THE GROWER

JANUARY 2022 CELEBRATING 143 YEARS AS CANADA'S PREMIER HORTICULTURAL PUBLICATION THEGROWER.ORG

NO CHEER IN CHARLOTTETOWN

Facing a long ban on PEI potato exports to the U.S.

Prince Edward Island grower Alex Docherty was part of a truck convoy that paraded 500,000 pounds of potatoes in downtown Charlottetown on December 20. A month before, the Canadian Food Inspection Agency declared a ban on exports of seed and fresh potatoes to the U.S. after discoveries of soil-borne potato wart in two fields on the Island.
Photos by Simon Reid, courtesy of PEI Potato Board.

KAREN DAVIDSON

Financial losses – and anger -- continue to mount for Prince Edward Island potato growers as the Canadian Food Inspection Agency (CFIA) maintains its ban on seed and fresh potato exports to the U.S. due to findings of potato wart, a soil-borne fungal disease having no human health impact.

David Bailey, acting chief plant health officer, CFIA, says that it could be 2023 before the soil sampling and testing are completed to meet new requirements of the U.S. That's how extensive and exacting the investigation will be.

"The last four weeks have been horrible for Island farmers, but we're not giving up," said John Visser, grower and chair of the PEI Potato Board. "We are here to show the federal government, who walked us into this situation, how we're feeling and the impact that their ineffective action is having."

> **"This is not some academic discussion; this is the lives and livelihoods of thousands of Islanders at stake."**
>
> ~ JOHN VISSER, CHAIR, PEI POTATO BOARD

The PEI Potato Board estimates $4.8 million in lost sales from November 22 to December 8, compared to the volume it shipped during the same period in the previous year. This will become a paltry number as the ban looks to be months, not weeks, in effect.

The same day as PEI growers publicized their unfortunate lot, federal agriculture minister Marie-Claude Bibeau announced $28 million to divert the surplus potatoes to food banks and to dispose of them in an "environmentally-sound" way. In cold terms, this means dumping potatoes back on the land and chopping them up with snowblowers so they can freeze and break down over the winter.

Potato wart explained PG 6 | Grapes, vineyards and berries PG 12 | New Year's quiz PG 25

Volume 72 Number 01 P.M. 40012319 $3.00 CDN @growernews

AT PRESS TIME...

Ontario-based Agricorp will extend coverage for 2022 losses due to on-farm labour disruptions

Agricorp has announced that 2022 production insurance will include coverage for on-farm labour disruption losses due to COVID-19.

• Your 2022 Production Insurance coverage includes "on-farm labour disruption losses due to COVID-19" as an insured peril for the following coverages:

o Production loss coverage for all commodities that have a guaranteed production

o Abandonment threshold coverage for fresh market vegetables – acreage loss basis

o Mortality loss coverage for fruit trees and grapevines

o Bee health

• The peril of on-farm labour disruption losses due to COVID-19 includes:

o Inability to attract sufficient on-farm labour due to COVID-19

o Illness or quarantine of you and/or on-farm labour due to COVID-19

• You are eligible for this coverage for the 2022 program year only if you have a contract of insurance with Agricorp for the 2022 program year, pay your premium by the required deadline, and submit all required documentation (e.g. reported acreage).

• This additional coverage is provided to support the public interest in food security and the sustained economic viability of primary agriculture in Ontario.

• This coverage covers on-farm labour disruption losses through the growing season for the insured commodity (e.g., labour required to care for your crop after planting) as well as on-farm labour disruptions at harvest. However, it is important to understand that this added peril will not increase the existing limits of your coverage, but will be assessed within them.

• You are eligible for this coverage regardless of the peril coverage you chose for the 2022 program year. For example, if you selected the hail-only coverage option, frost-only coverage option, or hail and frost-only coverage option, you are covered for on-farm labour disruption losses due to COVID 19.

• You must notify Agricorp about crop losses caused by on-farm labour disruption due to COVID 19 immediately. This means notifying Agricorp without delay if yield losses or tree/vine/bee mortality, occur.

• You do not need to notify Agricorp about illness or labour disruptions unless it results in a yield loss, or tree/vine/bee mortality.

• You must not abandon or destroy your crop without prior consent from Agricorp.

• You must make a good faith effort to secure sufficient labour for the 2022 program year.

Agricorp may ask you to provide information about the steps you took to secure labour this year relative to the steps you took in previous years.

• You must follow relevant public health requirements and practices, including requirements from the Government of Ontario and from your local public health unit.

Agricorp may ask you to describe the steps you took to follow these requirements and practices prior to paying an indemnity.

• In the event you or your employees are quarantined, Agricorp may ask for copies of documentation provided by your local public health unit (e.g., orders, advice, emails, etc.)

NEWSMAKERS

Congratulations to the 2021 Ontario Produce Marketing Association winners! **Michael Miranda**, Farm Boy, was the winner of the Fresh Award. **Kim Chackal** Equifruit, was winner of the Cory Clack-Streef Produce Person of the Year. **Mimmo Franzone**, Longo Brothers Fruit Markets, won the Outstanding Achievement Award. **Ray Wowryk**, Nature Fresh Farms, won the Lifetime Achievement Award.

Best wishes to **Michelle Broom** who has resigned as executive director of the Ontario Produce Marketing Association after three years at the helm. Her last date is February 22, 2022.

The Prince Edward Island Potato Board has elected **John Visser** as its new chair. He is joined by **Billy Cameron**, vice-chair; and **Chad Robertson**, secretary-treasurer. Congrats to new director **Guy Cudmore** who is joined by directors **Mark MacMillan**, **Mary Gillis**, **Jason Hayden**, **Becky Townshend**, **Donald Stavert**, **Craig Wallace**, **John Griffin** and **Rob Green**.

The Potato Growers of Alberta have elected **James Bareman** as the new chair and **Tony Bos** as vice-chair. They are joined by **Alison Davie**, **Jeff Ekkel**, **Lyndon Nakamura**, **J.P. Claassen** and **Tony Kirkland**.

The Ontario Potato Board held its annual general meeting, December 1, in a hybrid format with a good in-person attendance. **Glen Squirrell** (L) received public recognition for his 11 years of dedicated service as chair of the board. **Shawn Brenn** (R) was re-elected as chair.

Bernie Solymar is the new general manager of the Berry Growers of Ontario, working with a membership of 200+ growers. Most recently, he had been general manager of Asparagus Farmers of Ontario for more than eight years. Joining him is **Victoria Eastman** in the newly created role of research and promotion coordinator.

Kevin Schooley has joined the N.M. Bartlett Inc. (NMB) team as sales representative for south central Ontario. He will also serve in the newly formed role of Canadian technical services lead. For the last 18 years, Schooley has been general manager of the Berry Growers of Ontario. He will continue to serve as executive director of the North American Strawberry Growers' Association and coordinator for the national clean plant network (berries). **Dave Reeves** has retired after 42 years of dedicated service to the NMB team.

CropLife Canada held an in-person Grow Canada Conference in Calgary from Nov 30 – Dec 2. At its business meeting, the board of directors welcomed a new chair: **Bryce Eger**. He's president of Corteva Agriscience Canada.

Fresh Vegetable Growers of Ontario held its annual general meeting on December 9, 2021, chaired by **Tom Miedema**. His board of directors includes:
Don Almas, crucifer crops; **Ken Collins**, low acreage and specialty crops; **Teresa Van Raay**, root bulb and leafy vegetables; **John Beardsley**, tomatoes and peppers; **Norm Charbonneau**, sweet corn, peas and beans; **Mark Srokosz**, Essex, Chatham-Kent, Lambton, Middlesex, Elgin; **Mark Wales**, Oxford, Brant, Haldimand-Norfolk, Haldimand-Wentworth, Niagara; **Quinton Woods**, Huron, Perth, Waterloo, Wellington, Bruce, Grey Dufferin, Simcoe; **Henk Droogendyk**, all remaining counties or directors at large.

Representatives to the Ontario Fruit and Vegetable Growers' Association will be **Quinton Woods**, representing muck soils, and garlic grower **Joann Chechalk**, representing other soils.

COVER STORY

Facing a long ban on PEI potato exports to the U.S.

A convoy of almost 40 trucks rallies before heading off to downtown Charlottetown, Prince Edward Island.

Continued on page 3

Continued from page 1

"This is heartbreaking and completely avoidable," says Visser. "Our potatoes are safe and healthy to be shipped across Canada, yet the nine million Americans we feed every year cannot have access to them. Every farmer on this island plants in the spring and nurtures and cultivates the crop in order to feed people. That's what we do. And to know that our own federal government put us in this position and continues to do very little to help us is beyond frustrating."

When news first broke about the border closure on November 20, the first urge of potato growers was to blame the United States and in particular, the stance of the National Potato Council. An all-hands-on-deck delegation visited American officials on December 16 in Washington, including Prince Edward Island's premier Dennis King, the provincial agriculture minister Bloyce Thompson, the general manager of the PEI Potato Board Greg Donald and others.

The National Potato Council's CEO Kam Quarles issued a statement that day reiterating that "this is a plant health issue not a trade dispute." He says, "The ultimate solution in satisfying the plant health experts at APHIS involves aggressive testing, quarantining, enhanced mitigation and monitoring efforts." He is referring to the USDA Animal and Plant Health Inspection Service.

The U.S. position has perplexed potato growers such as John Visser who says that no potato wart has ever left the island in the 20 years it's been managed uner the Potato Wart Domestic Long-Term Management Plan. It's a surveillance and detection program whose rules are agreed upon by both Canadians (CFIA) and Americans (APHIS). So what went wrong in communications between the two parties in the last year?

"The federal Minister of Agriculture is responsible for the CFIA which created this situation," says Visser. "The Minister put the ban in place but has not been able to explain why the same scientifically accepted management practices, which are good enough to allow United States potatoes into Canada, are not good enough to allow PEI potatoes into the United States. This is not some academic discussion; this is the lives and livelihoods of thousands of Islanders at stake."

Visser points to the ongoing shipments of potatoes from Idaho and 15 other states which have pests that are quarantined or regulated. In these instances, the CFIA accepts washing and sprout inhibitors as a way of controlling the risk from American potatoes coming north – the same process used by Prince Edward Island to manage potato wart.

A national issue

The disrupted trade flows also affect other Canadian provinces explains Greg Donald, general manager, PEI Potato Board.

"At a certain point, the surplus of potatoes is simply too much to sell in other markets or to hold on to and ship if and when the border opens," he says. "Plus flooding the Canadian market with too many potatoes puts immense downward pressure on pricing for our fellow potato farmers across Canada. Our own farms are receiving much less for their potatoes since the ban and we do not want one of the unintended outcomes of this situation to be damaging other farm families across Canada."

That's exactly the worry of Ontario growers, for example, who are holding large inventories from a record harvest in 2021 and who are keen to maintain current pricing trends in a marketplace that tops 14.8 million consumers.

"The Ontario Potato Board (OPB) has contacted retailers to emphasize the hard-earned relationships with Ontario growers and the hope is that the loyalties will be reciprocal," said Shawn Brenn, chair (OPB). "We empathize with PEI growers about the devastating news, but we want to alleviate any collateral damage to Ontario with fair pricing."

Managing relationships

As the reality of a hard border closure bears down on PEI potato growers, political pressures are rising up for federal agriculture minister Marie-Claude Bibeau. Not only is she managing the relationship with U.S. secretary of agriculture Tom Vilsack, but the Canadian Food Inspection Agency. Add to that her fellow Liberal MPs on Prince Edward Island, her provincial ag minister counterpart and the PEI Potato Board.

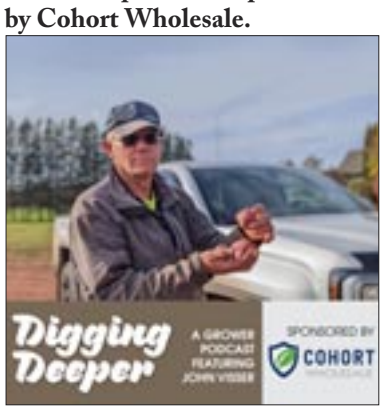
For such a complex file, she's coaxed Fred Gorrell out of retirement to co-chair the Government-Industry Potato Working Group along with Greg Donald, PEI Potato Board. As a former assistant deputy minister of agriculture, Gorrell is welcomed for his gravitas and experience as a former leader of the Market Access Secretariat.

In her December 20 announcement, Bibeau underlined that PEI producers can now access up to 75 per cent of their expected AgriStability payment on an interim basis. While more than 80 per cent of PEI potato farmers already subscribe to AgriStability for 2021, all PEI producers now have access to the AgriStability program since the late participation provision is in effect.

None of this is balm for 175 PEI potato producers. All they want is to make a living from the best crop they've grown in years.

Ray Keenan, chair, United Potato Growers of Canada, makes his case at face-to-face meetings with Agriculture and Agri-Food Canada officials in Ottawa in early December.

T The Grower is "Digging Deeper" with John Visser, chair of the Prince Edward Island Potato Board. The Elmwood potato producer shares his frustration with the ban on seed and fresh potato exports to the U.S. which was imposed by the Canadian Food Inspection Agency after discoveries of a soil-borne fungus called potato wart. This podcast is sponsored by Cohort Wholesale.



CROSS COUNTRY DIGEST

CANADA

Potato growers achieved record-breaking yields in 2021

Estimate of Canadian potato production December 7, 2021

Province	2017	2018	2019	2020	2021 Est.	% Diff.
NFLD.	63	56	54	55	55	0%
P.E.I.	24,463	22,600	24,302	21,000	28,510	+35.8%
N.S.	432	365	416	300	357	+19.0%
N.B.	15,159	15,670	16,400	11,500	18,200	+58.3%
Que.	12,505	11,221	12,648	12,731	14,587	+14.4%
Ont.	7,830	6,919	6,705	7,518	8,953	+19.1%
Man.	22,200	20,300	19,700	24,000	24,180	+0.8%
Sask.	1,625	1,454	1,500	1,400	1,519	+8.5%
Alta.	20,572	21,762	21,718	23,407	24,614	+5.2%
B.C.	1,824	2,100	2,145	2,155	2,080	-3.5%
Canada	106,673	102,447	105,589	104,066	123,054	+18.2%

Source: Statistics Canada Table 32-10-0358-01 (000cwt)

Potato production in Canada for the 2021 cropping year is estimated at 123,054,000 hundred weight says Kevin MacIsaac, general manager, United Potato Growers of Canada. This is up 18.9 million cwt or 18.2 per cent above 2020, a year which recorded very low production in two eastern provinces.

Higher production was expected as Canadian growers responded to increased demand, particularly in the processing sector. They planted an additional 26,500 acres.

Seasonal growing conditions were excellent in the four eastern provinces but very hot and dry for the potato crop in western Canada.

Canadian yields also increased to 322 cwt/acre from 293 cwt/acre in 2020, the highest yield on record. Excellent harvest conditions allowed for 99 per cent of the planted crop to be harvested this year.

For regional details, link here: https://bit.ly/31EXokT

Source: United Potato Growers of Canada December 7, 2021 news release

BRITISH COLUMBIA

Floods affect about 9% of BC blueberry acres

The British Columbia blueberry industry is experiencing an unprecedented flooding event of great magnitude, in which at least 2,500 acres of blueberries have been impacted and of these, approximately 1,000 acres still remain under water in the Sumas Prairie area. The total acreage of blueberry production in BC is approximately 27,000 acres, according to Statistics Canada.

The BC Blueberry Council reports that some portions of the Matsqui Flats area were also completely submerged for a period of time, and other areas near the Fraser River remain flooded to a lesser extent. Growers in less flooded areas where the water, two to three feet deep, drained away after five to six days, will possibly have a chance to recover their fields. Nonetheless, all flooded blueberry fields are likely to experience varying degrees of damage or loss.

In the Sumas Prairie region, some growers report there is up to seven to eight feet of water in their fields and express concerns about the long-term impact, especially due to debris and other possible issues arising from plants being submerged for an extended period.

"There is a strong possibility that severely impacted growers will need to pull out their plants and replant them, which could be a large financial expense." says Harry Sidhu, whose family farms in Sumas Prairie. "Blueberries are a perennial plant, and it takes years for a sizeable crop yield, so this may be a significant loss of income for many years."

This is still an active and evolving situation, as the third storm of a weather event is predicted for the Fraser Valley on November 30. Washington state's Nooksack River has topped its banks, and more water could be headed towards Abbotsford.

"Damage to fields will need to be reassessed once the water recedes," says Jason Smith, BC Blueberry Council chair. He is reassuring that the vast majority of the BC blueberry growing region is not impacted and there is no short or long-term impact for consumers of blueberries.

Source: BC Blueberry Council November 29, 2021 statement

Raspberries fared better

British Columbia is home to the largest raspberry production in Canada, with about 2,000 acres under cultivation. Most raspberries are destined for the processing market.

For the 90 growers who belong to the BC Raspberries Council, the epic flooding has caused stress, if not for themselves, then industry colleagues.

"There was a small amount of raspberry and strawberry acreage flooded on the Sumas Prairie, as well as one fresh berry packing facility," reports Lisa Craig, manager for the BC Raspberries Council. "Some of the producers have been able to view their properties, but we still have some that are not able to go home to start the onerous job of assessing damages and cleaning up due to it being unsafe. Our raspberry growing fields are not typically in the area that has been affected by the floods."

The BC Ministry of Agriculture Farms & Fisheries (MAFF) has extended the raspberry replant application deadline date to allow producers that could be affected by the floods more time to apply.

The Lower Mainland Horticultural Improvement Association (LMHIA) Growers Short Course that is held in conjunction with the Pacific Agriculture Show at this time is still going forward with a hybrid event on January 27-29, 2022. All sessions will be live streamed and recorded.

"Recovery (from the floods) will be slow, but we are hearing from growers that they are eager to be back face-to-face with their peers and agri-businesses," says Sandy Dunn, executive director (LHMIA). "It's been rough, but they are looking for inter-personal connections. The trade show reports it is almost sold out."

For the agenda and registration fees, link here: https://bit.ly/31MWMtP

PERENNIAL CHANGE

Extreme weather: expect the unexpected

Abbotsford, British Columbia was the epicentre of historic flooding damage in late November 2021. About 2,500 acres of blueberries were directly affected.

KAREN DAVIDSON

Did your copy of the *Old Farmer's Almanac* predict a heat dome or atmospheric river for British Columbia this year? Right. Because it wasn't there. In fact, besides meteorologists, most of us had never heard these terms before. And it's apparent that even experts with boots on the ground were totally unprepared for the climactic extremes that roasted crops and turned livelihoods into lakes.

These events were a huge reminder that weather respects neither regular business hours nor established geographic boundaries. As the flood waters were breaking dikes in BC on Saturday November 13, the lower Nooksack, a U.S. river that loops through the Fraser Valley before returning to Washington State, was crashing through the border with historic water levels.

British Columbia's recovery is expected to take months if not years for perennial crops. Jason Smith, chair of the BC Blueberry Council, shares that it takes two years just to procure plants and then another eight years for blueberry bushes to reach their full productive capacity. No doubt BC's cautionary tale will be causing growers in the rest of Canada to be taking note of their local watersheds and the way they interconnect across broader geographies.

Bill Schenck and his son Brian, fourth and fifth-generation farmers respectively, have 100 acres in vinifera grapes half way across the country, near St. Catharines, Ontario but they too were affected by unusual heavy rains in 2021.

"This fall was one of the worst since the late 1970s for the amount of rainfall," says Bill Schenck. "We had the second-largest tonnage of grapes in the history of Grape Growers of Ontario, but the crop ripened all at the same time which created bottlenecks at the wineries. Every season is different, but this year the extra moisture in September caused sour rot in the grapes."

Wine grapes are highly susceptible to moderate, much less extreme, weather changes and the impacts of global warming are already being felt. As Dr. Elizabeth Wolkovich, University of British Columbia viticulture researcher, notes in her Impacts of Climate Change on Viticulture keynote address, shifts in wine grape phenology research are focusing on diversity of responses among varieties. More specifically, she talks about how the projected negative impacts of weather can be mitigated by adopting strategies that exploit varietal diversity.

"We are looking at the best plant material for Ontario's industry, not only now, but moving forward with climate change uncertainties," says Jim Willwerth, senior scientist for the Cool Climate Oenology and Viticulture Institute (CCOVI).

"Cold hardiness, fruit composition, wine quality and general vine performance will be examined, so that the industry knows the best combinations to use for our core grape varieties."

Along with climate change and extreme temperatures comes the invasion of new pests. Spotted wing drosophila has been the most common example across Canada, forcing growers of grapes and tender fruits to adjust spray programs. What's perhaps not understood outside the grape sector is that SWD can carry the yeasts and acetic acid bacteria that cause sour rot. Although currently for grape growers in the Niagara region, spotted lanternfly is the more imminent threat.

And in a double whammy, changing avian migration habits caused by global warming mean more birds feeding at the wrong time of year. "We don't have a normal winter anymore," says Schenck. "The birds don't migrate as they used to and they're more pesky at harvest time."

"As we move forward into 2022, I believe that climate change will increasingly become a central topic in most of our lives and endeavors," wrote Thomas McDade, agricultural director for the most recent newsletter of the Potato Growers of Alberta.

> **We are looking at the best plant material for Ontario's industry, not only now, but moving forward with climate change uncertainties.**
>
> ~ JIM WILLWERTH

"Looking into our future research projects within the agricultural industry it is apparent that more and more of the research being considered will have this topic as a central theme. It, therefore, shows that topics given by Agriculture and Agri-Food Canada, for the next agriscience cluster, captures the new reality of climate issues we are increasingly facing. As a reminder the three priorities for new research include: climate change and the environment, economic growth and sector resilience."

It's a safe bet that BC's "once in a hundred years" weather is likely to be a more frequent visitor to our soil. For Canadian agriculture, improvements in technology and modified management practices are the keys to success, more so now than at any point in our past.

Warmer weather to the great white north will bring challenges we haven't even begun to bring into focus.

POTATO WART

Soil sampling regime explained

Picturesque potato fields are a touchstone of Prince Edward Island's tourist appeal, but more importantly provide $120 million of annual exports to the United States.

KAREN DAVIDSON

Potato wart detection -- either visually or by soil sampling – triggers an immediate investigation by the Canadian Food Inspection Agency (CFIA to trace forward and backwards, any potential contact with that field. This can include inspecting adjacent fields, sources of seed and other types of contact such as equipment movement. Sampling soil to determine if potato wart spores are present is a part of the effort to detect and delimit the spread of the disease to other fields.

Logically, the number of soil samples reported in any given year depends on the number of investigations underway at the time as well as the size of such investigations (i.e. the number of contact fields involved.)

Year-to-year variation in samples is to be expected. Overall, soil sampling has increased since the implementation of the CFIA's National Potato Wart Survey program which involves oversight and surveillance in all of Canada's seed potato growing provinces, except Newfoundland. To date in 2021, this survey has collected more than 1,000 soil samples across Canada, of which 284 samples were from Prince Edward Island.

Nationally, soil sampling activity levels have remained steady and fully comply with both the CFIA's domestic potato wart management plan and with the U.S. federal order put in place in 2015. The two detections in October 2021 were in fields already being regulated and the processing crops grown in those fields were already restricted from leaving the island. In other words, all would be processed locally.

Past track record

Since 2017, there have been four investigations in Prince Edward Island: 2018, 2020, October 1, 2021 and October 14, 2021.

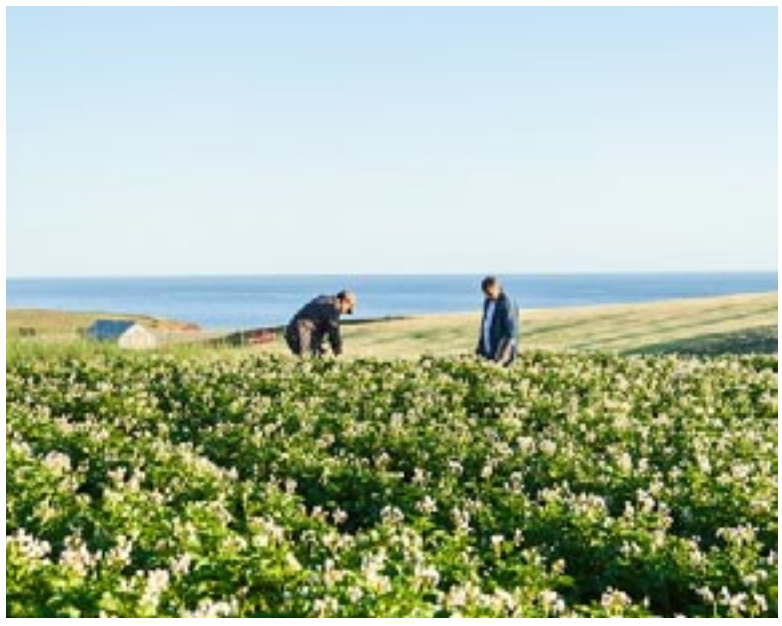
A U.S.Federal Order requires every PEI field producing seed potatoes for the U.S. market to be tested and determined to be negative for potato wart prior to export. This export soil sampling varies from year to year depending upon export market demand and remains integral to PEI's potato wart surveillance efforts.

Another important part of surveillance for potato wart is walking fields at harvest for visual detection and this surveillance has not decreased.

Continued on the next page

POTATO WART

Soil sampling regime explained



It is not appropriate to cherry pick data points in an attempt to discredit a program when one is not aware of all the details of the disease management plan.

~ MARY KAY SONIER
PEI POTATO BOARD SEED COORDINATOR

The 1,647 samples attributed in the media to CFIA's presentation before the USDA was the number of soil samples collected as of November 30 for regulatory purposes. This total included neither the 284 samples collected for export purposes nor the majority of sampling scheduled to be done in 2021. Soil samples are collected once crops have been harvested, in late fall, and mostly after November 30. The number of samples being collected and tested in 2021 is in line with previous years and meets the requirements of the Potato Wart Domestic Management Plan.

Waiting for test results

Mary Kay Sonier, PEI Potato Board seed coordinator adds more context.

"Soil sampling is indeed the best way to delimit an infected and related fields to determine the extent of an infection after a new detection is made. When a new detection is made (as happened in the 2014 - 2018 period) soil sample numbers spike as the affected fields are sampled intensively on a tight grid to determine the extent of the infection. Once the intensive delimiting is done, soil sampling returns to surveillance levels as outlined in the plan. Sample numbers also spike five years from a detection when once again more intensive sampling is conducted. USDA/APHIS officials who review the plan with CFIA are aware of these fluctuations and why they occur."

Sonier points out that the 2021 soil sampling is ongoing and complete numbers won't be available until the New Year. "The numbers will be higher than 2019 levels due to the new detections," she says. Prince Edward Island is not unique in finding new detections of regulated quarantine pests. When CFIA and USDA meet, they discuss the Potato Wart Management Plan as well as the Potato Cyst Nematode Plan for Idaho and the Golden Nematode Plan in New York. All are quite complex.

"It is not appropriate to cherry pick data points in an attempt to discredit a program when one is not aware of all details of the full disease management plan," says Sonier.

"PEI's position remains that fresh potatoes from PEI that are risk mitigated by being washed and sprout nipped prior to shipping should be eligible for export to the U.S. in the same way that potatoes from states with regulated pests and that are washed and treated with sprout inhibitor are acceptable for import to Canada."

Sources: Canadian Horticultural Council, PEI Potato Board.

CHAIR'S PERSPECTIVE

Innovation, competitiveness and domestic food security

BILL GEORGE
CHAIR, OFVGA

It's been one heck of a year in Canada - and all of North America, in fact - as far as weather-related disasters go. November's record-breaking rainfall and flooding in British Columbia struck one of our nation's leading horticulture and livestock production areas. BC and western Canada were hit by sweltering heatwaves and devastating wildfires only a few months before.

Manitoba and northern Ontario suffered drought conditions, tornadoes battered Ontario and Québec, and Atlantic Canada dealt with hurricanes and its own version of an atmospheric river weather system similar to BC's.

Other parts of the world weren't spared either. California, where so much of our fresh produce comes from all year round, is again dealing with historic drought. Europe, too, saw deadly floods and record-setting heatwaves, including in countries that are also important agricultural producers such as Germany, Italy and Belgium.

To me, this highlights more than ever how critical it is that we continue to be able to produce as much of our own food as possible - otherwise known as domestic food security.

The pandemic has illustrated first-hand what can happen when we are unprepared for crisis and how losing domestic production capacity puts us in a position where we have to rely on other countries to supply us with what we need.

As those of us in the industry well know, fruit and vegetable production, for the most part, is not something that can be ramped up quickly. It takes time and money to plant trees or vines, build packing and storage infrastructure, and develop processing capacity.

As a lobby organization, we continually advocate to government at all levels about the importance of maintaining a strong and competitive horticulture sector.

That includes many things we've long been asking for: a predictable regulatory environment that doesn't negatively impact our competitiveness, sustainable energy policy, help dealing with labour challenges, ongoing addition of new crop protection tools as older chemistries are removed, and business risk management programming that will provide support when our sector is hit with problems beyond our control.

Each one of those topics is complex, but they're also all connected to each other - and a guiding thread through virtually every single one of them is innovation.

Innovation in the form of automation, robotics, sensors, and artificial intelligence can simplify many labour-intensive tasks in fruit and vegetable production. Automated weeding of field vegetables or harvesting of asparagus or berry crops, for example, could go a long way to lessening grower reliance on human labour.

New crop protection tools or new plant breeding technologies that use gene editing could help make our crops more resilient to climate extremes or better able to ward off pests or diseases. This would help lessen the impact of extreme weather and give growers new options to replace older crop protection chemistries.

More sustainable alternatives to synthetic fertilizer could reduce our exposure to fluctuating prices and supply chain volatility. New types of packaging can reduce plastic use and help extend produce shelf life that will contribute to less food waste.

Innovation is expensive and risky, however, and it's something that no part of our sector can do alone - we need government as a partner. There are a growing number of examples of government initiatives and programs now available that support research and innovation, and while that is good to see, more needs to be done.

Start-ups and entrepreneurs need better access to venture capital to help commercialize their innovations, for example. Canada's regulatory system needs to keep pace with the speed of innovation so that discoveries can be regulated and approved for use by growers and industry in a timely fashion. That means adequate funding for organizations such as the Pest Management Regulatory Agency, the Pest Management Centre, and the Canadian Food Inspection Agency.

Growers, too, need help to put research and innovation into practice on the farm. We are willing to invest in innovation, new technologies, and new systems, but we need our operations to be financially viable to do so.

And that's why we need the fruit and vegetable industry to be competitive and sustainable if we hope to maintain our domestic food security in the decades to come.

WEATHER VANE

There's good news and bad news in this photo captured by grower Brian Rideout near Blenheim, Ontario. This tart cherry orchard looks beautiful blanketed with fresh snow, but in the distance, another storm cell is brewing. He recalls that these trees were at bud swell while apricots, in an adjacent block, were in bloom. "Mother Nature is wonderful – this snow cover protected the crop enough that both the apricot and cherry crop were OK. Unfortunately, apples were affected making them less than average." Happy New Year!

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

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

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

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

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

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

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

P.M. 40012319

URBAN COWBOY

Pessimism throws a wet blanket on what should be food heroes

OWEN ROBERTS

Producers and the public don't always agree. But lately, they're united in their struggle beneath the weight of a heavy, wet blanket of pessimism, leaving them uninspired and lacking hope as the New Year unfolds.

Consider how things have changed since a promising spring and summer. Back then, supply chains were starting to recover, trade and travel had resumed and optimism was in the air. On the farm, record yields were forecast for some commodities. Equipment sales were strong. Farm visits returned and farmers' markets thrived.

Producers had come out of the pandemic as heroes, feeding the world with grace and cool heads. But it's a different story today. Adverse weather, labour shortages, inflation and of course the Omicron variant have taken a toll on confidence and optimism, on and off the farm.

For example, in December 2021, a Gallup poll showed that although financial markets were holding steady, Americans feared a stormy horizon. The Gallup Investor Optimism Index, which checked in +39 in the summer, fell to +10 as the year end loomed.

Nearly half of Americans said that price increases were causing their family some degree of financial hardship. One in 10 adults described inflation as causing "severe" hardship that was affecting their current standard of living.

The same went for producers. The DTN/The Progressive Farmer Agriculture Confidence Index survey, released the same day as the Gallup poll, showed U.S. farmers were uneasy about the uncertainty of the wider economy.

As a result, the confidence index fell 18 points from pre-harvest levels, and nearly 50 points from the optimism that was emerging a year ago.

That survey said farmers specifically voiced concerns about input costs and inflation, huge issues on both sides of the border. It's easy to understand why consumers are on edge. In December 2021, Statistics Canada announced that the Farm Product Price Index had increased nearly 25 per cent from September 2020-21, mostly because of higher prices for both crops and livestock and animal products.

Fruit prices were up too -- nearly 10 per cent – which would normally make economists and food price forecasters wring their hands.

But in December, when the annual Canada Food Price report predicted consumers would pay $966 more for groceries in 2022, headlines shifted from specific commodities to a look at the overall picture – which in the face of inflation was grim and confusing, as consumers wondered where in the supply chain their money was headed.

In the U.S., producers are taking measures to make sure consumers understand the big picture. In November, the National Farmers Union stepped up a campaign called Fairness For Farmers. It's designed to raise awareness of how consolidation is affecting producers, by driving up the price they pay for inputs.

They point out how major commodity suppliers' ownership -- along with competition -- has shrunk drastically. For example, they say, a scant four companies now control 85 per cent of beef packing, 85 per cent of seed corn production and 84 per cent of the pesticide market.

And since the 1970s, 40 per cent of flour mills and nearly 90 per cent of meat processing facilities have closed their doors, unable to compete with the giants.

It's a real issue on farms. The DTN/Progressive Farmer confidence survey showed 82 per cent of producers were either concerned or very concerned that rising input costs would eat into profits in 2022.

The survey also showed that farmers who were asked how they'd likely be faring a year from now gave answers that produced a record-low score. So just imagine how all this is affecting farmers' mental health, which we know is a growing concern everywhere. U.S. President Joe Biden gets it. In December, he convened a meeting of decision makers from major retailers, consumer products firms and grocers, to see what's up. The emphasis was on understanding how everyone could work together to keep store shelves stocked for Christmas. But farmers weren't going to let the opportunity pass to remind him how competition was hurting everyone. Through the Fairness For Farmers campaign, they urged the President and other lawmakers to improve price discovery and ensure fair and accurate market information. Facilitate competition and more diverse market opportunities, they added, and reinvigorate antitrust enforcement.

2021 will be remembered for shortages of labour, packaging and even pallets. The supply chain is forecast to be under continued pressure in the New Year. Photo by Glenn Lowson.

Canada needs to pay attention to what's going on. When the Farm Product Food Index was released in December, the federal, provincial and territorial agriculture and food ministers were still exhaling from the landmark Guelph Statement they'd created the previous month, a document outlining their joint priorities for the next several years.

Indeed, that initiative was a big accomplishment, one for which they should be lauded for their vision and cooperation. Now, though, they need to take a deep breath and go back to the drawing board.

The ministers must figure out how they'll lead the country through this new reality: escalating food costs, consumer fear and dramatically rising input prices for producers.

This situation won't simply work itself out, and it's throwing a damper on the whole food system, at a time when we should be celebrating its resiliency and success.

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

SCENE ON TWITTER

BITS AND BITES

Truckers need to be double vaxxed by Jan 15 to cross Canada-U.S. border

Canada has announced that it will require truck drivers — both Americans and Canadians — to be double vaccinated against the COVID-19 virus by Jan. 15 when crossing into Canada.

The Canadian Trucking Alliance (CTA) is calling on both Canadian and American authorities to give the industry more time to prepare. The short timeline could spell even more trouble for the North American supply chain that is already facing challenges associated with driver shortages. The news is untimely for the agricultural sector impacted by floods in British Columbia.

Steve Bamford, a past-president of the Toronto Wholesale Produce Association, predicts that the driver shortfall will push the already-rising price of fruits and vegetables even higher.

"The whole supply chain is broken," says Bamford. "Prices (of goods) are determined by supply and demand, and that goes for truckers too."

He points out that vaccination rates, in general, are higher in Canada at 80 per cent of the eligible population compared to 59 per cent in the United States. If you estimate that 15 to 20 per cent of truckers won't or can't get vaccinated by the deadline, then the shortage of truckers will drive the cost of goods up.

Bamford explains that it's common for truckers to operate in a "triangle" from California to Toronto then on to Vancouver. But one point of that triangle is temporarily out of service. The floods which washed out road routes in British Columbia are further impacting the supply chain.

"I predict that produce will be in short supply," says Bamford.

According to CTA, about 70 per cent of the $648 billion in trade between the two countries moves by truck. There are 120,000 Canadians who operate cross border and 40,000 U.S.-licensed drivers moving north-south trade.

"We are extremely concerned there is a perfect storm brewing," said CTA president Stephen Laskowski. "In light of worldwide supply chain disruptions and delays, it's unclear how the supply chain and the trucking industry, in particular, can withstand further turmoil and maintain the service levels required to deliver critical products Canadians and Americans need."

CTA said it conservatively estimates that 10-20 per cent of Canadian truck drivers crossing the border (12,000-22,000), and 40 per cent of U.S. truck drivers (16,000) travelling into Canada will exit the cross-border business if the vaccine requirement goes into effect as scheduled.

"It is entirely unclear how the industry and supply chain can compensate for thousands of drivers abruptly exiting the system overnight," said Laskowski. "Make no mistake, if this mandate moves forward as planned, it would bring significant consequences for the cross-border economy, which will be felt by the Canadian and American public."

Source: Canadian Trucking Alliance November 21, 2021 report

COMING EVENTS 2022

Jan 5-6	National Potato Council Potato Expo, Anaheim Convention Center, Anaheim, CA
Jan 16-19	North American Strawberry Growers' Association Annual General Meeting and Conference, Nashville, TN
Jan 24-25	Scotia Horticultural Congress, Old Orchard Inn, Greenwich, NS
Jan 25-27	Manitoba Potato Production Days, Keystone Centre, Brandon, MB
Jan 27-29	Lower Mainland Horticultural Improvement Association Short Course, Tradex, Abbotsford, BC
Feb 1-2	Nova Scotia Ministers Conference for Agriculture, Prince George Hotel, Halifax, NS
Feb 1-3	Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA
Feb 8-9	Pest Management Centre Priority Setting Workshop C VIRTUAL
Feb 9	Fresh Grape Growers of Ontario Annual General Meeting, board office, St. Catharines, ON
Feb 13-15	International Fruit Tree Association 2022 Annual Conference, Hershey, PA
Feb 16-17	Pest Management Centre Priority Setting Workshop B VIRTUAL
Feb 16-17	Pacific Northwest Cranberry Congress, VIRTUAL
Feb 21-24	North American Raspberry and Blackberry Conference, Gaithersburg, MD
Feb 22	Canada's Agriculture Day
Feb 22	Berry Growers of Ontario Annual General Meeting, Embassy Suites, Niagara Falls, ON
Feb 22	Ontario Fruit and Vegetable Growers' Association Annual General Meeting, Hilton Hotel, Niagara Falls, ON
Feb 23-24	Ontario Fruit and Vegetable Convention, Scotiabank Centre, Niagara Falls, ON
Feb 24-25	International Potato Technology Expo, Eastlink Centre, Charlottetown, PE
March 3	Ontario Potato Conference, Delta Hotel, Guelph, ON
Mar 8 – 10	Canadian Horticultural Council 100th Annual General Meeting, Westin Ottawa Hotel, Ottawa, ON

RETAIL NAVIGATOR

5 tips to grow your sales in 2022

PETER CHAPMAN

The top priority for most retailers is to deliver sales. This can be measured in total sales dollars, percentage increase over previous year compared to budget, or some other means. Regardless of how you want to quantify it, sales are a top priority. You should be thinking about sales in your business and looking for opportunities to grow sales for you and your customers.

1) Package size. In the entire food and beverage industry, we see a lot of changes to package size. With increased cost of inputs and labour, the reality is that it costs more to produce the products. Consumer packaged goods companies are always trying to find the right size that will drive volume and deliver the right rate of return. In produce we need to think about this more often. We have been using the same package size on some items for a long time.

Given the challenges of operating in today's environment we should question the sizes. The shift to a smaller package size can be advantageous because the retail might go down and be more enticing to people or work well with a multi buy retail (2 for $5.00). Another consideration is to increase the package size and sell more to the existing consumer. In this example, the current price might be 375g package for $2.99. A new 454g package for $3.99 might be attractive to just as many onsumers and you will realize a 20 per cent sales increase.

Changing a package size can be a challenge, but the results might make it worthwhile. You should always check with customers before you invest too much to ensure they agree with the change.

2) In-stock position. Building relationships with customers takes a lot of time and investments. With existing customers, you already have the relationships and selling them more can be easier than building new markets. Often the best sales increase is with an existing customer. It can be exciting to land a new account or customer, but it also takes a lot of work and a long time. As you consider your plans for the upcoming year it is important to break down where your sales will be generated.

To increase your sales to existing customers, in-stock position can be a route to success. Retailers are very focused on in-stock position as they take the approach, if we are out of stock we missed a sale. They also have access to sales data by store and even by hour. We used to review this and called it our "stores with no sales" report. The premise was that if a store had no sales after 5 pm on any of the top-selling items they were either out of stock or the product was out back and never made it to the floor.

You do not have access to the front-end sales data, but you can offer to work with your customers. If you and the customer agree the sales should be 60 units per store per week and results are lower, ask them if it is possible to work together on improving in-stock position. You can suggest the stores with no sales report. You might have to offer to make some late adjustments to warehouse orders and check on a few stores. This might be some extra work, but it is probably less work than it takes to develop a new customer.

3) Ready-to-cook items. Consumers have changed a lot during the pandemic. We see more millennials shopping in grocery stores and these shoppers prefer more work done for them. They used to eat out often but now with many people still staying closer to home, this generation is cooking more in their own kitchens. Food is an event for these consumers and you need to find options they will support.

An example of a ready to cook item is a potato with some seasoning on it in a foil tray. Certainly, some consumers would prefer to do it themselves, but there is a growing segment of the population who prefer this option.

It does require work to develop products and get them listed. It can also help you increase brand awareness and deliver some incremental sales for your customers.

4) Complementary items. As prices change, there might be opportunities to group products together. Consumers might not buy two packages at the new higher price, but if they can purchase two complementary items in one package, this offering might be appealing. The new package with the complementary items might sell for more than the single item and generate extra sales and profit.

It takes time and investment to develop new products. If you have some ideas about how to combine some products, get input from your customer at the right stage in development. You also must be careful to share the ideas with the right people you can trust. Assuming they are the right people, you can get buy-in from them and some level of commitment to the idea.

Photo by Glenn Lowson

5) Minimum orders. Retailers do not like the term 'minimum order' because they perceive this to be giving control to the supplier. With logistics costing more than ever, it is advantageous to get your customers to buy more per delivery. If you know you will get a better freight rate when you ship more than 10 pallets, you should provide incentives to your customers to get there. Call this a volume rebate and they will be much more excited.

In today's marketplace, there is a lot of fluctuation of prices. Perhaps you must increase your case cost to $20.00, which includes $2.00 for freight. You also know if you ship more than 10 pallets you will decrease your freight costs to $1.40 per case. You can offer them a volume discount of $0.50 per case for orders of more than 10 pallets.

You will generate a little more ($0.10) in your own business and you will also be putting more product into their warehouse. Increasing your pallets per order can have a very positive impact on your sales.

Sales increases can come from many places. It is not always a requirement to drop the price and sell more. When a marketplace is changing rapidly, this can present opportunities to grow sales with different ideas. When you are considering different ideas find the right opportunity to get input from trusted customers. It does require time, energy and investment to develop and implement new products. You need to ensure there is a payback for your hard work.

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.

FOCUS: GRAPES, VINEYARDS & BERRIES

Canadian Grape Certification Network: stronger together

Bill Schenck, vice-chair, Canadian Grapevine Certification Network, is pictured in one of his vineyards near St. Catharines, Ontario. Photo by Glenn Lowson.

New grapevines are planted in the Niagara region. Photo courtesy of Grape Growers of Ontario.

“We’re now working towards the same goal of virus-tested and pathogen-free grapevine rootstock. We don’t have to rely on other countries for this testing.”

~ BILL SCHENCK

KAREN DAVIDSON

Four years after incorporating, the Canadian Grape Certification Network (CGCN) is no longer a concept. It has crystalized into tangible results, thanks to the unity of grape organizations from British Columbia, Ontario, Québec and Nova Scotia.

“This is our first success,” claims Bill Schenck, vice-chair, CGCN. “We’re now working towards the same goal of virus-tested and pathogen-free grapevine rootstock. We don’t have to rely on other countries for this testing.”

The second goal has been more arduous to achieve: an interim standard and testing protocols for viruses such as leafroll and red blotch. Once a plant has a virus, it’s there for good. It can’t be cured. But as Schenck explains, researchers at the Cool Climate Oenology and Viticulture Institute (CCOVI) have discovered more accurate testing methods and brought down sampling costs at the same time.

“We need nurseries on board so that they’re selling clean vines,” adds Schenck.

The longer-term strategy is to work with Agriculture and Agri-Food Canada (AAFC) researchers in Saanich, British Columbia to develop clean plants and grow them out. A cycle of development that usually takes seven years has been whittled down to four years.

Grape growers are looking forward to the completion of the new Centre for Plant Health in Sidney, British Columbia in 2022.

One of the mandates of the network is to promote, coordinate and direct financing towards national research. Although writing applications is a lengthy process, the results have been gratifying with $6.2 million through the Canadian Agricultural Partnership. As the federal government finalizes the next framework in July 2022, it will be critical for CGCN to have its oar in for future projects.

To that end, project manager Ethan Churchill has a permanent office at the Grape Growers of Ontario headquarters in St. Catharines. This venue keeps him well connected to as many growers, researchers and industry influencers as possible.

One fact is hard to forget. Vitis vinifera hosts the widest variety of pathogens of any woody agricultural plant. That’s why the network is so important to moving the Canadian industry forward.

Transferring knowledge

A deep dive on the website of the Canadian Grapevine Certification Network reveals a treasure trove of up-to-date research reports. Link here: https://bit.ly/3e3bLSQ

Grape and Vine Viruses in British Columbia

Evaluation of Viruses

Cold Hardiness in Eastern Canada

Grape and Wine Grapevine Hardiness

Grapevine Evaluation and Cold Hardiness Program

Canopy Management to Reduce Disease Pressure

Optimization of Grape Production in Eastern Canada

Water and Nutrient Management Strategies for Grapevines and Health Promoting Natural Products

Grape and Wine Nitrogen Management

Tannin Alert: Improving Red Wine Quality and Consumer Acceptance

Improving Wine Quality through Mixed and Sequential Fermentation with Indigenous Yeasts

Improving Sparkling and Still Wine Quality: Preventing High Volatile Acidity, Honey Off-Flavours and other Faults in Canadian Yeast Isolates

Plant Parasitic Nematodes

Novel Approaches to IPM Strategies for Climbing Cutworm in Grapevines

Grape and Wine Leafhopper Management

FOCUS: GRAPES, VINEYARDS & BERRIES

Undervine cover crops in vineyards can reduce soil erosion and leaching

KATHRYN CARTER

Background

Frequently grape growers use cover crops in between rows as a soil management strategy. Many growers maintain a weed-free strip under the vines using herbicides or cultivation to reduce weed competition and maximize water and nutrient uptake for the vines. However, bare soil under the vines is more exposed to the elements making it susceptible to soil structure degradation, erosion and leaching. In some conditions (ie. high organic matter and lots of available moisture) bare soils can create issues with excessive canopy growth.

Excessive canopy growth results in heavily shaded fruit and can contribute to reduced fruit and wine quality, and increased disease pressure. In addition, excessively vigorous grapevines require more canopy management (shoot thinning, leaf removal and hedging), resulting in increased production costs to minimize the negative impacts on fruit quality. Repeated herbicide use to keep a weed-free zone under the vine also increases the risk of the development of herbicide-resistant weeds.

Currently organic grape growers have few options available for weed control as very few herbicides are certified organic. There is increased interest in environmentally sustainable and affordable alternatives to the use of herbicides in vineyards.

In recent years, researchers have started investigating the potential benefits of using undervine cover crops in vineyards. Research suggests the use of undervine cover crops in vineyards can help reduce soil erosion, enhance soil health, reduce herbicide use, improve water quality and manage vegetative growth in vineyards.

Soil health, erosion and leaching

Researchers at Cornell university conducted a four-year study on the impact of undervine treatments of glyphosate, cultivation, native vegetation, and Dutch clover on soil health, nutrient and agri-chemical leaching. Drainage lysimeters were installed in the vineyards to collect leachate samples after rain and irrigation events. These water samples were analyzed to track leaching of total nitrogen, dissolved organic carbon (as a proxy for soil breakdown), and imidacloprid (an insecticide).

By the fourth year of the study the researchers observed physical differences in soil structure between the cultivated soils, and soils with undervine cover crops. Soils in the cultivated plots had more soil health concerns including greater bulk density, less porosity, and lower available water capacity than soils in the white clover treatments. There were also significant differences observed between the treatments with respect to the rate of total nitrogen leachate. In glyphosate plots, the rate of total nitrogen leachate was 174 per cent greater than that in native vegetation plots, indicating that the loss of nutrients could be benefiting the vines and potentially increasing the risk of nitrogen entering local waterways, where it can be a pollutant.

Dissolved organic carbon (indicators of soil breakdown) leachate concentrations averaged over the four-year study were 33 per cent greater in glyphosate compared to white clover or native vegetation, suggesting soil breakdown and loss of soil health in glyphosate plots. This influences biological, physical, and chemical properties of the soil and is an important source of nutrients for soil microbial metabolism.

Impact on vine size

The impact of undervine cover crops on vine size can be looked at in a couple of different ways. For vines that are growing on high organic soils, with ample moisture, some competition between undervine cover crops and the vine for nutrients can help reduce the vine size, minimizing the need for canopy management practices (ie. hedging and leaf removal). However, if undervine cover crops are too competitive with the vine in heavier soils, they can have a negative impact on yields, and vine growth.

The impact of the cover crop on vine growth depends on the seasonal weather conditions, soil resources available and nutritional requirements available to the crop, as well as the cover crop used. Research conducted at Cornell University found that chickory and annual ryegrass grown under the vine can have a significant impact on reducing vigour, promoting better balanced vines and reducing management costs as compared to a herbicide strip. While tillage radish, alfalfa, fescue, and native vegetation offer moderate impact on vine growth, buckwheat and rosette- forming provide little or no effect on vine growth.

Competition for water and nutrients

In most undervine cover crop studies in the states of New York, North Carolina and Virginia, vine water status (stem, pre-dawn water potential) never reached a water stress value, suggesting that under-trellis cover crops were not overly competitive with grapevines for soil moisture under the specific weather conditions of those regions and during the years studied.

However, during consecutive seasons of summer drought in Long Island, vines with under vine cover crops did exhibit increased symptoms of water stress compared with those with a herbicide-treated strip. Some studies have suggested that the use of cool-season grasses under vines can depress grapevine nitrogen levels as compared to the use of a herbicide strip suggesting that under-trellis cover crops can affect vine nitrogen status.

Impact of undervine cover crops on fruit quality and yields

Several studies suggest that the use of under-trellis cover crops does not significantly impact (positively or negatively, juice chemistry [total soluble sugar (°Brix), pH, titratable acidity (TA) or total phenolics or anthocyanins in grape must.

While other studies have observed that undervine cover crop treatments increase °Brix levels or reduce TA (1 g/L) that was attributed to the reduction in vigour and increased fruit sunlight exposure.

Continued on next page

FOCUS: GRAPES, VINEYARDS & BERRIES

Undervine cover crops in vineyards can reduce soil erosion and leaching

Researchers suggest that the impact of under-vine cover crops on wine sensory characteristics is likely impacted on how competitive the cover crop is during the season, and its impact on cluster light exposure, leaf area to fruit ratio and vine nutrient and water status.

Conclusion

Undervine cover crops have been shown to have considerable benefits in vineyards including reducing erosion and leaching, and increasing soil health. Depending on the cover crop selected and the environmental conditions, cover crops can be a useful tool in mitigating excessive growth in vineyards and may help to reduce the need for canopy management. The impact of cover crops on wine sensory characteristics are dependent on how competitive the cover crop is in a given season, and the impact of the cover crop on cluster light exposure, leaf area to fruit ratio and vine nutrient and water status.

Resources

Why should we care about under-trellis cover crops? | Penn State Extension Wine & Grapes U. (wordpress.com)
(PDF) Under-vine cover crops: Impact on weed development, yield and grape composition (researchgate.net)
Tips for Under-Vine Cover Crop Adoption - Growing Produce
Adopting Under-Vine Cover Crops in Vinifera Vineyards (cornell.edu)
Undervine cover crop in Ontario (K. Carter, OMAFRA, 2021)

Kathryn Carter is fruit specialist, tender fruit and grape, for OMAFRA.

Undervine cover crop trials in Canadian vineyards

KATHRYN CARTER, HEATHER VanVOLKENBURG, MEHDI SHARIFI, LIETTE VASSEUR

Introduction

Undervine cover crops are an alternative to the use of herbicides or cultivation in managing weeds in vineyards. Research has shown that the use of undervine cover crops in vineyards can help reduce soil erosion, enhance soil health, reduce herbicide use, improve water quality and manage vegetative growth in vineyards. The impact of the cover crop on vine growth -- and yields -- are dependent on the cover crop selection, environmental conditions, and soil/nutritional resources available in the vineyard. As a result, there is a need for regional specific research on undervine cover crops.

British Columbia

In British Columbia, the wine-growing region is characterized by cool-humid winters, and warm-dry summers. Irrigation is used more commonly in British Columbia because of their dry summers, which can help with undervine cover crop germination during dry weather, and cover crop growth. However, in vineyards that lack irrigation, dry conditions also make it important that the undervine cover crops do not provide competition for water and resources with the vines.

Dr Mehdi Sharifi from Agriculture Agri-Food Canada (AAFC) is conducting research on the use of in row (undervine) cover crops in British Columbia (BC). An experiment was conducted in two organic vineyards in Okanagan Valley, British Columbia (BC), including a 13-year- old Merlot grape block with loamy sand soil texture; and a 10-year- old Zwiegeld grape block with silty loam soil texture and drip irrigation.

At each site, up to nine cover crop species were tested in the vine row (in-row). Cover crop species for each region were selected according to regional studies, literature, their function within the agro-ecological landscape, and in consultation with experts. Undervine (in-row) cover crops tested included: Credcendo Ladino clover (*Trifolium repens cv. Ladino*), Spring lentil (*Lens culinaris*), turnip (*Brassica rapa subsp. Rapa*) and phacelia (*Phacelia tanacetifolia*).

The preliminary results of this trial suggest that in BC, Credcendo Ladino clover (*Trifolium repens cv. Ladino*) provided the best establishment, canopy coverage, regrowth after mowing, and least competition with vine. However, it was also slow to establish and wasn't drought-tolerant which can be an issue in some vineyards. Spring lentil (*Lens culinaris*), turnip (*Brassica rapa subsp. Rapa*) and phacelia (*Phacelia tanacetifolia*) also performed well undervine.

Ontario

In Ontario, the climate in grape-growing regions is characterized by cool-humid winters, warm summers (dry or rainy), and high annual precipitation. In Ontario, irrigation is used less frequently as a result of the high annual precipitation, and most grape growers use overhead irrigation prior to veraison. As a result, the irrigation timing may have minimal benefit on undervine cover crops.

Dr. Liette Vasseur from Brock University, conducted a similar study to Dr. Sharifi to evaluate the impact of undervine cover crops in Ontario vineyards.

Continued on page 16

FOCUS: GRAPES, VINEYARDS & BERRIES

Undervine cover crop trials in Canadian vineyards

Figure 1 Seeding undervine cover crops in vineyard. (OMAFRA, 2021)

Figure 2 Undervine buckwheat growing up into fruiting zone in vineyard. (OMAFRA, 2021)

Figure 3 Fauder rape growing under grape vine. (OMAFRA, 2021)

Continued from page 15

The trial was conducted in an organic Cabernet Sauvignon vineyard in Niagara-on-the-Lake. The undervine cover crops evaluated included crimson clover (Trifolium incarnatum) for its biomass and attraction of beneficial insects such as Orius insidiosus, sweet alyssum (Lobularia maritima) for its attraction of parasitoid wasps, and purple-top turnip (Brassica rapa) for its bulbous tap root capable of alleviating soil compaction.

In 2020, the lower than desired establishment made it difficult to assess whether any of these plants would be effective at providing the benefits intended. Additionally, turnip was able to over-winter, which caused some foliage height issues in the spring of 2021, and it was decided that this species would not be continued.

The following season, 2021, saw a repeat use of crimson clover and alyssum species, albeit at higher sowing rates to try and mitigate the previous year's low establishment. Crimson clover performance was exceptional in terms of floral biomass and will be kept on for an additional season to assess its reseeding capabilities. While alyssum did have better biomass production than the previous year, seeding ratios may still need to be increased to obtain enough floral biomass to make a difference for parasitoid attraction. The lab is currently working at identifying and quantifying invertebrate collections from this past summer for further analysis and are excited to see what results will come!

Looking forward to the 2022 season, Dr. Vasseur's lab will be monitoring the previous year's crimson clover and alyssum plots to assess how well the plant re-establishes (or if it is even capable). An abundance of seeds was produced this past season, but whether they are viable or not remains to be seen and could have important implications for cost assessments down the road. It is important to consider both ease of establishment as well as operator/grower costs when implementing potential cover crop species and increasing the amount of alyssum seed sown a second time may not yield the trade-off benefits that are desired. An additional part of the undervine cover crop project hopes to look at a few native species this year as well. Having native plants as cover crops could be a more sustainable alternative to introducing non-native plants into our Niagara agroecological systems.

In 2021 OMAFRA specialists received funding from Hort Crops Ontario (OFVC funding) to conduct a trial evaluating undervine cover crops in vineyards. The trial was initiated in an organic Reisling vineyard in Beamsville that did not have access to irrigation. Cover crops were seeded using an undervine spreader (Fig 1) or broadcast by hand. The trial included five (5) undervine treatments (buckwheat, buckwheat+phacelia, rosette-forming turnip, herbicide and natural vegetation. In addition, a smaller screening trial was initiated at the same site with small plots of broadcasted cover crop treatments including: subterranean clover, buckwheat +phacelia, buckwheat, common vetch, chickling vetch, crimson clover, double cut clover, white clover, flax, perlansa clover.

FOCUS: GRAPES, VINEYARDS & BERRIES

Québec's berry mecca is an island in the stream

KAREN DAVIDSON

The tourist mecca of Île d'Orléans belies the fact that 20 to 30 per cent of Québec's strawberry production originates from the island. Just 21 miles long and pinched at five miles wide, the island in the St. Lawrence River serves as a welcome mat for Québec City to the west.

"The island is a sponge for humidity," explains Francis Blouin, a fifth-generation farmer. Adopting leading-edge production practices, he grows 30 acres of strawberries, two acres of raspberries and four acres of blueberries. The breezes from the St. Lawrence temper a hot summer's day, mimicking the Pacific climate of the west coast.

While the soil is hospitable to berries, the most surprising advantage of Île d'Orléans is the frigid winters – often -25°C – 30°C – which interrupt the life cycles of pests. Heavy snow cover, however, is welcomed for strawberries. Blouin provides extra protection by planting four rows of corn as a snowbreak for his acres of strawberries and raspberries. The corn is just tall enough to be a snow catcher.

François Blouin cultivates some of his Patriot blueberries under netting to protect from spotted wing drosophila.

Thirty acres of day-neutral strawberries are in continuous bloom, nourished by drip irrigation. The family's sugar shack can be seen in the distance.

Raspberries are destined for the nearby Québec City farmers' market, a 15-minute drive over the bridge.

Guatemalan temporary foreign workers are key to timely picking and delivery to customers.

Strawberries

Blouin grows half a dozen strawberry varieties with different maturity dates. Fortunately, he has access to plentiful water so that all berry fields are hooked up with drip irrigation. Insect pressure from spotted wing drosophila and cyclamen mites remains an issue, but he's satisfied with the prescriptions of the local agronome who inspects his field twice a week. In Québec, a management plan must be put forward and approved by the agronome – a concept that keeps crop protection products in a rotation and to a minimum.

Part of the strawberry productivity is attributed to the row covers that are pulled over in late September and then removed at the end of June. This geographic location is prone to spring frosts, so it's a necessity to protect the berries during flowering.

Raspberries

Raspberries are a specialty for Ferme François Blouin. Three varieties –Anelma, Festival and Nova – each have their place with different flavour profiles and maturity dates. About 30 Guatemalan temporary foreign workers meticulously pick the tender berries, discarding any blemished ones into a cup affixed to their picking crate.

"It was a nice raspberry season last year," says Blouin. "Large volumes and good pricing at about $30 per flat."

He delivers to a dozen supermarkets in Québec City as well as the farmers' market.

"Labour is the key to growing raspberries," says Blouin. "I would like to plant more raspberries and perhaps open a pick-your-own operation, if I can get up to 42-45 workers. With COVID-19, it's more complicated to do the paperwork, and for sure, it's hard for the workers to isolate for 14 days."

Future plans are to transform some of the extra fruit into uniquely Québecois products.

"Too many strawberries were on the market last August, so rather than take a loss, Blouin decided that his team would stem the berries and vacuum pack them in 2.5 kg bags. They were then stored in a Québec City warehouse. His plan is to make these berries into strawberry syrup, apple/strawberry sauce or a tartinade -- a spread that's sumptuous on toast or crackers.

Blouin has great respect for the land and pride in the berries he brings to market. Most praiseworthy of all is his motto: don't waste food.

FOCUS: GRAPES, VINEYARDS & BERRIES

Local Line 2.0 platform updated for smoother onboarding process for growers

KAREN DAVIDSON

In January 2022, Local Line is launching its brand new e-commerce platform, Local Line 2.0. Since its debut in early 2015, this service has helped food suppliers make local food completely accessible to the consumer while keeping farmers in control of their business.

The last two years of the pandemic, farmers have pivoted and signed onto e-commerce in record numbers. During lock-downs, as the world's global food supply chains were challenged to deliver, more than 5,000 farms all across North America turned to Local Line. Today, most of those farms have continued to rely on Local Line for online sales.

No piece of feedback from farmers using the service went unnoticed, says Cole Jones, founder and CEO, Local Line. He cites the case of Joseph Grootenboer at River Bell Market Garden, Dresden, Ontario. The organic grower produces high-quality fruits, vegetables and animal products using sustainable farming practices. He also showcases the products of other local farmers such as frozen blueberries from Blueberry Hill Estates.

"It [Local Line] gives small growers a way to access market-places traditionally dominated by larger players, offering motivated customers high quality, choice products," says Grootenboer. "Using Local Line has made this affordable, and possible."

Along with the thousands of farms and growers who transitioned to an online store or marketplace during the pandemic, Local Line had a large base of existing farmers who had hopped on the digital bandwagon early. During the first lock down, Local Line's platform traffic increased by 4,300 per cent. Unsurprisingly the team had to work around the clock to keep everything running smoothly. Over the past year, Jones has directed his Local Line team to rebuild the platform for a post-pandemic future.

"It's a step forward," says Grootenboer. "It gives customers a smoother process, allows for clearer marketing, and these subtle changes add up."

E-commerce is important because it helps put farmers in the driver seat of their own businesses. Setting up the right e-commerce platform enables direct-to-customer sales without the middle man. Farmers can decide what to grow, how to price produce, when to ship it, and how to collect payment. This platform gives more control in an ever-changing market.

As Canadian Grocer reported in October 2021, Euromonitor International estimates that e-commerce sales grew by more than 70 per cent between March 2020 and March 2021. The agency says that grocery e-commerce sales grew even faster overall. The surge in this consumer demand for food from large grocers has made online ordering from farmers an easier concept to embrace – especially for those consumers who treasure locally grown fruits and vegetables.

The team at Local Line has made more than 300+ improvements to the platform, overhauling almost every process to make it the platform for farmers. Learn more about Local Line 2.0 at this link: https://site.localline.ca/improvements/2-0

Local Line continues to evolve from its origins as a match-making service for small farms and chefs. In just six years, it's reached national recognition – a long way from when Cole Jones was delivering local potatoes out of the back of his SUV!

Spectral signatures signal presence of grape viruses

Post-doctoral fellow Balaji Devatha works with the hyperspectral camera technology in a Niagara vineyard.

SARAH ACKLES

Imagine being able to detect, and then manage, the presence of a grapevine virus before symptoms are even visible in the vineyard.

Sudarsana Poojari, senior staff scientist at Brock University's Cool Climate Oenology and Viticulture Institute (CCOVI), is working to help the grape and wine industry do exactly that — without a hefty price tag or the need to work with complicated equipment and data.

Poojari is heading up a new research project that is investigating the use of a hand-held hyperspectral imaging system to detect Grapevine Red Blotch Virus and Grapevine leafroll-associated virus 3 in young and asymptomatic grapevines.

The goal is to identify unique spectral signatures that indicate the presence of these viruses in the early stages of infection. That data would then be shared with the industry, allowing grape growers to make more informed grapevine disease management decisions.

"It's very difficult to identify these virus infections based on visual observations alone, so we need something to detect what our eyes cannot see," Poojari explained. "A system for the detection and discrimination of grapevine viruses in young and asymptomatic phenotypes would provide a much-needed tool to the grape and wine sector."

The research team includes Poojari, CCOVI researcher Jim Willwerth, post-doctoral fellow Balaji Devatha, and Wendy McFadden-Smith, horticulture integrated pest management specialist at the Ontario Ministry of Agriculture Food and Rural Affairs. The Ontario Agri-Food Research Initiative Commercialization Stream is supporting this work with a $145,000 grant.

Mitigation and management of grapevine viral disease has been the priority for the grape and wine sector in Canada, and Poojari has seen a steady increase in the number of samples that are showing infection coming into CCOVI's Grapevine Virus Testing lab year after year.

Once a virus infects the plant there is no cure, so tools for early detection are the best way for growers to protect the health of their vineyards.

High-end hyperspectral camera technology is used in agricultural settings to detect other diseases, as well as nutrient imbalances and water levels in the soil. It uses special optics to capture hundreds of spectral bands and has traditionally been used in conjunction with drones and specialized experts who assess the data.

Just like fingerprints, every object has a unique spectral signature, and Poojari said researchers will attempt to use these signatures to identify differences between healthy, asymptomatic and symptomatic grapevine leaves. They have begun baseline testing on plants in Brock's greenhouse and will collect field data at various intervals throughout the growing season starting in 2022.

To make this technology more accessible across the industry, Poojari and his team are using a more affordable hand-held camera and will work with Devatha to distill the complex data into practical information that can be easily applied in the vineyard.

"That's the whole hallmark of this project – to fine-tune the data so that everyone can understand it," Poojari said.

Devatha, who has a background in physics and materials science, specializes in the use of this type of technology.

"I have always wanted to contribute work towards sustainability. When the opportunity arose to make viticulture more sustainable with the help of a brilliant team led by Dr. Poojari, I just jumped into it," he said.

Partnering with Willwerth and McFadden-Smith will also ensure the data gets directly into the hands of growers, helping to further bolster the broader work CCOVI and its partners are doing to develop a national clean plant program for grapevines.

"If we could come up with a tool that could determine the health status of the young vineyards, I think that would provide grape growers the opportunity to make informed virus-management decisions," Poojari said.

Sarah Ackles is marketing and communications officer, Brock University's Cool Climate Oenology and Viticulture Institute.

Source: Brock University News, November 25, 2021.

FOCUS: GRAPES, VINEYARDS & BERRIES

The latest food safety software is more farmer-friendly

Food safety pressure has been mounting for years, affecting not only berries but the entire food industry. According to the USDA, there were 2.5-times more recalls between 2014-2018 than in 2004-2008. In response, food safety standards are tightening to catch mistakes earlier. GFSI requires full close-out of all corrective actions before a company can be food-safety certified.

These requirements make it harder for growers and packers to have their records truly audit-ready.

By failing to detect severe issues until an audit, growers and packers risk their food safety certifications.

To limit certification risks and prevent recalls that damage consumer trust, critical issues in food safety must be found earlier.

The answer isn't more paper-work; most companies already believe food safety takes too much time. The answer is smarter systems for food safety that save time, cost, and risk. For these reasons, there has been a rapid rise in the adoption of food safety software.

Historically, accounting and inventory software outpaced the adoption of food safety software. The process requires the most operator interaction, so it requires extreme usability. A new wave of software has stepped up to this challenge. On the public ratings site, Capterra, Canadian software Provision Analytics has a five-star rating for usability in food safety.

Beth Pattillo, director of CanadaGAP at Noggins Farm, Greenwich, Nova Scotia, says, "We chose Provision because the software is more farmer-friendly and easier to use than other programs we have looked at. It will help with compliance and reduce the amount of time spent filling out all the required food safety forms."

This category of food safety software enables portions of food safety records to be auto-filled or completed with camera images. The records can contain rules that can automatically flag compliance mistakes in real-time. Alerts will remind specific individuals to complete specific records before compliance deadlines, and any data captured can be automatically trended in reports.

This functionality ensures growers and packers save time and stress in audit preparation. Companies can prevent missed and deviant documentation, improving audit scores. Audits are being done in less time using instant search. And most important, the data is being put to work. Because food safety records document every process step, the reporting generates insight that is otherwise untapped for process control.

Steve Souto is a co-owner of Steve & Dan's BC Fresh Fruit, which produces blueberry juice among other fruit-based products. Souto says, "Provision is easy to use. Its Tasks prevent any missing forms, its Forms are smart to prevent mistakes, and its Reports instantly summarize key information for audits."

Amanda Hehr, president of Sunterra Farms Greenhouse, adds, "The decision to automate our food safety program with Provision Analytics is congruent with our goal of leveraging the latest technology to produce the best quality produce, safely and efficiently."

Through its partnership with CanadaGAP, Provision is bringing digital food safety solutions to growers and packers across the country. The full set of CanadaGAP forms is currently available in the Provision Analytics software and work is underway to digitize the CanadaGAP Food Safety Manuals.

As younger operators take over growing and packing processes, the question isn't if software will be adopted, but how long it will take before paper is obsolete.

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

Ontario Berry Grower

Ministry of Agriculture, Food and Rural Affairs

Ontario

Development of rapid on-farm SWD monitoring

ERICA PATE
and HANNAH FRASER

The Ontario Berry Team has been evaluating and adopting new monitoring tools for spotted wing drosophila (SWD) since 2018. Our goal is to identify practical on-farm tools for growers and consultants to use. In 2021 we continued to evaluate sticky card trap designs following the previous trials and success we've had with sticky cards.

2018- Evaluating lure and trap combinations

When OMAFRA began monitoring for SWD in 2011 we used liquid bait traps, testing various designs and attractants. These liquid traps can be effective tools, but they are also time-consuming and labour-intensive to process, rendering them impractical for on-farm use. In recent years solid matrix baits have become available on the market. With these baits came the potential to pair them with dry, solid traps, such as a sticky card or sticky sphere. These dry traps are easier to use and require less maintenance than the liquid traps we had been using. So in 2018 we began evaluating different combinations of sticky card traps and lures. This trial included yellow sticky cards, red sticky cards, and liquid traps, combined with Scentry lures and Trécé lures. We found that the Scentry lure paired with the yellow sticky card was the most effective option for monitoring SWD (Figure 1). We also found these sticky cards were much faster to use than the liquid traps, as SWD males could be identified in the field, and the traps did not require the same amount of labour and maintenance compared to the liquid traps.

2019- Evaluating liquid traps vs yellow sticky cards

Following the trial in 2018 that suggested yellow sticky cards paired with a Scentry lure was an effective monitoring tool, we wanted to do an intensive comparison of these sticky cards to the standard liquid bait traps, to confirm the sticky cards were as effective at identifying the first catches of SWD.

We set up 12 traps at four raspberry farms: six yellow sticky cards+ Scentry lure vs six liquid traps + Scentry lure. From the four different sites, liquid traps and sticky cards identified the first catch at the same frequency. We were most interested in the early catches as they are the most important for monitoring, as growers begin to apply insecticides for management once SWD has been identified on their farm and ripe fruit is present.

Because of the promising results from this project we believe these sticky cards are a useful tool for detecting SWD at the beginning of the season, and are a promising, low-labour, low-maintenance monitoring tool for growers.

However, although these traps are easier to use, commercial baits are still not selective, and the traps catch other insects. Additionally, as the traps are placed in the canopy of the crop, they can get covered in leaves and debris (Figure 2.). The leaves and other insects make it harder to see any small insects and to identify SWD, making monitoring a more time-consuming and unpleasant process. It also means the trap becomes covered in insects and needs to be changed more often.

2021- Evaluating cages for yellow sticky cards

To address the issue of the sticky cards getting covered in large insects or caught in foliage, this season we designed two different cages to protect the cards from other insects -- a cylinder cage and 'sleeve' cage (Figures 3 and 4) made out of wire mesh. The mesh is large enough for SWD and other small insects to fly through, but small enough to keep out large insects and protect the cards from foliage. The idea was that the sticky cards and lures could easily slide in and out of the cages, keeping the cards clean and making it easier and faster for growers and consultants to check the traps.

At two of the sites, the three different designs caught the first SWD in the same week, and at a third site the round cage and the standard trap (no cage) caught SWD the same week (Figure 5). In fact, there was no significant difference between the trap with a round cage and standard trap to identify presence of SWD (Figure 6). You can see there is variability in our data; with more replication, we might have more conclusive results and a clear "winning" combination. The early catches identifying the presence of SWD are the most important for monitoring, as growers will need to begin to apply insecticides for control once SWD has been identified on their farm and ripe fruit is present.

Although the sleeve cage kept the cards clean, it did not identify the presence of SWD as effectively as the round cage or standard trap. The difference between the round cage and the sleeve cage may be due to the extra space around the card that the round cage allows, versus the sleeve cage.

Continued on page 23

Figure 1. SWD males on a yellow sticky card paired with a Scentry lure.

Figure 2. Sticky card covered in large insects and leaves.

Figure 3. Sticky card in a round cage.

Figure 4. Sticky card in a 'sleeve' cage.

Week/site		Week 1	Week 2	Week 3	Week 4
Farm 1	No cage	+	+	+	+
	Sleeve	+	-	+	+
	Round	+	+	+	+
Farm 2	No cage	+	+	+	+
	Sleeve	+	+	+	+
	Round	+	+	+	+
Farm 3	No cage	+	+	+	+
	Sleeve	-	-	-	+
	Round	+	+	+	+
Farm 4	No cage	-	+	+	+
	Sleeve	-	+	+	+
	Round	-	-	+	+

Figure 5. Presence/Absence of SWD on Sticky Traps.

ON BERRY NEWS

Berry Growers of Ontario – Ontario Fruit and Vegetable Convention Berry Program

Nick Vranckx, Blueberry Hill Estates, St. Williams, Ontario, will be speaking on February 22 about trends and opportunities in value-added sales. Photo by Glenn Lowson.

Tuesday, February 22, 2022 – Embassy Suites, Niagara Falls

9:00 am	**Introduction and Welcome**		
9:15 am	Grower Profile, Proulx Farms	Melissa Proulx, Proulx Farms	
10:00 am	Strawberry Disease Management	Katie Goldenhar & Erica Pate, OMAFRA	
10:30 am	Managing White Grubs in Blueberries after Admire	Justin Renkema, Agriculture and Agri-Food Canada	
11:00 am	Farm Succession	Farm Life Financial	
11:30-12:00	Digital Crop Protection Tool	Madé Quay, Erica Pate, OMAFRA	
12:20	**Lunch BGO Annual Meeting**		
	Marketing Track-	**Production Track –**	
2:00 pm	Working with Your Local Tourism Organization Joanne Wolnik, Executive Director, Southwest Ontario Tourism Corporation	2:00	Raspberry Crown borer and cane borer management Hannah Fraser, OMAFRA
		2:15	Innovations in Horticulture- Robotics Updates Haggerty Creek TRIC Robotics
2:45 pm	Trends and Opportunities in Value-Add Sales - Grower Panel Nick Vranckx, Blueberry Hill Estates Kara Pate, Brantwood Farms	3:00	From Preplant to Replant – Soilborne Disease Management in Red Raspberry Lisa Wasko DeVetter, WSU
3:30 pm	Round tables		
	1. Digital Crop Protection Tool Training– ***Bring your own device (phone, tablet, laptop)***	Madé Quay, OMAFRA	
	2. Value Add sales	Kevin Schooley	
	3. Farm Succession	Farm Life Financial	
	4. Integrated Pest Management	Erica Pate, Katie Goldenhar, Hannah Fraser, OMAFRA	
5:00 pm	Adjourn		

Wednesday, February 23, 2022 – Scotiabank Convention Center, Niagara Falls

9:25 am	**Introduction and Welcome**	
9:30 am	The Buzz on Blueberry Pollination - Advances in Pollination Research	Lisa Wasko DeVetter, Washington State University
10:00 am	Understand Strawberry Flower Physiology to Improve Production	Edward Durner, Rutgers University
10:30 am	Working with Beneficials on Your Farm	Pam Fisher, Fisher Berry Crop Consulting; Tom Heeman, Heeman's; Amy Rodenburg, Fenwick Berry Farm
11:00 am	Macro Biologicals- Beneficial Mites, Insects and Nematodes for Berry Growers	Plant Products, Natural Insect Control, Koppert, Biobest
11:45 - 2:00	Lunch and Visit the Trade Show	
2:00 pm	*Neopestalotiopsis* sp.: An Emerging Pathogen on Strawberry	Natalia Peres, University of Florida
2:30	Recent Advances in UV-C Light for Disease and Pest Control	Fumiomi Takeda, Small Fruit Researcher, AZ
3:00 pm	Do-it-yourself Conditioning of 'Albion' Strawberry with Photoperiod and Nitrogen to Enhance Yield	Edward Durner, Rutgers University
3:30	Motivating and Managing Staff in 2021	Alex Chesney, Thames River Melons; Morris Gervais, Barrie Hill Farms; Hollis English, Murphy's Farm Market

Development of rapid on-farm SWD monitoring

Continued from last page

The mesh around the sleeve cage may cover a portion of the sticky surface, reducing the actual trapping area. In addition, leaves surrounding the cage would sometimes get stuck to the sticky card, defeating the reason for using it in the first place. With this in mind we believe that any cage design with space between the card and the mesh will be effective at protecting the cards while also identifying SWD males.

These results suggest using either a standard trap design (sticky card + lure) or pairing a sticky card with a relatively large cage are useful tools for detecting SWD at the beginning of the season, and are promising, low-labour, low-maintenance, low-mess monitoring tools for growers.

Thank you very much to the growers who hosted these trials through the years!

Erica Pate is OMAFRA fruit crop specialist. Hannah Fraser is OMAFRA entomologist – horticulture crops.

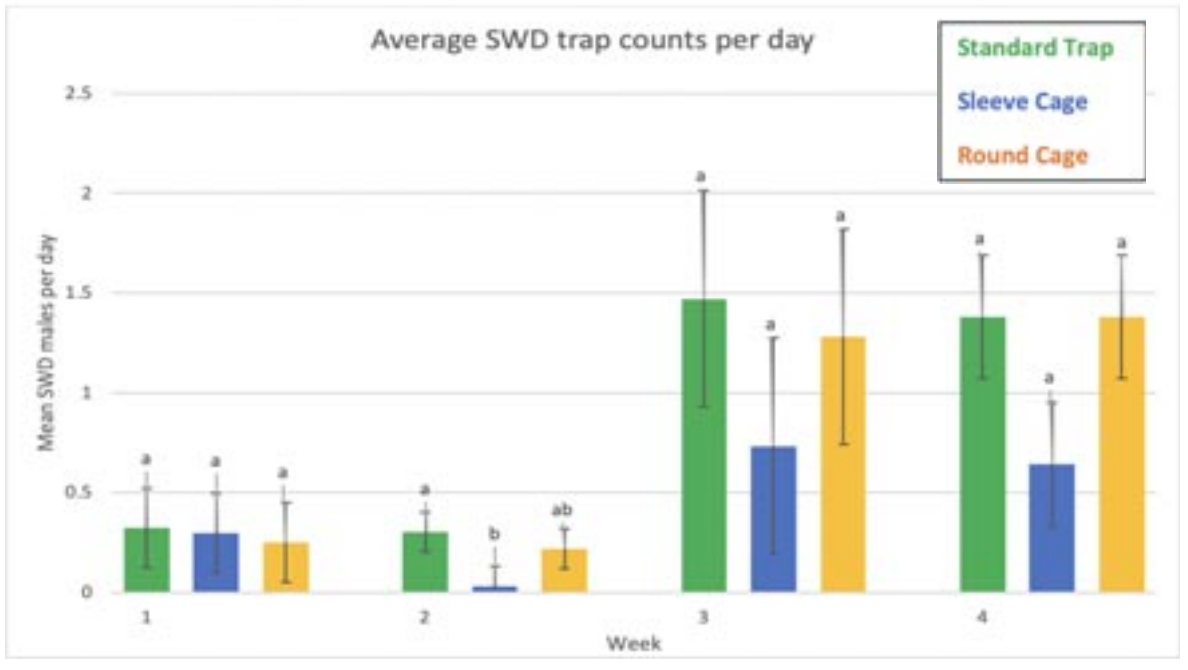


Figure 6. Average SWD counts across sites per day. a-b Means with the same letter are not significantly different at P<0.05 using Tukey's test.

BITS AND BITES

Major supply chain disruptions

Editor's note: The following statement by the Ontario Agricultural Commodity Council was forwarded to the Ontario agriculture minister Lisa Thompson and transportation minister Caroline Mulroney on December 14, 2021. These issues are being experienced across Canada.

On behalf of the Ontario Agricultural Commodity Council (OACC), a coalition of 27 non-supply managed commodity organizations representing approximately $10 billion in annual farmgate sales, we want to bring attention to concerns regarding major supply chain disruptions currently being experienced and deteriorating rapidly in the Ontario agricultural industry.

At our meeting on December 6th, several member organizations indicated ongoing supply chain disruptions impacting our food systems, economies, and ultimately, individuals and families in Ontario.

Specifically, the Council discussed:

• **Trucker Shortages** - Many commodity groups indicated trucker shortages have delayed shipping their products or increased their costs due to demand, thereby increasing the cost of food. A report from Trucking HR Canada, recently featured on CBC, indicated a current vacancy of over 18,000 trucker jobs in Canada. The report also outlined an additional 17,000 truckers are needed by 2025 to keep up with demand. The scarcity of commercial truck drivers is made worse in the food and agricultural industry, as drivers may opt to take on less urgent, non-refrigerated loads rather than the urgent, time-sensitive, and highly temperature-controlled loads necessary with food and agricultural products. The lack of truckers is further exacerbated by increased COVID vaccination requirements and screening when crossing the border which are scheduled to come into effect on January 15, 2022. Both the United States and Canada should examine ways to help alleviate the trucker shortages and cross border implications which are making the trucker shortages worse.

• **Increasing Container Shipping Costs** - Commodity organizations have indicated that the costs associated with shipping containers continue to rise, in addition to a lack of availability. The cost of shipping containers has more than tripled in the past year. Estimates indicate increases from $3,000 per container to $18,000, and even as high as $25,000 per container. Governments must work together to provide greater oversight of international ocean carriers and ensure fair and ethical practices to support the continued flow of goods.

• **Crippling Port Congestion** - Ports across Canada and North America are reporting increased delays due to congestion. British Columbia's forest fires and flooding have added to these issues and delays, with CN just recently reopening. Governments must start looking at longer term solutions to help alleviate these issues especially for the food industry with perishable items.

Photo by Glenn Lowson

• **Growing input shortages** - From fertilizer, crop protection products, machinery parts, tires, building materials, pallets, cardboard and packaging, the food supply chain is experiencing increased shortages and a rise in the costs of inputs. Fertilizer prices such as Urea and NH3/Ammonia are up 350 per cent in the last 14 months alone, Phosphate and Potash up nearly 200 per cent in the last 18 months. These inputs are crucial for the agricultural industry to grow and supply food and other essential products to Canadian and international markets.

Our commodity organizations bring these items to your attention in hopes that we may work together to find solutions. It is imperative that governments work urgently with all parts of the supply chain to mitigate the serious threats of food insecurity and food shortages and increasing food costs. The OACC and its member organizations are poised to help the government identify and address the issues presented above and continue to ensure Canada and Ontario have a secure food supply chain. We request a meeting or working group to move this dialogue forward and start identifying solutions.

NEW YEAR'S QUIZ

Identity these fruits and veggies

For anyone who has had the privilege of touring the Ontario Food Terminal, there's a hustle and bustle that can't be replicated anywhere else. Before the pandemic, **The Grower** had the opportunity in July 2019 to photograph some of the lesser known fruits and vegetables.

In our photo safaris to various farms, we've also observed – with astonishment – some specialty items. Who knew these could be grown in Ontario? In Canada? We've dug into our archives and unearthed these photo gems.

Can you name these unique offerings? Answers on page 28.

All photos by Glenn Lowson except photo seven by Travis Cranmer.

MARKETPLACE WORKS

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

SEED, NURSERY & ROOTSTOCK

GLADIOLUS BULBS

LOGISTICS

CLASSIFIED ADS

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

Grading & packaging equipment for sale. Hedge Hog Conveyor and frame with cross conveyor. Cyclone Destoner. 1 Bin Tipper 60" w x50" D X 51" H. 2-ton capacity Jacuzzi with conveyor. Gooseneck rinse elevator and Newtec Celox Optical Grader 5 Cross conveyor and catwalk. 1 Wet hopper with conveyor to feed Newtec weigher. (Newtec Weigher 12 head, 2 Newtec poly wicket bagger with funnels, Two conveyors for under bagger, 2 auto closers Kwik Lok printer). One Ton Capacity Jacuzzi with conveyor, 1 trimming conveyor. Conveyor stainless steel: 24" x 140", 19" x 202", 16" x 300, 18" x 144", 15" x 313", Conveyor to feed turntable 15" x 130" 2 section. Touch screen control Panel to operate carrot line. Water Recycling system. Please contact Gerald at 902-393-4805 or Email: redsolorganics@hotmail.com

For Sale – 2500 Black Plastic 200 cell Speedling propagation trays. $6.00/tray fob Canning Nova Scotia. Call 902-582-7939

CONTAINERS & PACKAGING

MARKETPLACE WORKS

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

REFRIGERATION

@growernews

COMING UP

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

FEBRUARY
Ontario Fruit & Vegetable Convention

MARCH
Crop Protection/ Spraying/Potatoes

advertising@thegrower.org

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

THE GROWER FRESH NEWS FROM

Sign up at www.thegrower.org/subscribe

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

519-763-6160 x 221

EQUIPMENT

GROW TRAYS

BITS AND BITES

Vegetable prices are projected to rise 5 to 7 per cent in 2022

2022 FOOD PRICE FORECASTS

Food Categories	Anticipated Changes (%)
Bakery	5% to 7%
Dairy	6% to 8%
Fruits	3% to 5%
Meat	0% to 2%
Other	2% to 4%
Restaurants	6% to 8%
Seafood	0% to 2%
Vegetables	5% to 7%
Total Increase in Food Prices	**5% to 7%**

The least kept secret is that food prices in Canada are on the rise. Canada's Food Price Report 2022 forecasts an overall food price increase of five to seven per for the coming year, the highest predicted increase in food prices since the inception of the report 12 years ago. The most significant increases are predicted for dairy and restaurants at six to eight per cent, and vegetables at five to seven per cent.

"It's important for consumers to understand that food prices have been going up for some time, and there's no turning back," says Dr. Sylvain Charlebois, project lead and director of the Agri-Food Analytics Lab at Dalhousie University. "Our relationship with food is changing, and so will our food budgets. Showing up at the grocery store knowing what you should be paying will help."

This year's report predicts that a family of four, including a man (age 31-50), woman (age 31-50), boy (age 14-18), and girl (age 9-13) will pay up to $14,767.36 for food, an increase of up to $966.08 from the total annual cost in 2021.

Food price increases in Alberta, British Columbia, Newfoundland and Labrador, Ontario, and Saskatchewan will likely be higher than the national average in 2022, while price increases in the remaining provinces will be lower.

"Most Canadians could eat more vegetables," says Dr. Kelleen Wiseman, UBC campus lead. "The forecasted increase in this healthy food category is worrying from a public health perspective because consumers might be tempted to further reduce their consumption of fresh and mainstream vegetables. However, options are available in selecting alternative vegetables or frozen vegetables — which can provide high nutritional value at a lower price point."

Canada's Food Price Report 2022 focuses on COVID-19-related disruptions to the food supply chain, climate change and adverse weather effects, labour force challenges, high inflation, and food transportation challenges.

"Supply chain disruptions and labour market challenges will persist in 2022," explains Alyssa Gerhardt, a PhD student in the Department of Sociology and Social Anthropology at Dalhousie who worked on the project. "COVID-19 is still here. The food supply chain will continue to grapple with the cost of sanitation and PPE, high transportation costs and reduced maritime transport capacity, as well as decreased efficiency and disruptions due to closures."

Despite these challenges, consumers' food choices continue to be motivated by health and environmental sustainability and a commitment to supporting local food supply chains, and overall food literacy appears to be improving. "Canada is a leader in the production of safe, sustainable foods," explains Dr. Stuart Smyth, University of Saskatchewan campus lead. "Buying products that are made in Canada is a good way to support sustainable, ethical, and healthy choices."

Canada's Food Price Report is an annual cross-country collaboration, jointly released by long-time research partners Dalhousie University and the University of Guelph, as well as the University of Saskatchewan and the University of British Columbia. The research team uses historical data sources, machine learning algorithms, and predictive analytics tools developed over many years to make predictions about food prices in Canada.

"The report brings together some of the best minds in Canadian food policy, business, and economics — including expertise in computer science in areas such as artificial intelligence and forecasting," says University of Guelph campus lead Dr. Simon Somogyi. "This annual report is really one-of-a-kind in Canadian inter-university collaborations and is a testament to the hard work of all involved."

For the complete Canada's Food Price Report 2022, link here: https://bit.ly/3pNVAhv

Source: Dalhousie University December 9, 2021 news release

NOTICE OF MEETING

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

ONTARIO FRUIT & VEGETABLE GROWERS' ASSOCIATION

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

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

ONLINE REGISTRATION

Registration is available now through Eventbrite. Early bird discount applied until January 7th: https://bit.ly/3sszSD0

*Although the OFVGA is hopeful to welcome all interested individuals to the 2022 AGM, we reserve the right to limit the number of annual meeting attendees to only those required to carry out the business of the organization. If public health measures evolve to restrict meeting room capacity, the OFVGA will notify registrants of any change to their registration status. Those no longer able to attend will be fully refunded.

Quiz answers: Identify these fruits and veggies

1) Pineberries. These are a white strawberry cultivar that have a slight pineapple taste.
2) Rutabaga. This root vegetable is milder and sweeter than its Brassica cousin, turnip.
3) Kohlrabi. Sometimes called a German turnip, this vegetable is in the Brassica family. It can be eaten raw or cooked.
4) Flat-headed cabbage. This plant is ready for harvest and destined for kraut.
5) Piel de Sapo melon. The skin is normally mottled green and yellow, hence the Spanish name which means toad skin. Whereas the brix for cantaloupe would measure 9-11, a Piel de Sapo melon can measure up to 17 brix.
6) Striped Italian eggplant. This variety is called Nubia.
7) Wasabi. These plants are about eight months away from harvest. There are four growers in British Columbia who currently grow wasabi on a commercial basis.
8) Pawpaw. This is a fruit grown in the Niagara region of Ontario. It looks like a mango, but tastes like a banana. Grown in small quantities, pawpaws can be found at farmers' markets. There's no money in production, but a great conversation piece!

CROP PROTECTION

Next generation weed management tools

Genetics-based strategies for detecting and solving herbicide resistance

MATT McINTOSH

Herbicides remain the most efficient method by which farmers can keep weeds at bay, but the number of chemical options available has not kept pace with the continued proliferation of herbicide-resistant weed species – many of them exhibiting immunity to multiple modes of action.

During the 2021 Canadian Farm Writers' Federation conference, researchers from Agriculture and Agri-Food Canada (AAFC), detailed new genetics-based tools which could help farmers keep the advantage.

Rapid resistance identification

Canadian farmers collectively lose millions in revenue to weeds each year, even with effective chemical solutions, according to Robert Nurse, a research scientist based at AAFC's Harrow Research Station.

Research from the ministry indicates weed-related dips in profitability can reach up to 50 per cent yield losses from untreated weed pressure at the start of the growing season alone. Additional losses mount as the season progresses. This stark reality is the reason for the now decades-long, yet understandable, overreliance on herbicides, says Nurse.

Additional selection pressure resulting from repeated use of the same products in the same areas – an even more acute problem in crops where the number of registered herbicides is constrained – has only made things worse.

"Herbicide resistance is increasing globally, every year," he says. "This is not slowing down. The trend is upwards . . . If we look at Canada it's the same trend."

Coming from a geographical area on the frontline of herbicide-resistant weed proliferation – many of which have and continue to creep northwards from the United States – Nurse says a major hurdle for growers is the inability to rapidly identify whether weeds in the field are or are not herbicide resistant.

The method by which herbicide resistance has traditionally been identified involved "dose response" experiments – a lengthy process where specific plants are collected and subsequently treated with a range of herbicide doses in the lab. Cultivation and repeated testing are often part of the process as well.

Results from the dose response approach are difficult to determine before farmers have already made management decisions for the current or subsequent growing season. A grower could, for example, determine a different factor was responsible for the ineffectiveness of their previous herbicide application, and decide to stick with a product which will again not work. Conversely, they could switch products when sticking with the previous choice is more appropriate, or unnecessarily spend money on additional control measures.

For these reasons, Nurse and collaborating colleagues at other AAFC institutions developed a molecular marker test. The method looks for indicators in a plant's DNA which indicate whether it has developed herbicide resistance to specific products or modes of action. Already available to some farmers, the idea is to make the rapid molecular resistance tests available to farmers across the country.

In-field resistance identification

AAFC's rapid molecular test is reminiscent of other initiatives ongoing in other geographies, including efforts from United Kingdom researchers to develop tools for stemming black grass – a major problem weed across the British countryside.

Robert Edwards, professor of natural and environmental science at Newcastle University, helped develop the Black-grass REsistance Diagnostic tool (BReD) to meet farmer needs.

Inexpensive and specifically intended for in-field use, the tool is described as a "lateral-flow device" resembling a pregnancy test. Originally based on a (much more costly) tool used to identify fungal spores in the field, growers use the device by applying a leaf sample on the device. In five minutes, a series of red lines appear, the layout of which illustrate whether resistance genes are present.

By using it across the field, farmers can better map non-target-site, herbicide- resistant weed populations. Edwards adds it can help avoid the "classic control method" of flipping between different modes of action in herbicide applications, which he says actually hurts their chances of managing non-target resistance.

"What we want is to eventually make a digital agronomist," Edwards says.

dsRNA-based sprays

But what if weed control products did not rely on herbicide active ingredients in the first place? Martin Laforest, another AAFC scientist and a research colleague of Nurse, says harnessing the power of double-strand RNA (dsRNA) could prove highly effective.

dsRNA is a signal for the silencing of specific genes within organisms, including animals (insects), pathogens (fungus), and plants (weeds). Turning the right gene off via a dsRNA-based spray, says Laforest, can either kill the weed outright or make it once again susceptible to a product for which it had previously developed resistance.

"We want to develop a spray which will kill the weed but leave the crop untouched, or not kill the weed and increase its susceptibility to the herbicide," he says. "RNA is highly sequence-specific, so we should be able to target the weed."

When asked whether weeds could also develop resistance to dsRNA application, Laforest confirmed it is possible. However, he reiterates it would be quite easy to tweak the design, thereby negating the weed's newfound advantage. He adds some companies now under the Bayer banner had been experimenting with the technology on water hemp and palmer amaranth – two highly problematic weeds in North America – in 2013, though the technology has yet to be marketed.

Indeed, Laforest lists several challenges to getting dsRNA to market. For one, the design of each individual product has to be very target specific. dsRNA is also fragile, but has to penetrate the plant cell in order to work. Additional tools are thus required. The expense of producing a dsRNA compound is currently high, though he believes this could change with larger scale production.

Like any other product, dsRNA compounds must also be proven to have no off-target effects. Navigating the regulatory systems of individual political entities is yet another step to commercialization.

Matt McIntosh is a freelance writer based between Ontario's Essex County and Chatham-Kent. He is interested in all things scientific, as well as rock n' roll, hunting and history. He also works with his parents on their sixth-generation family farm.

Group 7 resistant pigweed with carrots growing underneath. Photo by Dennis Van Dyk.

CROP PROTECTION

Today's crop protection: A piece of cake!

LUC BÉRUBÉ

Let's go back 20 years. Crop protection was simple – or maybe not.

To be fully equipped, all you needed was a pen, a clipboard, a magnifying glass, comfortable boots and two or three reference books. There were no smartphones, not much information on the web, rarely cell phones and no text messages for quick answers. Good old-school crop protection was based on experience gained in the field. If you had two or three good contacts for specific problems, everything was fine!

Today, it is still a challenge to take the first steps in crop protection. Experience is always difficult to replace, but with the tools available in 2022 there is no reason not to jump in. Looking back to what the conditions were for beginners, honestly there are multiple reasons to be jealous of the number of tools or information easily available nowadays. Let's take a look at the ones that should be in the top list for a grower or an agronomist interested in being more efficient in a crop protection program.

Agweather

What is the first topic in discussion with a farmer? Weather of course! Weather forecasts, amount of rainfall, maximum heat are examples of data useful for growing. Twenty years ago, finding data about weather was not an easy task. Today, there are multiple sources and one of those, Agweather in Québec, gives free access to it. This website contains information of weather stations covering the agricultural zones of Québec. It is possible to consult each station in almost real time.

Agweather contains three principal sections. First, weather forecast (both, general and agricultural forecast) is available and can be easily consulted. Then, you can extract information from any of the weather stations as max-min rainfall, humidity, degree-days, evapotranspiration rates and more. Finally, by consulting the climatic atlas which contains the recent climate average, it is possible to compare a year's data with the average. This website is useful to plan crop protection and to go back to the growing season and explain results.

Iriis

The constant evolution of the internet network and mobile brings us far away from our old reference books to identify an insect, or a weed. Iriis phytoprotection web site is an easy tool to help identify insects, diseases and weeds. It can be easily consulted on smartphones and used directly in the field. The search can be done by crops, by pest or by symptoms. Never again do you need to carry books or paper to help identification. Iriis gives access to high-definition pictures that can be enlarged to a high resolution to facilitate identification. A description of the pest and its life cycle is available too. The damages, symptoms and references are listed for anyone who would like to go farther.

SAgE pesticides

SAgE pesticides allow growers and agronomists to perform easy searches about pesticides. Usually, the first step is finding a treatment for a specific pest in a specific crop. Performing that search gives you a complete list of up-to-date registered treatments for the criteria selected. Then it is possible to have more detail on the treatment as: rate, pre-harvest intervals and re-entry, personal protective equipment, what conditions are necessary to get good results . . . and precautions.

Health and environmental risks are an important part of SAgE. Québec's strategy on pesticide reduction is based on those risks. So, growers can choose a treatment with a lower-risk index and, doing so, have a better environment profile. A tool gives access to easily calculate the risks index without doing a complete treatment search.

In regards to long-term efficiency of pesticides, information on pest's chemical-resistance profile and the risks associated are listed for each product. In search results, it is easy to plan rotation of pesticides' mode of action to prevent resistance. Of course, users can easily consult and download the pesticide's label giving SAgE a complete solution about crop protection.

Agri-réseau

The web contains a lot of data but finding what we are looking for is not always easy. Agri-réseau offers to growers and agronomists a specific source of information about agriculture. Everything is sorted by topics and allows for easier searching. An interesting aspect of Agri-réseau is the possibility for anybody to suggest a document, a video or a presentation to add to the bank of data. A webmaster ensures the appropriateness of a proposed document before posting it.

A specific site in Agri-réseau is dedicated to crop protection. It is possible to find accurate and recent information about crop protection. Presenting the newest results about trials and research is one of the most important aspects of the website. To be continuously up-to-date about all the work in crop protection in Québec, Agri-réseau is a no-brainer for winter reading!

So, today we are more equipped than ever about crop protection but growers are still nervous to jump to a consultant. Experience in crop protection is obtained by going in the field, observing and testing. This was true 20 years ago and it is still true today, but access to information is no more an issue. Thanks to technology, we have a better chance to execute good crop protection programs.

Links:
www.iriisphytoprotection.qc.ca/
www.agrometeo.org/
www.sagepesticides.qc.ca/
www.agrireseau.net/phytoprotection?a=1

Luc Bérubé is a 1997 graduate in agronomy from Laval University, specializing in phytology. Since then, he's been a member of the "Ordre des Agronomes du Québec." Since 1999, Bérubé has worked as a consultant with producers within the Pousse-Vert Group.

A grower scouts his potato field in Saint-Éloi, near Rivière-du-Loup, Québec.

A redheaded flea beetle in potato can be identified by using Iriis and a treatment can be selected using SAgE.

This ladybug larva is an example of a beneficial that can be counted on in crop protection.

CROP PROTECTION

MilStop fungicide label expanded to include Botrytis

Grape growers will be interested in the label expansion on MilStop foliar fungicide which is now approved for use in Canada for the suppression of Botrytis grey mold in grapes. As a broad-spectrum foliar fungicide, MilStop is also registered for control or suppression of powdery mildew in several outdoor and greenhouse fruit, vegetable and ornamental crops.

For use in both conventional and organic production, MilStop's potassium bicarbonate active ingredient is pre- formulated with surfactants to enhance performance and greatly reduces cost, time and any complexity associated with mixing. MilStop kills both Botrytis and powdery mildew on contact and as it brings alternate modes of action into a spray program, is a highly effective tool in resistance management.

"This label expansion provides grape growers a solution to one of the most destructive diseases known to the crop, said BioWork's biological program manager for disease, Michael Brownridge. "As we expand our solutions even further, we will continue to work with growers to make sure we're on the right path."

The MilStop solution

• Kills powdery mildew and Botrytis on contact
• Convenient, built-in surfactant for faster loading and mixing
• Effective resistance management tool

Always read and follow label directions.

For more information about MilStop or other BioWorks crop protection products, visit https://bioworksinc.com/products-canada/

Source: BioWorks December 6, 2021 news release

Phostrol fungicide label expanded to help manage Phytophtora root rot on hazelnuts

Crop(s)	Target	Rate (L product/ha)	Application Information	PHI (days)
Hazelnuts	Phytophthora root rot (Phytophthora spp.)	2.9 – 5.8	For preventative suppression of phytophthora root rot begin foliar, drench, or drip irrigation applications when conditions are favourable for disease (i.e. wet conditions or at early symptoms of disease). Continue on a 14 day interval up to a maximum of 4 applications per year.	0

JOSH MOSIONDZ

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion registration for Phostrol fungicide for suppression of Phytophthora root rot (*Phytophthora spp.*) on hazelnuts in Canada. Phostrol fungicide was already labeled for management of diseases on a wide range of crops in Canada. This minor use proposal was submitted by the British Columbia Ministry of Agriculture, Food, and Fisheries as a result of minor use priorities established by growers and extension personnel.

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

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

Follow all other precautions, restrictions, and directions for use on the Phostrol fungicide label carefully.

For a copy of the new minor use label contact Melanie Filotas, OMAFRA, Simcoe (519) 420-9422, your regional supply outlet, or visit the PMRA label site: https://bit.ly/3q2a3qj

Josh Mosiondz is minor use coordinator for OMAFRA.

PMRA launches consultation on standard labels

CHRIS DUYVELSHOFF

To growers who regularly review labels of crop protection products it will come as no surprise that each one is a bit different. The order of the label sections, where you find information on restricted entry intervals and preharvest intervals, or the wording of risk mitigation statements frequently vary from label to label. These inconsistencies mean that users spend more time in trying to understand and interpret product labels.

That is why the Pest Management Regulatory Agency has launched a consultation on developing new standards for labels of crop protection products. This includes the creation of standardized label templates to create a consistent layout, order, and structure of information found on crop protection product labels. The consultation is currently in Phase I which is the development of standardized label formats. Phase II will be the development of standardized label statements which will create consistent sets of label directions such as for environmental precautionary measures.

This initial consultation is directed at agricultural crop protection labels and will continue with other types of pest control products. The goal is to make labels easier to read and understand and for users to search and find specific information quicker.

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

CROP PROTECTION

Select herbicide label expanded for rutabaga, green onions and leeks

Crop(s)	Target	Rate (L product/ha)	Application Information	PHI (days)
Green Onion	Labelled Weeds	0.38	Apply SELECT post-emergent when the crop is in the 2 to 3 leaf stage. Apply a maximum of one application per season, using ground equipment. Apply in a minimum spray volume of 110 L/ha.	14
Leek	Labelled Weeds	0.38	Apply SELECT post-emergent at least 2 weeks after transplanting when crop is well established and has produced one new fully expanded leaf. Apply a maximum of one application per season, using ground equipment. Apply in a minimum spray volume of 110 L/ha.	14
Rutabaga	Labelled Weeds	0.38	Apply SELECT post-emergence of weeds and crop using ground equipment. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application. Do not apply more than 0.38 L/ha (90 grams ai/ha) per crop season. Apply in a minimum spray volume of 110 L/ha.	30

The Select herbicide label has been expanded via the Minor Use Program to help manage labelled weeds on rutagaba, green onions and leeks.

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion registration for Select herbicide for control of labelled weeds in Canada. Select herbicide was already labeled for management of weeds on a wide range of crops in Canada. These minor use proposals were submitted by Agriculture & Agri-Food Canada, Pest Management Centre (AAFC-PMC) (Green Onion, Leek) and the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ) (Rutabaga) as a result of minor use priorities established by growers and extension personnel.

The following is provided as an abbreviated, general outline only. Users should be making disease management decisions within a robust integrated weed management program and should consult the complete label before using Select herbicide.

This product is toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body. This product contains aromatic petroleum distillates that are toxic to aquatic organisms. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (for example, sandy soil) and/or the depth to the water table is shallow.

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