THE GROWER

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RESEARCH CAPACITY

The perfect storm in accessing crop protection products

In recent years, the mergers of global crop protection companies promised robust research and development pipelines. But the reality is that fewer products and label extensions will come to horticulture. That's because there's a bottleneck of reduced trial capacity at the third-party Pest Management Centre in Ottawa. Apple and blueberry grower Charles Stevens, Wilmot Orchards, near Newcastle, Ontario outlines the challenges ahead. Photos by Glenn Lowson.

KAREN DAVIDSON

Clusters of apples, big enough to cup your hands around, are no accident. They are the result of hand-thinning heavy crop loads in the spring or spraying at bloom time to inhibit pollen germination. These sprays must be applied precisely between 80 per cent petal fall and a fruitlet size of 16 mm.

Because apple fruitlets can double in size in four to five days, there's a critical window on whether and when to apply a thinning product on which varieties. Empty the pockets of an apple grower and you'll find some treasure: a caliper to measure fruitlets. To this day, apple thinning is equal parts science and art.

The COVID-19 crisis has revealed several fissures in all crop management systems. Difficulties continue in accessing agricultural workers to perform many seasonal and time-sensitive tasks. In the specific example of apples, if manual labour is not available, then growers must totally rely on chemical thinning aids.

But as Charles Stevens points out, access to new products such as apple thinners is also constrained under reduced capacity at the Pest Management Centre (PMC) based in Ottawa, Ontario. Given the mandate of the agency, its most recent spending figures seem meagre at $8.9 million for the 2020-2021 fiscal year. Consider that the agency – under the auspices of Agriculture and Agri-Food Canada -- is asked to perform trials for new minor use crop protection products and also mitigate regulatory challenges.

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AT PRESS TIME...

U.S. ITC finds no injury from blueberry imports

On February 11, 2021, the United States International Trade Commission (ITC) concluded that the import of Canadian blueberries – fresh, chilled or frozen -- does not pose a threat to U.S. blueberry producers.

The BC Blueberry Council, representing 600 growers, is pleased with the ruling following the commission's review of the evidence. Chair of the BC Blueberry Council Board, Jack Bates, notes, "Now our members can focus on the growing year ahead, instead of being concerned with trade penalties."

John Tentomas, president and CEO of Nature's Touch, one of BC's largest exporters of blueberries into the U.S., shares his thoughts: "Blueberries, both cultivated and wild, are very important industries that are fulfilling health and wellness needs of consumers in both the U.S. and Canada. We face the same opportunities and challenges and have managed them together, as true industry and government peers. We are thankful that this decision continues to reflect on this partnership."

Parm Bains, president, Westberry Farms, says "Getting a confirmation from the authorities proves the position we have always stood by. We look forward to continuing to strengthen business ties and work closely with the United States High Bush Blueberry Council (USHBC) and blueberry buyers and brokers in promoting blueberries in North America."

These sentiments were echoed by Ron Lemaire, president of the Canadian Produce Marketing Association.

"The fresh produce sector is deeply integrated across North America," said Lemaire. "We are hopeful that today's USITC finding will lead to similar findings in the Commission's ongoing fact-finding investigations."

The USITC is currently looking at imports of bell peppers, strawberries, cucumbers and squash. Its investigation is expected to end this spring.

Read the United States International Trade Commission news release here: https://bit.ly/3rHtQKU

Source: BC Blueberry Growers/CPMA February 11, 2021 news releases

NEWSMAKERS

Bill George Jr.

Congratulations to grape grower **Bill George Jr.** who was elected for a third one-year term as chair of the Ontario Fruit and Vegetable Growers' Association (OFVGA) for 2021. Apple and blueberry grower **Charles Stevens** remains vice-chair. Completing the management committee are **Shawn Brenn** (potatoes), **Norm Charbonneau** (small fruit/berries) and **Mike Chromczak** (asparagus).

The OFVGA board of directors is comprised of **Jan VanderHout** (greenhouse); **Fred Meyers** (tender fruit); **George Gilvesy** (greenhouse); **Glen Gilvesy** (ginseng); **Kenny Forth** (fresh vegetable – other); **John Hambly** (fresh vegetable – muck); and **Ronald VanDamme** (processing vegetables).

OFVGA section chairs include **Ken Forth** (labour); **Brian Gilroy** (energy, property, infrastructure and food safety), **Charles Stevens** (crop protection); **Jan VanderHout** (environment and conservation) and **Mike Chromczak** (safety nets).

Berry Growers of Ontario elected its 2021 board of directors. **Tom Heeman** remains chair, while **Alex Chesney** and **Dalton Cooper** have been elected for the first time. The board is completed with **Morris Gervais**, **Dusty Zamecnik**, **David Philips**, **Matt Tigchelaar** and **Nick Vranckx**.

Congrats to **Dr. Laura Van Eerd**, professor at the University of Guelph Ridgetown Campus. She's one of two winners of the 2021 Soil Champion Awards presented by the Ontario Soil and Crop Improvement Association for her work on cover crops and how they influence carbon storage and soil health.

John Mullinder has retired after 30 years as executive director, Paper and Paperboard Packaging Environmental Council. **Rachel Kagan** assumed the leadership mantle on February 1.

The Ontario Greenhouse Vegetable Growers (OGVG) have hired **Aaron Coristine** for the role of manager, science, regulatory affairs and government relations. Born in Windsor and raised in Chatham-Kent, he graduated from Wilfrid Laurier University, with his Honours Bachelor of Science (HBSc.) in biology and chemistry. He additionally completed graduate-level education, earning his Master of Science (MSc.) Degree in Integrative Biology, specializing in Applied and Environmental Microbiology.

The Ontario Agricultural Hall of Fame will be honouring **Doug Williams** (1919 – 2019) at its virtual awards ceremony on June 13. He was raised on a fruit and vegetable farm in Ottawa South, later joining the fruit and vegetable inspection services in western Ontario with responsibility for the Tomato Grading Inspection Station in Leamington. He was also the Chief Inspector of Farm Products and Director of the Inspection Branch with the Ontario Ministry of Agriculture and Food. Williams chaired the Ontario Food Council which, under his leadership, developed and expanded international markets for Ontario produce. His work to develop a "Festival of Food" at the Royal Agricultural Winter Fair in Toronto was the catalyst for the birth of Foodland Ontario. His slogan "Good things grow in Ontario" was copyrighted in 1979 and is still being used to market Ontario fruit and vegetables. He was later chair of the Ontario Food Terminal. Williams is one of seven to be inducted in 2021.

Appointments have been made to the Canadian Food Policy Advisory Council which will meet for the first time on March 4, 2021. Co-chairs are **Evan Fraser**, director, Arrell Food Institute and **Sylvie Cloutier**, head of the Conseil de la transformation alimentaire du Québec. Some of the 23 members include **Larry McIntosh**, president and CEO, Peak of the Market; **Mary Robinson**, president, Canadian Federation of Agriculture; **Lori Nikkel**, CEO, Second Harvest; and **Julie Dickson Olmstead**, managing director, public affairs and corporate social responsibility for Save-On-Foods. The members report to **Marie-Claude Bibeau**, federal minister of agriculture and agri-food with advice on current and emerging issues.

COVER STORY

The perfect storm in accessing crop protection products

Continued from page 1

"The Pest Management Centre is under siege," says Stevens. "The Canadian Horticultural Council is requesting a $5.3 million increase in PMC budgets just to keep up with inflation from the last decade."

The pressure is intense for industry to winnow the A list of priorities because testing capacity was crunched from 37 projects to 10 projects in 2020. The choices must be spread between trials in weeds, entomology, pathology and biologicals. Furthermore, testing capacity is no longer available at two Canadian research centres now closed in Bouctouche, New Brunswick and Delhi, Ontario.

"Data is the new oil," quips Stevens, as he surveys his orchard. "We need data to analyze grower use patterns, when growers use and how growers use crop protection products. We need better monitoring tools to evaluate properly."

Jason Smith, a British Columbia blueberry grower, adds more context. He's the chair, Canadian Horticultural Council (CHC) Crop Protection Working Group. He explains that the overall registration system managed by Health Canada's Pest Management Regulatory Agency (PMRA) is responsible for managing re-evaluations as well as registrations. What's needed to apply more realistic re-entry periods are trials with workers using gloves. A Post-Application Exposure Working Group chaired by CHC is working on this need, including representatives from the PMRA, PMC and CropLife Canada. This is the science that's needed to reflect the practical use patterns of crop protection materials. These trials will cost millions of dollars to complete.

"These studies are just as important to find out safe re-entry levels," Smith says. He offers the example of the recent registration of Danitol insecticide which knocks down a number of insects, including spotted wing drosophila. The label authorizes product use with a re-entry interval of three days for machine harvesting but 15 days for hand-harvesting. These are unworkable parameters in a practical harvest setting of different berry varieties maturing at different times.

In briefings by the Pest Management Centre earlier this year, horticultural representatives learned that budgets for the reduced risk pesticide program have been sliced from $1.2 million to $210,000.

"As blueberry growers in British Columbia, we recognize that the public wants more biologicals and we believe this is a great thing for integrated pest management," says Smith. "But biologicals don't always provide complete control and we need to learn how to integrate these products into our crop protection programs. There's still a lot of work to do and things to learn to get the most benefit from these products."

A perfect storm is developing in the near term for access to both chemical and biological crop protection products for horticultural growers in Canada. For lack of a few million dollars, the testing capacity for all new products will be strangled. The apple and blueberry examples are testament to how diminished regulatory capacity will affect day-to-day operations.

The Grower goes "Behind the Scenes" with Charles Stevens, chair, crop protection section, Ontario Fruit and Vegetable Growers' Association. The apple grower shares his analysis of the challenges ahead in Canada's regulatory system for crop protection. This series is sponsored by BASF Agricultural Solutions.

The technology and labour crunch in apples

Apple grower Brian Rideout shared photos on his Twitter account in June 2020 to show the different sizing of fruitlets by variety on one day. He first applied an apple thinner at the six to eight millimetre stage on 35 acres of Gala apples. Doubting that he would have access to timely arrival of seasonal workers for any hand thinning, he decided to spray a second time at 16 mm.

It was an agonizing decision for Manitree Farm at Blenheim, Ontario. Without guaranteed labour to thin or harvest apples, Rideout wanted the most uniform crop possible. He did not want to pick the same acreage a second time for slower-maturing apples.

"I'm a check and balance guy," says Rideout. "I left a control strip of 30 trees with only one application of chemical thinner. Those trees yielded 1100 lb of apples. On the apples which had two applications of thinner, I harvested only 800 lb of apples. I over-thinned. I lost 400 bins of apples."

These are real-life management decisions balancing the science of crop protection technology with the unknowns of availability of labour.

CROSS COUNTRY DIGEST

CANADA

Canadian potato storage holdings down

As of February 1, total Canadian potato storage holdings are 9.8 percent below the three-year average. That's down 5.9 million hundredweight.

New Brunswick leads the decline at 48 per cent less than the three-year average. Manitoba has storage holdings 18.4 per cent above historical averages but has also been importing potatoes recently to meet specific demands.

Ontario and British Columbia have stocks on hand at 11 per cent and 12 per cent, respectively, above three-year averages.

"Demand for fresh potatoes has been great, in fact above average year to date," says Kevin MacIsaac, general manager, United Potato Growers of Canada. "Demand has slacked off a little in the last couple weeks, but that's normal for mid-winter. Demand for processing potatoes is not quite back to pre-pandemic levels."

For more information, contact: Kevin@unitedpotatocanada.com

Source: Infohort February 1, 2021 news release

Canadian Potato Storage Holdings (All sectors) by Province
February 1, 2021

Province	2017-18	2018-19	2019-20	3-yr. Average	2020-21	2021 vs. 3-yr. avg
Prince Edward I	16,019	14,470	15,491	15,327	12,937	-15.6%
New Brunswick	9,795	8,753	9,001	9,183	6,185	-32.6%
Quebec	6,706	6,154	6,838	6,566	6,536	-0.5%
Ontario	3,652	3,221	3,365	3,413	3,787	+11.0%
Eastern Canada	36,172	32,598	34,695	34,489	29,445	-14.6%
Manitoba	11,885	10,105	10,504	10,831	12,823	+18.4%
Alberta	14,003	13,547	14,051	13,867	12,448	-10.2%
British Columbia	481	654	526	554	621	+12.2%
Western Canada	26,369	24,306	25,081	25,252	25,892	+2.5%
Total Canada	62,541	56,903	59,777	59,741	55,338	-7.4%

Canadian (Seed) Potato Storage Holdings by Province
February 1, 2021

Province	2017-18	2018-19	2019-20	3-yr. Average	2020-21	2021 vs. 3-yr. avg
Prince Edward I	1,902	1,978	1,930	1,937	1,866	-3.6%
New Brunswick	1,829	1,645	1,657	1,710	1,081	-36.8%
Quebec	1,147	1,253	1,204	1,201	1,111	-7.5%
Ontario	129	105	71	102	69	-32.0%
Eastern Canada	5,007	4,981	4,862	4,950	4,127	-16.6%
Manitoba	1,593	1,241	1,341	1,392	1,531	+10.0%
Alberta	2,264	2,700	3,325	2,763	3,209	+16.1%
British Columbia	192	193	138	174	156	-10.5%
Western Canada	4,049	4,133	4,804	4,329	4,896	+13.1%
Total Canada	9,056	9,116	9,665	9,279	9,024	-2.7%

Seed Inventory on February 1, 2021 is just below 9 million hundred weight which is 2.7% below 3-yr. average levels. All four Eastern provinces have a reduction in seed available for planting, led by New Brunswick which is down 36.8%. Alberta has an increase in seed stocks 16% above 3-yr. averages and has already moved significant volume out of holdings. Manitoba holdings are up 10% above average. Seed supply of some chip and red varieties appear to be in tight supply for Canadian growers this year. *Source: Infohort: AAFC (000 cwt)*

NEW BRUNSWICK

More government funds for McCain's potato-processing line

The Atlantic Canada Opportunities Agency (ACOA) and the government of New Brunswick have announced $5 million toward a project to implement a high-speed potato specialty line at the McCain's facility in Grand Falls. It's expected to be operational in 2021.

McCain announced the $80 million project in November 2019 to expand production capacity at the site, saying that it will create 80 full-time jobs when complete.

ACOA is providing a repayable contribution of $3.5 million for the equipment while Opportunities NB is investing up to $1.5 million in payroll rebates over three years.

Source: Atlantic Canada Opportunities Agency

PRINCE EDWARD ISLAND

Emergency use application for bifenthrin

The current edition of the *Prince Edward Island Potato News* is reporting the PEI Potato Board is working with provincial regulators as well as Alberta and Saskatchewan sectors on an emergency use application for bifenthrin. This product was scheduled for phase-out in December 2020, but is considered a critical control for wireworm.

The registrant, FMC, has submitted a registration package with additional data. However, the regulatory process could take years. Stay tuned for developments in 2021.

CLIMATE CHANGE

Agriculture: not just an emitter but a climate change solutions provider

Canada's agri-food policy direction is lacking the bold ambition appropriate for this moment and misses a critical opportunity for agri-food policy to assimilate climate change with other strands of important public policy issues into a cohesive strategy, one that is of great importance to Canada.

That's a key statement in the recent policy note from Agri-Food Economic Systems, authored by research lead Al Mussell. The February 16 report explains how agriculture can play a much bigger role in addressing climate change.

"Agriculture is being treated primarily as a fossil fuel emitter under the federal government's climate change policy, but agriculture fixes carbon, and emissions from agriculture are poorly understood," says Al Mussell, Agri-Food Economic Systems research lead. "Other countries, notably the United States, have signaled that agriculture will be a core part of their climate change strategy. Canada risks falling behind."

In Tom Vilsack's recent confirmation hearing as U.S. Secretary of Agriculture, Jerry Hagstrom on DTN noted, "At his confirmation hearing, Vilsack said he hoped that Congress would give him the freedom to use the CCC [USDA-Commodity Credit Corporation] funding flexibility on climate change the way that it had allowed Agriculture Secretary Sonny Perdue to use the CCC to aid farmers who had lost export markets due to the trade policies of former President Donald Trump."

2021 ushered in the latest tranche of U.S ad hoc agricultural program funding, adding approximately US$12 billion in support to a broad swath of farm commodities.

This year, Canada faces a sobering set of challenges: pandemic recovery and economic growth; regional disparity and western alienation; affordably meeting climate change commitments; a hungrier world but more volatile international relations. Agriculture and food can be enlisted to advance all of these issues critical to Canada. But this moment demands a more meaningful, mainstream, and holistic Canadian agri-food policy.

"Food security is a real concern globally, and with some global trade institutions sidelined, being that reliable, sustainable supplier to food deficit countries is part of Canada's international market access solution," says Mussell. "With the pandemic and the decline of oil and gas, the country needs economic growth, especially in western Canada, with most of our agricultural land base. Initiative at the national level to engage the west through agriculture and climate change can be an important antidote to western alienation."

The policy note is available at www.agrifoodecon.ca. Agri-Food Economic Systems is an independent economic research organization dedicated to agri-food located in Guelph, Ontario.

Source: Agri-Food Economic Systems February 16, 2021 news release

ONTARIO FRUIT AND VEGETABLE GROWERS' ASSOCIATION AGM

The focus is on keeping workers safe and healthy

Bill George Jr. was re-elected for a third one-year term at the 162nd annual general meeting of the Ontario Fruit and Vegetable Growers' Association. He and his wife Lesliann grow 160 acres of wine grapes near Beamsville, Ontario, on the shores of Lake Ontario. They also harvest and process ice wine juice on a farm that's been in the family since 1796. As former chair of the Grape Growers of Ontario, he became a director on the OFVGA board in 2015. He currently represents Ontario on the Canadian Horticultural Council. Photo by Glenn Lowson.

KAREN DAVIDSON

Labour and crop protection are the top two files for the Ontario Fruit and Vegetable Growers' Association (OFVGA). These dominated dialogue at the first ever virtual OFVGA annual general meeting in 162 years, comprising five of nine resolutions.

As the guest of the OFVGA, Ontario agriculture minister Ernie Hardeman noted how frequently he had talked to Bill George Jr., OFVGA chair in the last year. He brought not only greetings but $118, 500 funding to develop COVID-19 resources to support the health and safety of temporary foreign workers. The Cultural Resources Library is now underway by the OFVGA in a variety of languages and formats to be distributed to farms, greenhouses and processing operations across the province.

"This project is one of many initiatives that the OFVGA and the Ontario government are partnering on to ensure the health and safety of this critical workforce," said Bill George, chair of the OFVGA. "The safety of the international farm workforce has been paramount since the beginning of the pandemic, and the resources developed through this project will further support the efforts of Ontario's farm employers to keep all farm workers safe while producing food for Canadians."

In reporting to 100 or so Zoom call participants, OFVGA labour section chair Ken Forth said that only chartered flights are now coming from Mexico and the Caribbean with seasonal agricultural workers. These workers are exempt from quarantine at international airports until March 14. It's not known what new requirements might be in place after that. In the face of negative news reporting, Forth urges farmers "to continue to tell our story over and over again."

Joe Sbrocchi, general manager, Ontario Greenhouse Vegetable Growers, urged, "We all have the ability to amplify the message."

The OFVGA environment and conservation section is active under the leadership of Jan VanderHout. One of the concerns is to protect individual farm privacy, especially as it relates to permit-to-take-water holders. In 2021, VanderHout and his committee will be watching developments regarding carbon taxes.

Here is the wording for five resolutions as it pertains to labour and crop protection:

COVERAGE FOR COVID-19 LABOUR DISRUPTIONS

Be it resolved that the OFVGA supports the efforts of commodities and value chain participants to lobby the provincial and federal governments to provide financial assistance to compensate growers when negatively affected by a labour disruption caused by COVID-19 and not currently covered by existing safety net programming.

SEASONAL AGRICULTURAL WORKER VACCINATION

Be it resolved that seasonal agricultural workers be considered a priority as part of the distribution of the Canadian supply of COVID-19 vaccines and the plan for the voluntary vaccination is considered in securing the safe harvest as well as the health of seasonal agricultural workers in 2021 and beyond.

SUPPORTING FARM WORKERS FOR ONTARIO'S HORTICULTURAL FARMERS

Be it resolved that OFVGA work with the Canadian Horticultural Council and the federal government to put in place a consultation process to ensure that any contemplated travel restrictions continue to recognize the importance of temporary foreign workers in supporting essential food production, recognizes existing quarantine requirements and doesn't further burden the sector's timely access to this labour pool.

UAV PESTICIDE APPLICATION

Be it resolved that the OFVGA work with the Canadian Horticultural Council to engage the Pest Management Regulatory Agency to work with crop protection companies to develop a pathway and mechanism for pesticide labels to be amended so that pesticides can be applied by unmanned aerial vehicles (UAV) as a lower impact mode of application.

MACROBIOLOGICALS

Be it resolved that the OFVGA and Canadian Horticultural Council work with Agriculture and Agri-Food Canada and Canadian Food Inspection Agency to identify and facilitate an enhanced process involving stakeholders to consider the importation and use of biological control vectors.

PERISHABLE AGRICULTURAL COMMODITIES ACT

Federal government considers financial protection legislation for produce sellers

Growers asked to communicate need to government, OFVGA urges

In February 2021, Country Fresh, its U.S. subsidiaries and its Canadian entities Sun Rich Fresh Foods filed for bankruptcy. Sun Rich Fresh Foods, based in Brampton, Ontario, cuts and prepares made-to-order fresh fruit.

LILIAN SCHAER

The timing may finally be right for new federal enabling legislation to provide financial protection for Canada's produce growers and sellers.

The February 17 House of Commons Finance Committee pre-budget consultation report recommends the federal government implement legislation similar to the U.S. Perishable Agricultural Commodities Act (PACA) to support needed liquidity and protect produce sellers during bankruptcy.

PACA ensures that produce sellers in the U.S. are paid if a buyer becomes insolvent. Until 2014, it also protected Canadian growers selling into the U.S., but that special status was revoked because of the absence of similar Canadian legislation for U.S. exporters.

Canada's federal Bankruptcy and Insolvency Act lets suppliers recover product if a buyer becomes insolvent, but sellers can't receive payment for product that has already been resold or, in the case of fresh fruits and vegetables, can't be recovered because it has spoiled.

The Canadian Horticultural Council (CHC), the Canadian Produce Marketing Association (CPMA), the Ontario Fruit and Vegetable Growers' Association (OFVGA) and others have long been calling on the federal government to establish a limited statutory deemed trust that protects Canadian produce growers and sellers during bankruptcy.

The industry isn't asking for money, notes CPMA president Ron Lemaire, adding what the industry is asking for is simply enabling legislation that comes at no cost to government.

The issue dates back to the creation of the Fruit and Vegetable Dispute Resolution Corporation (DRC) in 2000 that established a fair and ethical trading model coupled with mediation and arbitration services for the Canadian produce industry. According to Lemaire, the third pillar to address bankruptcy and insolvency was put on hold at the time so as not to hold up implementation of the rest of the DRC framework.

Since then, CPMA and others have been working to ensure both sides of the border understand the value of financial protection. The federal government hasn't been very receptive, stating there isn't enough evidence of financial harm to proceed with the enabling legislation.

COVID-19, however, has changed all that.

Prolonged shutdowns, lost sales, and increased costs have already increased the value of U.S. non-payment complaints under PACA in 2020 by more than 50 per cent over the year before. As the pandemic continues, the economic damage caused by COVID-19 is becoming more acute.

For example, in February 2021, Country Fresh, its U.S. subsidiaries and its Canadian entities Sun Rich Fresh Foods filed for bankruptcy. And the list of restaurants permanently closing their doors is growing on both sides of the border.

"We are starting to see restaurants and foodservice businesses being forced into financial protection or even shut down permanently. This is something that will impact all fruit and vegetable growers," says Jocelyn St-Denis, executive director of the Association des producteurs maraîchers du Québec. "This is no longer simply a problem for those growers who supply export markets, and as the economic impacts of COVID-19 continue, we must ensure farmers are paid for what they grow and sell."

That's why OFVGA is encouraging growers and others in the industry to let the federal government know how critical the legislation is. That includes Agriculture Minister Marie-Claude Bibeau and François-Philippe Champagne, Minister of Innovation, Science and Industry, and local MPs.

"We need growers to help us make sure the government knows this is a priority and that they can help prevent a larger financial disaster for the produce industry by taking action now," says OFVGA's executive director Alison Robertson. "The pandemic has highlighted the importance of food security and how precarious situations can become when we have to depend on other countries for critical supplies."

The financial protection recommendation has the support of the federal Conservatives, New Democrats and the Bloc Québecois, and the federal agriculture committee.

"In a turbulent market and with more bankruptcy on the horizon, the government is in a fabulous position to bring this market-stabilizing tool into play that will protect growers and ensure food security because growers can maintain production in case of loss," Lemaire says. "It connects all the dots around food policy as well as the government's "build back better" strategy for COVID-19 recovery - it's a gap that has been neglected for far too long."

RETAIL RELATIONSHIPS

A grocery code of conduct would respect all players

KAREN DAVIDSON

Last summer, first Walmart, then Loblaw shocked the supply chain in a year already full of tremors. Extra fees would soon be charged to help pay for infrastructure build-outs and e-commerce ramp-ups. In Walmart's case, it tacked an extra 5.0 per cent on top of 1.25 per cent fee on the cost of goods destined for online sales.

The memo came in the midst of a pandemic without a heads-up. Start date: September 14, 2020.

Where are the heroes now? That's a question for Michael Graydon, CEO, Food Health and Consumer Products, based in Mississauga, Ontario. His dozens of members comprise familiar companies such as Cavendish Farms, SunRype and Unico -- all of whom source raw supplies from growers.

"The magnitude of this issue is expanding and impacting manufacturers in Canada," says Graydon. "This is not just a manufacturing issue but a supply chain issue. Perishable product suppliers are hit particularly hard."

The news essentially means that the big grocers are scooping $6 billion of revenues from the supply chain, money that could have been used to recharge small and medium-sized businesses.

Groups such as the Ontario Fruit and Vegetable Growers' Association (OFVGA) and Food and Beverage Ontario are questioning the long-term sustainability of such practices.

"Fruit and vegetable growers have become increasingly challenged by the power of large retailers and their ability to unilaterally set sales terms," says Bill George, chair, OFVGA. "These new fees hollow out the ability of local growers to innovate and remain competitive, and they are especially concerning given increased profits large grocery chains have experienced during the pandemic and at a time when rebuilding the local economy is so important."

As George explains, each retailer is approaching these new fees differently. Some are exempting products sold in their produce departments, however, the impact on frozen and canned products such as processed vegetables remains a concern. The new fees are on top of other pre-existing imposed marketing fees, extended payment terms, late delivery penalties, and truck unloading charges.

Growers' complaints have been laid at the feet of both federal and provincial agriculture ministers at a time when Canadian food sovereignty is a top-of-mind issue.

"We all recognize that these fees recently imposed by some retailers are really worrying," federal Agriculture and Agri-food Minister Marie-Claude Bibeau said during a press conference after a meeting with provincial and territorial agriculture ministers last fall. She is co-chair of the working group along with Quebec's Minister of Agriculture, Fisheries and Food, André Lamontagne.

A code would require the various jurisdictions to cooperate, not to mention the grocers themselves.

To date, grocers have been tone-deaf to the impacts of COVID-19 on suppliers who have incurred more costs to sustain health and productivity of workers while trying to meet strict specifications. Compliance fines are more audacious than ever. As Graydon explains, the grocer's complaint may be about the quality of the pallets or whether the truck driver is wearing the right vest. The supplier's fight to get the ruling overturned is both aggravating and time-consuming.

Payment terms may also suddenly change from 15 days to 45 days, causing an instant cash-flow crisis for the supplier. No business can withstand these material changes with less than a fiscal quarter of planning.

Together, Loblaw and Sobeys stock their stores for a dominant 50 per cent of the Canadian consumers' grocery buy. Michael Medline, president and CEO for Sobeys parent, the Empire Company, has been a welcome outlier on the issue of supply chain relationships.

Medline told The Empire Club of Canada, "I find some of the relationships repugnant and some of them are just plain bad for Canada," Medline said. "Suppliers seem bullied and it goes all the way down to farmers and independent retailers. It discourages innovation and hollows out our suppliers."

With Medline's encouraging stance, the Food Health and Consumer Products Association is working on a voluntary code of conduct modelled after the 10-year success in the U.K. In fact, they've hired Christine Tacon, recently retired from her role as U.K. code adjudicator, for her counsel.

Her experience showed that the code could provide stability for all players and that retailers' attitudes changed towards farmers.

"The cultural transformation between retailers and manufacturers was extraordinarily effective," says Graydon. "In the U.K. food inflation was kept at about zero and there was growth in capital investment. Here in Canada, we're looking at up to six per cent food inflation in 2021."

"The consumer has a strong desire for made-in-Canada products," adds Graydon. "These signals should trickle down to the farmer and a voluntary code of practice would provide stability."

As the pandemic grinds on, Canadians may come to embrace the notion of food sovereignty. As the vaccination roll-out stalls, there is more awareness of the need for in-Canada manufacturing whether that's for vaccines or for food. It's a concept that shakes the status quo of corporations and market institutions dominating the global food system.

INTERNATIONAL

Oppy conducts research trials for strawberry technologies

The Oppenheimer Group (Oppy) plans to launch two independent trials in 2021 exploring the viability of new practices for California-grown strawberries.

The first trial is with the University of California, Santa Cruz. The USDA-funded research will explore alternative treatments to mitigate pervasive and detrimental soil-borne pathogens during strawberry cultivation. These include *Fusarium oxysporum* and *Macrophomina phaseolina*.

Jason Fung, Oppy's vice president of categories, berries and greenhouse, says, "We're extremely excited to work on finding solutions to challenges facing the strawberry industry as a whole. Oppy's participation in this research project has the potential to be transformative, as most soil-borne pathogens are lethal to strawberry crops. Any improvements in reducing these will have a tremendous impact on our business."

The second project is with a state-of-the-art robotic harvester to be trialled in central California with results expected later this year. This is a different machine than the one being developed in Florida.

If it works, it will be a solution to ongoing deficits in labour, a problem which has been amplified during the pandemic. Several questions need to be answered. Is robotic picking more efficient and cost-effective than traditional methods? Can the harvester select fruit based on specific standards? Which varieties might be better suited to mechanical harvesting?

"Automation in agriculture has been catapulted into the spotlight thanks to the unique challenges posed by the pandemic," says Garland Perkins, Oppy's senior manager of insights and innovation. "By assessing the first-ever commercially available robotic harvester for strawberries, Oppy has once again taken a leading role in exploring the future of our industry. Engaging with our stakeholders across the supply chain is necessary for the success of these trials and reflects the collaborative approach that is essential for innovation."

Headquartered in Vancouver, British Columbia, the internationally-focussed company is investing in numerous trials of a wide range of technologies across categories. These include: shelf-life extension, varietal development, automation and more.

Source: Oppy February 2, 2021 news release

Wish Farms expands operations to Oxnard, CA

Wish Farms, international grower and year-round marketer of strawberries, blueberries, blackberries and raspberries based in Plant City, Florida has established a growing operation in Oxnard, California.

"This is a move that aligns well with our strategy of smart, controlled growth," said James Peterson, vice president of sales and marketing.

With its first season in Oxnard underway, Wish Farms began harvesting strawberries mid-January 2021 and expects volume to flow into May.

Darwin Reich, director of California operations said: "The Frontera will be our exclusive variety for Oxnard. Quality and volume have proven favourable and in line with our expectations."

With this addition, the company now has operations in the three major strawberry growing regions of California: Salinas, Santa Maria and Oxnard.

"By expanding our footprint to this third region, it solidifies our position as a California grower, streamlines supply and opens the door for a more consistent brand presence west of the Mississippi," said Peterson.

Source: Wish Farms' February 16, 2021 news release

FARM SAFETY WEEK MARCH 14-20, 2021

Self-care is about more than self-indulgence

When it comes to farm safety, stress and mental health issues are known contributing factors. That's also why it comes as no surprise that self-care –both prioritizing and neglecting it –has a significant influence on farm safety.

"The farm operator, our bodies and minds, are the most important part of machinery on any farm," says Cynthia Beck, a clinical psychology Master's student at the University of Regina.

"That's why it is so important that self-care be a priority. You can't run a successful farm operation if you are not functioning at a healthy level," Beck explains, adding that when self-care is neglected, people are more likely to make poor decisions or have poor judgement.

"Often, we treat the farm machinery much better than how we treat our bodies. We fill the tractor with fuel every day. We do regular maintenance on our machinery. But how often do we provide that care and attention to our own body?"

There's no question that farmers and farm families lead busy lives. But just because there is always something new taking priority on the farm, doesn't mean that self-care should be considered any less valuable and necessary.The most important thing to keep in mind is that self-care isn't selfish.

"Children, farm operations and such, everything else takes priority. So the question needs to be put back on [farmers] of when do you become the priority and what do you do to prioritize yourself?" says Deborah Vanberkel, Cultivate Counselling Services, eastern Ontario's Lennox and Addington county.

> **"The farm operator, our bodies and minds, are the most important part of machinery on any farm.**
>
> **~ CYNTHIA BECK**

"People will say that they don't have time [for self-care] because they are looking for something that will fit their schedule. But that's the kicker –we can make time for everything else but not for ourselves. It's like driving. If you keep on driving and never stop to gas up, you're going to run out of gas eventually."

Canadian Agricultural Safety Week (CASW) is a public campaign held annually during the third week of March that focuses on the importance of safe agriculture. The 2021 campaign, Safe & Strong Farms: Lead an AgSafe Canada, takes place March 14-20. CASW is presented by Farm Credit Canada.

"I'm taking a bit of time for self-care."

CHAIR'S PERSPECTIVE

The show must go on

BILL GEORGE JR.
CHAIR, OFVGA

Our organization is always involved in a multitude of activities on behalf of growers and our member organizations. At its core, though, the Ontario Fruit and Vegetable Growers' Association (OFVGA) is first and foremost a lobby organization, and our primary role is to advocate for growers on issues of concern to them.

Usually, this type of work happens most frequently in face-to-face meetings with government officials, political staff and ministers at the provincial and federal levels. We've also hosted mix-and-mingle style events at Queen's Park, where our directors and staff could interact more informally with government representatives over appetizers and drinks.

Both of these approaches are valuable in the relationship-building process, particularly if outreach isn't always limited to times of crisis or when approaching government with specific asks.

The COVID-19 pandemic has changed all of that, and like so many things, lobby days have now also moved online. I'll be the first to admit that I vastly prefer these types of activities to take place in person. It's a different feeling when you can sit down face-to-face with someone, and I admit that I was hesitant about the virtual format.

But we can't just pause our outreach activities and wait for the world to go back to some semblance of normalcy; after all, the issues and challenges facing our industry aren't taking a break either. So, in place of our usual day of meetings at Queen's Park capped by a reception, we held more than a dozen virtual meetings over several days in early February.

Our outreach included meetings with Monte McNaughton (Minister of Labour, Training and Skills Development), Michael Parsa (Parliamentary Assistant to the President of the Treasury Board), Prabmeet Sarkaria (Associate Minister of Small Business and Red Tape Reduction), Stan Cho (Parliamentary Assistant to the Minister of Finance) and Rick Nicholls (MPP for Chatham-Kent-Leamington).

We also met with Opposition Leader Andrea Horwath and NDP agriculture critic John Vanthof, and with staff from the offices of the Premier, Health Minister Christine Elliott, and Finance Minister Peter Bethlenfalvy.

Everyone worked hard to make this new format work. I am pleased to say that people were very willing to meet with us and hear our perspectives, particularly on farm workers, growing food and the ongoing pandemic.

As we continue to battle the second wave of COVID-19 and look toward the beginnings of post-pandemic recovery, partnership remains as critical as ever to keep our farming workforce healthy and keep our food system strong.

To that end, we have asked the provincial government to continue to collaborate with us on existing partnerships as well as establishing new ones that may be needed to help address issues where growers and government can work together for solutions. For example, that includes continued assistance to support worker safety, including funding to help farms cope with PPE costs and other health and safety measures in the workplace or on-farm worker housing.

We've been encouraged to see agrifood workers included in phase two of the provincial vaccine roll-out plan, and we have reinforced the importance of moving forward on this front as soon as vaccine supply permits.

It's looking increasingly likely that proposed federal changes to the AgriStability program will not move forward, as not all provinces are on board. OFVGA is part of a coalition of provincial farm organizations urging the Ontario government to redirect funds it had set aside for those changes into the Risk Management Program and the Self-Directed Risk Management program.

We certainly look forward to the day when we can once again meet with people in person, but we appreciate everyone's willingness to adapt to the limitations of our current reality. Regardless of format or venue, we will continue to make sure that policy and decision-makers hear the voice of Ontario's fruit and vegetable growers.

WEATHER VANE

Despite an April 12, 2020 fire which destroyed bins and trailers at Algoma Orchards, Newcastle, Ontario, Canada's largest apple grower has marched through myriad challenges in the last year. Kirk Kemp says, "Farmers spend their life dealing with the adversities of weather and marketing conditions so when fire struck on Easter morning, we all just took a deep breath and got back to what needed to be done. Clean up the mess, order more bins, repair the trucks and get back to packing and shipping apples. Our fellow Canadians need to eat and it's our job to see that our orders get filled. The show must go on. Photo of Eric Kemp by Glenn Lowson.

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THE GROWER

URBAN COWBOY

Colleges and universities are huge markets for growers

OWEN ROBERTS

British Columbia has institutionalized something college and university chefs across Canada have long known: that is, the thousands of students, staff and faculty fed every day in these mini-cities hunger for local food meals.

And given the chance, they'd love to eat more of it.

So now, a government-led initiative called Feed BC is launching partnerships with nine post-secondary institutions throughout the province to beef up their homegrown component.

The idea is to enhance food security on campus – a lesson learned from the pandemic -- and give local producers better access to an important, vibrant market. If all goes as planned, local products will constitute a huge part of their total food expenditures -- the goal is a whopping 30 per cent.

In the past year, college and university chefs' output has been stymied by the pandemic. But normal consumption is massive, right across the country.

For example, at Hamilton's busy McMaster University, executive chef Paul Hoag oversees preparation and delivery of 15,000 meals a day. At Western University in London, about 21,000 meals are served daily by executive chef Kristian Crossen and his team.

Many smaller institutions have a 2,000-3,000 meal output, which almost seems petite by comparison . . . but imagine the infrastructure and precision required to serve that many meals every day. Many of us struggle to figure out dinner just for one every night. In perspective, college and university food services are pretty amazing.

And with the pandemic subsiding, institutional chefs everywhere will be ramping up through the spring and summer to be ready for the fall onslaught of students. That's a great opportunity for fruit and vegetable growers.

Take BC, for instance. As the Feed BC program notes, growers already provide the University of the Fraser Valley with menu items ranging from bread made in Delta to cranberries from Richmond. Elsewhere, Simon Fraser University now aims for a minimum of 30 per cent B.C. foods, including eggs, poultry, seasonal root vegetables, corn and blueberries.

Ontario colleges and universities connect with growers through their own efforts and with programs such as Foodland Ontario and Taste Real. Educational institution chefs in other provinces do the same.

They're united through a professional organization called the Canadian Colleges and Universities' Food Service Association. The University of Guelph's food procurement manager Mark Kenny is the association's food procurement liaison.

"A Feed BC-like collaborative program could be supported at colleges and universities right across Canada," he says. "Every province has a vibrant educational institution community, and so many of the chefs there -- who are leaders in their field and have exceptional pedigrees in their profession -- have already worked hard to establish networks with local providers. We know our customers are eager for local food; we're eager to provide it."

University of Guelph sous chef Valerie Jankovich is pictured here with preserved fruits and vegetables bearing the university's "100 Mile" brand, made in campus kitchens. Procurement officials from the institution get many of their ingredients from the Elmira Produce Auction Co-operative. Photo by Mark Kenny.

To me, a key to this whole effort is the nature of the customer that fruit and vegetable growers have the opportunity to influence.

College and universities are full of people who are present and future opinion leaders. Students are making their own food decisions, some for the first time. This is when they'll develop food buying habits, such as eating a diet rich in fruit and vegetables. They're gaining an appreciation for why they and others should patronize local food.

University of British Columbia sous chef in residence Johnny Bridge told me feeding students is a higher calling.

"The value of what we do is in nurturing the young minds who study here," he says. "They experience so much, so fast. They need good nutrition to learn and make decisions . . . we want them enjoying good food."

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

New tools to help get the most out of farm or municipal nutrients for your field crops

LILIAN SCHAER

It can be challenging to determine exactly what nutrients each crop needs and when. Equally challenging can be determining the value of manure or other land-applied nutrients and how to best use them in field or vegetable crop production.

The Ontario government has just launched a new collection of online calculators that can help with deciding how to get the most out of farm or municipal nutrients. The calculators are part of AgriSuite, the provincial government's agricultural and environmental software package, and were recently added as part of an overall modernization of the system to make it easier to use and more compatible with industry needs.

The five easy-to-use calculators can be used independently or together to obtain simple estimates to support nutrient management decisions. Topics include whole-field nutrient management, organic amendments, phosphorus loss, fertilizer and crop nutrients.

"AgriSuite is designed to give Ontario farmers a versatile set of tools that will help them make the best possible soil and nutrient management decisions on their farms," says Christine Brown, field crop sustainability specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

Crop Nutrient Calculator

This calculator provides agronomic crop nutrient requirements (N-P-K) based on soil test values, yield goal, and location information entered by the user for each field. It will also estimate the amount of nutrients removed from a field by a specific crop. There is a large selection of field crops, forage and cover crops as well as annual horticultural crops to select from in this calculator.

Field Management Plan Calculator

This tool incorporates the other calculators to help determine the nutrient balance for a single crop or crop rotation by considering nutrients from organic amendments, commercial fertilizer and previous nitrogen credits. Whether a farm produces livestock, field crops, horticultural crops or a combination, balancing nutrients is important to help keep soil productive while minimizing the risk of nutrient losses that could be harmful to the environment, notes Brown. The calculator uses field location and site details to help in its analysis, as well as nutrients removed through the previous harvest.

Fertilizer Calculator

This tool provides the total commercial fertilizer applied to a single field or will calculate the blend of fertilizer (N-P-K and micronutrients) needed to complement nutrients already provided (through manure, for example) to best meet the needs of a specific crop.

Organic Amendment Calculator

This calculator will help producers get a better understanding of the nutrients supplied by manure applied on the fields. It calculates the amount of crop-available nitrogen, potassium, phosphorus and applied micronutrients for each proposed application of organic amendments, based on management decisions such as timing and incorporation. It will also estimate the fertilizer equivalent value of each manure N-P-K application and allows quick comparisons of the impacts of different timing or placement scenarios for estimated available nutrients.

"Nutrients from organic sources don't come in pre-determined blends, so this calculator helps take the guess-work out of available nutrients," Brown says.

Phosphorus Loss Assessment Tool for Ontario (PLATO)

Phosphorus is an important plant nutrient for crop production, but it can also contribute to environmental problems when it ends up in rivers, lakes and streams. That's why decisions around how phosphorus is applied at what rate and what time and from what source are important when fertilizing a crop. The PLATO calculator helps determine the risk of field-scale phosphorus based on site-specific characteristics and management practices, factoring in soil erosion and soil test levels, phosphorus application amounts and application timing.

Additional calculators that are also part of AgriSuite are currently being updated. Manure storage and sizing tools will be added in April 2021. The entire collection of tools, which is free to use, is available at www.ontario.ca/agrisuite.

This article is provided by Farm & Food Care Ontario as part of the Timing Matters project. The project is funded by the Ontario Ministry of Agriculture, Food and Rural Affairs.

COMING EVENTS 2021

Mar 4	Ontario Potato Webinars **VIRTUAL**
Mar 15-18	Canadian Horticultural Council Annual General Meeting, **VIRTUAL**
Mar 23-24	Northeast Potato Technology Forum **VIRTUAL**
March 30	Ontario Tender Fruit District 3 & 4 annual general meeting (Essex, Chatham-Kent, Lambton) **VIRTUAL**
March 31	Ontario Tender Fruit. District 5 annual general meeting, (Brant, Elgin, Haldimand & Norfolk) **VIRTUAL**
April 1	Ontario Tender Fruit District 1 & 2 annual general meeting (Niagara region) **VIRTUAL**
April 6	Farm & Food Care Ontario Virtual Conference and Speakers' Program, **VIRTUAL**
April 7	Grape Growers of Ontario Annual General Meeting **VIRTUAL**
Apr 12 -16	Canadian Produce Marketing Association Fresh Week **VIRTUAL**
May 1-5	International Strawberry Symposium, Rimini, Italy
May 18-20	Fruit Logistica Special Edition, Berlin, Germany
May 30-June 3	11th World Potato Congress, Dublin, Ireland **POSTPONED** to May 30-June 2, 2022
June 24-26	United Fresh Convention and Expo, Los Angeles, CA
July 23-29	Potato Association of America, Delta Hotel, Charlottetown, PE
July 31	Food Canada Day
Aug 11-12	AgriExpo, Grands Falls, NB
Sept 7-9	Macfrut, Rimini Expo Centre, Italy
Sept 23-27	Canadian Farm Writers' Federation Annual General Meeting, Windsor, ON
Oct 6-7	Canadian Greenhouse Conference, Scotiabank Conference Centre, Niagara Falls, ON
Oct 13-14	Public Trust Summit, Canadian Centre for Food Integrity, Toronto, ON
Nov 5-14	Royal Agricultural Winter Fair, Exhibition Place, Toronto, ON
Nov 4 -6	Interpoma, Bolzano, Italy
Nov 22-24	Alberta Potato Conference and Trade Show, Cambridge Hotel and Conference Centre, Red Deer, AB
Nov 30-Dec 2	Grow Canada Conference, Calgary, AB

RETAIL NAVIGATOR

Two major opportunities in 2021: The shift to remote work; the migration from food service to food retail

PETER CHAPMAN

As many producers look to the 2021 season, we need to consider how consumers have changed. There are four fundamental questions to ask as you try to determine your approach to producing and selling in 2021:

1. Who are your consumers and how have they changed?
2. How do consumers eat, use and cook your products?
3. Why do they buy?
4. Where do they buy?

Let's explore each of these questions, keeping in mind the influences of the pandemic.

Who are they and how have they changed?

The two biggest changes are the shift in people working remotely and the migration from food service to food retail. It appears we will see the change in work habits continue through 2021 and perhaps even longer. The impact on the food service industry is different from one region to another but we know the impact will be felt in food service for some time to come.

With so many people working from home, shopping baskets and shopping patterns have changed. People are eating breakfast and lunch at home where in the past they might have grabbed something 'on the go' from a quick service restaurant. They are looking for ideas for these two meal occasions and probably what they are eating is different. Consider providing ideas, recipes and information to help them see your product in one of these meals if it makes sense. How about greenhouse red peppers in omelettes? Or grilled asparagus in a lunch wrap?

The shift from food service to retail is in large part coming from millennials, aged 25 to 40. Most people are eating out less but the millennial generation used to eat out the most. Consumer packaged goods companies and retailers have been trying for years to convince these consumers to shop in grocery stores. Now they are so pay attention to them. They have different needs and they also buy differently. You probably also need to help them understand how to use your product in different situations. They have the largest buying power of any generation now so it can be very beneficial to appeal to these consumers.

There are other changes you might want to consider in your specific category.

How do they eat, use and cook your products?

With people home more and looking for small indulgences during the pandemic, there might be opportunities to help consumers how to use your product differently.

Consumers are not travelling so they appreciate information to use your products in a different cuisine or with new flavours. This can be done through ideas on your packaging, display merchandisers, social media, your own email list and/or mass media. There are many options to communicate ideas. Remember there are media outlets looking for good news stories so if you can take advantage of public relations opportunities and share some tips about your product, everyone wins.

We also know there is more 'comfort food' being prepared. Everyone has their own definition of comfort food so once you can define that for your target market provide some ideas. As we mentioned previously millennials are doing more cooking. It is likely they do not have a collection of cookbooks. They get their ideas online so help them out and share ideas on Instagram.

Why do they buy?

Consumers used to buy a lot on price; some of that focus has changed during the pandemic. We see people more interested in where their food comes from and supporting more Canadian and local products. They will only know your story when you tell it. Although you know it well, you need to continue repeating your story and make sure consumers understand what goes into producing your products.

Where do they buy?

Shopping patterns have changed a lot during the pandemic. Concerns such as shopping safely were never an issue in Canadian food stores. Now people are paying attention to where they perceive it is safest to shop. This appears to be closer to home and in smaller stores. Although physical distancing is tougher to achieve in smaller stores, people feel 'more comfortable' in these stores.

In stock position has also influenced consumer's choice of store. They do not want to make multiple trips and would prefer to get everything in one stop. Stores that struggled to maintain a good inventory position have lost ground in the market.

We also know people are buying online much more often. Prior to the pandemic we had between two and five per cent of Canadian food dollars being spent online. This has increased close to three times as the pandemic lingers on.

Suppliers should consider how their retailers are doing in this very different e-commerce environment. Some stores might offer better opportunities than others.

As you consider each of these questions for your own products think about what should be done in 2021 to maximize the opportunity you have. It is a very different environment for selling food and there is potential for producers, processors and retailers who respond to the rapidly changing environment.

This TikTok recipe for Vegan Baked Feta Pasta is millennial-friendly.

WHAT'S IN STORE?

This month it isn't really what's in store but perhaps what influences purchases in store. Communicating with consumers can be a challenge and what you do in 2021 probably has to change from what you did in 2020. Social media platforms are evolving.

Last week in our house, my daughter was making a recipe in the kitchen. No surprise, her phone was on the counter and she was referring to it. When I inquired about the source of her recipe it was Tik Tok. I might have suggested Instagram was the place to communicate with younger generations about food. If you are trying to reach younger consumers, you have to stay current and might want to get your three-minute recipe videos on Tik Tok!

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.

OPINION

Greenhouse sector focusing on what matters most

JOE SBROCCHI

The well-being of our employees, our communities and safe food for consumers are paramount.

If most of us were asked how we're doing, we'd respond along the lines, "I'm OK, but I've been better."

The fact is, as we approach the one-year mark of the COVID-19 pandemic, many in our local communities are struggling. What is hard to accept is that while there is a glimmer of hope ahead, it will be months before our lives and our work returns to normal. The last yard is always the longest one.

I know that like everyone else, the men, women, and families in our greenhouse sector across Ontario and within our communities, are tired and frustrated, too. I see it in their faces and hear it in their voices every day.

Through the frustration, fatigue, and endless questions and uncertainties, there is one thing that continues to amaze me that I want you, our fellow community members to know — our greenhouse sector has never been more committed to the work we do, the food we grow and the people who help us grow it.

We have never been more dedicated to doing whatever is necessary to protect the well-being of our workers and families and to protect you, our friends, neighbours, and fellow community members. And we remain relentless in our commitment to assure the safety and security of our food supply.

Without a doubt, there have been and will continue to be challenges that require urgent responses and our collective patience and diligence in finding solutions.

Nevertheless, our greenhouse sector takes the responsibility to our workers, our communities, the Canadian food system and businesses as a serious and sacred obligation. It is a responsibility we will not shy away from and one we commit to continue to deliver on, despite the challenges that confront us.

> **Our greenhouse sector takes the responsibility to our workers, our communities, the Canadian food system and businesses as a serious and sacred obligation.**
>
> ~ JOE SBROCCHI

In a time of incredible stresses, the pandemic has proven that by working together — political leaders, public health experts, social agencies, worker groups, and greenhouse growers — we can find solutions to today's problems and future challenges.

We are committed to helping make progress with an open mind and good heart and by listening, learning and by collaborating with stakeholders and playing a meaningful part in the conversation.

For example, we're actively working with the provincial government, municipal governments, and agencies across the region as well as the federal government, to continue to enact the Provincial Prevention and Control Strategy announced in November 2020.

This strategy developed jointly with industry and government partners in health, agriculture, labour and emergency management, aimed to prevent and control COVID-19 on farms and greenhouses, as well as respond rapidly to individual situations as they arise.

Ontario Greenhouse Vegetable Growers were pivotal industry leaders in developing this strategy because we recognized it was critical to learn the lessons from our challenges that first arose last year and ensure everyone is better prepared for future challenges.

We have also been collaborating with regional leaders in the Windsor-Essex Local Integration Partnership, known as WE LIP, to ensure foreign workers, who come to our community to help grow our food, have access to support services that ensure their well-being.

Our greenhouse growers made significant investments to purchase personal protective equipment (PPE) to support the health and well-being of our employees both on-farm and in the rural communities they live in.

These efforts are a sample of the actions we're taking to help our community, workforce and our greenhouse sector get through this pandemic.

As a people-oriented organization, we take enormous pride in being part of the communities in which we serve.

Be assured our focus is on what matters most — the well-being of our employees, our communities and safe food for you, our consumers.

And we will not stop until we all get to the other side of this pandemic — because we are all in this together.

Joe Sbrocchi is the general manager of the Ontario Greenhouse Vegetable Growers.












SUNRISE EQUIPMENT AUCTIONS INC.

UNRESERVED CLEARING
VEGETABLE FARM AUCTION

For MAGALAS PRODUCE LTD. of Waterford. Consisting of 7 John Deere tractors, 100's of irrigation pipes, 7 self contained irrigation pumps, 4 trickle irrigation filters, vegetable growing equipment and grading lines, farm equipment, vehicles & miscellaneous. To be held ONLINE ONLY. Equipment located at 12km north of Simcoe on Highway 24 to Concession 6 Townsend. Turn east for 3km to farm. Fire #337 Concession 6 Townsend Rd, Waterford ON.

*****VIEWINGS AND PICK UP BY APPOINTMENTS ONLY*****

TIMED AUCTION BEGINS CLOSING
WEDNESDAY APRIL 7TH @ 10:00am

BIDDING OPENS WEDNESDAY MARCH 31ST at 8:00am

TRACTORS: JD 6230 4wd, open, 2 remotes, power quad w/ creeper, LHR, 380/85R28 Goodyear fronts, 380/90R46 Goodyear rears, 5062hrs; JD 6220 2wd, open, power quad, LHR, 2 remotes, 420/85R38 Firestone, 6813hrs; JD 6220 2wd, open, power quad, 2 remotes, LHR, 420/85R38 Firestone, hours unknown, roughly same as other 6220 6800 hrs; JD 6210, 2wd, RHR, open, 2 remotes, power quad, 16.9-38 Firestone, 9477hrs; JD 6310, 4wd, open, power quad, RHR, 2 remotes, 13.6-28 Firestone fronts, 16.9-38 Firestone rears, roughly 10,000hrs; JD 6310, 4wd, open, 2 remotes, LHR, power quad, 13.6-28 Firestone fronts, 16.9-38 Firestone rears, roughly 10,000hrs; JD 6400, 4wd, power quad w/ creeper, RHR, 2 remotes, 12.4-28 Firestone fronts, 16.9-38 Firestone rears, 15,854hrs. EQUIPMENT: JD 6000 Custom Tomato cultivator & liquid side dresser, new pump, 5' centres, showing 1056hrs, One of a Kind, used for cultivating staked tomatoes and for side dressing plastic sweet corn and zucchini; Toyota 15 forklift, LP and gasoline, side shift, solid rubber tires, 5,830 hrs; Kennco 3 row bed maker, 5' centres; Somers 16 kW generator, Lister Peters 4cyl diesel, 8213hrs; Cat 23 kW generator, 4cyl diesel, 3156 hrs; George White 300 gallon, pto sprayer; 4 (four) Water Wheel Transplanters, w/ 200 gallon tanks; Miscellaneous wheels for water transplanters; 10' laneway maker, 3pth; Air boom for staking tomatoes; 34'; 3pth, 8' blade; 3pth 2 shank ripper; Super Tilt hydraulic lift wagon; 7 (seven) flat top wagons, truck tires & lights; Red Ball hooded sprayer, needs tank. IRRIGATION PIPE & EQUIPMENT: 7 (seven) irrigation pumps & motors. All with B4 Berkley pumps, Ames hookups & Murphy timer switches. IH 6cyl diesel, new manifold; JD 6cyl diesel, 5340hrs; JD 6cyl diesel, 6900hrs; Cummins 6cyl diesel, 7678hrs; JD 6cyl diesel, 12,489hrs; JD 6cyl diesel, Rebuilt pump Oct. 2018, 16,688hrs; Ford 6cyl diesel, 3171hrs, bad crank; 2(two) Netafim 3 unit Apollo Disc-Kleen trickle filters, 900-1000gpm, 6" Ames Inlet & Outlet, chemical inductors; 2 (two) Netafim 3 unit Galaxy trickle filters, 900gpm max, 6" Ames inlet & outlet, chemical inductor; 2 (two) Rovatti PTO pumps; Huge assortment of trickle regulators; Huge quantity of 4" lay flat hose; Quantity of trickle connectors; 4", 5" & 6" rubbers and springs; HUGE assortment of Ames elbows, plugs, T's, Y's reducers & hydrants; irrigation pipe trailer; Large quantity of Ames 4"x30' irrigation pipe, half with sprinklers; quantity of Ames 5"x30' irrigation pipe; quantity of Ames 6"x30' irrigation pipe. ***Please Note: Pipe to be sold in lots of 150, 100 & 70. 4" being sold with 75 sprinklers & 75 straights. Sold by the pipe times the money***; 6 (six) 6" & 1 (one) 8" suction pipes, w/ check valves. TOMATO EQUIPMENT: 2001 AutoLine 3 Lane, 18 Drop Fruit/Vegetable Grader, w/ computer program (may need own registration to use), garbage conveyor & return conveyor, 18 (eighteen) tables, lots of spare parts, new sprockets and chains in spring 2019. Total measurement 11' wide by 93' long, grader width of 5'5". Stainless Steel Vegetable Flume used for tomatoes, electric driven conveyor for bin entry, hydraulic bin submerger; Vegetable washer used for tomatoes; Stainless steel inspection table; AutoLine 3 Lane singulator conveyor belt; Homemade 3 Lane singulator conveyor belt; 20 (twenty) 10' roller tables. Do not hesitate to call Chase for more info or to set up a viewing. MELON EQUIPMENT: Vegetable Flume used for melons, stainless steel, water pressure to push fruit up conveyor; Vegetable Washer w/ chemical injector; Radius Belt; Cantaloupe grader & sizer, 8 tables, garbage conveyor on top, lights. VEGETABLE EQUIPMENT: Hydro Cooler, w/ automatic door, water tank underneath w/ free-on pipes throughout, water pumps up to shower product; Conveyor w/ plastic belt, plastic ribbing on belt to allow water pass through; NEW 12'x5.25" conveyor belt w/ electric motor; quantity of 10' grading rollers; Roughly 800 Harvest tubs, 44 LB capacity, stackable, 23"x 15", depth of 11.5". PEPPER GRADER: Aweta 3 lane, cup sizer, weight only pepper grader, 8 drops, computerized; Durand-Wayland sponge & brush washer (sold separately from grader); 4 (four) 15'x24" grading tables. ***These pepper grader pieces are located at 1815 Windham Road 9, RR#1 Windham. For information on pepper grinder pieces only and to book an appointment to view, call John 519-909-1999*** VEHICLES & TRAILERS: 2000 Dodge Ram 3500 passenger van, 12 person, hitch, 148,481km; 2012 GMC Passenger bus, 18 person, 4.8L gas, 135,278km, nice; 2001 Ford E350, 20 passenger bus, 7.3 Power Stroke, 276,476km; 2 (two) 1999 Ford E350, 20 passenger buses, w/ 7.3 Power Stroke engines, 266,976km & 295,775m; 1998 Ford E350, 20 passenger buses, w/ 7.3 Power Stroke engine, 270,176km; 1994 Ford E350, 20 passenger bus, 6L Power Stroke; 2001 Ford E450 cube van, 254,745km; 1983 GMC 7000 flatbed truck, 5 speed (water tanks sold separately) 178,699km; 1979 International Van Truck, 6 cylinder IH diesel, 356,608km; 1975 GMC 6500 truck, air brakes, tandem, air axle works, dual fuel tanks, hydraulic box (not working), w/ 2 (two) 1500 gallon tanks, shows 44,141miles. Trailers: 2003 Utility 53' Reefer trailer, w/ Carrier Reefer, 10,014hrs; 1999 Utility 53' Reefer trailer, w/ Carrier Reefer, 11,949hrs. MISCELLANEOUS: Greenhouse glass; 5 (five) Rubbermaid & Dymo scales & stands; LARGE quantity of rolls of row cover; LARGE quantity of tomato stakes; 3 (three) Various sized water tanks, 1000 to 3000 gallon; Assortment of plastic mulch; Large quantity of bag grits for holding down row cover; Large quantity of wire for green plastic 62"; custom truck box fuel tank; large quantity of spare motors & more items found around the farm.

PLEASE NOTE: Magalas Produce have decided to no longer farm vegetables. All equipment sells unreserved, as their vegetable farming has come to an end. They are continuing to cash crop and grow poultry.

TERMS: A 3% Buyers Premium applies to all items with a maximum of $1000 per item. A 2% internet fee applies to all online items purchased to a maximum fee of $1,000 per item. Due to Covid-19, payments will only be received by E-Transfer & Wire Transfer. Invoices will be emailed out after the auction closes. All payments MUST be made by 4pm April 9th. If needed, financing MUST be prearranged prior to bidding. ABOSLUTELY NO PICK UPS BEFORE PAID INVOICE RECEIVED BY BUYER. Owners and Auctioneers are not responsible for accidents.

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BITS AND BITES

Time-saving orchard stapler tools used in Nova Scotia

Lisa Jenereaux, Spurr Bros Farm, Kingston, Nova Scotia gained more efficiency with a Stockade cordless stapler.

The Spurr Bros crew is using the ST400i on the platform.

At a Nova Scotia trade show in early 2020, Lisa Jenereaux spied the Stockade stapler tools: the pneumatic stapler and cordless stapler. The fifth-generation apple grower from Spurrs Bros farm, Kingston, remembered these tools when she was in a time crunch later in the season.

"Crews were getting more difficult to bring in from abroad," says Jenereaux, recalling the pandemic crisis. "We were running very behind in getting our trellis structure in place. I needed every advantage to have this trellis up quickly."

Jenereaux contacted Scotian Gold apple cooperative in the heart of the Annapolis Valley to trial the ST400i cordless stapler tool "just to see how it worked." She called back the same day to put her name on one.

Her positive experience was echoed by Jeff Walsh, from Walsh Farms Inc across the valley in Berwick.

"Within the first hour of demoing the ST400 pneumatic stapler tool I could see how much it would speed up wire installation," says Walsh. "I was hooked."

Walsh, while managing his family's farm, Walsh Farms, established his own orchard in 2016, winning Best First Year Planting in the Golden Apple Awards, the same year. He installs 25 acres of five-wire trellis a year plus eight-foot wildlife mesh fence.

"We have a platform with an air compressor and an eight-foot air line, enough room to move around but not so much excess to tangle," says Walsh. "I have one guy doing the bottom wire by hammer. I am going to buy him another Stockade stapler tool because the guy on the top, doing the first four wires, is just standing there waiting as he hammers the bottom."

The ST400 pneumatic finds favour with Walsh's crew. "The guys like it. It's not fatiguing and saves their thumbs from being bashed. With the wire guide, they can hold the wire up there and staple really quickly. There is no fumbling and dropping the staples off the platform."

"I would say the ST400 is 10-15 times faster than hammering. It is incredibly fast. We can string a lot of wire quickly. Not only that, we can get the whole system up and the trees tied to it faster. So, we have less damage to the tree from it being unsupported for a week."

Jenereaux has witnessed the same efficiency from the ST400i cordless stapler tool.

"Our guys just flew down those rows," she says. "As soon as we got a little way into it, I started calculating my costs of the machine compared to the time savings. I know putting in about seven acres, I have paid for that tool already."

To find more about Stockade products or to arrange a demonstration, visit www.ontarioorchardsupply.com or email at chris@ontarioorchardsupply.com.

Canadian Plant Health Council conducts biosecurity survey

The Canadian Plant Health Council brings together the industry, academic, and provincial and federal government representatives. It was formed by both private and public sector partners to oversee implementation of plant health priorities identified in the Plant and Animal Health Strategy for Canada. The information collected will be used to help identify tools to promote agricultural biosecurity and to guide potential future extension programs.

Biosecurity practices are critical to protecting farms and assuring that agri-food trade is not disrupted. It is easier to keep a pest out rather than try to manage once it arrives. Do you practice biosecurity? If so, what kinds of things do you do? If not, why not?

The survey should take less than eight minutes to complete. Participation is voluntary, confidential and anonymous.

Click in the link to access the survey.

Having issues with the hyper link? Please click here: https://ca1se.voxco.com/SE/93/biosec/?&lang=en

For more information on biosecurity practices, visit: https://www.inspection.gc.ca/plant-health/plant-pests-invasive-species/biosecurity/eng/1323475203667/1323475279124

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Worker Health & Safety

NEW

The April 2021 edition of **The Grower** features a focus on **Worker Health & Safety.** Farmers are planning for the arrival of workers by making sure they have PPE and safety requirements in place to ensure a safe growing season.

Raise awareness of your solutions to keep all workers and staff safe. Personal protective equipment, trailers, food delivery services and government agencies all have a role to play in the new world of COVID-19.

Booking deadline for April edition: March 15, 2021

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MAY 2021

Irrigation and Water Management

Introduce the equipment and software that's going to take the labour out of irrigation. Underline best management practices and equipment for treating washwater.

Agro-K Science Driven Nutrition™ from Tight Cluster to Pink Impacts Fruit Quality & Packout

Apple growers have limited windows of opportunity to positively impact their crop. One essential crop timing occurs from tight cluster to pink. During this period, Science-Driven Nutrition™ is crucial for maximizing the yield of high quality fruit at harvest.

The ideal time to begin a foliar nutrition program is at tight cluster. Up until tight cluster spur leaf development has largely been driven by the plant's nutritional reserves from the previous year. A proactive approach to nutrition will make all the difference to a grower's packout.

During tight cluster, it's important to support leaf development and function. This means having the right mix of magnesium, iron and zinc. Magnesium builds chlorophyll, the driving factor behind photosynthesis, while iron supports the chlorophyll development process. Zinc helps to develop the vascular tissue, leading to larger leaves. Bigger leaves mean increased sugar production and, ultimately, vibrant fruit color at harvest. **Agro-K's Zinc +4 DL** is designed specifically to support leaf and vascular development.

At pink, growers turn their attention toward optimizing the bloom window. There is a short period to get calcium into the apples in time for fruit cell division. It's important to note that if calcium is not adequately applied from bloom until four-to-six weeks post-petal fall, the opportunity is lost and fruit quality can suffer. Any applications beyond this point act as nutrient maintenance and are essential to maintaining fruit calcium levels for fruit quality and shelf-life. **Vigor-Cal**™ (a sugar-based nutrient solution) is formulated to penetrate tissue rapidly and completely at this key peak demand window.

Boron, which ensures pollen viability, pollen production, and flower health, is also at peak demand at pink timing. When applied together, calcium and boron synergize to increase the uptake of both nutrients. **Agro-K's Top Set D.L.**® combines boron and molybdenum to support nitrogen metabolism and utilization, cell integrity, pollen viability and flower health.

Agro-K sets growers up for success throughout tight cluster to pink by arming growers with knowledge, programs, and products they need to make smart decisions. This process begins with the **5 R's**: The Right nutrient applied at the Right time in the Right form in the Right mix targeting the Right location in the plant. Science-Driven Nutrition™ is implemented to determine crop nutrient levels and foliar product applications ensuring the apples get what they need to thrive.

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

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THE GROWER

MARCH 2021 FOCUS: POTATOES, SPRAYING & CROP PROTECTION B SECTION

BREEDING

Private potato breeders tackle local needs

André Gagnon, president of Progest, the seed potato breeding unit of Québec Parmentier, inspects his research plots based at St. Croix, near Québec City. He's also the current president of the Canadian Private Potato Breeders' Network.

KAREN DAVIDSON

Potato breeding is a numbers game.

"You need time, money and years – it's like the Lotto," laughs André Gagnon, president of Progest, the seed potato breeding unit of Québec Parmentier. He's also the current president of the Canadian Private Potato Breeders' Network – an exclusive group with about six breeding programs.

Joking aside, Gagnon has been a potato researcher since 1992, first looking at the problem of potato cyst nematode before switching from insect biology to potato breeding in 2006. "I really fell in love with potato breeding at that time," he says.

"From the beginning, we were researching any agronomic aspect of potato cropping. A lot of energy was spent from 2001-2006, then we dove into potato breeding around 2006-2007," Gagnon says.

That devotion has borne fruit in his first tablestock variety. Alliston, commercialized in 2018, is a new scab-tolerant variety that tastes similar to Yukon Golds. The round to oval-shaped potato with smooth skin and white flesh is doing very well in the Ontario climate.

The company's high-generation seed farm and research station are located in remote Baie Comeau on the northern shores of the St. Lawrence River. There are 150 acres of seed potatoes grown here on a 3,500-acre property. However, Gagnon spends his summers examining his plots on the southern shore of the St Lawrence River, an hour's drive west of Québec City.

If he's lucky, after sorting through 10,000 to 12,000 potato seeds, Gagnon might identify one variety in a decade that checks all the boxes. His son Samuel is now doing his Master's degree at Laval University on potato breeding and moving toward a PhD program in spring 2021.

The veteran members of the breeding fraternity are Robert Coffin and his wife, Joyce, now semi-retired at Trenton, Ontario. They ran their potato breeding program as Privar Farm Inc on Prince Edward Island. They developed Prospect which is a long-shaped processing variety and Arbor Globe, a round-shaped processing variety. The Plant Breeders' Rights of both varieties were sold to the French fry processor Cavendish Farms located near Kensington, PEI. They also produced Lollipop, a small round red-skinned, white-fleshed variety and sold the rights to Solanum International. PRF3, a tan-skinned fingerling and its rights were sold to La Patate Lac-St Jean.

As Coffin explains, the Plant Breeders' Rights bill was passed in Canada in 1990. In the years since its passage, a scattering of private breeding programs has emerged with the promise of a royalty or fee from those growing protected varieties. The fees help the enthusiasts to further their programs.

The Canadian Private Potato Breeders' Network communicates with Agriculture and Agri-Food Canada, the Canadian Food Inspection Agency, potato processors and growers.

Continued on page B2

Potato Growers of Alberta survey PG B4

Spraying potatoes PG B6

Multiple resistant weed species B10

FOCUS: POTATOES

Private potato breeders tackle local needs

Several years ago, the Canadian Private Potato Breeders' Network met in Ontario. L-R: Dan Ronis, Ontario; Philippe Parent, Québec; Darin Gibson, Manitoba; Manitoba, André Gagnon, Québec; Peter Vander Zaag, Ontario; Duane Falk, Ontario; Joyce and Robert. Coffin, Ontario. Missing from the group photo: Joel VanderSchaaf, Saskatchewan.

Master's student Samuel Gagnon collects potato pollen from parent lines at a Laval University lab for crossing purposes.

Continued from page B1

Moving genetic resources across international borders, for instance, is one key issue says Peter VanderZaag, a private breeder in Ontario. He sees his role as adapting potato varieties to local growing conditions.

The Alliston variety that's doing so well in Ontario has had mixed results in Manitoba, for example. According to Darin Gibson, Gaia Consulting, the variety did extremely well in 2019 but didn't perform as well in 2020. "It's too early to make the call based on only two years," he says.

He and his wife Debbie Jones are well-known for their consulting business in Newton, Manitoba, conducting crop protection trials for various companies. Less known is their potato breeding research. Both of them come from plant breeding backgrounds, mostly in cereals, but have broadened into potatoes. As Gibson explains, the French fry varieties come mostly from the Pacific Northwest but are not bred for the Canadian prairies.

"There's room for private breeders," says Gibson, "supporting each other with trials in different climates and soils. It's not about a financial windfall."

For members of the Canadian Private Potato Breeders' Network, their focus lies somewhere between a hobby and an obsession.

FOCUS: POTATOES

Finding the right genes to flatten potato common scab disease

No potato producer wants to find deep, rough and pitted lesions on the skin of their potatoes. Common scab disease is a widespread issue that can lead to major economic losses, at least $17 million per year, for producers across Canada. Lost profits from waste occur when more than five per cent of a potato is affected by unsightly common scab, which means they cannot be sold to the fresh vegetable market. Also, the lesions make potatoes difficult to peel, resulting in waste and lost profits in the chip and fry markets. Many regions are experiencing warmer and drier growing seasons, which leads to more instances of common scab disease in potatoes.

A Prince Edward Island-based Agriculture and Agri-Food Canada (AAFC) researcher, Dr. Bourlaye Fofana, grows 814 different genetic lines of potatoes in fields at AAFC's Harrington Research Farm, all in pursuit of finding potatoes that are resistant to disease, drought and greening.

Dr. Fofana is working to develop potato varieties that are resistant to common scab disease, making crops more plentiful and profitable and providing blemish-free produce for consumers around the world. This is just one of many ways in which AAFC is exploring innovations to tackle food waste through the country's first-ever Food Policy for Canada announced in July 2019. Additionally, the Surplus Food Rescue Program is helping to manage and redirect existing potato surpluses to organizations that address food insecurity among Canadians to ensure that these potatoes are not wasted.

At AAFC laboratories in Charlottetown and its Harrington research farm in Prince Edward Island, Dr. Fofana recently completed comparative gene expression profiling by studying genes to find statistically significant differences between two potato varieties: a potato variety that regularly develops common scab (Green Mountain) and one that tends to develop fewer common scab symptoms (Hindenburg).

Dr. Fofana's research team identified a set of 273 different genes in 34 biochemical pathways (a series of connected biological reactions that support one another) that likely differentiate Green Mountain and Hindenburg potato varieties and that might be responsible for common scab resistance in some varieties of potatoes.

The data suggests that comparative gene expression profiling can be used to predict common scab lesions in potato breeding varieties. Comparative gene expression profiling is the measurement of the activity (the expression) of thousands of genes at once. These gene activities are then compared between two organisms (potato variety).

"The research revealed that the common scab resistant variety, Hindenburg, has developed an ability to sense and prepare itself against common scab disease attacks over time as an immune priming mechanism," explains Dr. Fofana.

Dr. Fofana is hopeful that, with additional research, this new information could help the Canadian potato breeding programs, including the breeders at AAFC's Fredericton Research and Development Centre in New Brunswick.

"Common scab resistance is a high priority trait within AAFC's potato breeding program," says David De Koeyer, AAFC scientist and potato breeder. "The work conducted by Dr. Fofana will introduce more precise screening tools that will help us identify resistance clones earlier in the breeding cycle." The identification of the precise genes that affect common scab resistance will have a significant impact on potato breeding and ultimately will provide producers with a way to control this major disease.

Dr. Bourlaye Fofana, AAFC Source: AAFC

FOCUS: POTATOES

Potato Growers of Alberta survey unearths valuable insight to production concerns

KAREN DAVIDSON

Over time, issues shift and that's no different for the 160 members of the Potato Growers of Alberta (PGA) who steward 58,000 acres in the province. A recent December 2020 survey conducted by the research committee has revealed fascinating insight about the management issues and specific pests and diseases that continue to challenge the sector. What's most interesting is the comparison to results from a 2013 survey.

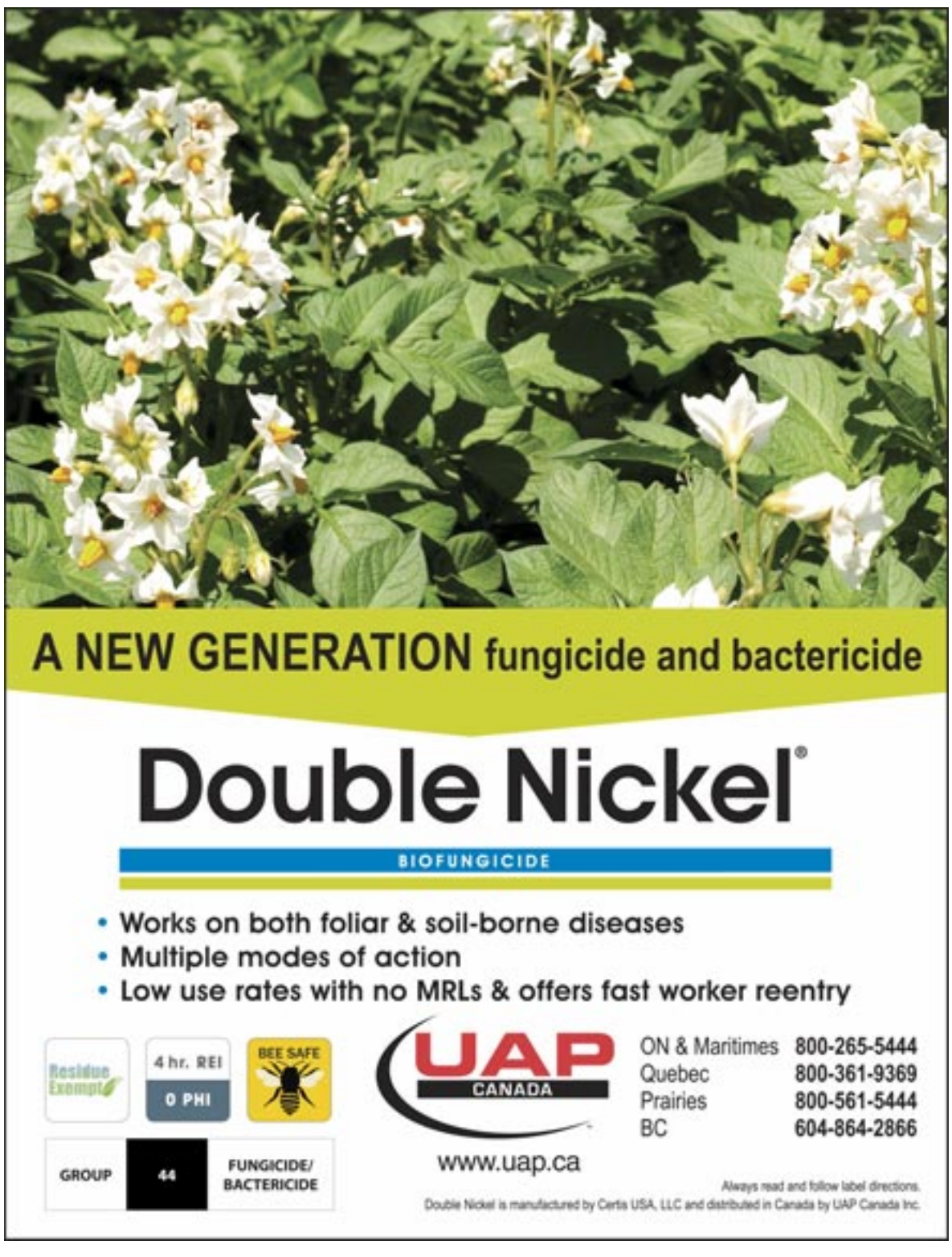
"It's nice to see more validation of what I've been experiencing in the field," says Thomas McDade, agricultural director. "There's a real shift in mindset in the last couple years about soil health."

A severe southern Alberta storm with winds gusting up to 140 km/hour in early 2021 underscored the importance of keeping soil where it belongs. Secondly, he observes that concern about zebra chip disease is receding because monitoring sites have not detected the vector, the potato psyllid, in the last two years.

Thirdly, the importance of resistance management has not subsided. The control of aphids and wireworms remains of high concern with fewer products available for rotating chemistries. The survey results will guide the association in prioritizing research projects in the future. Given that Alberta Agriculture has severely cut its funding of primary production research and personnel, PGA has pivoted to a producer-driven research model. In turn, the University of Lethbridge and Lethbridge College have ramped up research capacity particularly in the last six to 12 months. Without the expertise of irrigation specialists and others, for example, potato growers would be left without local and regional knowledge. The region is targeted for a major upgrade in infrastructure that could add 35,000 to 40,000 acres of irrigated land. The goal is to use more variable rate irrigation, conserving the valuable snowmelt from the Rocky Mountains.

As McDade pointed out, southern Alberta potato growers are also unique in their access to cattle manure from the robust feedlot sector near Lethbridge. Research on composting manure and how best to utilize its soil-boosting components is important in crop rotations. Growers are now looking to stretch crop rotations from four to five years in efforts to break the cycle of verticillium wilt.

"Potatoes take a lot of land," concludes McDade. "This survey is a good barometer of where to shift in the future."



PGA 2020 Survey

In December 2020, the research committee of the Potato Growers of Alberta sent out a survey to its 160 members regarding the interest in and satisfaction with current and future research projects. The 2020 survey shares many questions with a similar one that was conducted in 2013. Approximately 50 (30%) of the members responded. Below is a comparison of the 2013 responses versus similar research questions asked in 2020.

Q 1: New question for 2020 Survey. Identifies the sector of potatoes the PGA member is in. More than 50% of the respondents to the survey are processing potato growers, followed by just over 20% seed growers.

Q 2: Aside from late blight, what is the most serious disease pest threatening our industry?

2013: Pink Rot/Wet storage was the primary concern, followed by Fusarium and Verticillium.
2020: Almost 50% of respondents picked Verticillium/Early Dying as the most serious pest to the industry.

Q 3: What potato internal defects do you feel are the most challenging on your farm?

This was also a new question for 2020. More than 50% of respondents indicated that Brown Center/Hollow Heart was the primary internal defect of concern.

Q 4: How important is resistance management when you are selecting pesticides for weed, disease or insect management?

The importance placed on managing resistance remains very high. More than 80% of respondents indicated that is a key area of concern.

Q 5: What insect pest are you most worried about on your farm?

2013: The primary pests of concern were aphids, wireworms and potato psyllids.
2020: The survey showed that there was equal concern about aphids and wireworms. About 35% of respondents selected both these pests as the primary pest to worry about.

Q 6: Would you like to continue to see potato psyllid/insect trapping results weekly?

2013: Overwhelming answer was yes, as well as aphid and other insect counts as well.
2020: About 40% of respondents indicated that they would like to see these reports continue as well as to see the aphid and other insect counts.

Q 7: Where do you see the greatest potential gains in storage management?

Continued on next page

FOCUS: POTATOES

Potato Growers of Alberta survey unearths valuable insight

2013: Primary answer was ventilation/air quality, followed by post-harvest treatments.
2020: More than 40% of respondents picked ventilation/air quality.

Q 8: What type of sprout inhibiting technology should we focus on?

2013: The respondents were equally split over using alternative rates of existing products, as well as using alternative products.
2020: Overwhelmingly picked alternative storage sprout inhibitors.

Q 9: In what areas/markets should we focus variety development efforts on?

2013 & 2020: Respondents chose the process French fry varieties as the main focus for variety development.

Q 10: What variety traits are most important to develop?

2013: Disease and pest resistance was the most selected answer.
2020: The responses were more evenly divided between market quality, disease/pest resistance and storability.

Q 11: Where should our variety development focus?

2013: Existing breeding programs were the primary response.
2020: About 50% of respondents selected existing breeding programs, and 30% indicated that the breeding programs should reside with the processors.

Q 12: Where do you think we can gain the most on production (farm gate receipts)?

2013: The responses were quite evenly split between disease/pest management, soil/crop fertility and crop rotations.
2020: Almost 40% of respondents indicated that soil/crop fertility comes first, followed by the even split between crop rotations and disease/pest management.

Q 13: Fertilizer management – where do you think we need to focus?

2013: Even split between all possible answers, with a slightly higher response rate for polymer/slow release products.
2020: Almost 40% chose a variety-specific, nutrient program and 28% chose a fall/spring split application.

Q 14: What do you see as the biggest threat to our industry?

2013: The primary answer was over-planting, followed by declining markets, border/political issues and public unawareness.
2020: The respondents overwhelmingly picked over-planting as the biggest threat to the industry.

Q 15: To what extent should the research funds focus dollars on market development, public education and advertising?

2013 & 2020: Primary response was 10% of research funds should be allocated to these activities.

Q 16: Where should the PGA be focusing research funds on?

2013: Primary response was on grower education.
2020: The answers were more balanced amongst all five of the categories: grower education, public awareness, research for new markets, improvement of existing markets and market/media advertising.

Q 17: Which of the following requires research relevant to our industry?

2013: The primary responses were decrease in pesticide usage, water conservation and soil conservation.
2020: The respondents overwhelmingly picked soil conservation.

Q 18: Do you see value within your farm operation, with respect to research dollars spent by the PGA?

This was a new question for the 2020 survey. The responses were:
Yes – 40%
Yes, but not always sure – 40%.

Q 19: If some of the current research programs, such as the pest surveillance programs were not funded in the future - would you support the PGA using existing research dollars to fund these programs?

This was also a new question for 2020 survey. 42% of respondents indicated yes to this question. 48% said yes if industry also participated.

FOCUS: SPRAYING

Potato fungicide coverage and mobility

DENNIS VAN DYK

Potato growers are no stranger to fungicide applications because potatoes have no shortage of diseases. Regular, preventative applications from different fungicide groups are required to grow a successful crop, providing protection from late blight and other diseases. A good fungicide program leaves growers with a healthy, lush canopy but also a problem. How do you continue to protect the crop from top to bottom with a dense, multi-layered canopy that is providing ideal disease conditions?

Jason Deveau (application tech specialist, OMAFRA) and I examined this problem with a commercial chip potato grower using fluorescent dye sprayed over a full, lush potato canopy. We tried to penetrate the canopy using two nozzle types, 100° flat fans alternating 38° forwards and backwards vs. hollowcones to "fog it in." We took multiple samples at three heights; top leaf, mid-canopy and the base of the plants (Figure 1, page B8). We found the hollowcone provided more spray deposits at the top of the canopy but there was no difference at mid-canopy between the two nozzles (Figure 2, page B8). None of the nozzles were able to penetrate the canopy down to the base of the plants or those lower leaves.

FRAC Group	Products	Labelled Potato Disease(s)	Mobility
3	Quash Fungicide	EB, *WM*	Xylem Mobile
4/M3	Ridomil Gold MZ 68WG	LB, EB, *PL*, *PR*	Xylem Mobile/ Contact
4	Ridomil Gold 480 SL	LB, EB*, BG*, *PL*, *PR*	Xylem Mobile
7	Cantus WDG, Sercadis[1], Vertisan[2]	EB, BG[2], *WM*[1]	Locally Systemic
7/3	Aprovia Top, Miravis Duo[1]	EB, BG[1], BS, *WM*[1]	Locally Systemic/ Xylem Mobile
7/9	Luna Tranquility	EB, BS, *BD*, WM	Locally Systemic
9	Scala SC	EB*	Locally Systemic
11	Quadris Flowable[1], Azoshy 250 SC[1], Acapela[2]	LB*, EB*, BD[1], WM[2]	Xylem Mobile
	Headline EC, Reason 500SC	LB*, EB*	Locally Systemic
11/3	Quadris Top	EB, *BS*, *BD*, *WM*	Xylem Mobile
11/27	Tanos 50 DF	LB, EB	Locally Systemic
21	Ranman 400SC	LB	Locally Systemic
22/M3	Gavel DF	LB, EB	Locally Systemic/ Contact
27/M3	Curzate 60 DF + Manzate	LB	Locally Systemic/ Contact
29	Allegro 500F	LB, WM	Locally Systemic
40	Acrobat 50 WP, Forum	LB*	Trans-laminar
	Revus	LB*	Locally Systemic
40/49	Orondis Ultra	LB	Xylem mobile
43	Presidio	LB*	Locally Systemic
45/40	Zampro	LB	Locally Systemic
P07	Phostrol[1], Confine Extra[2], Rampart[3]	LB[1], *LB*[2,3], *EB*[1], *PR*	Fully Systemic
BM02	Double Nickel 55, Serenade Opti	*EB*	Contact
M1	copper products (Copper 53W, Copper Spray, Coppercide WP, Cueva, Kocide 2000, Parasol Flowable)	LB, EB	Contact
M3	mancozeb products (Dithane F-45, Manzate Pro-stick, Dithane Rainshield, Penncozeb 75 DF Raincoat)	LB, EB	Contact
M5	chlorothalonil products (Bravo ZN, Echo 90 DF)	LB, EB, BG	Contact

* tank-mix with a contact/protectant fungicide, see label for specific details.

Disease in italics means registered for suppression only.

LB – Late blight, EB – Early blight, BG – Botrytis gray mould, , BS – Brown spot, BD – Black dot, WM – White mould, PL – Pythium leak, PR – Pink rot

Not a complete list of products registered on potatoes. See product labels for complete information.

Table 1. Fungicides registered on potato diseases and their mobility in the plant.

So how do we continue to protect the entire plant against late blight or get at those older leaves at the bottom of the canopy where early blight or white mold is developing? Can we use a fungicide's ability to move in the plant to get better protection of the whole plant?

We know that the fluorescent dye we used would act like a contact fungicide. With contact-only fungicides wherever the droplets land is where the fungicide is active, the droplets may spread out on the leaf but not move inside. Generally active against multiple sites within pathogens, contact fungicides are critical pieces of resistance management. Locally systemic or translaminar fungicides may move in the leaf where the spray deposits land to protect both upper and lower sides of the leaf. These fungicides do not move to other leaves or to new growth in the plant.

Xylem mobile fungicides provide full protection of leaves they are sprayed on and can move with water transport in the plant. The fungicide can move upwards and provide protection to new growth but it does not move down to older growth or roots. Fully systemic or amphi-mobile fungicides can move in the xylem and phloem, allowing the fungicide to move both upwards and downwards in the plant. This type of systemic activity is rare. The FRAC group P07 phosphonates (Phostrol, Confine Extra, Rampart) are the only common products used in potatoes that have this ability. Refer to Table 1 to see the plant mobility of fungicides registered on potatoes.

You'll notice from the table that there are a few products that will move up to protect new growth (xylem mobile) and almost no products that will move down to protect older leaves. In our work, 'fogging it in' did not penetrate the canopy and leaves spray susceptible to drift and wasted product. It highlights the importance of regular preventative applications to protect those leaves while you have a chance earlier in the season.

Continued on page B8

FOCUS: SPRAYING

Potato fungicide coverage and mobility

Figure 1. Tissue samples taken at the top, middle and base of the potato canopy to determine spray penetration.

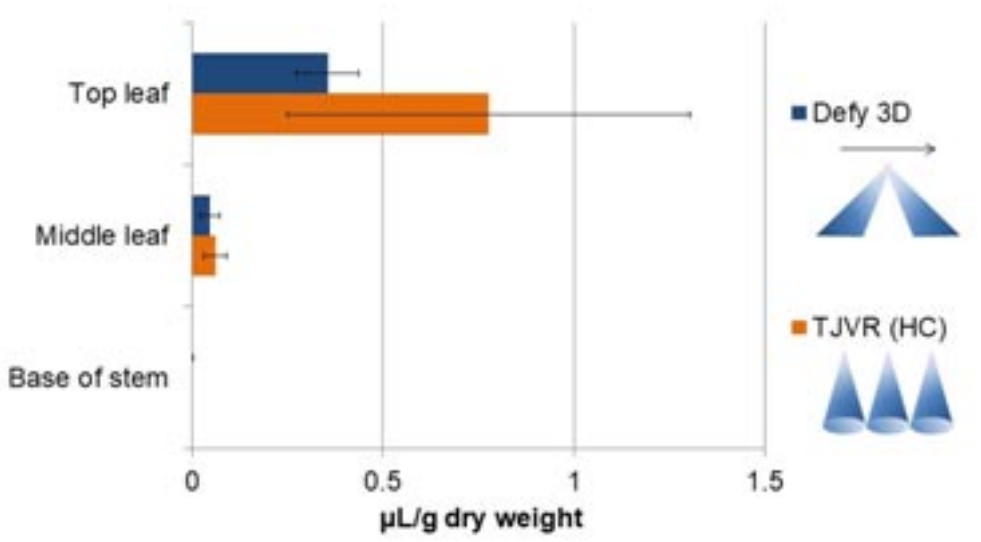


Figure 2. Amount of fluorescent dye recovered from 3 potato canopy heights comparing hollowcone vs. alternating flat fan nozzles.

Continued from page B6

Once the canopy fills in, the moist, humid environment is perfect for disease development.

One strategy that could help with spray penetration would be an air-assist boom. These sprayers use an air curtain separate from the nozzles to direct the spray droplets down into the canopy. The curtain of air also disrupts the canopy as the sprayer passes, allowing spray droplets to infiltrate past those top layers of leaves and settle throughout the canopy when it closes back up. This would allow for more uniform coverage, protecting the lower and mid-canopy while still allowing xylem mobile fungicides to move up and protect new growth.

Dennis Van Dyk is a vegetable crop specialist, OMAFRA.

FOCUS: POTATOES

Pre-harvest testing service will recommend best storage practices

Debbie Jones, Gaia Consulting, is juicing potato strips as part of the analysis.

A photo box shows the results of a French fry colour test.

KAREN DAVIDSON

The real test of a French fry potato variety is how it fries after several months in storage. Fortunately, there are tools that can predict the outcome before harvest.

Techmark accredited laboratories, founded in Lansing, Michigan, are now franchised across the United States and Canada.

Gaia Consulting has added an accredited laboratory to its services for Manitoba growers for 2021. Pre-harvest and storage samples can be picked up or shipped to its Newton, Manitoba facility where Debbie Jones and her staff will conduct a frying test and sugar test. Data are collected and presented on the Techmark online data portal. Armed with this important information, growers can make storage management decisions to create the best returns on stored potatoes.

One of the benefits is the Techmark sugar report which aggregates data from Manitoba clients. It includes planting and pre-harvest data as well as trend lines of sugar data and fry quality defects. Finally, it includes trends and regional variety performance.

As Techmark specialist Todd Forbush explained earlier this year, a tuber sucrose rating is the primary indicator of the life cycle. An immature crop has very different needs in storage than an over-mature crop. And of course, maturity levels are compounded by weather stresses such as drought or flooding.

The pre-harvest sucrose analysis allows growers to identify mature fields with the highest opportunity for successful storage. Fields with similar maturity can be marked for better storage management.

"It's critical to assess the growth stage prior to fall stress," he said.

FOCUS: CROP PROTECTION

Multiple resistant weed species confirmed by genetic testing project

“Usually, by the time I’m called to a field the resistant weeds have been there three or more years and there is a significant resistant weed seed bank already in the soil. Which means it’s already too late and the grower will be dealing with resistant weeds for decades to come.”

~ KRISTEN OBEID, OMAFRA

Resistant pigweed species in potatoes. Photo by Marieke Patton.

KRISTEN OBEID

In 2020, multiple resistant (resistance to two or more herbicide modes of action/groups) pigweed species (green and redroot) were found in carrots, potatoes and tomatoes. We have known about Groups 5 and 7 (gesagard and linuron) resistant pigweed in all carrot producing regions of Ontario since 2012, when a large sampling project was conducted by OMAFRA and the University of Guelph. However, this is the first year we have confirmed Groups 5 and 7 (metribuzin and linuron) resistant pigweed in potatoes. Potato growers also have confirmed cases of Group 5 (metribuzin) resistant lamb’s-quarters which have been documented in all potato growing regions of Ontario since 2017. Groups 2 and 5 (thifensulfuron-methyl/rimsulfuron/halosulfuron and metribuzin) resistant pigweed was first found in tomatoes in 2019.

In Ontario, we currently have 21 different weed species where herbicide resistance has been documented. The most notable trend is the increase in the number of weed species where multiple resistance has been documented. The most common cases over the last several years have been Groups 2 and 9 resistant Canada fleabane, Groups 2 and 5 resistant redroot and green pigweed, Groups 5 and 7 resistant redroot and green pigweed, Groups 2 and 9 resistant common and giant ragweed and Groups 2, 5, 9 and 14 resistant waterhemp.

Our biggest challenge ahead will be the amaranthus/pigweed weed family. Of the top 15 resistant weeds worldwide, there are four amaranthus/pigweed species: palmer amaranth, waterhemp, smooth pigweed and redroot pigweed. These four species are resistant to five or more herbicide groups.

In Ontario, waterhemp is resistant to four herbicide groups. Quebec confirmed waterhemp resistant to Group 27 herbicides (mesotrione/tolpyralate) in January 2021, which has yet to be reported in Ontario. That makes five herbicide groups that waterhemp is resistant to in Canada.

So, what does this all mean? It means we are in BIG trouble. When there are Groups 2, 5 and 7 resistant weeds in horticulture crops, it most often means we have no other post-emergent herbicides to control those weed species, which leaves growers with few options, other than hand-weeding. Hand-weeding is costly and requires available labour, which 2020 taught us can be very problematic. It is also extremely difficult to find post-emergent herbicides that will control the weeds and not kill highly sensitive horticulture crops. There are no new herbicide active ingredients on the horizon, and it takes an enormous amount of time and effort to garner crop protection companies support for minor use registrations. There are a lot of different companies that have developed robotic weeding technology, however we are still a few years away from seeing them on a high percentage of farms due to cost and consistency of the technology.

So, what can you do? Whatever you do, don’t be complacent. Get your suspected resistant weeds tested. Contact me! It’s free through project funding and easy to do. Knowing where resistant weeds are located will improve management, prevent their spread and maintain the longevity of our crop protection tools.

Since 2016 this genetic testing project has confirmed 95 new cases of herbicide resistant weeds in horticulture crops. Producers, agri-business and consultants who have participated in the project were pleased with the timely results and welcomed the in-season management recommendations. This project would not be possible without the collaboration and support of many partners: AAFC, AAFC-PMC, Bayer CropScience Inc., FMC Canada, FVGO, MAPAQ, OAG, OFVGA, OPVG and Syngenta Canada Inc.

Kristen Obeid is OMAFRA weed management specialist – horticulture.

Updated resource now available for weed control

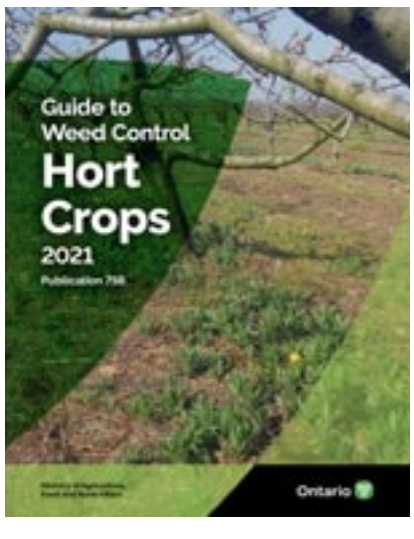
Alert to Ontario growers. The Guide to Weed Control for Hort Crops, 2021 publication 75B is now available.

New features in recommendations are:

- Product rates in amounts per acre and hectare
- New crops Added
- New chapter: Other herbicides including organic

Free PDF download a vailable: www.omafra.gov.on.ca/english/crops/ pub75/pub75B/pub75Btoc.htm

Print copy available at Publications Ontario: www.ontario.ca/publications



FOCUS: CROP PROTECTION

Banking water for the future

KAREN DAVIDSON

2020 was a droughty year in southern Ontario, a perfect year to test the attributes of a new product called Stockosorb660 hydrogel.

Marc Richard, president of the Quebec-based company Ecoplus, says the eco-friendly, granular product is applied in-furrow along with fertilizer. Subsequent rains activate the product to turn into a gel. Under water-deprived conditions, the hydrogel releases its water and micronutrients. The benefit is better water retention in the soil and potentially less watering frequency by irrigation.

Aaron Crombez, Hammer Lane Farming Ltd., trialled the product on 100 tablestock potato acres in 2020. Located near LaSalette, Ontario, he wanted to ease the pressure on his overhead irrigation system that must cover all potato acres within a week's rotation.

"We are in an area of sandy soils," says Crombez. "We want to avoid the hot-cold effect on potatoes when we are short of water."

At planting time, Crombez had Stockosorb600 custom blended with his fertilizer. It was applied in-furrow at a rate of 10 pounds/acre. During the growing season, he dug up growing plants to check on what was happening underground. He found traces of clear gel which looks like slush, where it was planted at a depth of two to three inches.

"I think this product was helpful," he says. "We did not experience the second growth or lenticel problems that other growers had during the hot summer."

When it came to topkilling his crop in the fall, there were no adverse or competing effects from the hydrogel.

"Turning the off switch is not an easy thing to do," says Crombez, "but there were no problems with the remaining hydrogel in the soil."

Harvest weights were higher than average at 350/cwt per acre. And quality for his yellow and white varieties were above average as well.

"It's impossible to attribute this product to the overall success of the crop," Crombez says. "But we try to be as progressive as possible in our management practices."

Plans are to continue with Stockosorb660 hydrogel in 2021 on 200 potato acres. However, he will finetune the application method to a small applicator, separate from the fertilizer drill. For a video that shows examples with sweet corn, tomatoes and potatoes, go to: https://bit.ly/3jua7vz

Agricultural Information Contact Centre: 1-877-424-1300
ontario.ca/crops

Ontario Berry Grower

Ministry of Agriculture, Food and Rural Affairs

Ontario

Raspberry 1.0

Mark your calendars: The Berry Growers of Ontario are hosting the virtual Raspberry 1.0 workshop on March 23-24th. Don't miss this opportunity to hear from guest speakers berry experts Bernadine Strik from Oregon State University and David Handley from the University of Maine. This workshop covers production information for new and experienced growers.

Contact Kevin Schooley info@ontarioberries.com to register.

Ontario Berries

Raspberry 1.0
March 23-24, 2021 Virtual Zoom meeting
Production information for new and experienced raspberry growers in Ontario
Agenda

	March 23- Day 1	
10:45	Log in & Welcome	
11:00	Raspberry Site Selection & Soil Management	David Handley, University of Maine
11:30	Raspberry Physiology	Bernadine Strik, Oregon State University
12:15	Break	
12:30	Raspberry Production Systems	Erica Pate, OMAFRA
1:00	Raspberry Fertility & Nutrient Management	Bernadine Strik, Oregon State University
1:45	Discussion & Adjourn	
	March 24- Day 2	
10:45	Log in & Welcome	
11:00	Raspberry Pests: Weed Management	Kristen Obeid, OMAFRA
11:30	Tips for Pruning and Training Raspberries	David Handley, University of Maine
12:00	Raspberry Pests: Insect & Disease Management	Erica Pate, OMAFRA
12:45	Break	
1:00	Choosing a Variety	Erica Pate, OMAFRA
1:30	What is Your Market?	Kevin Schooley, Berry Growers of Ontario
2:00	Discussion & Adjourn	

What about hummingbirds and SWD?

JULIET CARROLL

This past season, 2020, we found a significant reduction of Spotted Wing Drosophila (SWD) in a raspberry planting using feeders to attract ruby-throated hummingbirds into the planting.

In addition to nectar, ruby-throated hummingbirds feed on small, soft-bodied insects, snatching them directly out of the air or pulling them off plants. Early studies of hummingbirds raised in aviaries in Germany (Scheithauer 1967) used Drosophila melanogaster, the common fruit fly, to supplement their diet, without which they failed to thrive, proving unequivocally that hummingbirds require arthropods in their diet. If they can capture and eat D. melanogaster, it is certain that they can capture and eat D. suzukii, SWD. But will it help fruit growers?

Hummingbirds are known to learn how to find and use new food resources. They aren't picky eaters — eating small spiders, gnats, aphids, fruit flies, etc. Scheithauer (1967) even noted the behavior of hummingbirds to "buzz" the fruit flies to fan them off the surface they had settled onto. Once in the air, the hummingbird chased after an individual fruit fly until catching it and devouring it. Ruby-throats have been clocked at more than 25 mph! And they can turn on a dime, which is about how much they weigh.

In western New York state, one raspberry farm and one blueberry farm are actively utilizing hummingbird feeders in their operations (25 feeders/acre) as a management tactic for SWD. In 2020, plots on these farms were compared to plots on two others that did not use feeders to see whether the feeders were helping against SWD.

The raspberry plots were on conventional farms and the floricane varieties were unknown. The raspberry farm without feeders was U-pick and implemented a conventional spray program, beginning when SWD were caught in traps and fruit were ripe. The raspberry farm using feeders was a Community Supported Agriculture (CSA) operation and did not apply insecticides.

The blueberry plots were on organic farms and both contained 'Blueray' (two rows) and 'Bluecrop' (one row). The organic blueberry farm without feeders was U-pick direct market and relied on sanitation and clean picking to manage SWD. The organic blueberry farm using feeders was direct market and used a single application of spinosad (Entrust) followed by a single application of pyrethrin (Pyganic) at labeled rates once SWD were caught and fruit were ripe.

Four rows, each 35.4 m (116 ft) long, were used for the experiment at each farm.

Continued on next page

ONTARIO BERRY NEWS

What about hummingbirds and SWD?

Continued from last page

Assessments for SWD were conducted in three of the four rows, one on the edge and two in the interior of the planting. Adult fly abundance was assessed weekly with Scentry SWD traps and lures. Samples of marketable fruits collected from each plot were assessed for fruit infestation using salt flotation to enumerate SWD larvae per gram of fruit using the method described by Van Timmeren et al. (2017).

Hummingbirds were seen at all observation time points from June through August in the berry plantings using feeders. None were seen in the plantings without feeders.

In eight of 11 weeks, the raspberry plot with hummingbird feeders had statistically fewer SWD than the plot without feeders, especially in the latter half of the growing season. No statistical differences were observed in the SWD numbers between the blueberry plots.

Differences were seen in the fruit infestation levels in the raspberry plots with lower infestation in the plot with feeders. No differences were found between the blueberry plots in fruit infestation levels. In all farms, SWD fruit infestation levels were low in the marketable fruit samples collected: 0 to 0.78 larvae/g of fruit in blueberry and 0 to 0.04 larvae/g in raspberry.

We are currently preparing a manuscript for publication of this work and the prior field research experiments. The four-year study in research plots was summarized in a Fruit Quarterly article (Carroll et al. 2020). The Spring issue (see page 9) is available at https://bit.ly/2Mvn5Ny

The investigation of ruby-throated hummingbird predation of SWD in grower fields was done by Juliet Carroll and Grace Marshall, NYS IPM Program, with advice and guidance from Courtney Weber, Section of Horticulture and Greg Loeb, Department of Entomology. We are located at Cornell University, Cornell AgriTech, Geneva, NY

Funding to support this work has been provided by the New York State Berry Growers Association and the USDA NIFA CPPM EIP award 2017-70006-27142.

Literature cited:

Carroll, J., Weber, C., and Loeb, G. 2020. Hummingbirds can reduce spotted wing drosophila (SWD) fruit infestation. Fruit Quarterly 28(1): 9-13.

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Juliet Carroll is fruit IPM coordinator for the New York State IPM Program, Cornell Agritech. Link to her blog here: https://bit.ly/3cLCVxV

A ruby-throated hummingbird on a feeder set above a blueberry planting.

CROP PROTECTION

2020 PMRA re-evaluation decision summary

CHRIS DUYVELSHOFF
CROP PROTECTION ADVISOR, OFVGA

Regulatory decisions on re-evaluation of crop protection products by the Pest Management Regulatory Agency (PMRA) always have an impact on the edible horticulture sector. In recent years, the PMRA has prioritized the re-evaluation of older active ingredients registered before 1995. These active ingredients constituted most of the decisions issued in 2020. They also represent some critical crop protection products for the sector. The key decisions and dates from 2020 are summarized in this Crop Protection Column.

The last date of on-farm use for products which have been cancelled or amended through re-evaluation has been a point of some confusion over the past few years. With clearer guidance now from PMRA on this topic, it would be useful to highlight it here.

What has previously been clear is that growers have three years from the date of a PMRA final decision to the last use date on farm if all uses of a product have been cancelled. That means all crop and non-crop uses and all target pests – there are no use patterns that are acceptable for continuation on a product label.

When a product is not cancelled but needs to be amended – some use patterns are acceptable to continue but not all – the date of last farm use for the cancelled uses on those labels was not previously clear. Many believed the same three-year phase out policy applied here but that is not the case.

Updated PMRA guidance indicates that users will have a two-year transition period from the date of the final decision to transition to using the newly amended labels, which will be available on the PMRA Public Registry. In practical terms, if a grower has product with old label instructions for a use that has been removed by a re-evaluation decision which required label amendments, there will be a 24-month period following that decision before updated label directions must be used.

This provides some clarity for growers on the effective date for changes to product use information prior to application. Growers are encouraged to contact the product registrant (manufacturer) for more information to clarify last use dates and changes to product labels.

Key re-evaluation decisions are as follows:

Folpet – Group M Fungicide
Example brand: Folpan
Date of re-evaluation decision: January 23, 2020
Edible crop uses cancelled: None
Edible crop uses acceptable to continue with new mitigation measures: Apple, grape, strawberry, cucumber, pumpkin, squash, melon, tomato
Users must follow updated label directions for acceptable uses by: January 23, 2022

Dichlorvos – Group 1B Insecticide
Example brand: DDVP
Date of re-evaluation decision: August 20, 2020
Edible crop uses cancelled: All
Edible crop uses acceptable to continue with new mitigation measures: None
Last date of edible crop use for labels requiring amendments: August 20, 2022
Last date of use for cancelled products: August 20, 2023

Ethephon – Plant growth regulator
Example brand: Ethrel
Date of re-evaluation decision: September 24, 2020
Edible crop uses cancelled: Apple (with fruit present only)
Edible crop uses acceptable to continue with new mitigation measures: Tomato, cherry, blueberry, apple (without fruit)
Users must follow updated label directions for acceptable uses by: September 24, 2022

Phosmet – Group 1B Insecticide
Example brand: Imidan
Date of re-evaluation decision: October 30, 2020
Edible crop uses cancelled: Grape
Edible crop uses acceptable to continue with new mitigation measures: Pome fruit, stone fruit, blueberry, carrot, celery, potato
Users must follow updated label directions for acceptable uses by: October 30, 2022

Linuron – Group 7 Herbicide
Example brand: Lorox
Date of re-evaluation decision: November 5, 2020
Edible crop uses cancelled: Tree fruit, sweet corn, dill, coriander
Edible crop uses acceptable to continue with new mitigation measures: Carrot, parsnip, potato, asparagus
Users must follow updated label directions for acceptable uses by: November 5, 2022

Mancozeb – Group M Fungicide
Example brand: Manzate
Date of re-evaluation decision: November 19, 2020
Edible crop uses cancelled: Seed treatment, greenhouse use, pear, carrot, celery, lettuce, watermelon
Edible crop uses acceptable to continue with new mitigation measures: Potato, apple, onion, ginseng, cucumber, tomato, grape, pumpkin, squash, melon excluding watermelon
Users must follow updated label directions for acceptable uses by: November 19, 2022
Last date of use for cancelled products: November 19, 2023

Thiophanate-methyl – Group 1 Fungicide
Example brand: Senator
Date of re-evaluation decision: December 3, 2020
Edible crop uses cancelled: Dust application to potato seed
Edible crop uses acceptable to continue with new mitigation measures: Pome fruit, stone fruit, strawberry, raspberry, blueberry (lowbush), seed treatment of sweet corn and potato with non-dust formulations
Users must follow updated label directions for acceptable uses by: December 3, 2022
Last date of use for cancelled products: December 3, 2023

Chlorpyrifos – Group 1B Insecticide
Example brand: Lorsban
Date of re-evaluation decision: December 10, 2020
Edible crop uses cancelled: All
Edible crop uses acceptable to continue with new mitigation measures: None
Last date of edible crop use for labels requiring amendments: December 10, 2022
Last date of use for cancelled products: December 10, 2023

Photo by Glenn Lowson

In practical terms, if a grower has product with old label instructions for a use that has been removed by a re-evaluation decision which required label amendments, there will be a 24-month period following that decision before updated label directions must be used.

CROP PROTECTION

Merivon fungicide is registered

BASF Canada Agricultural Solutions (BASF) has received registration for Merivon fungicide from Health Canada's Pest Management Regulatory Agency.

New for the 2021 growing season, Merivon fungicide harnesses the power of two active ingredients, Xemium (fluxapyroxad) and AgCelence (pyraclostrobin) to address key diseases such as black rot and bitter rot in apples, and Septoria leaf spot and botrytis gray mold in blueberries. It's also registered in stone fruit, leafy vegetables, cucurbits, strawberries, root and bulb vegetables.

"With its unique combination of active ingredients, Merivon fungicide works across disease lifecycles providing continuous redistribution and extended residual protection even under adverse conditions," said Trevor Latta, brand manager, corn, soybeans & horticulture with BASF. "The combination of the two active ingredients offers more consistent disease control to help maximize yield and quality potential for growers."

Growers can learn more about Merivon fungicide and all other BASF Canada Agricultural Solutions products by visiting www.agsolutions.ca.

Merivon, Xemium and AgCelence, are registered trade-marks of BASF, used under license by BASF Canada Inc. Merivon fungicide should be used in a preventative disease control program.

Source: BASF Canada Agricultural Solutions February 9, 2021 news release

UPL introduces biostimulant

UPL AgroSolutions Canada announces that its first biosolutions product in Canada, OHM Biostimulant, has received registration from the Canadian Food Inspection Agency.

OHM is a highly advanced and highly concentrated liquid form of Ascophyllum nodosumseaweed extract that optimizes nutrient use efficiency for enhanced plant growth and development. Increased plant vigour and yield potential has been documented in a wide variety of crops.

"On average, Canadian growers spend more than CA$50 million on biostimulants for all crops. UPL is excited to extend OHM as the first product in this important crop health division for Canadian growers," says Trent McCrea, country head, UPL AgroSolutions Canada. "UPL will be conducting additional in-field demonstrations of OHM in field corn, wheat, canola, pulses and a selection of horticulture crops this year. This is the first of many new products in UPL's biosolutions pipeline for Canada."

"OHM and other biostimulant products in the development pipeline will continue to be tested and demonstrated on various sites," says Chris Nowlan, marketing portfolio manager. "Though the plans are still coming together, UPL expects to have trials out on apples, grapes, tomato and potato.

With a global R&D footprint, UPL is focused on an integrated approach to provide biosolutions that work for specific crops and situations. UPL's growing biosolutions portfolio includes biocontrol products, biostimulants and innovative nutrition products. OHM is labeled for a wide range of crops, including canola, field peas, corn, apples, grapes, and berries. See the label for a full list of crops.

For more information, contact your local UPL AgroSolutions Canada representative.