for use on the Purespray Green spray oil

label carefully.

For a copy of the new minor use label your local crop specialist, regional supply outlet, or visit the PMRA label site [www.hc-sc.gc.ca/cps-spc/pest/registrant-titulaire/tools-outils/label-etiq-eng.php](http://www.hc-sc.gc.ca/cps-spc/pest/registrant-titulaire/tools-outils/label-etiq-eng.php)

Josh Mosiondz is minor use coordinator for OMAFRA, Guelph.

# Serene herbicide label expanded

JOSH MOSIONDZ

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion registration for Serene herbicide for control or suppression of labelled weeds in various crops and crop groups in Canada. Serene herbicide was already labeled for management of weeds crops in Canada. These minor use proposals were submitted by The Ontario Ministry of Agriculture, Food, and Rural Affairs as a result of minor use priorities established by growers and extension personnel.

The following is provided as an abbreviated, general outline

only. Users should be making weed management decisions within a robust integrated weed management program and should consult the complete label before Serene herbicide.

Toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

Follow all other precautions, restrictions, and directions for use on the Serene herbicide label carefully.

For a copy of the new minor use label contact Josh Mosiondz, provincial minor use coordinator OMAFRA, Guelph (226) 971-3407, your regional supply utlet, or visit the PMRA label site <http://www.hc-sc.gc.ca/cps-spc/pest/registrant-titulaire/tools-outils/label-etiq-eng.php>

Josh Mosiondz is minor use coordinator for OMAFRA, Guelph.

Editor's note: For chart in directions for use, go to <https://thegrower.org/index.php/crop-protection>





## Agro-K's Science Driven Nutrition™; Growing Higher Valued Apples by Maximizing Fruit Color

Every season, apple growers work overtime to produce an abundant harvest of delicious, well colored fruit. Utilizing Science-Driven Nutrition™ during the limited crop windows, when foliar nutrient applications will be most effective, is a key part of maximizing yield year after year. The time from color break to post-harvest is a grower's final opportunity to impact the crop's nutritional needs each season.

Fruit color is the direct result of optimizing leaf development and function starting at tight cluster through to harvest. Zinc is a primary nutrient for growing the bigger leaves that drive apple sugar production. In turn, those sugars—assisted by potassium and phosphorous—boost the production of anthocyanins, the pigment that gives apples their intense red color. A deficiency in either nutrient late season can negatively impact fruit color. Both Agro-K's **Potassium Finishing Solution** and **Agrobest 9-24-3** are premium foliar products that can support this natural process.

Growers that applied seaweed products earlier in the season will want to reduce their usage as harvest approaches. Unless they are actively attempting to delay maturity, seaweeds inhibit ethylene production and slow the ripening and color process.

After the harvest, zinc and boron support bud overwintering and new bud health. Magnesium helps to set the stage for early leaf function in the spring, jumpstarting the growth cycle again next season. Agro-K's **Top-Set** and **Zinc+5 DL**

can be applied at the same time to address these nutritional requirements.

Agro-K sets growers up for success from fruit color through post-harvest by arming them with the knowledge, programs and products they need to make smart decisions. This process begins with the **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 how Agro-K can help your apple crop flourish throughout the season, visit [www.agro-k.com](http://www.agro-k.com).*

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**Science-Driven Nutrition™**