THE GROWER

SEPTEMBER 2020 CELEBRATING 141 YEARS AS CANADA'S PREMIER HORTICULTURAL PUBLICATION THEGROWER.ORG

HIGH-WIRE ACT

How robots will give a hand to food security

The calm demeanor of greenhouse grower Jake Neufeld has stood him in good stead. He's needed steely nerves to manage a labour-intensive crop of high-wire cucumbers near Leamington, Ontario. The challenges of 2020 include finishing construction on a new 30-acre greenhouse facility for peppers by end of year. Photos by Glenn Lowson.

KAREN DAVIDSON

Away from the heat of COVID-19 headlines, Ontario greenhouse vegetable growers are lighting up more acres. In fact, another 200 to 350 acres of tomatoes, peppers and cucumbers are expected to come on stream by end of year.

Jake Neufeld is one example of soldiering through the pandemic.

"It's definitely been a challenging year," says Neufeld, the Leamington, Ontario owner of Vine Fresh Acres. Not only is he managing six acres of high-wire, mini-cucumbers and 28 acres of long English cucumbers, he's also overseeing construction of a new 30-acre pepper greenhouse that will be planted in December 2020.

Neufeld and other Ontario growers see blue sky through their glass rooftops because they believe that greenhouse production – with its advantages of a controlled environment – is integral to future food security. While drought squeezes sizing and volume of other field crops this summer, greenhouses can continue to set fruit through all weather.

Indeed, Statistics Canada bears witness to the success of the sector in a May 2020 news release. Despite some greenhouse operators switching from vegetables to cannabis, total sales of greenhouse fruit and vegetables in Canada rose five per cent to $1.6 billion in 2019.

The growth curve has been consistent since 2013 as retailers search out locally grown, pristine produce. Ontario (65%), British Columbia (19.2%) Quebec (9.3%) and Alberta (5.4%) accounted for most of the 2019 greenhouse fruit and vegetable volumes. Coincidentally, Canada's most populous provinces, representing 32 million consumers, have sizable greenhouse capacity within their boundaries.

Greenhouse production is not without its challenges whether it's green mottle mosaic virus plaguing cucumbers or a novel human coronavirus affecting normal operations. As Neufeld attests, a sizable percentage of his workforce did not arrive in timely fashion. Usually, he would employ 72 Mexican seasonal workers for deleafing, pruning and picking the high-wire cucumber crop. This year he welcomed only 58 but fortunately, they all have tested negative for the virus. Some of that success he attributes to a new bunkhouse, built two years ago, featuring better design with a heating, ventilation and air-conditioning system.

Continued on page 3

Spud genetics lab at Laval PG 5 | National housing standards PG 6 | Greenhouse innovation PG 12

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AT PRESS TIME...

Calls for independent body to receive workplace complaints

The Ontario Greenhouse Vegetable Growers (OGVG) are publicly supporting calls to create an independent body to receive and address workplace complaints from agri-food employees. The response comes after the *Globe and Mail* published a headline story on August 17: Farm workers call for safety from reprisals.

In the front-page story, employees and advocates were quoted as calling for an "independent oversight agency to deal with complaints" from agri-food employees. The feature also contained interviews with both British Columbia and Ontario growers who offered evidence that contradicted the narrative of seasonal workers. Consular officials from Mexico as well as Trinidad and Tobago offered quotes that supported employers in their fair treatment of the workers. For example, the Mexican consul-general in British Columbia said that two Mexican workers had chosen to return home, after they had clearly violated the farmer's rules.

In a news release, OGVG says its 200 members remain committed to enhancing a full suite of regulatory tools, support services and other workplace protections for agri-food employees, such as:

- Additional testing for all agri-food employees.
- Increased joint on-farm inspections with the federal government under the Temporary Foreign Worker Program framework to identify and address bad players.
- A ban on employees working at more than one operation.
- A crackdown on the use of unscrupulous recruiters who operate outside of the law, asking all levels of government to work with the sector to address this issue.
- Source and distribute additional PPE for employees to use in their communities as well as distribute PPE to local businesses to ensure masks and social distancing are the norm at all commercial establishments.

OGVG and other agri-food stakeholders have been working with the federal and provincial governments, along with a number of provincial, regional and local authorities, to manage through the COVID-19 pandemic. The crisis has revealed a complicated interjurisdictional landscape.

"OGVG has been calling for a number of additional tools and services to help address acute issues with employee safety and supports throughout the COVID-19 pandemic, " said Joe Sbrocchi, general manager of OGVG. "As stated earlier this month, we believe an ombudsman-like position to mediate employee- employer interactions would serve both parties and help to strengthen the reputation of the long-standing temporary foreign worker programs."

"Earlier this month we thanked the Government of Canada for additional investments to provide support and protections for foreign workers" said Dr. Justine Taylor, science and government relations manager for OGVG. "We believe that using those resources to create a coordinated body to address worker concerns and deal with a myriad of challenges makes good sense and will help agri-food employees and employers alike."

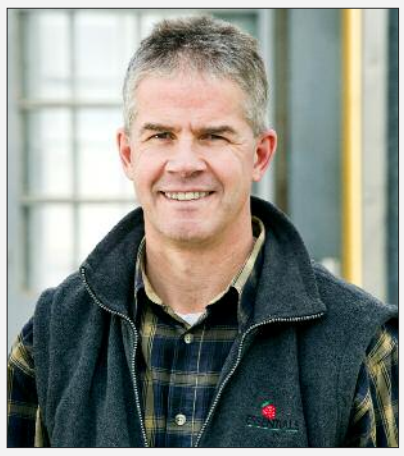
Pacific Agriculture Show goes virtual

Cancellations are now bleeding into 2021 with British Columbia's Pacific Agriculture Show declaring that its January 28-30 event will go virtual. Show manager Jim Shepard says that the event will return to its original format in 2022 at Tradex in Abbotsford.

The educational program will continue online with the Horticultural Growers' Short Course, Cannatech West and Ag Innovation Day.

More details will be available for registrants and exhibitors in mid-September.

NEWSMAKERS



Effective August 17, 2020, **John Kelly** became Ontario's new deputy minister of agriculture, food and rural affairs. He is a former executive vice-president of the Ontario Fruit and Vegetable Growers' Association from 2014-2016, and has held senior roles in other organizations such as DNAstack, MaRS Landing and most recently Bioenterprise Corporation. Congrats, John!

Glenna Banda has left the role of executive director, AgScape, after joining in May 2019. The interim executive director has not been announced.

Congratulations to **Gordon Bell**, a Masters of Science student at the University of Guelph. He's part of the Climate Smart Soils Program and one of the 25 people appointed to the first-ever Canadian Agricultural Youth Council. Joining him is **Colby Robertson**, University of Lethbridge potato research student who says "My goals are to address youth-in-ag access to capital and succession planning to continue sustainable farming."

Hats off to agribusiness leader **Jay Bradshaw**, former president of Syngenta Canada. He's one of four inductees to the 2020 Canadian Agricultural Hall of Fame. He began his 36-year career in Canadian agriculture with a sales territory in Saskatchewan. He saw Cyanamid through the successful acquisition by BASF before joining Syngenta Canada, serving as president until his retirement in 2018. Jay is a skilled communicator and lifelong advocate for the advancement of modern farming technology. He's behind several collaborative initiatives in the industry including GrowCanada – a coalition of national stakeholders to advance agricultural innovation and sustainability, and CleanFarms – a successful agricultural container recycling program. A highly respected leader, Jay has effectively helped shape organizational direction with his bold vision for the future of farming.

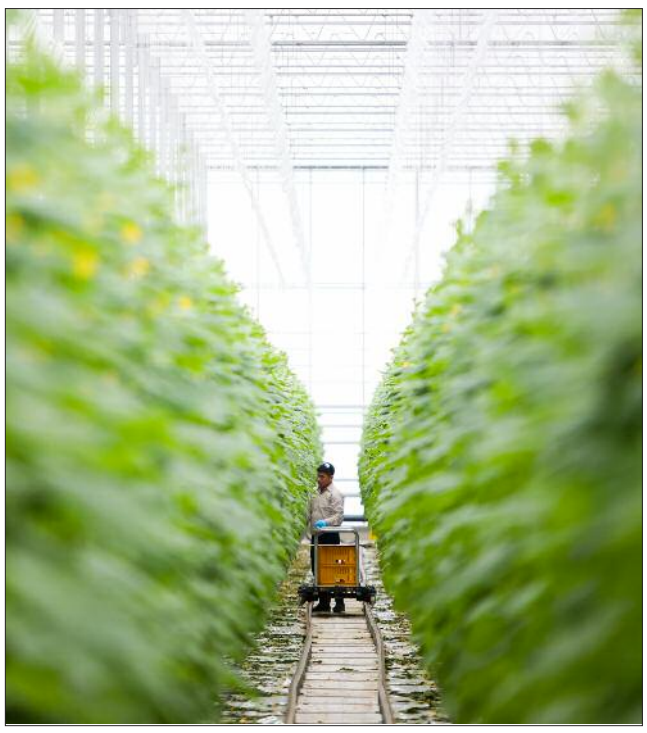
The Canadian Agri-Food Policy Institute has announced the departure of **Don Buckingham** as president and CEO. **Ted Bilyea** will take on the role of interim president and CEO, while a search is mounted for new leadership. The board says that the CAPI mandate will evolve from a neutral research and policy think-tank to also be an impartial, solutions-oriented organization, helping farmers, governments and industry make the kinds of strategic, thoughtful decisions that will shape our shared future.

Okanagan Specialty Fruits (OSF) has announced that **Dr. Muhammad Tahir** has joined the company as its new director, research and regulatory affairs, replacing **John Armstrong**, who has retired after 20 years with the company. Tahir has a corporate research and academic track record in both Canada and the United States. The Summerland, British Columbia-based company is known for the development of non-browning Arctic apple varieties.

New Brunswick Premier **Blaine Higgs** has called for an election September 14 that will be held without door-to-door canvassing or hand-out materials while the COVID-19 pandemic continues. Standings in the provincial legislature when it was dissolved were 20 PCs, 20 Liberals, three Green MLAs, three People's Alliance MLAs and one independent. Two seats were vacant. **Ross Wetmore** is the current minister of agriculture, aquaculture and fisheries.

COVER STORY

How robots will give a hand to food security



High-wire cucumbers require a lot of labour for transplanting, staking, tying, pruning and harvesting. At Vine Fresh Acres, experience has shown that it takes two people per acre to tend to the crop.

Continued from page 1

Widespread COVID-related disruptions underscore the current human resource dependency of the sector. Neufeld shares that he is moving to a program of securing a workforce for two years at a time to support year-round production.

"There is a new dynamic in play regarding seasonal workers," adds Joe Sbrocchi, general manager, Ontario Greenhouse Vegetable Growers. "With more automation there will be fewer jobs for these workers in the future."

The automation trend is proceeding at breakneck speed. Ecoation Innovation Solutions, headquartered in North Vancouver, is developing and testing an automated, pesticide-free crop treatment that will immediately address pest management in greenhouse vegetables. A crop-monitoring robot designed to use biological controls and UV-based disinfectants will help to reduce the scouts currently needed for this job.

"Before COVID-19, this technology was a nice-to have," says Saber Miresmailli, Ecoation founder and CEO. "But now it's necessary. With public health measures in place, workers and growers can't simply go in and out of facilities anymore. With robots, we have the ability to offer a virtual walk with 360° views of the greenhouse."

Grounded by travel bans, international consultants are now able to view reports remotely and provide advice on how to control, for example, a hot spot of whiteflies. Using a predictive model, the experts can see where the pests are likely to go next and prescribe surgically placed biological agents.

This futuristic technology has become advanced enough that Ecoation is the only commercial company with crop-scouting robots now working in greenhouses in Canada, the United States, Mexico and Europe. Miresmailli has announced that as of September 1, the research and development division of Ecoation is moving to Kingsville, Ontario. The pandemic has shifted business dynamics in other radical ways. Ecoation is launching a remote consulting service for greenhouse growers who will have access to experts worldwide.

For those shying away from the capital expense of automation, Miresmailli says he is working with Farm Credit Canada on a unique financial product that can support the acquisition.

"The technology is not perfect," says Miresmailli. "There are shortcomings. But we are setting up a Tomato Care program, much like an Apple Care program that promises support to growers on an ongoing basis. We have an oath in our company to take care of our customers."

Greenhouse growers will benefit in the immediate term from automated technology, however Miresmailli forecasts that the next sectors will be berries and vineyards. More than ever, it will be a high-wire act moving forward, balancing human knowledge with machine precision.

The Grower goes "Behind the Scenes" with Saber Miresmailli, founder and CEO of Ecoation Innovation Solutions. A crop-monitoring robot will lessen reliance on human scouts to detect pests and disease. This series is sponsored by BASF Agricultural Solutions.

Tips for exporting to the U.S. midst ongoing border closures

BREANNA LEININGER

Customs brokers have a unique perspective on the effect COVID-19 is having on international trade. We work as the go-between for Canadian growers exporting their goods to the U.S., for the carriers you hire, and the customs agencies in charge of regulating your exports. Here are some tips for growers looking to export their goods into the U.S. marketplace this fall.

First, there's been a sharp increase in commercial inspections. The ongoing border closure, now extended until September 21, 2020, has limited the amount of passenger traffic at ports across Canada. This drop in traffic has provided partner government agencies such as the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) an opportunity to step up enforcement of commercial imports. This is causing delays at the ports of crossing. As the governing bodies for your exports, extra attention must be paid to ensure your shipments meet their regulatory mandates.

Tips for success:

• Ensure both your customs broker and carriers have the necessary documents needed to facilitate your release request. Double-check that all necessary data elements are complete and accurate so that if your shipment is inspected, the process can go as smoothly as possible.
• After your carrier loads, ensure that the amount of goods listed on the customs documentation matches what was loaded on the carrier. Often when a load is short shipped, the documentation is not updated and growers are paying for unnecessary duty and tax.
• Account for the delays with your carriers and ensure their refrigeration equipment can accommodate the extra time they will likely spend at the port.

Prepare for transportation fluctuations. With all the fear and uncertainty surrounding the current pandemic, many shippers are bracing for transportation fluctuations. It's not uncommon for carriers to experience sharp increases in demand or decline in rates with excess capacity, as a result of an economic situation.

At the onset of the pandemic, some freight lanes experienced a decreased capacity. Although this is not currently the case, the uncertainty of the pandemic's trajectory makes it prudent to prepare for similar outcomes.

Tips for success:

• When booking your carriers, ensure that the drivers' hours allow for the anticipated delays at the port.
• Make sure that your chosen transportation providers are updating you on any delays they may encounter.
• Account for anticipated future increases.
• Work with partners who will help you navigate this ever-changing landscape of fluctuating rates and capacities.

Breanna Leininger is U.S. operations manager for PCB Customs Brokers. www.pcb.ca

CROSS COUNTRY DIGEST

BRITISH COLUMBIA

Haskap berries launched in Vancouver

Until now, haskap berries were a curiosity niche offering at farmers' markets. But The Oppenheimer Group (Oppy) has introduced the dusk-coloured berry to the Greater Vancouver Area, the first time for retail.

The timing is opportune for back to school as haskaps are well suited as a snack for children, thanks to their size and flavour which is described as a mixture of blueberries and raspberries.

The company, Oppy, has trialled the berries with select retailers in a limited locale not far from where the berries are grown. The test is how well the fruit will hold up in the commercial supply chain and its shelf life.

"Haskap berries offer consumers a welcome reprieve from the usual produce items that they've grown accustomed to, and in the current circumstances a little bit of novelty can be welcome," said senior manager of insights and innovation, Garland Perkins. "Oppy is continually looking for new, under-the-radar varieties that bring a lot to the table for consumers and retailers. Thanks to its versatility as a healthy snack and its ease of use from a culinary perspective, haskap berries have plenty of untapped potential that can be realized with the right promotions and partnerships."

Modern varieties of the berry were developed by the University of Saskatchewan in 2000, but the super-berry was originally cultivated in Japan for more than 200 years. Thanks to its high level of antioxidants and anthocyanins, haskaps offer many health benefits including anti-inflammatory, neuroprotective and cardioprotective properties.

Source: The Oppenheimer Group August 6, 2020 news release

QUEBEC

New technology to help grow Quebec vegetable businesses

Federal ag minister Marie-Claude Bibeau meets with vegetable growers in Saint-Patrice-de-Sherrington, Quebec.

Two first-in-sector projects will receive $2.2 million in federal funds to install advanced technology in their respective radish and onion operations at Saint-Patrice-de-Sherrington, Quebec.

Specifically, an investment of $625,419 will support Les Jardins A. Guérin et Fils, Inc. (JAG) in optimizing growing techniques and performing market testing as they implement a new model for the year-round production of organic, greenhouse-grown radishes. This is the first operation of its kind in Canada.

Domestic availability of locally grown, organic radishes, year-round, will reduce the need for imports by providing a new product offering and create new export opportunities. JAG's year-round production will help offset imports of radishes from Mexico and Southern California which were valued at approximately $18.6 million. Once complete, this project is expected to generate $1.3 million in revenue with the production of 460,000 pallets.

Meanwhile, an investment of more than $1.5 million will be made to support onion producer Onipro with the adoption of optical scanning technology that will increase productivity and reduce loss, while also ensuring the highest quality product possible. This will be the first time such technology has been used in Canada's onion sector, allowing growers to ramp up production to meet growing demand, lower costs, and increase exports.

As a result of this project, onions can now be traced back to their points of origin for food safety and security purposes. This project is expected to increase production by 30 per cent within the next five years. It is hoped that this technology will increase onion production in that same time period from 58 million pounds annually to 76.5 million pounds, increasing Onipro's competitiveness in both domestic and export markets.

Source: Agriculture and Agri-Food Canada August 13, 2020 news release

NOVA SCOTIA

Virtual orchard tour in Annapolis Valley

This year's Nova Scotia Fruit Growers' Association annual summer tour was virtual for the first time ever. During the week of August 10, nine videos were released on topics including rootstock trials, new plantings, apple replant disease, fruitlet thinning, organic production and entomology research.

One video focused on a group panel comprising Larry Lutz, David Power and Andrew Bishop. Over the last few years their farms have been faced with a freeze in June of 2018, hail and hurricane Dorian in 2019, and now COVID-19. They shared how they have adapted, tackled risks such as fire blight, changed nursery tree practices, found new opportunities, and how they are adjusting during COVID-19.

Another orchard host was Josh Oulton of TapRoot Farms with an organic management system. He shared his wisdom on starting an organic orchard block and maintaining it with the most effective pest control methods. He discussed apple varieties and the challenges in the Maritime climate and the market.

The topic of soil health was tackled at Nazinga Farm by AAFC soil scientist Keith Fuller. He explained apple replant disease and the reasoning behind the PicPlus field trial. Dr. Tom Forge, AAFC nematologist shared his research and results. The research team was also lucky to have Dr. Shawkat Ali, AAFC pathologist, to explain associated pathogens.

Michelle Cortens, tree fruit specialist for Perennia says that all videos are available at the association's website. Go here: www.nsfga.com/

CROSS COUNTRY DIGEST

QUEBEC

The quest for a more flavourful potato starts in a Quebec genetics lab

We'd like to identify potatoes with more nutty or floral notes.

~ CHARLES GOULET

Professor Charles Goulet (left) and graduate student Samuel Gagnon are conducting breeding research to identify the genes responsible for volatile compounds that result in the best-tasting potatoes. A comparison of five different varieties reveals remarkable differences in the genetics lab at Université Laval, Québec City.

KAREN DAVIDSON

Fruity or floral? That question is perfect for wine. But for potatoes?

Charles Goulet and his graduate student Samuel Gagnon enthusiastically say, "yes!"

Their ground-breaking research is underway at a genetics lab at Université Laval in Québec City that will offer insight to potato varieties that not only grow well, but taste divine. Québec Parmentier, a grower-owned company comprising 25 seed and fresh potato farmers, started to collaborate with the researchers five years ago to quantify the volatile compounds in potatoes. Cooking potatoes transforms the aroma, a key element of taste.

"Quebéc Parmentier is counting on characterization of flavours and clear usage indications by variety," says Laurence Coté, sales and business development manager. During a taste test, she points to the Vivaldi variety as her personal favourite for its buttery taste and smooth texture.

It's well documented that taste buds can perceive only five stimuli: salt, sweet, sour, bitter and umami – that "je ne sais quoi" or savoury quality that lasts in the mouth. Eating starts with smell, not taste.

Samuel Gagnon demonstrates the concept by waving four vials of clear liquids under the nose. They are: menthional, limonene, l-octen-3-ol and B-ionone. By its name, menthional connotes a fresh and clean aroma while limonene is citrus in nature. The chemicals of 1-octen-3-ol and B-ionone have qualities of mushroom and raspberry aromas respectively. Some consumers like the aroma of mushroom, but in general, a moldy smell is disliked.

The current research project is thanks to a 2020 grant from the Natural Sciences and Engineering Research Council of Canada in collaboration with Conseil de recherche sur la pomme de terre du Québec,

Québec Parmentier and Progest. Charles Goulet is working with diploid potatoes which have 24 chromosomes. From the perspective of a breeding program, it's easier to isolate aroma traits and predict the outcome by crossbreeding diploid potatoes than tetraploid potatoes with 48 chromosomes. He estimates 40 to 50 volatile compounds need to be measured for their effects on taste.

"We'd like to identify potatoes with more nutty or floral notes for example," says Goulet. "The mushroom taste is not so nice for most consumers."

The sensory findings are instructive for marketing purposes. Quebeckers, for instance, prefer a smoother texture than do Ontarians who prefer a drier flesh.

The next stage of research is to study the effects of storage on flavour. As Goulet explains, little is known about how flavours might change for fresh potatoes in storage. In the apple industry, growers know that certain conditioning protocols are needed for varieties such as Honeycrisp. Could the same approach be taken with up-and-coming varieties such as AAC Confederation to be launched in about two years?

Charles Goulet and Samuel Gagnon are a confident duo in predicting that they'll have the recipe for growers.

ONTARIO

Collaboration key to apple texture breakthrough

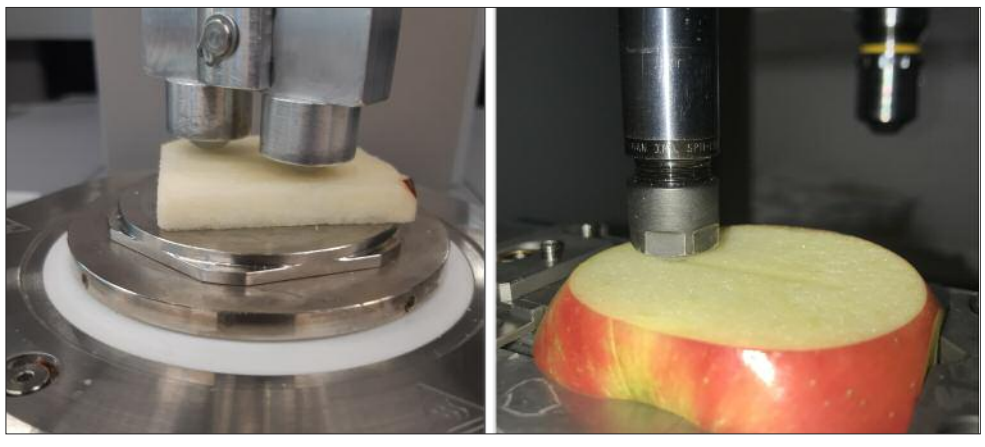
For the first time, Vineland's Consumer Insights team is able to demonstrate how critical sensory attributes can be predicted using friction measurements of apple flesh.

To help the Canadian apple industry remain competitive, Vineland in collaboration with the University of Idaho and the University of California Merced in the United States and the University of Guelph in Canada, undertook a novel study using tribology on this fruit.

"Tribology, the science of wear, friction and lubrication is being used more and more in food science but mostly in liquids and semi-solids including yogurt and custard," said Alexandra Grygorczyk, PhD, Vineland's Research Scientist, Sensory and Consumer Services. "Until now tribology hasn't been used on hard foods."

"We found tribology was able to predict crispness, juiciness and mealiness - the most important texture features for consumers when eating an apple. Interestingly, we determined tribology is more effective than the industry standard penetrometer, for measuring apple firmness. Friction measurements using tribology equipment not only predicted apple crispness, which is related to firmness, but also mealiness and juiciness which the penetrometer is not able to predict reliably," explained Grygorczyk.

The research team then repeated the study, this time using an attachment on a texture analyzer, an instrument widely available within the horticulture industry. Findings showed with simple and fairly inexpensive modifications, a texture analyzer can be used to produce friction measurements strongly associated with texture perception by a trained sensory panel while outperforming a penetrometer.



From L-R: a rotational double ball-on-plate tribological system and linear reciprocating tribometer

"If positive results continue this coming apple season, we anticipate recommending a switch from using a penetrometer to using tribology for monitoring apple texture along the value chain," concluded Grygorczyk.

Source: Vineland Research and Innovation Centre

WORKER HOUSING

Research needed to determine bunkhouse standards in Canada

This bunkhouse (top left) was built by a tender fruit grower for his female seasonal workers. Photos by Glenn Lowson.

Nobody has collected new health data that's needed to make the right decisions.

~ CHARLES STEVENS

KAREN DAVIDSON

Money alone won't solve the current crisis in public confidence of how seasonal agricultural workers are housed in Canada. The federal government's July 31 announcement of $58.6 million to strengthen the Temporary Foreign Worker (TFW) program in the face of COVID-19 outbreaks on farms is grist for the media mill, but much more needs to be done.

"Let's use some of that money to do research first," says Charles Stevens, chair of the COVID-19 labour and housing task force constituted by the Ontario Fruit & Vegetable Growers' Association (OFVGA). Farm employers using the Seasonal Agricultural Worker Program are looking for more guidance given the effects of the COVID-19 pandemic. Questions remain on how workers, who were quarantined for 14 days upon arrival, have acquired the virus afterwards.

"Nobody has collected new health data that's needed to make the right decisions," says Stevens. "We don't know how many bunk beds are in the province of Ontario. We don't know what is reasonable for physical space per person. We don't know the right ratio of bathrooms."

While $35 million has been earmarked to improve health and safety on farms – for improvements in living quarters, PPE and sanitation stations – Stevens counsels that some of the money should be invested first in determining the longer-term needs.

"Every industry has its challenges, but we need to do a better job of collecting and analyzing data before throwing money at the problem," says Stevens, a blueberry and apple grower near Newcastle, Ontario. He's been hiring workers through the Seasonal Agricultural Worker Program for many years.

The COVID-19 labour and housing task force is also looking at the farm as a whole and examining a "day in the life" of farm workers. Making adjustments to housing, in isolation of this reality, will not serve the sector well in the long term. As soon as these workers step out of their housing units they physically work together. They socialize with other people on and off the farm. Other individuals and input suppliers interact with work teams.

Since March 2020, horticulture as a whole has borne the brunt of delays in worker arrivals from Mexico and the Caribbean and then the responsibility of 14-day quarantines and keeping workers healthy. The operating environment has been complex with multiple levels of government. As has been well publicized, some of the 35 Ontario medical officers of health have declared even stricter rules than the province, creating an uncompetitive business environment for growers.

"We would love to have the federal government set out the housing rules and for provinces to monitor and enforce them," says Stevens. "Otherwise, the situation is muddled by different municipal building codes, fire codes and septic tank regulations."

The issue of worker privacy, livability and comfort levels has been raised by the Western Agricultural Labour Initiative in British Columbia. What is the standard for privacy or comfort? That's difficult to answer because for each worker, happiness is subjective.

As of mid-August, Stevens views the federal announcement as confirmation of consultations with industry on housing standards that may not be reached until beyond 2021. This is an exercise that involves provincial governments whose mandate is housing. Rejigging housing is not a silver bullet but rather just one piece of the puzzle.

Stevens concludes: With so much uncertainty, we're going to grow less food in the short term."

Budget breakdown

Federal Ministers Carla Qualtrough for Employment, Workforce Development and Disability Inclusion and Marie-Claude Bibeau, Agriculture and Agri-Food Canada, made the announcement July 31. Highlights are:

• Investing $7.4 million to increase supports to temporary foreign workers, including $6 M for direct outreach to workers delivered through migrant worker support organizations;

• Strengthening the employer inspections regime, particularly on farms, and making improvements to how tips and allegations of employer non-compliance are addressed (such as by initiating an inspection) through an investment of $16.2 million; and

• Investing $35 million to improve health and safety on farms and in employee living quarters to prevent and respond to the spread of COVID-19. This will go toward direct infrastructure improvements to living quarters, temporary or emergency housing (on- or off-farm), as well as PPE, sanitary stations, and any other health and safety measures. Non-repayable contributions will be cost-shared 50:50 with the applicants.

The federal government will also work to develop mandatory requirements to improve employer-provided accommodations, focusing on ensuring better living conditions for workers. As a first step, the government will consult with provinces and territories, employers, workers and foreign partner countries on a proposal for these mandatory requirements for the TFW program in the months to come, and will work with those same partners to implement changes. Improvements to worker accommodations will also help reduce the risk of infection and spread of COVID-19 for foreign workers.

Prior to the July 31 announcement, the Government of Canada announced the $50 million Mandatory Isolation Support for Temporary Foreign Workers Program to help farmers and food processors pay for the costs related to safely accommodating workers for the mandatory 14-day quarantine period. The $35 million fund extends supports beyond the 14-day period.

FARM AND FOOD CARE

New OFA initiative connects Ontario's agri-food workforce

DANIELLE COLLINS

Pictured at the Muck Crops Research Station, these summer students will be looking for agri-careers when they graduate. Photo by Glenn Lowson.

We all know there are various rewarding careers in the agriculture and food sector. However, employers are finding it challenging to find the right candidates to fill the many jobs available, especially amidst a global pandemic.

The Ontario Federation of Agriculture (OFA) has partnered with AgCareers.com and CareersInFood.com to coordinate a rapid support system for agri-food employers to connect with job seekers throughout COVID-19 and beyond. These services, offered free of charge, include a comprehensive job matching concierge service and a series of virtual career fairs and webinars for both job seekers and employers.

In June, four virtual career fairs were held in regions across Ontario and were well received. Feedback from participants indicated that the career fairs were easy to navigate and they appreciated the direct interaction with a wide variety of employers and job seekers. Employers may be looking to fill one or several positions, and the concierge service will even staff the exhibitor booth if needed. Registration is encouraged for anyone who may be interested in posting a job, or looking for their next career opportunity in the agri-food sector. Upcoming career fairs are scheduled for September 15th, covering Western Ontario, and September 17th for Eastern Ontario. Don't miss out!

Numerous free webinars are also being offered for both job seekers and employers. You can register for upcoming webinars by visiting our website, or view recordings from ones you may have missed. Webinar topics include: supporting mental health and well-being in the workplace, retaining employee talent in a competitive labour market, health and safety, and exploring careers in agri-food.

With the convenience of our recent website launch, more information and registration details can be found at https://feedingyourfuture.ca/. Be sure to follow along on our social media pages to stay up to date with upcoming events. Find us on Twitter and Facebook @FeedYourFuture, and Instagram and LinkedIn @FeedingYourFuture! We look forward to helping you make the connection to strengthen Ontario's agri-food workforce. Connecting employers and job seekers in the Ontario agriculture and food sector ensures a vibrant future for the next generation of farmers and agri-businesses.

Danielle Collins is a policy analyst with the Ontario Federation of Agriculture.

CHAIR'S PERSPECTIVE

Sometimes the best-laid plans go out the window

BILL GEORGE JR.
CHAIR, OFVGA

If there's one thing that this pandemic has taught us, it's the importance of flexibility and being able to adapt in the face of change.

Six months ago, COVID-19 was barely on the North American radar. Our organization had just come out of our annual general meeting, with new directors joining our board and a fresh slate of just-passed resolutions that would help guide the activities of the Ontario Fruit and Vegetable Growers' Association (OFVGA) in the coming year.

We had also just submitted our response to the provincial government to its budget consultations, outlining what we felt were the priority areas for government spending and support for Ontario fruit and vegetable growers, and were preparing for spring advocacy activities around those issues.

The pandemic struck a scant few weeks later and nothing has been the same since. In a normal year, we'd now be busy preparing for our fall government relations activities as kids head back to school and the legislature resumes sitting at Queen's Park. This would carry us through the fall and into the winter months, culminating in the provincial budget announcement in late winter.

This year, we've been almost exclusively focused on responding to ongoing emergencies and issues related to the pandemic, and that's unlikely to change for the foreseeable future. And yet, as I look back on some of those priority items we highlighted for the government last winter, many are still applicable – and some are even more relevant today than they were then. And to its credit, the provincial government has taken action in some areas too.

We asked for ongoing and adequate support to help our sector deal with competitiveness pressures, for input into Canadian Agricultural Partnership (CAP) program spending, and for the promised increase to the Risk Management Program. We've had some wins here and we appreciate the government's willingness to support our sector.

Government has come to the table with a PPE fund for farmers, they've agreed to include crop losses due to COVID-related labour issues under crop insurance, and they implemented the expansion of the Risk Management Program, which includes the Self-Directed Risk Management program for horticulture.

The province also continues to support the agricultural sector in its national ask for changes to the AgriStability program, which falls under federal purview. Last winter, we also underlined the importance of adequate funding and resources for the Ontario Ministry of Agriculture, Food and Rural Affairs and Foodland Ontario. The pandemic has shown us how critical it is not to take things for granted and how vital it is to invest in basic infrastructure, such as public health and long-term care for example, that will give us the flexibility to respond to and weather a crisis.

For agriculture, that basic infrastructure is a well-funded ministry with a strong network of extension specialists. For horticulture in particular, Foodland Ontario and its essential support of local food is also part of that infrastructure.

And OFVGA continues to believe strongly in the need for financial protection for growers in the form of national legislation that would protect growers from risks related to slow payment, non-payment and bankruptcy of produce buyers. There had been little action from the federal government on this file before the pandemic, so we had started working with OMAFRA to explore what options there might be provincially for some form of protection.

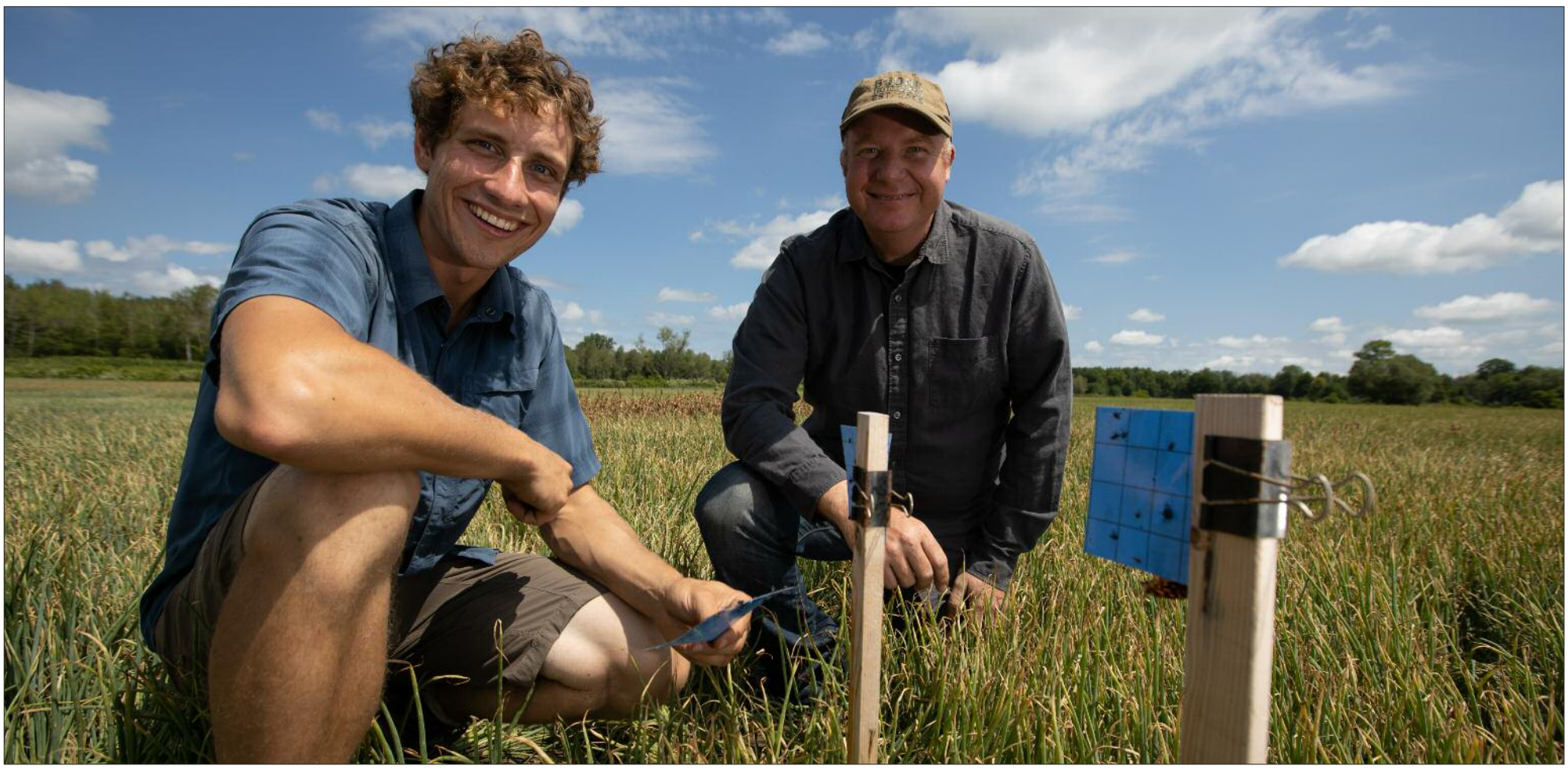
We haven't lost sight of this and other, non-pandemic-related issues. While not on the front burner at the moment, they're nonetheless important.

There's no doubt our industry would be in much worse shape if it wasn't for all of the work by OFVGA, commodity and general farm organizations. The pandemic has certainly underscored the importance of advocacy and how invaluable a good government relations program is.

There is always benefit to establishing and maintaining good relationships with government – so much of the competitive framework of our industry depends directly on government policy and regulatory decisions – but it's certainly even more critical during times like these.

OFVGA's board and staff continue to work behind the scenes to help effect positive change for the industry and do our best to help our industry weather this crisis.

WEATHER VANE



Travis Cranmer (left) inspects sticky traps with onion-set grower Nathan Teetzel, Great Lakes Family Farm near Exeter, Ontario. The vegetable crops specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs is one of a hard-working, 11-member team serving Ontario horticulture. Photo by Glenn Lowson.

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THE GROWER

URBAN COWBOY

Surplus food program simmered too long

OWEN ROBERTS
U OF GUELPH

The COVID-19 pandemic has prompted some huge questions about federal support for agriculture.

Some of the biggest questions were raised in early May, when Prime Minister Justin Trudeau announced his sweeping $252-million farm and food aid program.

It included $50 million for what Agriculture and Agri-Food Canada claimed was the first-ever food surplus purchase program to help out food banks and other food aid efforts. Trudeau's overall program was roundly criticized by growers and producers for being inadequate, given agriculture's major contribution to the economy, let alone its importance to the everyday lives of consumers who rely on it for sustenance.

But the food bank program... well, that was another matter. Food banks were seeing record numbers of users who were desperate for help. Maybe this surplus purchase initiative could provide some assistance to them.

Time rolled on. Through the rest of the late spring and early summer, horticulture and other sectors were hammered by labour shortages related to the pandemic, which left many growers and producers in dire straits.

Fields went unplanted. Others couldn't be harvested. Photos of produce being wasted, left rotting in the field appeared in the media, to everyone's chagrin. The restaurant and hospitality industry stood still, leaving many producers without a key market for their food commodities.

The chasm between hungry Canadians and the food they so dearly needed was not being crossed. What was taking the food bank program so long to get up and running?

Finally in mid-August, after receiving applications mid-June to mid-July from food aid organizations proposing to help deliver the program, Ottawa rolled it out. It named eight participants – most notably, Food Banks Canada and Second Harvest -- to source and distribute perishable produce, meat, eggs and seafood piling up across Canada due to the COVID-19 pandemic.

At the announcement, held at a Quebec farm, federal Minister of Agriculture and Agri-Food Marie-Claude Bibeau called it a win-win, providing an estimated 12 million kilos of quality, nutritious, surplus food to Canada's most vulnerable populations.

"Not only are we helping producers who cannot sell their goods to restaurants, but we are also aiding Canadians that have had to seek help from food banks," she said. Urgent, high-volume, highly perishable surplus fruit, vegetables, meat, fish and seafood are the commodities that will be moved through the program.

Now, that's great for those on the receiving end of this food, and agriculture always has to keep them in mind when criticizing an aid program. True, $50 million is not a lot to a multi-billion-dollar sector like agriculture. And certain commodities, particularly grains, are extremely bitter over what they call federal neglect throughout the pandemic. They call the amount of support farmers here receive a pittance compared to the gobs of cash U.S. farmers are receiving from their election-conscious president.

However, to the food bank organizations involved in distributing the surplus food, $50 million is golden.

"It leverages the deep supply chain expertise and knowledge the food banking network has, thereby helping those in Canada experiencing food insecurity in the most efficient manner," said Chris Hatch, CEO of Food Banks Canada.

Lori Nikkel, CEO of Second Harvest, said the program will have a positive environmental, economic and social impact, by diverting healthy surplus food to communities, instead of becoming landfill waste.

"As an organization with the dual mission of 'no waste, no hunger,' Second Harvest is proud to participate in this integrated response to meet the needs of the agri-food sector and vulnerable Canadians," she said.

Does it meet the needs of the agri-food sector? More than no program would, for sure. But I doubt if growers who bided their time waiting for the program to be implemented think so.

The same goes for food bank users watching produce go to waste. The program took too long.

Software product streamlines TFW applications

This year's COVID-19 pandemic has made navigating the web of rules and regulations more difficult than ever for employers applying for temporary foreign workers.

Resounding Software Inc. developed a software product that can streamline that arduous process. It's called Farm HR.

About a dozen clients including fruit farms and greenhouses are using the software to organize their workers, housing and job postings. The program generates a completed Labour Market Impact Assessment (LMIA) application, avoiding having to fill out the 13-page PDF document manually. The product is web-based, meaning it can be accessed anywhere with an Internet connection, and there's nothing to install or keep updated.

Built to be customizable, Farm HR allows users to record and retain all information such as SIN numbers, health cards or passport information, as well as all that Service Canada requires such as signed contracts and work permits. Users can even upload copies of documents to show compliance in the event of an audit.

Most recently, the program added a "Journals" feature, allowing users to record journal entries (e.g. of ongoing health conditions), with the ability to "tag" a journal with the names of workers and/or housing properties, allowing reports to be run for a particular property, worker, or the entire operation.

Also new is WhatsApp integration. This feature, now in Beta, allows staff to send a message to all the workers in their home country when an LMIA is approved to let them know their flight information or else to notify them of training or other appointments once they're on the job in Canada.

For more information about Farm HR, go here: www.farmhr.info.

OPINION EDITORIAL

Farmers being blamed unfairly for COVID-19 spread among workers

Photo by Glenn Lowson

KEN FORTH

Editor's note: Broccoli grower Ken Forth has gone public expressing the private feelings of many growers who are working hard to protect their employees this season. He's the president of Foreign Agricultural Resource Management Services, the non-profit organization that administers the Seasonal Agricultural Worker Program. Below is the complete text of the opinion editorial that appeared in the Toronto Star, Hamilton Spectator and other newspapers the last week of July 2020.

This summer has been the first time in my life that I've been reluctant to tell people what I do for a living. If it comes up in conversation, I try to find a way to change the subject.

I'm a farmer. I grow broccoli with my son in Lynden, Ont., outside of Hamilton, just like I used to do with my father.

To be clear, I'm not ashamed of my livelihood. I love my work. I'm deeply proud of the role I play in society, putting fresh, local food on the tables of Canadians. Farming isn't just a job. It's a way of life. It's all encompassing. You live where you work and you work whenever the weather lets you. You don't punch out at the end of the day.

But there's a stigma now to the job my family has performed for generations that never existed before the COVID-19 pandemic. A damning and inaccurate narrative has taken shape over the past few months that farmers deserve all of the blame for seasonal workers from overseas who have contracted the virus.

Some communities have turned against farmers and maintained it's their fault they haven't emerged more quickly from lockdown restrictions. Activists have called for an end to a seasonal labour program that has helped farmers deal with a chronic shortage of domestic labour for more than 50 years. Even more hurtful are the accusations that farmers are deliberately mistreating the men and women who work on their farms or not doing enough to protect them.

In the midst of an already difficult season – navigating a combined health and economic crisis – farmers have never felt more misunderstood, misrepresented and demoralized. I know of growers who have already decided to get out of agriculture altogether or are looking at selling their family farms because they're tired of having their characters attacked.

It's unfortunate that any of Ontario's seasonal farm workers became ill with COVID-19, let alone that there were several largescale outbreaks. It goes to show how aggressive this virus can be in any work environment where physical distancing is a challenge.

But counter to the inaccuracies being spread in some circles, farmers do care about the health and well-being of the people who work for them – international employees and domestic workers alike. They care about them as workers and, more importantly, they care about them as people.

Why would any farmer in their right mind not want to make certain that the people they depend on for a successful growing season are healthy and able to work?

I've had a unique perspective on the benefits of seasonal labour on Canadian farms. In addition to my job as a broccoli grower, for the past 15 I have also been president of Foreign Agricultural Resources Management Services, Foreign Agricultural Resource Management Services, the non-profit organization that administers the Seasonal Agricultural Workers Program (SAWP) in Ontario and Atlantic Canada. I've served on the board of F.A.R.M.S. for 28 years and my family has employed workers through SAWP for 50 years.

Men and women from Mexico and the Caribbean have been helping Ontario farmers solve a critical shortage of agricultural workers through SAWP for more than half a century. At the same time, they've helped lift themselves and their families out of a punishing cycle of poverty in their home countries.

SAWP has been successful for more than 50 years because it provides benefits to everyone who participates in it — from the growers who need supplemental seasonal labour, to Ontarians who are able to buy top-quality local foods at the grocery store and the workers themselves who are able to provide better living conditions for their families at home.

While COVID-19 has presented significant challenges, growers have been able to protect the vast majority of their workers from contracting the virus through rigorous safety protocols.

In addition to meeting minimum safety requirements, many farmers have invested in more stringent measures to enhance physical distancing, such as carrying out renovations in worker accommodations to create more separation, installing plexiglass divisions and barriers in packing houses and organizing regular grocery deliveries for workers to limit travel.

If someone isn't following the rules properly, F.A.R.M.S. wants to know about it and we take action to ensure they are in compliance. We have no tolerance in our program for farm operators who aren't willing or able to meet their responsibilities.

Contrary to misinformation and inaccurate generalizations about SAWP, international workers hired through the program are well taken care of if they become ill. They receive the same employment rights as Canadians such as WSIB, certain Employment Insurance benefits, occupational health and safety and provincial health care during their term of employment.

Because I've seen how much good this labour program can do for so many, it's a hard to hear people who don't know better or who have ulterior motives disparaging it and the farming community.

We should be celebrating the success of a program that generates benefits for so many – the workers and their families, consumers, farmers, rural communities and our economy as a whole – not trying to dismantle it.

The truth is our food security depends on it.

COMING EVENTS 2020

Sept 2	Ontario Produce Marketing Association Annual General Meeting CANCELLED
Sept 5	Verona Lions Garlic Festival, Kingston, ON
Sept 8-10	International Strawberry Symposium, Rimini, Italy CANCELLED
Sept 12-13	Stratford Kiwanis Garlic Festival, Stratford, ON CANCELLED
Sept 15-18	Canada's Digital Farm Show, Woodstock, ON
Sept 20	10th Annual Toronto Garlic Festival, Artscape Wychwood Barns, Toronto, ON (CHECK WEBSITE)
Sept 21-23	United Fresh Washington Conference, Grand Hyatt, Washington, DC VIRTUAL
Sept 23	Ontario Produce Marketing Association Golf Tournament, Lionhead Golf & Country Club, Brampton, ON CANCELLED
Oct 5 – 8	International Plant Health Conference, Helsinki, Finland POSTPONED until June 28-July 1, 2021
Oct 7-8	Canadian Greenhouse Conference, Scotiabank Conference Centre, Niagara Falls, ON VIRTUAL
Oct 14-17	International Plowing Match, Lindsay ON CANCELLED (Oct 13-16, 2021, Lindsay, ON
Oct 13-15	Produce Marketing Association Fresh Summit, Dallas, TX VIRTUAL
Oct 27- 29	Canadian Federation of Independent Grocers GIC LIVE@HOME event
Oct 29	Food & Beverage Ontario 2020 Conference, Steam Whistle Brewery, Toronto, ON (CHECK WEBSITE)
Nov 2-4	Fall Harvest Meetings on Parliament Hill, Ottawa, ON
Nov 6-15	Royal Agricultural Winter Fair, Toronto, ON CANCELLED
Nov 13	Ontario Produce Marketing Association Annual Gala, Universal Event Space, Vaughan, ON CANCELLED
Nov 17-19	Alberta Potato Conference and Trade Show, Cambridge Hotel and Conference Centre Red Deer, AB (Trade Show CANCELLED)
Nov 18-20	Asia Fruit Logistica ON VIRTUAL
Nov 19-20	Wild Blueberry Producers' Association of Nova Scotia Annual General Meeting, Best Western Glengarry Hotel and Convention Centre, Truro, NS

RETAIL NAVIGATOR

It is time to look in the mirror

PETER CHAPMAN

The food industry has adapted to a very different marketplace since March of 2020. Consumers, suppliers and retailers have all had to adapt to a new environment for producing, buying and selling food. It is time to understand the impact on your business and share the results with your customers. Almost every producer has experienced changes to cost of goods and service level. For the long-term sustainability of your business, you need to understand and assess this new environment and communicate with your customers.

Your employees

People working in food production have not received the credit they deserve. Yes, health care workers, first responders and people working in retail have been so important to allow the country to continue to function. The inventory of food is very tight because inventory costs money and consumers demand fresh food. But our food producers have endured changes to their working environment too and accepted risk while working alongside others.

You should consider how your employees are doing and understand if you have the same or different work force than you did prior to March. When I worked for a major retailer, I would often ask suppliers about their workforce. It was a great barometer of the business for me. If your employees are as committed as ever and they feel like you have done everything you could to manage effectively, then that is an indication of a strong business. If they are upset and looking for other opportunities then you will struggle in the future. Many things have changed quickly but you need to focus on employees, as they are integral to your ability to produce and deliver product.

There are a number of factors to consider:

- Employee satisfaction
- Turnover
- Absenteeism
- Changes to production process
- Impact changes have had on efficiencies
- Any innovative ideas from staff
- Total wages as % sales, is this up, down or flat?

Your cost of goods

Almost every business in every sector has experienced changes to their cost of goods. It is great to fill orders but you need to understand your costs and if they have changed. In the food industry, producers supplying retail have experienced increased demand. But do not fall into the trap of believing that increased volume will always lead to lower cost of goods. Take the time to consider the following factors in your business:

- Ingredient costs
- Other input costs such as fertilizer, water etc.
- Labour costs, this can be average hourly rate or more dollars due to lower efficiencies
- Logistics
- Changes to orders can lead to more sales but if you are paying overtime and losing freight efficiencies with part pallets or loads it can cost more
- Packaging costs or extra charges to expedite shipping to fill increased demand

It is challenging to manage costs when you are focused on keeping customers happy, following ever-changing guidelines for employees and just trying to keep people coming to work. If you are not able to take time to analyze, assign this task to someone in your business. If possible, identify changes to cost of goods that are temporary and those that are here to stay.

Your service level

Inventory to sell is more important to retailers than it was this time last year. Consumer behaviour has changed. They are shopping stores where they believe they have the best chance of getting everything they need in one stop. If you have the inventory your customers want, you are more valuable than many other suppliers.

Retailers calculate service level as cases delivered on time to the right location divided by the total cases ordered. There are many reasons for service level to be less than 100%. Unfortunately retailers are not interested in the reasons -- sometimes they are part of the problem -- they just want the stock. They believe they lose sales and disappoint customers if they do not have the inventory on the shelf when they want it.

Calculate your service level through the pandemic and compare to the same time last year and prior to March when so much changed. Share the results within your business so your employees understand how your customers perceive your performance. If you are doing a great job share the results with your customers and if you are below acceptable levels (usually 95%) then figure out how to resolve the issues.

Communicate to your customers

Once you have an idea of how your employees are doing, what is happening with your cost of goods and your service level, communicate with your customers. Remember they have hundreds of thousands of items to manage. If you are doing a great job they might not have noticed because we focus on the problems too much. Let them know and also pave the way for conversations about cost of goods if you need to.

If you would like some help to look in the mirror please give me a call at (902) 489-2900 or send me an email at peter@skufood.com.

WHAT'S IN STORE?

What's not in store?

Consumers. Since the onset of COVID-19 we have experienced many changes to stores and selling food. Prior to the pandemic online shopping for food was between three and five per cent in Canada. Recently Metro reported its latest results and shared that online sales were four times the sale period last year. This would be in line with other estimates that in Canada 12-15 per cent of food is now being purchased online.

This has a big impact on retailers as some costs increase such as picking orders and others decrease such as fewer cashiers and employees in service departments. They are grappling with the change just like producers.

Buy your products online to see what you get and how easy or difficult it is. Share your experience with your customers as they are all trying to improve this part of their business.

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 GPS Business Solutions and a partner in SKUfood.com, an on line resource for food producers. Peter works with producers and processors to help them navigate through the retail environment with the ultimate goal to get more of their items in the shopping cart.

Farm Boy opens 32nd Ontario store

Farm Boy's newest store is opening in Newmarket, Ontario on Thursday, September 3. Its signature is farm-fresh produce with organic and local in season. It is located close to the Holland Marsh known for its root vegetables of carrots, onions, beets and parsnips.

Sobeys purchased the 26 stores of the Ottawa-based chain in 2018 for $800 million, promising not to change the "hometown feeling" that customers treasured. The company is executing a growth plan that forecasts the opening of another four stores by end of year. In the case of the Newmarket location, it's a conversion of a FreshCo banner.

Grocery industry observers will be watching with interest as to how the physical store will open during COVID-19 protocols.

Here's a list of the future Farm Boy store openings:

- Newmarket store, 18075 Yonge Street Newmarket, ON scheduled to open Summer 2020
- Ottawa – Trainyards (relocation), 830 Belfast Rd Ottawa, ON scheduled to open in 2020
- Toronto – College Park, 777 Bay Street Toronto, ON scheduled to open in 2020
- Toronto – Yonge & Soudan, 2131 Yonge Street Toronto, ON scheduled to open in 2020
- Toronto – Front & Bathurst, 33 Bathurst Street Toronto, ON schedule to open in 2020
- Toronto – Dundas West $ Auckland, 5245 Dundas West Toronto, ON scheduled to open in 2021
- Toronto – Dupont & Christie, 740 Dupont Street Toronto, ON scheduled to open in 2021

GREENHOUSE INNOVATION

SMART tools for horticulture equals high-performance water

Nutrient-rich water helps to support this tangle of tomatoes at Nature Fresh Farms, Leamington, Ontario. Photo by Glenn Lowson.

In Dutch there is a saying: 'Meten is weten en gissen is missen' which is to say 'To measure is to know; guessing leads to mistakes.'

~ JIM SHABAT

Peak performance in horticultural operations always includes high-performance water. That's the mantra of Jim Shubat, technical lead for SanEcoTec, an advanced water technology company based in Ottawa, Ontario.

For the last 10 years, the company has been developing programs for a range of customers – from municipalities to agriculture – to manage the variability of water quality and improve water performance outcomes.

"Water is as variable as the weather," says Shubat. "We need to measure water like we do other agricultural inputs. In Dutch there is a saying: 'Meten is weten en gissen is missen' which is to say 'To measure is to know; guessing leads to mistakes.'

The challenge for growers is that water for irrigation is very far from normal water; it's full of nutrients, which can be highly reactive leading to unexpected results such as biofilm, chemical incompatibilities and inconsistency.

Meeting that challenge is the basis for the company's SMART system – Self-Monitoring Analysis Reporting Technologies. To achieve the most successful yields, the system monitors water quality on a 24/7 basis and produces water data that includes key performance indicators (KPIs) that correlate with desired crop yield metrics.

As Shubat explains, benchmarking provides a predictive capability, so growers can modify water treatment to provide consistent quality water on an ongoing basis. The benchmark data can then be used to optimize water in the grow cycle to reach the highest performance yields possible.

"Water is a plant's most essential nutrient. Improving your water is the fastest way to improved plant performance," adds Shubat.

Water managers have been slow to adopt SMART tools – yet there is a growing awareness of water's importance and need for professional, evidence-based management, using automated digital technologies operating in real-time.

SMART applications are still at a rudimentary level in the water industry. Instrumentation commonly seen in a greenhouse or food processing facility, such as SCADA or PLC, can control processes, gather data and provide some diagnostic and control capabilities.

However, the information gathered can be too much or too little and often fails to include accurate water quality data. Moreover, the data collected is disconnected and not correlated. The water end-users are also disconnected from data collected at the water treatment plant or other nearby or similar users.

An opportunity exists for SMART tools, together with expert feedback, to turn raw data into actionable plans for effective management control of the entire water system.

There are water monitoring software platforms that focus on regulatory compliance and reporting. And although these platforms can provide basic functionality, they do not yet provide knowledge or insight into risk management and prevention, process optimization or sustainability benefits such as water or energy footprint.

Distributed monitoring technology can integrate with key components affecting water. Shubat's work is showing the data acquired from these systems can be used in a predictive, rather than a strictly reactive manner. "This not only helps in the detection of problems but can identify and act on opportunities to pro-actively improve water performance and risk management," he says.

With a database of KPIs – tailored to each customer's business needs – the platform compares data against empirical standards, can predict outcomes, identify risk and instruct the user and water treatment system to respond to changes in real-time.

Post-COVID precautions will also require accelerated adoption of SMART tools to promote transparency through all steps in the food chain. Vigilance is the new compliance. Unimpeachable data is the language of reporting.

GREENHOUSE INNOVATION

Generating smart ideas to keep the lights on

KAREN DAVIDSON

Five greenhouse growers, all fierce competitors, are collaborating in an energy usage project in the area of Leamington, Ontario. Why? Quite simply, they want to keep the lights on.

That's a bit of a stretch, but looking to the horizon, growers such as Luis Chibante and Lucas Semple know there isn't enough electricity for the explosive growth in "lit" greenhouses. If the trend continues to use high-pressure sodium and LED lights, then the Independent Electricity System Operator (IESO) forecasts that the greenhouse sector will experience a 180 per cent increase in energy use by 2024.

Luis Chibante is the owner and general manager of Golden Acre Farms, operating 45 acres of high-wire cucumbers. He wants to build a smart grid so that excess energy can be sold to Hydro One.

A "smart" electrical grid comprises a variety of operational and energy measures to use power more efficiently. Think of such tools as smart meters, smart appliances and renewable energy sources linked together.

"With this system, electricity becomes a byproduct of our operation," explains Chibante. "We do not want to become a utility."

Lucas Semple, general manager for Under Sun Acres, has 45 acres of glass and double polyethylene greenhouses. He has a cogeneration system and closed loop water supply/filtration system. Two of his greenhouses are not currently lit. His operation of sweet bell peppers offers an opportunity to examine the peaks and valleys of energy use.

These are only two examples of how Ontario's greenhouse vegetable sector has grown to 3,200 acres of tomatoes, peppers and cucumbers with more growers pushing towards year-round production. It will be 2025 before a new transmission line is added to current capacity in the local area.

"A shortage of power is predicted," says Dave Arkell, president and CEO of 360 Energy. "That's why we're looking for solutions for our grower clients to optimize energy in a cost-effective way. It would be good not to rely on the grid all the time for economic and reliability reasons."

A year ago, the Ontario Greenhouse Vegetable Growers (OGVG) expressed keen interest in partnering with Dr. Rupp Carriveau, director of the Environmental Energy Institute at the University of Windsor. He took a leading role in applying to the Grid Innovation Fund which is under the auspices of the IESO. He is researching the feasibility of various non-wire solutions for the greenhouse industry and is now analyzing energy use data from five greenhouse growers.

"We want to leverage our knowledge of the growers' transient load," says Carriveau. "This is a very knowledgeable group of greenhouse growers. They push us with questions."

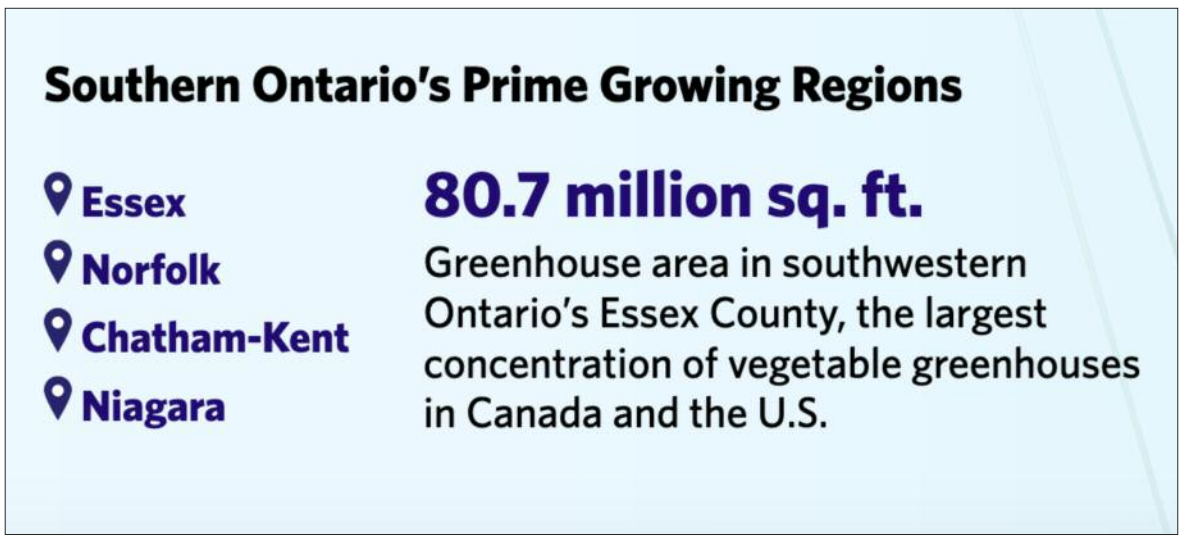
For example, growers want to know the effect of adding solar shingles. Or changing the light spectrum. In dollars and cents, they want to know if these are wise investments and what the return on investment might be.

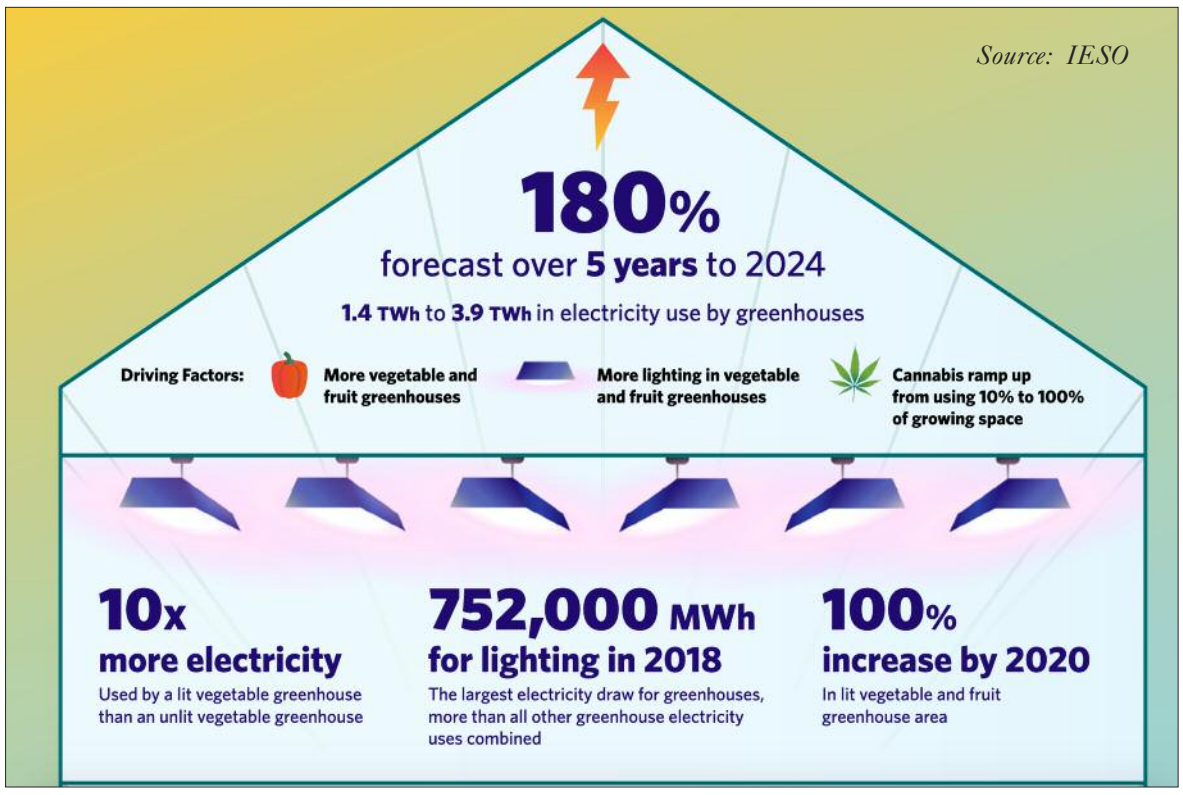
Launched in 2020, the three-year project started with identifying what forms of heat generation and lighting currently exist at each greenhouse.

"We're now at the point of drilling down into hard rock," quips Dave Arkell. "We are working with these clients to understand how they are buying energy and developing a plan to reduce costs. This requires benchmarking month by month."

"When buying power from the grid, there are rate options that range from 14-18 cents/kw. But we're looking at options that may cost less than 5 cents/kw. And we're looking at mitigating usage in natural gas, hydro and water."

With such large numbers at stake, it's all the more urgent to explore cost-efficient options. The Ontario Greenhouse Vegetable Growers believe that the 1,300MW of load request not yet connected to the grid is a realistic estimate of demand.





GREENHOUSE INNOVATION

Mucci Farms launches podcast: Spill the Greens

Ajit Saxena (L) interviews his boss Bert Mucci for the first episode of "Spill the Greens" podcast.

SPILL THE GREENS
POWERED BY MUCCI FARMS

Is there enough content to sustain a regular podcast? Ajit Saxena, public relations and digital marketing manager at Mucci Farms, is committed to the endeavor after months of research and gearing up for the launch of Spill the Greens on August 18.

Empowered with a background in radio broadcasting, Saxena is convinced that it's perfect timing for the greenhouse strawberry and vegetable company to step into podcasting – a channel that's growing faster than YouTube. The Kingsville, Ontario company has been growing produce for more than 60 years, yet there's plenty to talk about with consumers and stakeholders about greenhouse production.

First of all, there's the expertise and personal stories of more than 1,400 employees to draw from. Topics to be covered include: growing, logistics, supply, innovation and tech, sustainability, food safety, marketing, health and wellness.

CEO Bert Mucci, 51, launches the first episode with a nostalgic anecdote about how his parents landed at the port of Halifax and made their way to Leamington. Over time, they got into 75 acres of field tomatoes which were contracted to Heinz. Hand-picking was hard work. But their love of produce led them to more efficient production methods in greenhouses. For the rest of the story, go here: www.spillthegreens.com.

Spill the Greens can be found on Spotify, Apple, Google, and Stitcher.

Mucci Farms invests in automation and robotics

Naked Leaf lettuce is grown hydroponically with few hands needed except for final packaging. A wide variety of innovation is employed in the warehouses that speed up sorting, packing, labelling and palletizing. A logistics app allows retail partners to track shipments in real time.

2020 CANADIAN GREENHOUSE CONFERENCE VIRTUAL PROGRAM

Wednesday, October 7, 2020

10:00 am EST

LED – 24-Hour Lighting in Greenhouse Vegetable Production Xiuming Hao, Research Scientist, Agriculture & Agri-Food Canada, Harrow, ON

End of Day Lighting for Potted Crops -- David Llewelyn, Research Associate, University of Guelph, ON

Like Moths to a Flame: How artificial lights affect arthropods in the greenhouse environment -- Rose Labbe, Research Scientist-Greenhouse Entomology, Agriculture & Agri-Food Canada

1:00 pm EST

Biosecurity – Helping Your Plants Thrive -- Dave Van Walleghem, Biosecurity Specialist, Vetoquinol Canada Ltd.

Best Practices for Protecting the Worker -- Justine Taylor, Science & Government Relations Manager, Ontario Greenhouse Vegetable Growers, Leamington, ON

Precision Agriculture – Development of Novel Tools for Crop Protection -- Vava Grbic, Associate Professor, Western University, ON

Thursday, October 8, 2020

10:00 am

The Autonomous Greenhouse – Artificial Intelligence & Greenhouse Controls -- Silke Hemming, Head Scientific Research Team Greenhouse, Wageningen University & Research, NL

Algorithms Can Feed the World! -- Ronald Hoek, Chief Executive Officer, Blue Radix

1:00 pm

Improve Crop Quality & Reduce Water Consumption Through AI -- Hussam Haroun, Director of Automation, Vineland Research & Innovation Centre, ON, Ton van Dijk, Global Head of Sales & Operations, LetsGrow.com

The power of Data for Indoor Strawberry Production Luis Trujillo, Sales Manager, Hoogendoorn America

Managing Growing Mixes & Irrigation in Cannabis Production Pierre-Marc de Champlain, Technical Services Director, Berger

GREENHOUSE INNOVATION

Another vertical farming venture takes off

KAREN DAVIDSON

Up, up and away. That's the plan for Intravision Greens Niagara, a vertical farming operation that's funded by a Norwegian company.

A 20,000 square-foot facility should be ready for production in the Welland, Ontario location by November 2020. The trays of kale, basil, arugula, lettuce and mizuma will be nurtured by LED lights. The light recipes have been developed for local conditions.

"This is a box within a box," explains Neville D'Souza, one of the executive directors. "The seed trays are put into the incubator. From then on, there is no human contact, no bugs, no viruses to contaminate the plants."

The trays are stacked in layers, moving through a gravity flow system. The plants can thrive year-round with an optimum light spectrum and dehumidification.

With consumer concerns about how food is grown and more recently, food security, D'Souza says that the venture should find a ready market in the Greater Toronto Area. The goal is to compete with foreign imports with less shrinkage and a longer shelf life. The company's target is to produce anywhere from 800,000 to 1,000,000 pounds of produce annually.

The intellectual property for the vertical growing system is owned by Intravision in Oslo, Norway. As early as 2010, the company partnered with the University of Guelph's Controlled Environment Systems Research Facility. Led by Dr. Mike Dixon, this facility has been focused on space-age production of food.

According to the parent company's Norwegian website, the collaboration matched Intravision's spectrum-variable LED light technology with the Canadians' competence and technology within controlled environment production of plants.

"This synergy enabled the development of new knowledge in how to optimize light spectrum variations and photoperiods to trigger desired responses in plants and to optimize plant production practices, including shorter generation cycles, greater yield and improved quality of specific valuable components."

The greenhouse industry will be watching as more of these vertical farming start-ups reach a commercial phase.

Crucial information on pollination at high temperatures

Proper pollination of a flower is the most critical process related to fruit set, yield, and quality, but how do hot climate conditions impact both the pollinator and the plant, and the interactions between them? Koppert's White Paper on Plant-pollinator interactions in high temperatures – written in collaboration with experts in the field of pollination - now clearly points out the effects of high temperatures on pollination.

'In the past, we have always observed the impact of temperatures on the pollination activity of our bumblebees. It was now time to complete the equation by looking into the effect of hot climate conditions on plant behaviour, and the combination of plant-pollinator interactions,' says Remco Huvermann, product manager pollination at Koppert Biological Systems.

In cold climates, it is assumed that proper management of pollinators is sufficient to ensure good pollination. The single biggest problem is that if there is not enough strength in the plant, the setting may be poor. Growing in warm climates opens up a whole set of problems that can affect yield and quality. Management of temperature, humidity, and radiation is therefore essential for both plant and pollinator.

The White Paper also provides a useful summary of actions to protect both plants and pollinators in high temperatures.

The White Paper was written in collaboration with horticultural consultant Godfrey Dol. To download the White Paper, go here: https://bit.ly/30SlPbp

Source: Koppert Biological Systems

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

Ontario Berry Grower

Ministry of Agriculture, Food and Rural Affairs

Ontario

Common raspberry pollinators

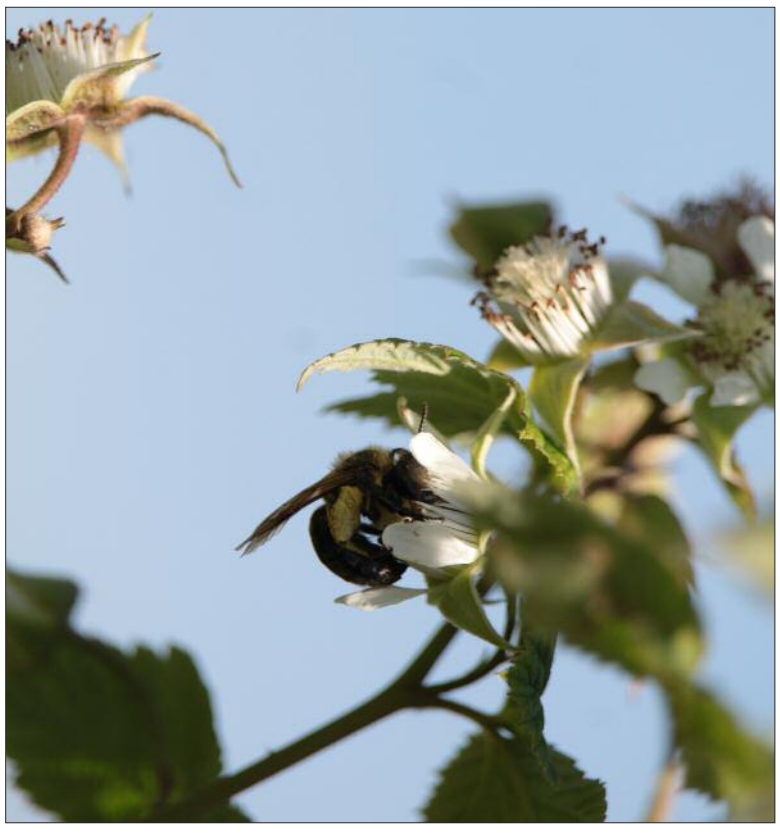
EVA THORPE

While honey bees flit from flower to flower in your raspberry fields, wild bees and other pollinators are also hard at work. Collectively native bees can be called wild bees, but their diversity is resplendent; from shiny metallic bees no longer than a pinky fingernail to fuzzy bees larger than a thumb.

Over the course of the 2020 season, we collected and photographed wild bees at five raspberry farms, allowing us to build off previous raspberry pollinator work conducted in Ontario (Gerner, 2018; Irwin, 2019). Identified bees include: small carpenter bees *(Ceratina spp*., 2018, 2019), cuckoo bees (*Nomada spp*., 2018, 2019), plasterer bees (*Colletes spp*., 2018), and mason bees (*Hoplitis spp*., 2018, 2019).

But, the most common bees we have seen so far are: mining bees (*Andrena spp*., 2018, 2019, 2020), bumble bees (*Bombus spp*., 2018, 2019, 2020), and sweat bees (*Agapostemon spp*., 2018, 2019, 2020; Augochlora spp., 2018; *Halictus spp*., 2018, 2019, 2020; *Lasioglosssum spp*., 2018, 2019; and *Sphecodes spp*., 2018). All wild bees, except bumble bees, are solitary, meaning a lone female establishes her nest and provisions her offspring with enough food to ensure their development and survival.

Bees are excellent pollinators thanks to their hairy bodies that gather pollen while they forage on blossoms. Pollen is a key part of a bee's diet, and females collect it and nectar, to feed their young. Sometimes families can be identified in the field by the way a bee carries pollen. On their legs, bees have stiff hairs which they use to groom pollen into their specialized brushes or baskets. Bumble bee and honey bees have distinct baskets (*corbiculae*), made up of hairs, on their hind legs to carry their pollen.



A mining bee collecting pollen from a raspberry flower. Photo: Eva Thorpe, June 2020.

Mining bees:

Mining bees, in the family Andrenidae, were the most frequent visitors to raspberry blooms. Their appearance can vary dramatically by species; they are lightly fuzzy, can be large or medium-sized, and can be gray and brown to bright red. Female mining bees have long velvety hairs (scopa) on their hind legs, close to the abdomen, where pollen is carried seemingly "under their armpits."

These bees prefer to nest in the ground, particularly where it is bare, and nest sites can become large aggregations of distinct nests. Because of the wide diversity within the family, some mining bees are specialists, foraging nectar or pollen from one specific species, whereas others are generalists, collecting resources from any flower.

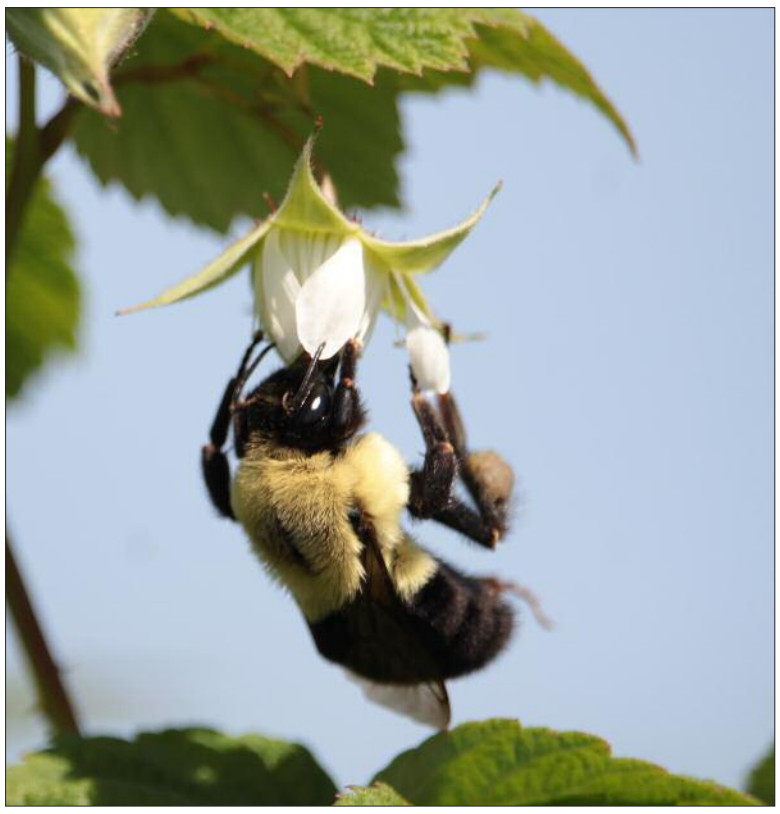
Mining bees can forage at cool temperatures, as low as 10° Celsius, and therefore can be seen from spring to late fall. They are most active, however, from early May to late June in Ontario.

Bumble bees:

These bees are easily recognizable thanks to their fuzzy yellow and black-striped bodies. Bumble bees prefer to nest underground, sometimes in nests once homed by rodents.

Bumble bees are generalists and will visit any flower for pollen. Plants requiring buzz pollination, such as blueberries, can benefit from bumble bees visiting them.

They can be seen in early spring through to late fall, as like mining bees, they can withstand cooler temperatures. In order to be warm enough for flight, bumble bees will bask in the sun, or shiver their muscles. They are most active, anywhere in Canada, from June to July.



A stretched-out bumble bee collecting pollen from a raspberry flower. Photo: Eva Thorpe, June 2020.

A sweat bee, curled into a blooming raspberry bud, collecting pollen. Photo: Eva Thorpe, June 2020.

Sweat bees:

Like mining bees, sweat bees are incredibly diverse. Some can be shiny and metallic with little to no hair, whereas others can be somewhat fuzzy in typical bee colours. They all, however, carry pollen on their rear legs, with the exception of Sphecodes species which do not carry pollen as they are parasitoids of other solitary bees.

Most types of sweat bees are generalists and most nest underground. Some however, within the genus Lasioglossum, are specialists, and some prefer to nest in rotting wood and bark.

Most types of sweat bees can be found throughout Canada, and are generally most active from May to July, with a few extending this range from March to September.

Dozens of other wild bees and other pollinators may be flying throughout your raspberries each season. Learning to recognize them and their needs, can help diversify the pollinators present.

Eva Thorpe is a summer research student working in berry crops for OMAFRA. Her primary project this summer was to identify wild pollinators in raspberries.

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CROP PROTECTION

Eleven years with spotted-wing drosophila and spotted lanternfly on the horizon

CALEIGH HALLINK-IRWIN.
MANAGER,
CROP PROTECTION, CHC

Since 2009, Canadian berry and tender fruit growers have been battling the invasive spotted wing drosophila (SWD). Native to southeast Asia, these vinegar flies began their rampage through Canada on the west coast. They have been causing economic damage in Ontario and Quebec since 2012 and haven't yet reached the east coast.

SWD are opportunistic, and feed and lay eggs in a variety of crops, including blueberries, strawberries, blackberries, raspberries, cherries, nectarines, peaches, pears, plums, and grapes. The greatest damage caused by SWD is done by piercing the skin of intact fruit to lay their eggs within. SWD can have approximately three to nine generations in a Canadian growing season. This is a serious problem for growers, who have to be constantly on guard for SWD, unlike pests who only have one or two life cycles a year and are more easily predicted.

Management of SWD primarily includes registered insecticides combined with good sanitation and harvest practices.

Limited tools are the biggest problem for SWD management, especially in berries. Just a few years ago, Jason Smith, a blueberry grower in British Columbia, only had two insecticides available to him.

"A few years back, we lost our third and fourth picks of the Bluecrop variety because SWD got into the fruit and we could not clean the field up even when doing three sprays three days apart. This resulted in 40 per cent of the crop being lost. We now have more tools, but we are scheduled to lose one of them -- Capture (bifenthrin) -- in 2020. We are at a significant competitive disadvantage compared to our neighbours to the south because they have a much larger arsenal of registered products."

We now have eight registrations of active ingredients in Canada for SWD control. As a side note, please check with the PMRA's label database to see what is available to you.

While this number is greater than in previous years, just because a product is registered doesn't mean that a grower can actually use it, due to additional restrictions placed by packers/processors/grocers and Maximum Residue Limits (MRLs). Some of the newest chemistries, while very promising, can't be used at all due to these restrictions. Blueberry growers in British Columbia, for example, have found that realistically, they are only able to use five of these registered crop protection products.

It's been eleven years since SWD's arrival in Canada, and while the massive collaboration between government, industry, growers, extension, crop consultants and academia has resulted in successful registrations and emergency registrations for crop protection materials, research, and establishment of best management practices, SWD remains a devastating pest of berries and tender fruits.

Lessons learned, especially for conventional growers, are similar to many other crop protection issues that we are all familiar with: we need more tools in our toolboxes, we need harmonization that would lead to a level playing field with our trading partners, we need rapid registration of chemistries, and we need multiple modes of action to prevent resistance.

Studies on Integrated Pest Management (IPM) are promising and ongoing, but the rare methods that offer sufficient control, such as exclusion netting, are often too expensive to afford at large scale. An over-arching issue remains: the consumer demands perfect fruit. There is zero tolerance for SWD larvae in fresh fruit, which often means that IPM solutions aren't good enough, especially for the conventional grower. Many would love to use more IPM methods - spraying costs money - but the demands of the public remain.

Spotted lanternfly

New pest alert: spotted lanternfly

The spotted lanternfly (SLF) is a planthopper native to parts of Asia. It was first recorded in the United States in 2014 and is now present as an invasive insect pest in six American states, including Pennsylvania, just across the border from us in Ontario.

Adult SLF have a host preference for tree-of-heaven (also known as Chinese or stinking sumac) and grapevine, but the nymphs feed on a wide variety of crops including: grapes, apples, plums, cherries, peaches, nectarines, apricots, and hops. Both adults and nymphs feed on the sap of host plants, causing 'weeping' wounds that attract other insect pests and diseases. These wounds, and the resulting mould, fungi and diseases, can kill the plant.

SLF and SWD are both new invasive insect pests that target Canadian fruit, especially grapes and tender fruit. They both have a broad host range, high potential for economic damage to crops, limited management options, and have the capacity to become chronic pests in Canada.

Unlike SWD, SLF are not laying eggs inside fruit, nor causing a lot of direct feeding damage - but they do cause long-term damage to trees and vines. Some vineyards in Pennsylvania have reported 45 to 100 per cent loss of wine grape crops due to SLF. Modelling/forecasting and monitoring programs will hopefully be easier to establish, as the SLF only has one life cycle per year.

The U.S. has 13 registered products for SLF control. A few of these products are registered in Canada, and would require a label expansion to cover SLF. For many of these, however, we do not have any access in Canada.

Research is also currently being done in Pennsylvania on biopesticide alternatives, such as *Beauveria bassiana*. There's some hope for these ongoing studies, even with COVID-19 restrictions. Other studies are looking at mating disruption, natural predators, and SLF's biology and feeding preferences in an effort to understand and manage the populations.

Luckily, we don't have any establishment of SLF in Canada yet. However, their arrival is likely on the horizon. It seems as if the same SWD management problems will apply to SLF; we lack many of the crop protection tools we'll need in this fight.

Are Canadians ready for the next invasive insect pest?

Can we apply the lessons the Americans are currently learning? Will we be able to obtain registrations in time? Can organic growers keep up, with such limited tools in their toolbox? We need to understand behaviour and life cycle of an insect before we can implement forecasting or modelling. Will we be able to collect that data in time?

I hope so.

In good news, Canadian collaboration and research on invasive species are well established, as demonstrated by the amount of work done on SWD, Brown Marmorated Stink Bug, and others. Collaborative working groups will need to ensure that knowledge is spread effectively and growers are adequately prepared. Emergency registrations will be needed to address SLF in the short term, while our excellent Minor Use Pesticides Program will need to be employed to gain long-term crop protection solutions.

We'll need alertness, speed, harmonization, and crop protection tools to keep control of the newest invasive pest on the horizon.

Caleigh Hallink-Irwin is manager, crop protection at the Canadian Horticultural Council

CROP PROTECTION

Rimon insecticide label expanded for some crops

JIM CHAPUT

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion registration for Rimon insecticide for the control of tarnished plant bug nymphs on celeriac, greenhouse and outdoor ornamentals, reduction in damage from carrot weevil on parsnip and celeriac and suppression of whiteflies on greenhouse and outdoor ornamentals in Canada. Rimon insecticide was already labeled for use against a number of pests on a variety of crops in Canada.

These minor use projects were submitted by Quebec and Flowers Canada 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 pest management decisions within a robust integrated pest management program and should consult the complete label before using Rimon insecticide.

Rimon insecticide is toxic to bees, certain beneficial insects, aquatic organisms and non-target terrestrial plants. Avoid applying this product to flowering crops or weeds if bees are visiting the treatment area. Do not apply this product or allow drift to other crops or non-target areas. Do not contaminate off-target areas or aquatic habitats when spraying or when cleaning and rinsing spray equipment or containers.

Follow all other precautions, restrictions and directions for use on the Rimon insecticide label carefully.

For a copy of the new minor use label contact your local crop specialist, regional supply outlet or visit the PMRA label site.

Jim Chaput is OMAFRA minor use coordinator.

CROP(S)	TARGET	RATE (ML/HA)	APPLICATION INFORMATION	PHI (DAYS)
Celeriac	Carrot weevil (reduces damage)	410 -820	Apply when weevil populations reach locally determined economic thresholds. Apply at 7-day intervals. Maximum 3 applications per crop per season.	3
	Tarnished Plant Bug Nymphs (control)	835	Apply when TPB appear and oviposition is initiated. Reapplication on at a 10- to 14-day interval may be required. Do not apply more than 3 applications per crop per season.	
Parsnips	Carrot weevil (reduces damage)	410 - 820	Apply when weevil populations reach locally determined economic thresholds. Apply at 7-day intervals. Maximum 3 applications per crop per season.	3
GH & Outdoor ornamentals	Tarnished Plant Bug Nymphs (control)	835	For TPB apply when the majority of the population is at egg hatch to the second instar. Do not apply more than 3 applications per crop cycle. Re-apply at 7-day intervals when monitoring indicates the need.	1
	Whiteflies (suppression)	650 - 835	For whiteflies apply when insect populations reach locally determined economic thresholds. Re-apply at 7 – 10-day intervals when monitoring indicates the need. Do not apply more than 3 applications per crop cycle.	

Five national priorities identified for minor use research

CROP/CROP GROUP	PEST(S)	PRODUCT SOLUTION	ACTIVE INGREDIENT SOLUTION	REGISTRANT
NATIONAL PROJECTS				
Radish	Downy mildew	Orondis Ultra	oxathiapiprolin + mandipropamid	Syngenta
Coriander	Blossom blight	Amyprotec 42	*Bacillus amyloliquefaciens* FZB42	Sylvar
Basil	Leafhoppers	Exirel	cyantraniliprole	FMC
Outdoor ornamentals	Powdery mildew	Vivando	metrafenone	BASF
Grapes	Mealy bug	Sivanto	flupyradifurone	Bayer
REGIONAL UPGRADE PROJECTS				
Haskaps (Atlantic)	Weeds	Lontrel	clopyralid	Corteva
Asparagus (QC)	Weeds	Broadloom	bentazon	UPL
Rutabaga (ON)	Downy mildew	Orondis Ultra	oxathiapiprolin + mandipropamid	Syngenta
Dry beans (Prairies)	Weeds	Eptam	eptc	Gowan
Cranberries (BC)	Weeds	Classic	chlorimuron-ethyl	Corteva

Thanks to Jim Chaput, OMAFRA's provincial minor use coordinator, here's a report on the process and outcome of deciding on research priorities.

Agriculture and Agri-Food Canada, Pest Management Centre (AAFC-PMC) and the Provincial Minor Use Coordinators (PMUCs) facilitated the 18th national minor use priority setting exercise virtually from April to July 2020 with the assistance of grower and crop specialist stakeholders

These included participants from across Canada such as university and federal researchers, crop extension specialists, provincial specialists, minor use coordinators, registrants, PMRA representatives, growers and grower organization representatives, processing companies and other stakeholders.

Restrctions due to COVID-19 meant that a total of only 10 projects could be approved as compared to the normal 37 projects. No greenhouse or forage projects could be done and there was a limitation on how many perennial crops could be taken on for 2021.

The PMUCs and the AAFC-PMC agreed to select five (5) regional projects and five (5) national projects. All disciplines were reviewed together: entomology, pathology and weed science.

These projects will be submitted to the PMRA by AAFC-PMC, and the data requirements completed in 2022-2023. Registration decisions for these will likely occur in late 2023 and 2024.

Mexico to phase out glyphosate herbicide

According to Reuters media reports, Mexico will gradually phase out use of the herbicide glyphosate by the time the current administration ends in late 2024. The news comes from Mexican President Andres Manuel Lopez Obrador.

Acknowledging differences between his agriculture and environment ministries over the herbicide, which is used in brands such as Roundup, Lopez Obrador said his government would immediately stop using glyphosate on its own projects.

The agriculture ministry said that private food producers will have until 2024 to phase out glyphosate, which has sparked safety concerns in a number of countries. RealAgriculture.com reports that it appears the herbicide will only be allowed for removing weeds, but not for an in-crop application.

Regulatory bodies around the world, including Health Canada, the European Food Safety Authority and the U.S. Environmental Protection Agency, have reviewed the safety of glyphosate and concluded it's not a carcinogen.

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