

TEAM PLAY

## When roles change from seasonal worker to farm employer



**Sooruj Bhoolai is in a unique position as a farm employer. Originally from Trinidad, he came to Canada under the Seasonal Agricultural Worker Program. He liked the Holland Marsh so much that he immigrated, became the field manager and eventually bought the celery farm near Bradford, Ontario. Like other growers, he's now coping with a 28 per cent increase to the minimum wage and wondering how his Caribbean and Mexican workers can be any more efficient. Photos by Glenn Lowson.**

KAREN DAVIDSON

Sooruj Bhoolai had a dream. At 19, he was growing cocoa, coffee and rice in Trinidad, but he wanted more. By joining the Seasonal Agricultural Worker Program (SAWP) in 1992, he came to Ontario's Holland Marsh for the summer. The muck soil and the lushness of the vegetable crops left an imprint on him.

After six years as a seasonal worker, Bhoolai immigrated to Canada and was immediately hired as the farm manager by Gary Rupke. It wasn't long before he

brought his Trinidadian wife. And when Mr. Rupke retired in 2010, Bhoolai was able to take over the business and named his company Chip's Produce Ltd.

"I knew how to work," recalls Bhoolai. "I didn't see hurdles. When you want to do something, you put your mind and heart into it."

Behind that positive work ethic is an admission. The most difficult year was 2010, convincing a bank to finance his business. The deal went through and Bhoolai has been hiring both Caribbean and Mexican SAWP workers ever since. He now owns or rents 100 acres of celery. It's a labour-intensive crop that

requires a crew of 21.

"Timing is everything in celery," he says. "You have to be on top of your scouting and spraying."

What is not so timely is the increase of Ontario's minimum wage from \$11.60 to \$14 per hour as of January 1, 2018. For Chip's Produce, this represents an extra \$100,000 in compensation this year without any increase from the marketplace. In fact, he thinks he might be getting less for his celery because retailers have access to lower-priced celery from Quebec.

Just across the provincial border, the largest wage rate increase in Quebec's

history is about to occur May 1, when the minimum wage rises from \$11.25 to \$12 per hour. That rate is still significantly lower than what Ontario farmers must pay, putting them at an economic disadvantage. Celery and other vegetables are likely to flow west from Quebec to the Ontario Food Terminal in Toronto. In the political calculus of the Ontario government in the lead-up to the June 7 election, there was seemingly no thought to the disparity in wage rates with the province of Quebec.

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AT PRESS TIME...

Efforts to contain U.S. romaine lettuce crisis

As another food safety crisis spreads across the United States related to romaine lettuce, the California Leafy Greens Marketing Agreement (LGMA) officials are attempting to limit damage to the geographical area of Arizona rather than risk trust in the entire commodity.

Here is their April 18 news release.

In response to the multi-state outbreak of *E. coli* O157:H7 involving chopped packaged romaine lettuce that was announced by government health agencies April 13, leafy greens producers are offering information for consumers, retailers and restaurants to help them navigate romaine purchasing decisions.

“The leafy greens community takes the responsibility of producing safe leafy greens very seriously. Not only are the foods we grow eaten by our own families, but they are consumed around the world,” said Scott Horsfall, CEO of the California Leafy Greens Marketing Agreement. “Our deepest sympathies go out to those people whose lives have been impacted by this outbreak.”

Government health agencies have narrowed the cause of the outbreak to chopped romaine lettuce from the Yuma, Arizona growing region. Investigators have not yet been able to identify a common supplier, distributor or brand.

Nearly all of the romaine currently harvested and shipped throughout the U.S. is from California growing areas, which have not been identified by the government as being associated with this outbreak. Leafy greens production typically transitions from Arizona to California at this time of year. According to the Arizona Department of Agriculture shipments of romaine lettuce from the Yuma, AZ growing region have ceased.

“We know that government investigators are doing all they can to pinpoint the exact source of the outbreak. In the meantime, people may be confused about what leafy greens are safe to eat,” said Horsfall.

To assist consumers, retailers and restaurants, the LGMA offers the following information:

- Public health advisories are only for chopped, packaged romaine lettuce from Yuma, AZ. No other romaine products are involved. Unpackaged romaine; packaged romaine heads or hearts that are not chopped; or any romaine products grown in California are not part of the advisory.

- The latest government tracking indicates that the first illnesses related to this outbreak were reported to be on March 13th and the most recent on April 7th. This means that any product involved would likely have been harvested and shipped in early March. With respect to any romaine lettuce purchased prior to the announcement of this outbreak,

please follow government advisories.

- Because of the perishable nature of romaine lettuce, it is very unlikely that any romaine lettuce from Yuma, AZ that was purchased and consumed in mid-to-late March is still available in stores or other distribution channels.

- Although the exact brand or brands of lettuce that may have caused this outbreak is not known, government agencies, retailers, restaurants and producers quickly acted to do everything possible to remove any product that could possibly have been involved in this outbreak. Because of the collaborative nature of the industry and the ability to trace the product to the originating area, this quick action helped minimize further risk to consumers. The California and Arizona Leafy Greens Marketing Agreements represent the U.S. produce industry’s most rigorous food safety program. The programs include mandatory food safety practices and frequent government audits are required to ensure practices are being followed.

“Our members are required to be in 100 per cent compliance with required LGMA food safety practice. Every LGMA member and their operations are inspected by government auditors, who verify more than 150 food safety checkpoints. These audits take place about five times per year for every LGMA member company,” said Horsfall.

NEWSMAKERS

Congratulations to Farm & Food Care Ontario celebrating its 30th anniversary. The organization presented Champion Awards at its recent annual general meeting. **Jamie Reaume**, currently CEO of Country Heritage Park, Milton, Ontario was recognized for many years of work as an agricultural advocate. He was the founder of the Holland Marsh Growers’ Association, a former chair of the Ontario Food Terminal and former editor of **The Grower** from 2002 to 2008.



Jamie Reaume, right with Holland Marsh farmer

The Canadian Produce Marketing Association (CPMA) recognized industry leaders at the 93rd Annual Convention and Trade Show in Vancouver, British Columbia on April 26. The Fresh Health Award was presented to the **BC Produce Marketing Association** for going above and beyond in promoting the Half Your Plate program and/or the Freggie Children’s Program and aligning with the CPMA’s goal to increase the consumption of fresh produce in Canada for better health. The Mary Fitzgerald Award was presented to **Mike Catalano**, regional sales manager for Wonderful Brands. He is currently the vice chair of the CPMA Education Committee and participates in many industry events. The CPMA Lifetime Achievement Award was presented to **Scott Fairbairn**, category manager, produce operations at Thrifty Foods. During his time on the CPMA Board of Directors and in his role on numerous committees, he was a dedicated senior volunteer providing clear vision and practical thinking.

Syngenta Canada has announced a changing of the guard with the retirement of **Jay Bradshaw** as president, end of May. He’s headed the Canadian operations for almost 17 years while also serving as a director on numerous boards including Cleanfarms and CropLife Canada. As of June 1, **Trevor Heck** becomes president. He’s been head of marketing since 2011.



Trevor Heck

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has announced **Amanda Tracey** as the new vegetable crop specialist based in Ridgetown. Her field crops portfolio includes: tomatoes, peppers, sugar beets, eggplant, chicory and table beets.

Congratulations to **Robert Anderson** and **Jill Ebbett**, the 2018 Atlantic Outstanding Young Farmers. The seed potato growers are from Glassville, New Brunswick. They will compete at the national event November 27 – December 2 in Winnipeg, Manitoba.

The 2018-2019 board of directors remains unchanged for the Ontario Tender Fruit Growers. They are **Phil Tregunno**, chair; **John Thwaites**, vice-chair. Directors are: **Fred Meyers**, **Dave Enns**, **David Hipple**, **Brock Puddicombe**, **Leo Devries**, **Rusty Smith** and **Ryan Schuyler**.

The 2018-2019 board of directors remains unchanged for the Ontario Fresh Grape Growers’ Marketing Board. They are **David Hipple**, chair; **Torrie Warner**, vice-chair. Directors are: **Robin Reimer**, **Adolf Reddecopp**, **Howard Colcuc**, **Jourdan Tregunno**, **Dan Lambert**.

Garlic Growers of Ontario elected its 2018 board of directors. They are: **Joann Chechalk**, president; **Peter McClusky**, vice-president; **Steve Droorg**, 2nd vice-president. Directors include: **Bob Romaniuk**, **Paul Smith**, **Martin VanRaay** and **Janice Wright**.

Condolences to the family of **Paul Otter**, 71, who passed suddenly on February 11, at his home in Woodville, Ontario. He was described as the heart and soul of Woodville Farms, a grower of cabbage. He will be missed by animal companions Precious Pearl and Sadie Jewel.

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COVER STORY

# When roles change from seasonal worker to farm employer

Continued from page 1

The stress on growers is palpable this year. In Ontario, not only are growers adjusting to a 28 per cent increase in provincial wage rates but also changes in provincial employment standards.

“The rules are changing much faster than we can absorb them,” says Bhoolai.

Several commodity organizations are hosting seminars with Ken Linington, policy advisor, Labour Issues Coordinating Committee, to understand more about these changes to employment standards. Beyond the minutiae, he offers sage counsel: “Whether the wage rate is at \$12 or \$14 or even \$15 per hour, the big challenge for employers is how to engage workers for the best efficiency. Understand both your cultural biases and the cultural biases of your workers to help them transition to the Ontario workplace.”

What do workers want? Bhoolai says, “They want to be comfortable.”

This means providing the right clothing for extreme weather conditions. It’s about the right tools for the job. And most importantly, it’s about respect.

“In the Jamaican culture, they are accustomed to calling the employer the ‘boss,’” explains Ken Forth, a broccoli grower and president of Foreign Agricultural Resource Management Services. “But I insist that they call me by my first name. When I say that at the beginning of the season, I get big smiles all around.”

Respect is a deep admiration for someone, for their abilities, their qualities, their achievements. For that employer-worker relationship to succeed, the emotion needs to flow both ways.

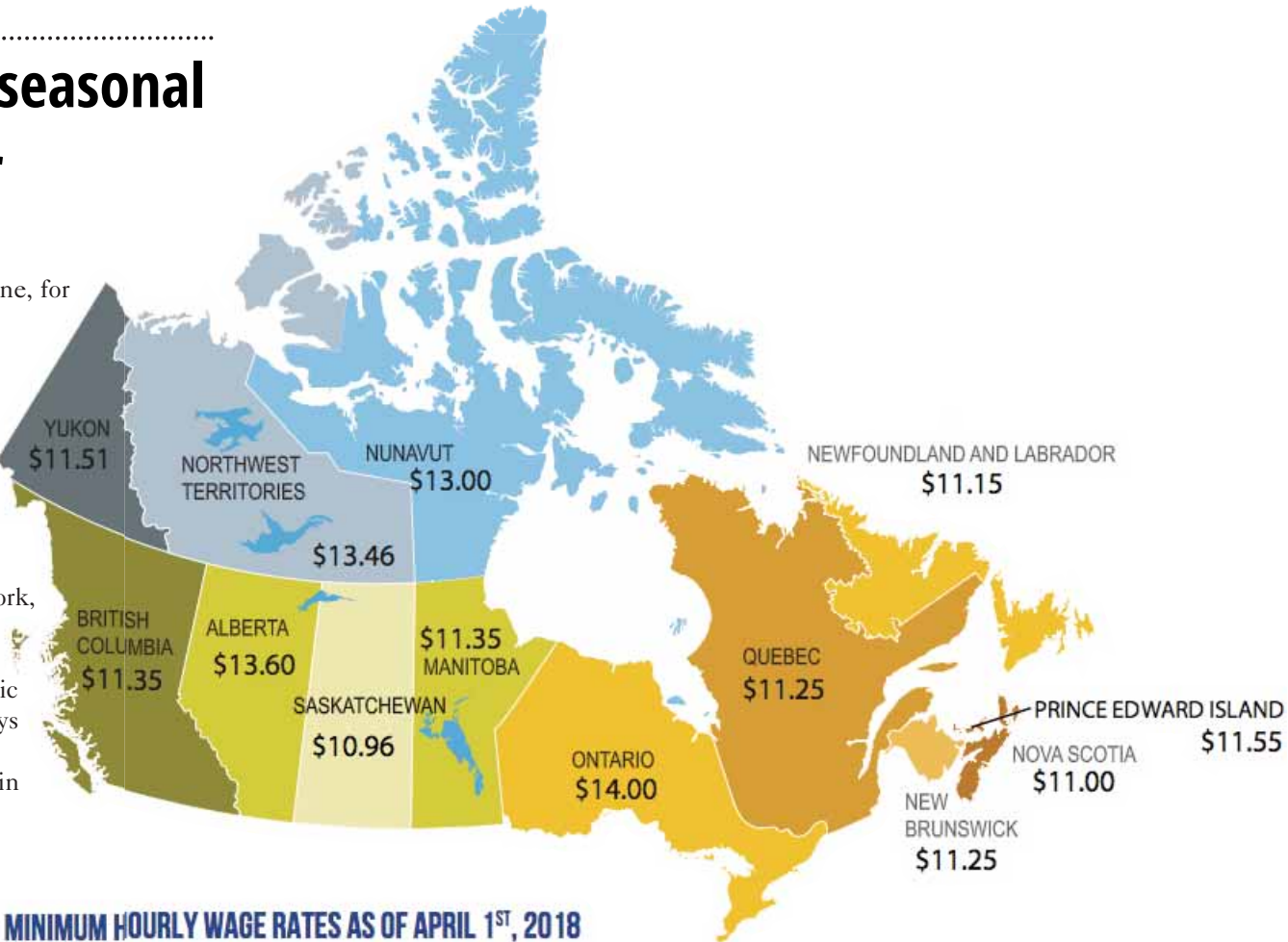
“We have created the opportunity to work, but the business wouldn’t survive without the work ethic of these workers,” says Forth. “The workers have to feel fulfilled in their jobs.”

In the dog days of summer, it’s worth starting early in the coolest hours of the day. That’s what Forth has been practising for years so that his Jamaican workers are finished broccoli harvesting before the worst heat of the day.

The employer-worker relationship has never been more important than this year. It’s about motivating a team -- sometimes of diverse backgrounds -- to pull together in less than ideal weather conditions. The mid-April ice storm in Ontario is already testing the mettle of those with greenhouse seedlings that are too tender to put into the ground.

For Bhoolai and all growers, this will be a telling year, a fine balance of adapting and adjusting every day.

For a “Behind the Scenes” podcast with Sooruj Bhoolai, go to [thegrower.org/podcasts](http://thegrower.org/podcasts)



MINIMUM HOURLY WAGE RATES AS OF APRIL 1<sup>ST</sup>, 2018  
Retail Council of Canada  
[www.retailcouncilofcanada.org](http://www.retailcouncilofcanada.org)

Note these upcoming wage changes:

- British Columbia - \$12.65 per hour as of June 1, 2018
- Alberta - \$15.00 per hour as of October 1, 2018
- Manitoba - \$11.35 per hour as of October 1, 2018
- Ontario - \$15.00 per hour as of January 1, 2019



Celery is a very labour-intensive crop. Sooruj Bhoolai works closely with his crew of 21 seasonal agricultural workers.



This Mexican worker, Clemente Hernandez, is carefully stacking corrugated boxes of hand-cut celery, destined for major retailers.



CROSS COUNTRY DIGEST

BRITISH COLUMBIA

# Services for blueberry pollination in high demand

British Columbia’s 600 blueberry growers are looking forward to a good start to their production year despite a flurry of publicity that three Alberta beekeepers are not renting hives to the Lower Mainland. In early April, stories in the Vancouver press amplified worries of millions of dollars of lost production due to 6,000 Alberta hives not returning for pollination. That number equates to about 10 per cent of the number of colonies placed in blueberries.

“To our knowledge, the majority of our growers have not expressed concern about a lack of bees to pollinate this year’s blueberry crop,” says Jack Bates, chair of the BC Blueberry Council in an April 3 statement. “At this point in time we do not believe that our annual blueberry production will be greatly impacted by this

issue. We of course, will continue to monitor this situation.”

John Gibeau, Honey Bee Centre, in Surrey, is the largest supplier in British Columbia of pollinating bees with 10,000 colonies for rent to eleven different fruit crops. Demand is high, and some beekeepers have increased rental rates from \$95 to \$150 per hive. Gibeau advises that a blueberry grower should budget about \$400 per acre for pollination services depending on the age of the bushes, pruning regimes and density of the flower load. The increasing demand for bee pollination is directly correlated to increasing acreage in British Columbia. When he started supplying bees to blueberry growers in about 1978, Gibeau advised that there were only several thousand colonies required. Today, beekeepers supply close to 50,000 of the

approximately 90,000 colonies needed to cover the blueberry crops in the region. Gibeau adds that not all growers rent bees, relying on indigenous pollinators -- mason bees and bumblebees -- or on their neighbour’s rented colonies.

“This will be my 40th year in beekeeping,” says Gibeau “and it looks like an early spring.” In his view, the situation has been overblown regarding three Alberta beekeepers who chose not to return with 6,000 hives. Last year’s wet and cold spring resulted in every local beekeeper getting sick bees and having a poor yield during the summer. Most of their bees recovered by fall. Not every year is a banner year, a lesson that’s dealt by Mother Nature.

To supply his customers in 2018, Gibeau has called beekeepers as far east as Manitoba to supply more hives.



“We are still about 2,000 to 3,000 colonies shy of what’s needed,” said Gibeau. He estimates a loss of \$500,000 to beekeepers in pollination services plus \$12.5 million in lost blueberry production.

For its part, the BC Blueberry Council is participating in bee health research along with the National Bee Diagnostic Centre, the BC Ministry of Agriculture apiculture program, Agriculture and Agri-Food Canada, the University of British Columbia

and the provincial bee association, the British Columbia Honey Producer’s Association. The study will look at outcomes for bees which pollinate on blueberry farms. Researchers already state that these bees are used for more than one crop, and may be foraging in wildflowers before and after blueberry bloom.

The provincial ag ministry reports that B.C. blueberry farmers generated more than \$151 million in 2016.

BRITISH COLUMBIA

# Keeping plants virus-free

The Centre for Plant Health will be receiving \$80 million to replace its aging structure in Sidney, British Columbia. Operated by the Canadian Food Inspection Agency, the new facility is expected to be operational by 2022.

The Centre is Canada's only

post-entry quarantine, research, and diagnostic facility for tree fruit, grapevine, and small fruit. It is recognized internationally for its expertise in post-entry quarantine and is an accredited laboratory and diagnostic testing centre for imports and exports using internationally recognized

methods. Many members of the Sidney team are recognized as international experts by plant protection standard setting bodies.

Situated on Vancouver Island, the climate is suited for the culturing of all of Canada's fruit crop and ornamental



Federal ag minister Lawrence MacAulay and Anna-Mary Schmidt, head of grapevine diagnostics

plants. The Centre maintains an impressive collection of cultivars, highlighting the diverse activities conducted on site. The Centre was originally established in 1912.

Virus and other plant pathogen testing at the Centre is essential to informing the CFI’s regulatory decisions and to protecting Canada’s agriculture and agri-food industry. The Centre has been instrumental in safeguarding against plum pox virus and other pests that can devastate crops. Its use of genetic testing has revolutionized how plant diseases are detected.

“The Canadian Grapevine Certification Network (CGCN) is very pleased with the

renewed commitment to plant health and research by the federal government,” says Hans Buchler, research coordinator, British Columbia Wine Grape Council and chair, Canadian Grapevine Certification Network.

“We expect that the modernized CFIA facility in Sidney will greatly contribute to the mitigation of many viral diseases and other pathogens that currently threaten the Canadian grape sector. A first-generation plant repository combined with state-of-the art diagnostic tools and research will greatly enhance the sustainability of many agriculture sectors in the country.”

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CROSS COUNTRY DIGEST

NEW BRUNSWICK

# Seed potato growers win Atlantic Canada Outstanding Young Farmer Award

Seed potato growers Robert Anderson and Jill Ebbett have put Glassville, New Brunswick on the map. Situated east of Florenceville in the rolling hills, this busy couple stewards 250 acres of seed potatoes and another 650 acres of soybeans, oats and grasses.

“The number one consideration is to look after our ground,” says Anderson, a fourth-generation potato grower. “We have a three-year rotation and are pushing for four.”

As seed growers, they are looking for a firm, physiological-ly young tuber. Their market is local farmers who supply the McCain processing factory in Florenceville as well as table-stock farmers. Some goes for export to the eastern seaboard. All seed is contracted one year in advance. Recent upgrades include computer-controlled temperature and humidity in new storage facilities.

Wife Jill Ebbett is equally involved in the operation as bookkeeper, but also off the farm as customer service manager for McCain Foods. As the mother of four children -- aged eight, six, four and two -- she

keeps a hectic schedule.

“The most important thing to me,” says Anderson “is the happiness of the five women in my life. We want to raise four successful children who can be self-sufficient.”

As the 2018 Outstanding Young Farmer winners for the Atlantic Region, they will be competing at the national recognition event November 27-

December 2 in Winnipeg.

“No one is more deserving of the award than Robert and Jill!,” says Matt Hemphill, executive director, Potatoes New Brunswick (PNB). “I had the pleasure of working with Robert on several committees as well as the PNB board of directors. Robert is a forward thinker and is very deserving of these accolades!”



Robert Anderson and Jill Ebbett (centre) are flanked by OYF judges Liz Maynard and Bruce Rand.

## Food Incubators: An Opportunity to Increase Farm Income



Greenbelt Fund investments in local food production capacity making it easier to meet customer demand.

NOVA SCOTIA

# Winery project at Kentville

The Agriculture and Agri-Food Canada (AAFC) research centre in Kentville is renovating a lab workspace of 400 square metres to accommodate new grape and wine research. A new scientist, food-wine chemist Shawna MacKinnon has been hired to manage the lab which will be finished by year’s end.

The development is part of multi-dimensional research at the Kentville Centre to support Nova Scotia grape growers and vintners. The industry plans to increase vine acreage from 800 acres to 2000 acres by 2020. The intent is to evaluate grapes from local vineyards for use in wine production, processing and bottling.

The new facility will include spaces for the fermentation of white and red wines at a wide range of temperatures and volumes, a wine cellar, and a room where wine, created at the centre, can be tasted, tested and sampled by a panel.

Source: Agriculture and Agri-Food Canada

For farmers looking to diversify revenue and increase profits, valued-added products offer big returns but require big investments in equipment. New facilities are cropping up to provide farmers with access to industrial kitchens and packaging services. These incubators, accelerators and commercializers (IACs) are making it easier for farmers to grow their businesses without breaking the bank.

The Greenbelt Fund, a non-profit dedicated to increasing markets for local food, is getting behind these facilities to increase farm income and boost rural economies. Last spring, the Greenbelt Fund supported the Ontario Agri-food Venture Centre (OAFVC) with a \$32,400 investment. The OAFVC offers access to a fully-equipped commercial kitchen and packaging line, which is bringing more products to the market to meet growing demand.

“We believed that there was demand for a facility that could help support entrepreneurs and create second-source farm income for the agricultural community,” says Dan Borowec, Director of Economic Development and Tourism for Northumberland County, which operates the OAFVC. “One of our clients is a young woman out of Peterborough who produces a product called “Nice Cream”. It’s a product with no milk in it,

basically a whipped fruit product. She just got national distribution and has done quite well.”

The facility has seen tremendous demand, with clients needing more capacity. In particular demand was the liquid bottle filler – for sauces and cold drinks. The single-head filler wasn’t cutting it.

“We went to the Greenbelt Fund because we have clients who are moving towards the next stage of their growth and would benefit from having [an eight-head filler] to help them,” explains Borowec.

In Peterborough, Andi van Koeverden is expecting similar demand when the new Food Business Innovation Center opens at the Mount Community Centre this spring. With the support of a \$58,000 investment from the Greenbelt Fund, the facility aims to scale up production for farmers currently limited by what their own kitchens can handle.

“The Mount Community Centre’s Kitchen will offer food entrepreneurs and food producers the opportunity to step up their production in a larger environment, so that their recipes can be scaled for bigger batches and their productivities increased,” says van Koeverden, Director of Strategic Advancement. “Certified, industrial kitchens are an investment for certain,

so we are pleased to offer rental zones within to food producers and entrepreneurs, within our kitchen, to reduce their overhead costs and maximize their revenues.”

“We’re investing in these facilities because we see food incubators as a real opportunity to increase farm income.” — GREENBELT FUND

The Mount is hoping to help farmers quickly process vulnerable foods. For example, they already have interest from a local berry farm to batch off jams and jellies in large quantities to sell at the farm gate or farmers’ market throughout the year.

For the Greenbelt Fund, supporting IACs is about diversifying the local food market, increasing margins for producers and growing the local food economy.

“We’re investing in these facilities because we see food incubators as a real opportunity to increase farm income,” says Franco Naccarato, Program Manager at the Greenbelt Fund. “From developing and testing out products to scaling up production of already popular items, farmers can expand their offerings and extend their seasons by taking advantage of IACs. It’s all about supporting more local food across Ontario.”

The Greenbelt Fund changes the way we eat by investing in projects that bring more Ontario food to Ontarians’ plates, with financial support from the Government of Ontario.





CANADIAN PRODUCE MARKETING ASSOCIATION TRADE SHOW AND CONVENTION

New Product Showcase celebrates unique produce and packaging



KAREN DAVIDSON

**Vancouver, BC** -- Here is a curated selection of products which, in some cases, made their debut at the CPMA show in Vancouver.

**The Grower Give-Back-Pack – Red Hat Cooperative, Redcliff, Alberta**

The Grower Give-Back-Pack is a novel concept in marketing greenhouse produce. It’s a fresh, local multi-pack featuring undersized product, two short cucumbers, two 45-count tomatoes and two medium peppers packaged conveniently to take home or away for a weekend adventure. For every case sold in western Canadian Sobeys stores in the summer of 2017,

one case was donated to local area food banks. Mike Meinhardt, sales and marketing manager, Red Hat Cooperative shares how the idea germinated. “It started with a conversation with Sobeys on how to manage grower product that is perfectly good but does not size up to specifications,” says Meinhardt. “Sobeys had the idea of a variety pack. We both have a long-standing relationship with the food banks in western Canada so when the two ideas came together, the concept really took off.” The process for manufacturing this specific-use corrugated box was a challenge. “A box that showcases two 9.5-11-inch cucumbers, two large peppers and two 45-count beefsteak tomatoes with high-resolution graphics that could be run through a flow wrapper – it was one of the toughest packaging challenges we have had in a while.”

In the end, a design solution was found and the warehouse was able to adapt the flow packer to overwrap. The results were worth the effort. Red Hat Cooperative donated 350,000 pounds of produce to food banks across western Canada, exceeding the goal by more than 40 per cent. “We had incredible results,” says Meinhardt. “Great store, consumer and media reaction as well as TV and print coverage across western Canada. We also had enormous social media response from consumers.”

**Duet Pack – Windset Farms, Delta, BC**

The Duet Pack pairs supersweet mini-grape tomatoes with bite-size cucumbers.

**Continued on the next page**

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CANADIAN PRODUCE MARKETING ASSOCIATION TRADE SHOW AND CONVENTION

New Product Showcase celebrates unique produce and packaging

“We recognize the importance of building healthy eating habits at an early age,” says Shiho Uzawa, marketing manager, Windset Farms. “That’s why we introduced our snack pack options. Tiny bite-size cucumbers and tomatoes are not only flavourful but they are also very snackable. Just wash and pop them in your mouth!”

The packaging is resealable and recyclable. This product is making its debut at the CPMA trade show.

Village Farms is offering the product in 10-ounce clamshells.

Broken Ladder Pears & Peaches Cider – BC Tree Fruits

BC Tree Fruits Broken Ladder line is back with a new vintage: Pears & Peaches. With flavours of fresh stone fruit and floral notes, it’s refreshingly crisp with a tropical finish.



Organic Delicata squash – Bay Baby Produce, Burlington, Washington

Delicata squash is a variety of winter squash with cream-coloured cylindrical fruit striped in green or orange. As the name suggests, it has a delicate rind which is easier to peel than butternut squash.

Bay Baby Produce resides in the flatlands of the Skagit River Delta, where more than 420 acres of pumpkins and a wide variety of organic, edible squash are grown. Organic Delicata squash is marketed in a mesh bag. Each grab-and-go bag includes two Delicata squash with an easy-to-prepare pizza boat recipe.

Lorabella tomatoes – Village Farms, Delta, British Columbia

Lorabella tomatoes are a cousin to the original Italian San Marzano tomatoes. The vibrant bright orange colour attracts the consumer’s eye first, then bursts in the mouth with a unique citrus floral essence. That’s the “romance” copy from the Village Farms’ website.

It’s a versatile snacking tomato, but can also be roasted for a chunky sauce or grilled on kebabs.



CPMA CONVENTION + TRADE SHOW VANCOUVER 2018

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PROPAGATION

# What is clean seed production?

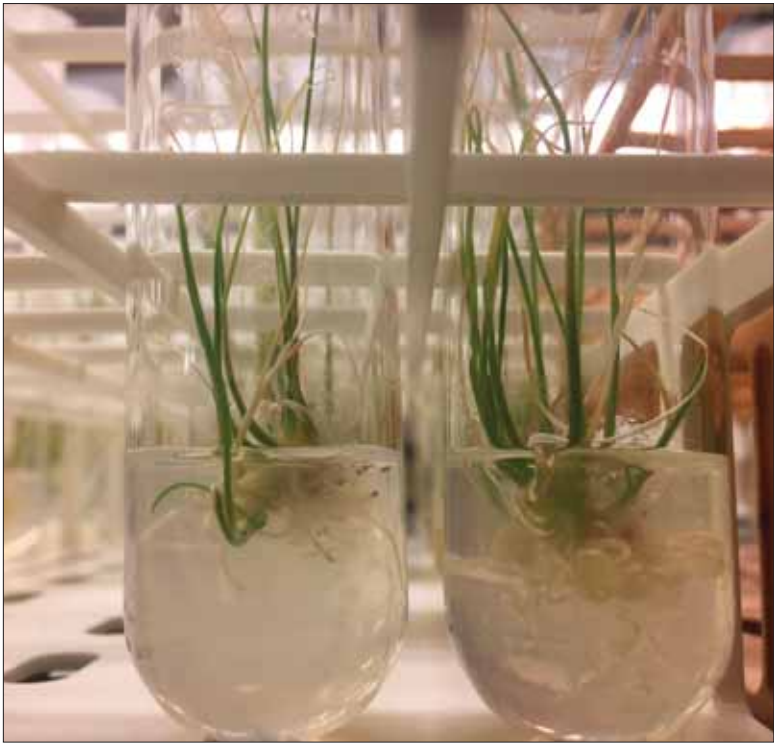


Figure 1. Virus-free garlic microplants



Figure 2. Garlic plants in the greenhouse



Figure 3. Cloves/roundels ready for the field



Figure 4. Potato minituber production

**This latitude (at New Liskeard) still experiences enough growing degree days for field trials, yet it is typically sheltered from the effects of the jet-stream throughout most of the growing season. This is important, as the jet-stream has been known to carry virus-transmitting aphids. This allows for the amplification of clean stock with a lower risk of virus infection.**

TRAVIS CRANMER &  
DENNIS VAN DYK

Vegetatively grown crops such as garlic, potatoes or strawberries are amplified not by seed, but asexually by clones, daughter tubers or cuttings. Unlike true seed production, the offspring of clones have a much higher potential to accumulate viruses and other pathogens in each progressive generation.

Virus infection is generally transmitted by insects such as aphids, thrips or leafhoppers. These insects have a stylet that pierces the plant's cells and if a virus is present, the virus can enter the insect's foregut and into the salivary glands. As the insect moves to a new plant and pierces it, some virus-infected saliva may be left behind from the previously visited plant. Virus symptoms don't always show up at first but can accumulate in clones after years

of production while not causing any visible symptoms and cannot be 'cured' with a pesticide application. They can still slow the plant down in other ways such as causing a yield drag or making the plant more susceptible to other stressors. Some crops, such as potatoes, have a certified seed program which is federally regulated and has set limits on how much disease and virus can be tolerated. There are also seed classes based on age and

disease/virus levels. Other smaller crops, such as garlic, do not have the same regulations; so seed is often reused indefinitely. In garlic, there is the option of growing out bulbils, the seed-like structure that is found in the scape in hardneck varieties. Growing the bulbils can clean the seed of nematodes, bulb mites, fungi and bacteria, but viruses are still found in this part of the plant. The Superior Plant Upgrading and Distribution

(SPUD) unit at the New Liskeard Agricultural Research Station, University of Guelph provides Ontario growers and researchers a unique resource to obtain truly clean seed for some vegetatively propagated crops. We recently had a chance to visit the SPUD unit which was established in 1983 to service the seed potato industry and is still in operation today. What is particularly unique about the research facility at New Liskeard is where it is located. This latitude still experiences enough growing degree days for field trials, yet it is typically sheltered from the effects of the jet-stream throughout most of the growing season. This is important, as the jet-stream has been known to carry virus-transmitting aphids. This allows for the amplification of clean stock with a lower risk of virus infection. In garlic, the cells of the meristem / shoot tip of a scape can grow faster than the virus can infect the cells. Meristem tips are cut and placed on a media and under lights and ideal conditions they grow without the rest of the plant present. A mass of cells, known as a differentiated callus, develops and root and shoot hormones are used to produce -- you guessed it -- roots and shoots. This plant tissue is then tested for viruses multiple times and if clean, these plants are then multiplied and used to create bulbs, called roundels, for field production. Clean 'Music' seed can be ordered through Warren Ham of August's Harvest and shipped directly to your farm from the SPUD unit. If you are looking to clean up your own garlic or potato cultivar through the SPUD unit, contact Candy Keith at [cakeith@uoguelph.ca](mailto:cakeith@uoguelph.ca) or 1 (705) 647-8525 ext 230. The process to 'clean' a new garlic cultivar may take between 36-48 months while for potatoes, it will depend on the cultivar and the space available at the SPUD unit based on currently ongoing projects. The University of Guelph, New Liskeard Agricultural Research Station is a unique and special resource that is available to Canadian growers. Since 1983, the SPUD Unit has helped create clean seed for many horticultural crops. It has been a breeding site for strawberries and a winter hardiness site for both strawberries and raspberries. Field production research has included trials for cucumber, tomato, sweet corn, bok choy, cauliflower, cabbage, broccoli, green beans and garlic. *Travis Cranmer is a vegetable crop specialist, OMAFRA. Dennis Van Dyk is a vegetable crop specialist, OMAFRA.*



POTATO PRODUCTION

# Answering questions about *Dickeya dianthicola* in potatoes

EUGENIA BANKS

Recently I received four questions about *Dickeya dianthicola*, the new blackleg, and I thought this is a topic of interest to all of you.

**Does *Dickeya* spread during seed-cutting?** It's not clear. Dr. Steve Johnson, University of Maine, has done laboratory studies that he talked about at the *Dickeya* Summit. He took infected tubers, cut them and then cut healthy tubers without disinfecting the knife. He did not see an increase of *Dickeya* diseased plants in the field when he planted the seed. Leigh Morrow from McCain questioned that. He said that in commercial farms, seed cutting would spread *Dickeya* easily, as easy as the old blackleg spreads during seed cutting. Disinfecting seed cutters often, is an important sanitation practice that helps to reduce the spread of pathogens that cause seed decay like the new and the old blackleg. Always disinfect seed cutters when starting a new seed lot.

**How long does *Dickeya* survive in water sources?** At the 2018 Potato Expo, a *Dickeya* researcher stated that the bacterium survives indefinitely in water sources. I double checked this with Dr. Gary Secor, North Dakota State University, who has done a lot of work with this new blackleg. Gary's estimate was three months to a maximum of one year in water sources.

His answer made sense to me.

**How long does *Dickeya* survive in soil?**

This bacterium survives no more than three months in soil, which is not long enough to be able to serve as a source of soil inoculum after a one-year rotation. Research is underway to confirm this under a range of soil conditions.

**Do *Dickeya* infected plants transmit the disease to surrounding healthy plants?**

When an infected tuber is planted, the bacteria are released into soil. Rain or irrigation water spread the bacteria which penetrate neighbouring potato roots, and subsequently move through the vascular system into daughter tubers. Other means of transmission include mechanical transmission via contaminated potato equipment, water and insects.

It is a fact that Ontario potato seed is free of *Dickeya*. If you plant Ontario seed and detect a couple of plants showing blackleg during the season, it is for sure the old blackleg. No worries.

Prevention and exclusionary practices that reduce the risk of introduction and spread of the old and new blackleg and any other seed decay pathogen are: washing and disinfecting equipment used for seed cutting, planting, spraying, harvesting and grading in fields and during storage.

*Eugenia Banks is a consultant to the Ontario Potato Board.*



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DIALOGUE

Re-imagining the conversation between farmers and urbanites



Tamar Haspel is an American journalist who has been on the food and science beat for almost two decades. Her monthly Washington Post column, *Unearthed*, won a James Beard Award in 2015. In April, she was a guest speaker at the Farm & Food Care Ontario annual general meeting where she took questions from Bruce Kelly, environmental program manager.

KAREN DAVIDSON

Tamar Haspel, a *Washington Post* columnist, spoke in Canada for the first time at the Farm & Food Care Ontario annual general meeting April 11. But it likely won't be her last. Her compelling message starts with a provocative

question: When was the last time you changed your mind? Perhaps it's hard to think of a recent example. Don't be sheepish. Look deep into your heart – and mind. “Yet, all of us go out in the world with the expectation that we can change other poor misguided people – if only they

knew what we knew – then they would change their minds,” said Haspel. As Haspel gently explained, it's not a function of right or wrong, whether you're a farmer or an activist. This is a function of being human. And how we make decisions, parse the evidence and consider the facts

is what we pretend to be rational. Her view of the world was impacted by a book called “The Righteous Mind” published in 2012 by Jonathan Haidt. The subtitle is: Why good people are divided by politics and religion. What Haidt says is that we act more by intuition than reason.

“Confirmation bias rules the human psyche,” said Haspel, a Cape Cod oyster farmer. “We seek information sources that share our values and confirm our views such as CNN or Fox News, social media friends and actual friends. The choice of media exacerbates this trend. You trust the news source which confirms that you are right.” Social media reinforces these trends because you attract people and follow people with similar views. This is an excellent way to filter out the facts that contradict your world view. Humans evolved in the absence of data without spreadsheets or agricultural journals. So our decision-making apparatus is optimized for an emotional response from personal experiences. It's not surprising that when data comes down the line, not much changes. Humans have elaborate ways to dismiss expertise. “We look for the experts who side with us,” said Haspel. “Climate change is an important case in point. In the U.S., what you believe about the risk of climate change is linked to your politics. Continued on next page

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DIALOGUE

Re-imagining the conversation between farmers and urbanites

One of the most pressing issues of our time is based on whether you voted Republican or Democratic.”

Interestingly, Haspel said that science doesn’t protect you. She’s had conversations with two highly regarded scientists about genetically modified organisms (GMOs). Both are well-educated and in good faith, have come to opposite conclusions.

“Educated citizens possess the cognitive skills to reject facts inconsistent with prior dispositions,” she said. “We see science through the prism of politics. And education seems to make it worse.”

Haspel described the American landscape where farmers are overwhelmingly Republican and how often farmers and ranchers clash with activists and journalists. She poked fun at her employer, the Washington Post – “a bastion of coastal elitism.”

“When I go to an Iowa corn farm, farmers distrust me,” she recounted. “So how can I have a conversation and break down barriers ? I talk about farming,

even if it’s something smaller like oysters. On my cell phone, I have a picture of the deer I shot last season. It’s not a cheap party trick. It’s a bona fide search for finding common ground.”

As a journalist, Haspel is in the truth discovery business. She’s very aware of the bias in every room. “I’m careful not to go down my own rabbit hole,” she said. “All I can do is make suggestions to others. I believe this is a problem we solve one person at a time. I don’t think people change their mind in an “aha” moment. It’s an organic process which can sometimes can take years.

Small steps toward better communication

1. **Be convinced.** Enter every conversation that this is the thing you could be wrong about. Think about what medicine, science and agriculture looked like 200 years ago. In 200 years from now, our current technology will look quaint. Take the long view of agriculture.

2. **Reconsider ‘bias.’** We all have it. It’s a necessary part of the human condition.

3. **Find the smartest person who disagrees with you, and listen.** Don’t approach any issue as an agnostic. Start with the strongest argument your opponent makes – and examine that.

4. **Drop ‘anti-science’** from your vocabulary.

5. **Vet your sources.** Manage your media.

6. **Reach across the aisle.** Mind-changing should be a metric of open-mindedness. Talk in a way that is not confrontational. Be kind. People persuade people.

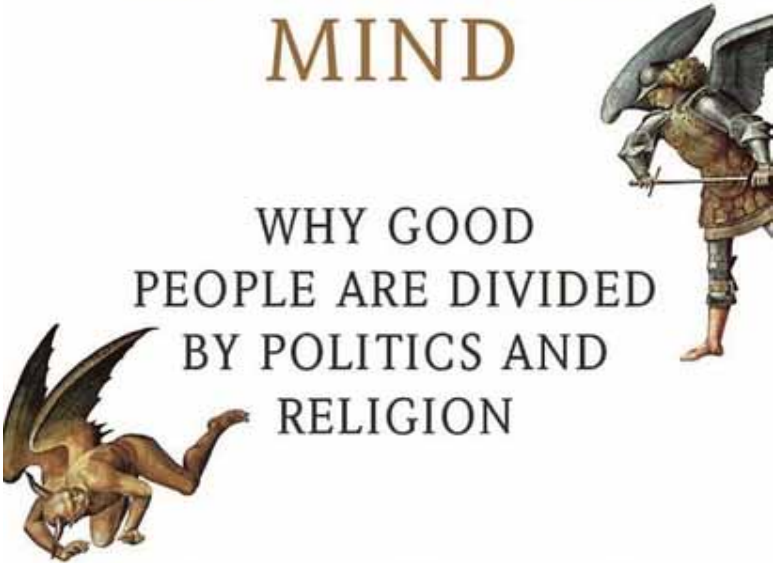
*Editor’s note: For interested readers, go to Tamar Haspel’s January 5, 2018 Washington Post column: Want to fix agriculture? Stop with the name calling and death threats at <https://wapo.st/2H7I8lq>*

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CHAIR'S PERSPECTIVE

Together for the common good



JAN VANDERHOUT  
CHAIR, OFVGA

As a greenhouse grower I spend some time dealing with issues specific to greenhouses through The Ontario Greenhouse Alliance (TOGA). It is very similar to the work we do at the Ontario Fruit and Vegetable Growers' Association (OFVGA) because we spend our time collaborating with government and regulators to find opportunities to make Ontario safer, stronger, and more vibrant. A current issue involves the boilers that heat our greenhouse farms and the ongoing safe operation of those boilers. TOGA has been working with the Technical

Safety Standards Association (TSSA) with a goal of keeping boilers safe with a minimal impact on business. TOGA is naturally in favour of keeping boiler plants safe especially with minimal impact on business.

Most large-scale heating plants in schools, universities and other large institutions are producing high-pressure steam, which is spread through the facilities by pipes which deliver the heat throughout the building or buildings on the site. Often operating at 150 pounds per square inch (PSI) of steam pressure, these boiler plants are attended by operating engineers to ensure the safe boiler operation largely because the water in a boiler producing steam at 150 PSI is 186°C. If that super-heated water escapes the pressure vessel it flashes into many times the volume of steam. Electricity generation stations are another example of plants that are attended by operating engineers.

On the small side of the scale many of our homes have water heaters which are small versions of the boilers we operate in greenhouses.

A question that is being

asked is: "If those large plants all need operating engineers in attendance, why are they not required in greenhouses, which increasingly have large boiler capacities?" There are numerous reasons why greenhouses are viewed differently when it comes to boiler operations. Greenhouse growers are operating their boilers at a much lower temperature than the high-pressure systems in attended plants. It has always been required that steam boilers in greenhouses operate at a maximum operating pressure of 15 PSI (a maximum temperature of 121°C). Today almost all boilers being installed on greenhouse farms are hot water systems operating below 100°C. This allows boilers to run safer and more efficiently since water at 100°C does not flash.

Greenhouses also differ from other industries because their systems are monitored through a central alarm system which will notify the operator in the event of any anomalies that indicate the malfunction of any boiler component. These are the same alarm systems that monitor greenhouse climate, electrical service, irrigation

along with all other critical greenhouse computer controls essential to the farm's ongoing production. Because heating is such a critical part of a greenhouse operation's success, boilers are well maintained to ensure that they will keep the farm warm through the cold winter months.

It is very important the greenhouse growers maintain the spotless record they have in terms of boiler and pressure vessel safety. Greenhouse operators must ensure that they operate their boilers in a safe and responsible way so the TSSA can be confident that greenhouse boiler operators are competent and know how to verify that controls and safety features are functioning properly and to shut down a boiler that may pose a risk. Operators need to ensure that a faulty boiler is repaired by a qualified service technician. What this really boils down to is that the safety of a boiler must never be compromised, and controls and safety features must never be bypassed.

I am certain that having operating engineers attend greenhouse plants is not

necessary nor particularly helpful. What would constructively improve the safety potential of our operations is a boiler operating training standard. Growers completed this type of training about 13 years ago and it was successful in ensuring that greenhouse operators understood the critical safety features of the boilers that they operate.

It is very important that The Ontario Greenhouse Alliance work closely with TSSA to find workable solutions to any safety concern. Greenhouse growers should be prepared to complete a boiler safety-training course and government should be watching to ensure that neither boiler safety nor business viability is hindered whatever the outcome. In July 2019, when the final regulations are scheduled to be in place, we will hopefully have another example of the good things that can be accomplished when government (in this case TSSA) and industry (TOGA) collaborate to find the most workable solution.

WEATHER VANE



By the end of the third week of April 2018, no growing degree days had been recorded in Ontario's Niagara peninsula." Based on our cold hardiness data and our VineAlert database that we have over the past decade, we are behind by a few weeks, " says Dr. Jim Willwerth, senior scientist, viticulture for the Cool Climate Oenology and Viticulture Institute. Last year, peach bloom was photographed on April 28, 2017 at Tregunno Orchards, Niagara-on-the-Lake.

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Tel. 519-763-8728 • Fax 519-763-6604

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

**\$30.00 (+ HST) /year in Canada**  
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## Ask candidates now about rural policies



So, candidates, how will you invest in rural Ontario?

# Bee pollination is a hot subject



Jim Hodgson,  
President, GROSPURT  
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KEY ISSUES

# The Ontario provincial election will soon be here!



Energy costs – to heat greenhouses for example – are a significant factor in the horticultural sector’s efforts to produce competitively priced products.



The sector’s competitiveness is reliant on the availability of a reliable, cost effective labour force.



GORDON STOCK

On June 7, 2018 Ontario residents will be heading to the polls. The Ontario Fruit and Vegetable Growers’ Association (OFVGA) continues to actively engage with candidates to ensure the interests of fruit and vegetable producers are heard. All stakeholders are encouraged to get involved as the province elects its next government.

How to get involved:

- Vote! Check your eligibility and ensure Elections Ontario has your correct information by visiting [www.elections.on.ca](http://www.elections.on.ca)
- Attend an all-candidates meeting in your riding
- Review, understand and question the platforms of candidates
- Make your local candidates aware of your concerns

Here are some general key messages that can be conveyed to ensure candidates are aware of the importance of the fruit and vegetable sector and impact of government policy:

- Ontario fruit and vegetable growers are proud to provide consumers with safe and affordable food while caring for the environment to ensure the long-term sustainability of supply.
- The fruit and vegetable sector is a significant contributor to Ontario’s economy, creating more than \$4.2 billion in economic activity annually, employing more

than 30,000 people directly on-farm, and generating more than \$600 million in tax revenue for all three levels of government.

- Given the size and breadth of the sector, policy decisions across a range of issues can dramatically impact the sector’s productivity and price competitiveness, hinder investment, and limit industry growth and economic contribution.
- The sector is committed to producing a safe and secure food supply and to compete as price takers in a demanding global market place; however, its success is dependent on a stable and predictable public policy and regulatory environment.
- The industry welcomes ongoing discussions and partnership with government to ensure policy decisions do not adversely impact the sustainability of Ontario’s fruit and vegetable farms.

The OFVGA believes labour and energy are the two key issues that should be addressed by the next government.

Labour

- The sector’s competitiveness is reliant on the availability of a reliable, cost effective labour force.
- The current government’s unexpected decision to increase the minimum wage by more than 29 per cent over a two-year period impedes the competitive-ness of the sector.

- A predictable method should be used for any future increases in minimum wage, such as the Consumer Price Index.

Energy

- To ensure a sustainable future, the sector needs access to reliable, affordable clean energy.
- Energy costs are a significant factor in the sector’s efforts to provide a competitively priced product; solutions to reduce energy costs are needed.
- The sector would benefit from the development of infrastructure to support the sector’s ability to access electricity and natural gas.

If you would like additional information or key messages on labour, energy or other issues such as environment and climate change policy, crop protection, market access and trade, or business risk management, please feel free to contact Gordon Stock at 519-767-6160 x125.

Always keep discussions with candidates professional; regardless of the outcome of the June election it is important that the industry maintains a positive working relationship with all political parties. The OFVGA looks forward to working with the next government to establish a strategy that ensures Ontario fruit and vegetable farmers can continue providing consumers with safe and affordable food.

*Gordon Stock is senior policy analyst and government relations, OFVGA.*

## COMING EVENTS 2018

May 3	AgScape Annual General Meeting, Gambrel Barn, Country Heritage Park, Milton, ON
May 11	Garlic Production and Protection Workshop, OMAFRA headquarters, Guelph, ON
May 27-31	10th World Potato Congress, Cusco, Peru
May 2	SIAL Canada, Palais des Congres, Montreal, QC
May 29	CPMA Food Safety Forum, Marriot Waterfront, Halifax, NS
May 30	Food & Beverage Ontario Annual Conference, Steam Whistle Brewery, Toronto, ON
May 31	2018 Ontario Potato Scout School, Holiday Inn, Guelph, ON
June 16	Garlic Growers of Ontario Information and Field Day, Jeff Rundalls’ farm, Durham, ON
June 25-27	United Fresh Convention, Chicago, IL
July 5	Haskap School, University of Saskatchewan, Saskatoon, SK
July 6	Haskap Field Day, University of Saskatchewan, Saskatoon, SK
July 16-18	Federal-Provincial-Territorial Agricultural Meetings, Vancouver, BC
July 17-18	Canadian Horticultural Council Apple Working Group Meeting, Summerland, BC
July 22-25	International Fruit Tree Association Summer Tour, Kelowna, BC
August 2	Nova Scotia Summer Orchard Tour, Kentville, NS
Aug 11-12	Perth Garlic Festival, Perth, ON
Aug 14-15	North American Strawberry Growers’ Association Summer Tour, Northern California (Watsonville)
August 17	Carrotfest, Bradford & District Memorial Community Centre, Bradford, ON
August 18	Garlic is Great Festival, Newmarket, ON
August 23	U.S. Apple Outlook and Marketing Conference, Swissotel, Chicago, ILL
Sept 5-7	Asia Fruit Logistica, Hong Kong
Sept 8-9	Stratford Garlic Festival, Rotary Complex, Stratford, ON
Sept 11-13	Canada’s Outdoor Farm Show, Woodstock, ON
Sept 16	Toronto Garlic Festival, Artscape Wynchwood Barns, Toronto, ON
Sept18-22	International Plowing Match and Rural Expo, Pain Court, ON
Sept 26-27	Canadian Food Law and Policy Conference, University of Laval, Laval, QC
October 3-4	Canadian Greenhouse Conference, Scotiabank Convention Centre, Niagara Falls, ON
Nov 2-11	Royal Agricultural Winter Fair, Enercare Centre, Toronto, ON
Nov 6-9	North American Strawberry Growers’ Association European tour, Netherlands & Belgium



MAKING MOVES

# Intermodal transport: complementary capacity for the produce industry



JENNIFER MORRIS

It may come as a surprise to some but rail used to be the primary mode that was used to move fresh fruits and vegetables. However, rail’s popularity started to decrease in the 1960s and even further when “just-in-time” inventory management became popular in the late ‘70s. In the 1990s the demand for rail and intermodal rebounded due to increasing fuel costs.

Intermodal is definitely increasing in volume. From 2010 – 2017, the number of trailers and containers shipped via intermodal rail increased approximately 35 per cent, according to the Intermodal Association of North America’s website (IANA). Intermodal is not meant to eliminate truck shipments but to use rail and trucking for their best properties and integrate them to improve efficiencies. The best supply-chain strategies employ several modes of transportation to ensure the most efficient and cost-effective results.

### How can intermodal services provide value?

### Technological advances

The perception of rail and intermodal transportation is that the level of control and visibility is less than that of a truck. Where that may have been a challenge in the past, with advancements in tracking technology, a container can be tracked on its own through all the stages of the trip. The transparency of the tracking can include things such as the temperature the container is running at, GPS coordinates and even let you know if the container has been bumped around. All of this can be monitored online by the customer in real-time.

### Increased efficiency

With some companies offering five-day refrigerated intermodal service from

California to New York, the thought that rail is an excessively longer option is no longer accurate. The changes to regulations in monitoring of hours (Electronic Logging Device mandate) mandate has made the transfers between trucks and rail more fluid and easier to predict.

### Environmental impact

Trains use one gallon of fuel to move one ton of freight an average of 405 miles and rail accounts for only nine per cent of total transportation related nitrogen dioxide emissions. Rail produces three to four times fewer emissions and is three times more fuel efficient. This option can help a company that is mindful of their environmental effect and the carbon footprint of their products.

### Cost reduction

Because a train can run 12,000 ft of railcars at once (100-200 containers/trailers) employing rail in your supply-chain will help with cost-reduction. Also intermodal and rail pricing tend to be more consistent throughout the year as opposed to trucking prices that have a seasonality that can be hard to predict. Consistency in pricing in transportation can help with consistent pricing for the end consumer.

In the future, with driver shortages increasing and possible technologies not being available fast enough, intermodal could be the option to bridge the gap to ensure supply and product reach the end consumer. Companies in the industry are already taking advantage of this option. Several Holland Marsh growers in Ontario use both rail and intermodal options to up their supply-chain game. More companies should take a step back from their current supply-chain and logistics strategy and see where they may be able to make changes. Even if something is working now, will it continue to be a viable option in three years? Five years?

*Jennifer Morris is president of Two Roads Logistics based in Toronto, Ontario. She is an international shipping and logistics consultant with 15 years of experience in produce transportation. Her passion for helping small and innovative businesses is a welcome addition to the Education Committee of the Canadian Produce Marketing Association. She holds a degree in psychology from the University of Windsor.*



Intermodal is definitely increasing in volume. From 2010 – 2017, the number of trailers and containers shipped via intermodal rail increased approximately 35 per cent.

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RETAIL NAVIGATOR

Responding to a reader: how to respond to customers



PETER CHAPMAN

We are going to take a break this month to address some interesting questions received from a reader in southwestern Ontario. He sells at farm markets and on the farm as pick-your-own.

What are some of the best ways to monitor customer satisfaction? Ideally we want return customers, however, if they are dissatisfied -- one bad experience perhaps -- they just won't come back. Can you bother your good customers too much with surveys, etc?

My experience has been that consumers like to provide their opinions and most appreciate being asked. Thank them when they participate and respond to the input. We know you cannot do everything they ask or you would be out of business. What people think they want and what they are willing to pay for are often two different things. If you are selling at farmers'

markets or your own farm, these consumers are more invested in you than the people who shop at the big grocery stores. They want to know where their food comes from. Getting their direct feedback is one of the great benefits of direct selling.

You should always have a purpose when doing consumer research. Keep it brief and make sure the questions or format will give the information you need to make your business better. Explore different methods: a few questions when you sell the product, on line surveys or a brief survey to be completed at home when they consume the product.

When you do ask for input, make sure you acknowledge it and react. You can contact people one-on-one or you can put up a sign to illustrate how you are responding. One of the great benefits of public acknowledgement is that everyone sees it and they all get the message you listen to your customers.

We are transitioning to organic -- can we really get a price bump for that? I do not want to be elitist and have higher prices that many people will not pay for -- we just want to sell safe, healthy food. How do we communicate our transition -- and our values regarding this -- to our customers?

Consumers expect to pay more for organic. To date,

industry has been able to maintain the standards for organic and most consumers see these products as more valuable. This does not mean they all buy them but they do recognize they are different and they would pay more. I do not see this as elitist -- I see it as consumers recognizing this production method costs more.

The demand for organics continues to be strong. I know every mainstream retailer would tell you they are looking for more organic product.

To understand the price increase that is sustainable I would recommend visiting your local stores to do some price checks. Compare organics to conventional to get an idea of the premium. It will be different by item and is impacted by many factors. Generally we would see a 15 to 25 per cent premium for organics. You should keep an eye on the pricing because it might change over time. As more organic product is available, the price will decrease and the gap will narrow.

Communicating your transition should come from the heart and with reasons for the change. If you believe this is better, explain why. Find creative ways to share your reasons in small doses. Consumers don't like to be lectured and they don't have time for too much information. Think of it as a billboard where you have three to five seconds to catch their attention.

Why do the grocery stores and restaurants get away with mis-labeling? For instance, the "Farmers Market" brand at Superstore, or Tim Horton's "Farmers Breakfast." These are anything but related to real farms, and are not genuine -- however they are able to capture that feeling for customers.

I think you answered your own question. They do this to capture the feeling with consumers. Farmer is one of the most trusted words in the English language. In a world where there seems to be more dishonourable professions all the time, marketers cling to the good options.

In the case of the Loblaw items, farmers produce these products. Many do have the farmer's photo on the package so you can determine where the product is grown. Farmers Market products are produced by real Canadian farmers who supply Loblaw. Recently I did see Farmer's Market grape tomatoes that were the product of Dominican Republic. If consumers take the time to figure this out, I believe it could erode the Farmers Market brand. Yes a farmer in the Dominican Republic produced them but the line has been positioned as 'local' or 'regional' with the marketing that supports it.

In the Tim Horton's example they are referring more to a style, which gives the connotation of healthy, hearty and wholesome. Consumers will have to be the judge of that. My advice would be to continue to promote your vision of farming to your customers and potential customers. Assuming you resonate with them and tell your story, they will support you.

As a pick-your-own farm, we go to markets partially to sell but also partially to encourage people to come to our farm for a visit. Is this a mixed message? Should we just focus on selling fruit at the market?

This should be a great message for your consumers. You are offering them convenience when you bring your products to markets and you are offering them an experience when they visit your farm. In both cases you want to sell your products but you are addressing different consumer needs with the options.

Consumers tell us they want to know where their food comes from. I would encourage you to promote both offerings at both places. Sometimes people have a day to spend with family and friends where a farm visit is

awesome and other days they have company coming for dinner and only time to make a trip to the farmers' market. Make sure they understand that they can get your products in both venues.

Thank you for taking the time to submit some questions!

If you have any questions about selling your products please give me a call at (902) 489-2900 or send me an email at peter@skufood.com. Next month we will explore on-line selling of food.



WHAT'S IN STORE?

Sobeys responding to consumers

This sign is appearing in Sobeys stores recently. I felt it was appropriate given the questions we had this month. Everyone selling to consumers needs to listen and respond accordingly.

As a supplier you should read this on your way in. You might learn something about changes to stores or departments. I see different messages in different stores. This one references a reline in the grocery department so this will be their most up-to-date plan-o-grams. If I was a grocery supplier, I would be back to visit to ensure the new plan-o-gram reflects the agreements I have with Sobeys.

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. peter@skufood.com

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FOCUS: STORAGE, CONTAINERS AND PACKAGING

Upscale packaging of potatoes deliver practical benefits

KAREN DAVIDSON

The packaging of potatoes is moving upscale to reflect premium products.

“Our packaging encourages consumers to eat the right potato with the right cooking method,” explains Brian Faulkner, vice-president sales and marketing for BC Fresh Vegetables. “We sell premium potatoes but there’s a wide variety of applications – oasting, mashing, boiling, baking. We want to make sure there’s some flexibility in how the consumer uses that bag of potatoes.”

Earlier this year, BC Fresh Vegetables, an independent company comprised of 30 family shareholders, introduced the Pacific family of potatoes: Pacific Sunset, Pacific Sunrise and Pacific Pearl. After several years of trials, the company is now satisfied that certain potato varieties will thrive in BC environmental conditions and soils. In particular, the Pacific Sunset variety is red-skinned and yellow-fleshed – ideal for roasting, but also mashing the next day for a different experience. It offers the ease of no peeling – just a light rinse before cooking is all that’s required.

Pacific Sunrise is known for its smooth rose-coloured skin, golden yellow flesh and once cooked, a buttery texture.

“Pacific Pearl is a white-fleshed variety that’s egg-shaped with shallow eyes,” says Faulkner. “We bought the western Canadian rights for 10 years.”

Retailers like the branding. The packaging offers the cues of the best cooking method and the taste and texture to be expected. Each of the Pacific family has a different colour coding that’s attractive in not only flyers, but on websites. With more consumers ordering online, branding of commodities and delivering consistency will be paramount for repeat purchases.

BC Fresh potatoes are packaged in regular polybags using select colours that simulate a metallic look. This is done by using different glossy and matte varnishes and also using a poly substrate that provides the right sheen as a starting point. The packaging provides a matte look while preventing light transmission that could green the potatoes in storage.

“On some of our other products such as Brussels sprouts, we are moving to controlled atmosphere packaging to extend shelf life on both retail and food service packs,” says

Faulkner. “We have partnered with Dr. Elizabeth Marston and Windham Packaging on some of our products but have not applied it to potatoes as of yet.

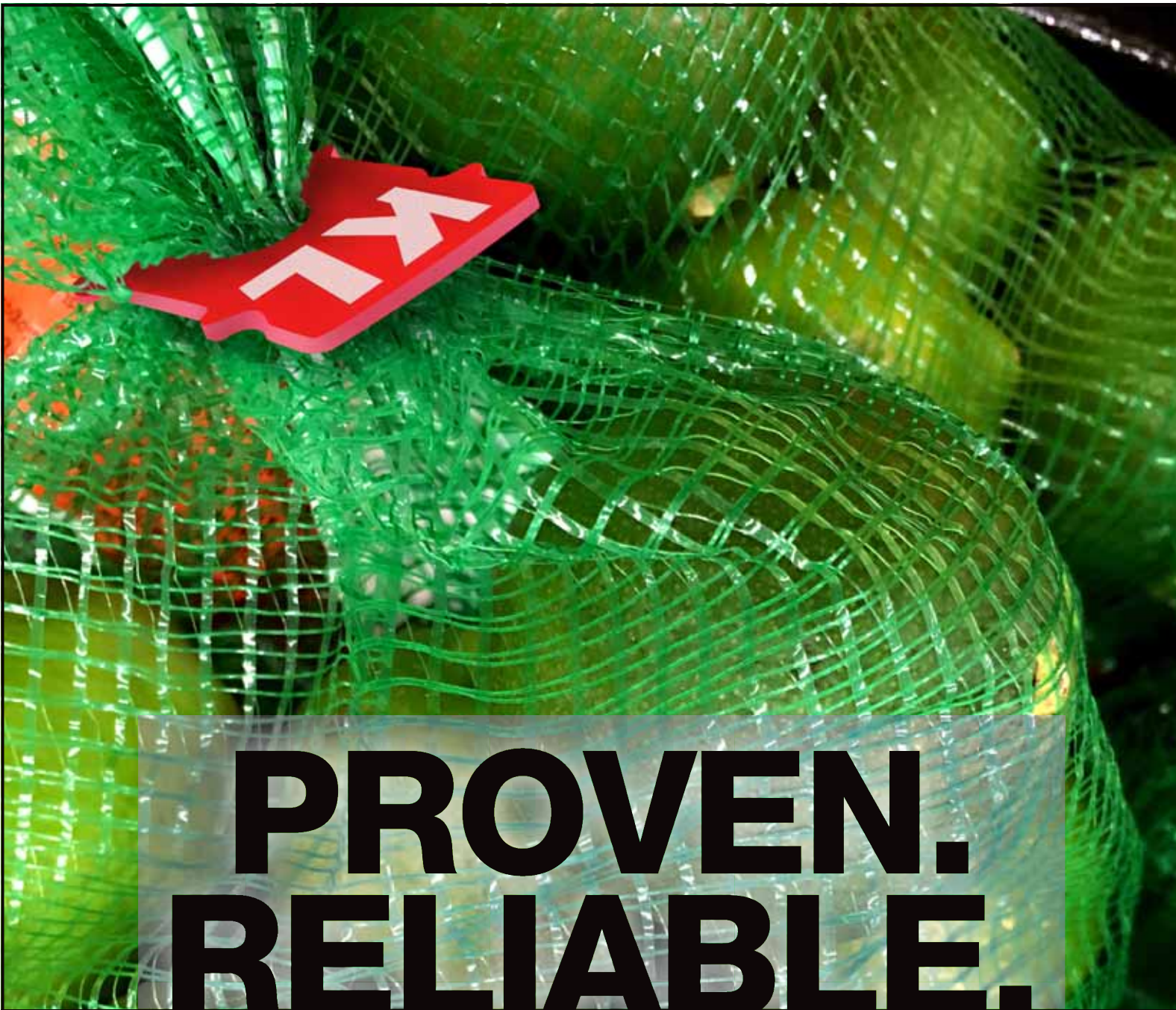
Every surface is a communications platform. BC Fresh has not overlooked the Kwik Lok closure. On one side is a logo celebrating the 25th anniversary of the company. On the other side, is the logo for CPMA’s Half Your Plate program.

BC Fresh Veggies sold 190 million pounds of fresh produce in 2017. Faulkner emphasizes that quality and consistency starts in the field, long before the product gets packaged. Subsoiling of fields and preparing the seedbed is the start of a process that reduces culls. Taking the hard edges off equipment – installing new belts for example -- is another



tactic for keeping potatoes unblemished. All of the farm families share their learnings for improvement so that the entire company gains.

Of the firm’s members, the oldest farm dates back to 1873. That’s a firm reputation to build on.



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FOCUS: STORAGE, CONTAINERS AND PACKAGING

# A new design for a squash box handles moisture and weight

Shaye Howard grows 12 varieties of squash, all needing safe transport from his Norfolk County farm to the Ontario Food Terminal and other distributors. With 125 acres of squash, 75 acres of zucchini and 50 acres of pumpkins, he’s very knowledgeable about container needs.

“My clients don’t want waxed cardboard because it’s not recyclable,” says Howard. “So I designed a corrugated box where the bottoms don’t fall out.”

His need is strength in the corrugated box, so that it can withstand the temperature changes of going in and out of a cooler. Those changes cause condensation.

“Water and cardboard are enemies,” says Howard. “We need a box with air flow and yet the ability to stack.”

So three years ago, Howard designed a box where the corner flaps are set at 45° angles. This allows the boxes to be stacked and if necessary fastened with binder twine or shrink wrapped. If a skid loader happens to nick the stack, the likelihood is that it will stay



John Pilatzke, Atlantic Packaging

intact. A vent hole is provided at the bottom of the box.

John Pilatzke, account manager, Atlantic Packaging, agreed to create the box from the pilot.

“Our company has a history of sustainability,” says Pilatzke. “It’s a family-owned, Canadian-owned company that’s never cut down a tree. We source only recyclable materials.”

The squash box has been such a success in the last three years that a new cabbage box will be introduced in 2018. Moving away from a waxed carton to a corrugated box is a significant move for a heavy-weight vegetable such as cabbage.

“The strength comes from the corners,” says Pilatzke. “I should add that Shaye Howard



can keep that box palletized in a cooler environment and run multiple trips to the terminal without seeing any crushing. He’s been able to stack a 36-

inch loaded pumpkin bin on top of the pallet of squash boxes and not experience any crushing.”

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FOCUS: STORAGE, CONTAINERS AND PACKAGING

# Preserving the integrity of the Foodland Ontario brand

*Editor’s note: Labelling and the presentation of produce don’t always follow the rules. Last December, I photographed Quebec potatoes in a Metro store in the Greater Toronto Area on a skid with a Foodland Ontario logo. I posed the following questions to the Ontario Ministry of Agriculture, Food and Rural Affairs. Media relations spokesperson Bianca Jamieson replied.*

1) Surely, this is not appropriate practice?

It is unfortunate that misplaced signage happens. Based on the photos in this instance, the Foodland Ontario point-of-sale material (the ‘bin card’ in the photo) was likely placed on the display unit in-store when Ontario potatoes occupied that space and was not removed when re-stocking occurred.

More than 1,500 producers, processors, retailers, and foodservice operators use the Foodland Ontario logo to promote and identify Ontario food products. The success of the Foodland Ontario program has been built by everyone working together from farm to fork, including growers, consumers and retailers. Retailers who support the program strive to adhere to the rules for placement and removal of materials.

2) What are Foodland Ontario’s recommendations for display at retail?

Foodland Ontario is a program designed to expand awareness about local food and encourage customers to support the good things that grow in Ontario. It is run through the Ministry of Agriculture, Food and Rural Affairs (OMARA), and through a recognized logo, helps to identify and promote the more than 200 diverse, local foods available in the province.

Retailers and producers may apply to use the logo if their product falls within the consumer and industry-approved definitions of Ontario food products. For more information about the definitions of Ontario food products, you may wish to visit: [www.ontario.ca/foodland/page/ontario-foods-definitions](http://www.ontario.ca/foodland/page/ontario-foods-definitions)

Retail grocery stores include this logo in their flyers, in-store displays and online as they realize that their customers are demanding food that was produced close to home. In addition, farmers’ markets and producers who sell from their farm proudly display the logo and feel that there is tremendous value in

communicating to the public that their food was locally produced.

Foodland Ontario’s merchandising team visit approximately 1,200 grocery stores throughout the province and make 12,000 face-to-face visits a year. This team places point-of-sale material in store to highlight Ontario product, assists retailers in their planning and promotion of Ontario produce through prominent in-season displays, and conducts measurements which help determine Ontario share-of-shelf and distribution for select commodities.

3) Who enforces the rules?

Foodland Ontario offers guidance on placement and use of the Foodland logo. Inspectors with OMAFRA’s Regulatory Compliance Unit (RCU) respond to complaints regarding the improper use of the Foodland logo. All complaints are taken seriously and assessed by the ministry’s RCU to determine an appropriate response. Anyone who believes Ontario food is being misrepresented should contact the ministry at 1-877-424-1300.

4) If a consumer sees faulty practices, who do they tell?

Anyone who believes produce is being misrepresented should contact the ministry at 1-877-424-1300.

Consumers can also empower their buying decisions by being aware of Ontario’s growing seasons ([www.ontario.ca/foodland/page/availability-guide](http://www.ontario.ca/foodland/page/availability-guide)) and by asking about the origin of their produce. Food processors, retailers, government, as well as consumers, all have a stake in maintaining the integrity of the food system.

5) To what degree do these infractions occur?

In the last two years, the ministry’s regulatory compliance unit has been notified of five instances related to the misrepresentation of origin for produce. Two of these were the result of public complaints and the rest were referred by other areas of the ministry or the result of inspector observations in the marketplace. All complaints are taken seriously and assessed by the ministry’s Regulatory Compliance Unit to determine an appropriate response.



Based on the photos in this instance, the Foodland Ontario point-of-sale material (the ‘bin card’ in the photo) was likely placed on the display unit in-store when Ontario potatoes occupied that space and was not removed when re-stocking occurred.

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FOCUS: STORAGE, CONTAINERS AND PACKAGING

Growers experiment with multiple methods of packaging apples



Stand-up pouches

The stand-up pouch has come into the marketplace in the last five years, thanks to the Washington State apple growers. In Ontario, apple packers have been eyeing the high-resolution graphics and how the packaging drives volume sales versus polybagged apples. Last year, a partnership between Bay Growers Inc., Knights Appleden Fruit Sales and the Norfolk Fruit Growers' Associatioin took the initiative for their own stand-up pouch called "Little Stars."

The 2.5 pound bag was offered for Ambrosia, Gala, Honeycrisp, McIntosh and organic apples. It has a gusseted bottom to provide the strength for a stand-up presentation. Priced at \$6.99 at retail, the offering was at a premium to a three-pound bag. It's a hand-packed and hand-sealed product.

"We're looking for more traction next season," says Tom O'Neill, general manager, Norfolk Fruit Growers' Association. "Bids are out to companies that are capable of this packaging."

To move to the next level, a specialty bagging machine will be needed to reduce labour costs and to increase volumes.

Fibre trays

Wellington Produce Packaging Ltd – formerly known as Wellington Wood Products -- offers fibre apple trays to those looking for recyclable packaging. The trays are formed to fit different sized apples. For example, 100 apples with a diameter of 3 1/8 inch will fit a #100-count tray. Cradled in their individual nest-ing spots, apples are not as prone to bruising.

"We've come a long way



from the bushel basket," says Adam Hincks, sales and purchasing, Wellington Produce Packaging. "Our most popular sizes are #100, #133, #125 and #88 count trays."

One of the issues for growers is to have enough space for inventory. Wellington Produce Packaging can provide next-day delivery. The fibre trays are designed for high-end packers who are delivering hand-packed product. The apple presentation speaks to quality and food safety.

Wooden baskets

Another trend for on-farm marketers is the return to three-litre cardboard corrugated baskets with a wooden handle.

"What is old is new again," explains Hincks. It's a way to remind consumers of apple-picking in their childhoods.

Wellington Wood Products – the family-owned, Canadian-

born company started in 1972 -- has recently rebranded as Wellington Produce Packaging. The name reflects the diverse offerings of packaging for produce.

Handle bag

Giro Pack, Inc has introduced a new handle bag that's easy to grab for busy shoppers, while offering more content breathability and visibility due to the net sides. The bag's horizontal orientation makes it easier for consumers to see, touch and smell the fruit in a eye-catching display in-store.

This packaging is also a nod to convenience and environ-mentally-friendly packaging and is ideal for organic packers who want less plastic compared to that of pouches and polybags. This bag was featured at the Canadian Produce Marketing Association New Product Showcase.





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FOCUS: STORAGE, CONTAINERS AND PACKAGING

# Farm Products Containers Act benefits Canada’s edible horticulture industry

DAN TUKENDORF

If you sell, resell or purchase packaging that is used to market Ontario-grown fruit and vegetables then you are likely aware of the Farm Products Containers Act (FPCA) container fee that is applied. The 1.5 per cent container fee is submitted and managed by the Ontario Fruit and Vegetable Growers’ Association (OFVGA) on behalf of the edible horticulture industry in Ontario.

The OFVGA represents Ontario’s fruit, vegetable and greenhouse vegetable industry on behalf of 28 provincial organizations representing more than 7,500 farmers. The container fee allows the OFVGA to advocate for the industry in several key areas such as crop protection, safety net programs and labour to ensure farmers have the tools and programs they need to remain competitive and sustainable. OFVGA’s work on crop protection and labour files benefits

not only Ontario farmers but also makes an impact across Canada. OFVGA board members and staff are leaders in the industry and sit on national crop protection and labour committees that engage with key government policy makers. The container fee also benefits the Ontario commodity organizations for apples, berries, grapes, tender fruit, asparagus, field and greenhouse vegetables, potatoes and ginseng. The OFVGA financially supports research priorities and promotional activities to these organizations as a direct result of their farmers’ support of the FPCA. The FPCA applies to most packaging purchased both domestically and internationally that is used to market Ontario-grown fruits and vegetables such as master shipping cartons for on-farm retail or wholesale sales and any “packaging that the end consumer would receive. Exempted containers include field boxes or crates, bulk bins, or any containers that are only for on-farm use and would not



be sent to market. If purchasers are not being charged the container fee for domestic packaging purchases or if they purchase packaging internationally they must self-remit the container fee to the OFVGA directly. To ensure all stakeholders in the industry are

following their responsibilities under the FPCA, the OFVGA coordinates annual third-party audits to identify any irregularities. Anyone interested in more details about the FPCA can contact OFVGA program manager Dan Tukendorf at

dtukendorf@ofvga.org or 519-763-6160 at extension 121. Dan Tukendorf is program manager, OFVGA.

Photos by Glenn Lowson

## NNZ offers diversity of packaging



At the Fruit Logistica trade show held February 7-9, 2018 in Berlin, Germany, NNZ treated its visitors with a wide choice of packaging for fresh produce and delicious fresh produce based-snacks. Meal solutions packs and cooking in the pack: • Carry-Box, innovative cardboard bag with film windows for retail packaging of meal ingredients for curry, lasagna, tomato soup etc. • Aluminum trays, known from its use in catering, is finding their way to the supermarkets as oven-able (hot air and microwave) pack for peppers and small potatoes. • Folio-Fresh vacuum film bag with red beets cooked in the bag, ready for use. Packs for snacking fresh produce: • Multi-tray PET Cans, with

the appearance of a soft drink can, is a combination of a transparent can and lid, considered by many a perfect distinctive retail pack for berries and tomatoes. And of course, the lid can be designed to allow for stacking packs on the shelf. • Multi Tray PP Bucket, appealing with its colourful print, fits the trend for larger packs for snack fresh produce. • Tiny-Smart, commercialized for berries at McDonalds in Scandinavia fits a handful of berries. Complemented with a retail-ready display, this pack type was considered a refreshing and joyful pack. Compostable, biodegradable, recyclable, and/or re-usable packs: • Bio Paper-Vento, a sustainable, next generation of Paper-Vento which is 100 per cent compostable, biodegradable and recyclable, uses water-based inks. • Kiw-bee, with its Frisbee bottom and a lid designed to fit six kiwis, received much attention as a distinctive retail pack, with additional re-use benefits. The lid can be designed to your wishes to fit any other type of fresh produce. • Earth Cycle tray, appealed to the audience for its sustainable pulp tray with its option for top sealing.

• Apple-Set, a fully recyclable and mono material cardboard tray which can hold and protect

vulnerable fresh produce such as apples.

Source: NNZ February 12, 2018 news release

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FOCUS: STORAGE, CONTAINERS AND PACKAGING

Storage advice for the mystifying ‘Honeycrisp’ apple



Bitter pit and peel blotch



Internal CO2 injury



Diffuse flesh browning



Soft scald



Soggy breakdown

Photos by Jennifer DeEll

DR. JENNIFER DeELL

‘Honeycrisp’ is a premium apple, for which there is continual advancement in understanding its complex postharvest behaviour. Below is a summary of the current thinking to best maintain ‘Honeycrisp’ quality and reduce fruit loss during storage.

Harvesting at proper fruit maturity is the first thing necessary to maximize storage life and maintain good quality apples. However, determining the optimum harvest maturity for ‘Honeycrisp’ is difficult. Standard maturity indices, such as internal ethylene concentration, starch index, soluble solids concentration and fruit firmness are not always

consistent. In general, harvest should occur when the ground colour begins to change from green to yellow and the starch index is around five to six (on the Cornell chart). It is important to note that differences in maturity do not always exist among ‘Honeycrisp’ apples with varying levels of red colour. For example, brilliant red fruit can exhibit very similar internal ethylene concentrations, starch content, and firmness values as those having poor red colouration.

Immature ‘Honeycrisp’ harvested too early will not ripen properly and those fruit do not develop good flavour and quality characteristics. Conversely, late harvested or over-mature ‘Honeycrisp’ can develop fermentation products, such as ethanol and acetaldehyde, which cause undesirable flavours and poor fruit quality. ‘Honeycrisp’ harvested at advanced maturity are also more prone to several major disorders.

Prior to cold storage, conditioning at 10°C for one week is recommended to reduce the incidence of soft scald and soggy breakdown. Soft scald is a major chilling-related disorder that is characterized by sharply defined, irregularly shaped, smooth, brown lesions of the skin. Peel tissue is initially affected and then hypodermal tissue is damaged as the disorder continues to develop. Skin lesions are often then invaded by secondary pathogens and disease. Soggy breakdown is another major chilling-related disorder, which is distinguished by moist, soft, brown, spongy flesh tissue, which can form complete rings in severe cases. Apples harvested at advanced maturity are more susceptible to soft scald and soggy breakdown, while chilling temperatures in the orchard before harvest will further promote development. Both disorders have been found in ‘Honeycrisp’ apples prior to harvest.

Conditioning ‘Honeycrisp’

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

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

‘Honeycrisp’ can also develop peel blotch or lenticel blotch pit. This disorder is similar to both bitter pit and lenticel breakdown, characterized by irregular shaped sunken patches around lenticels. Larger lesions often coalesce and it is more common around the calyx end like bitter pit. Peel blotch severity increases with extended storage durations and warmer temperatures, and it can be exacerbated by 1-methylcyclopropene (1-MCP).

After conditioning at 10°C for one week, ‘Honeycrisp’ should be stored at 3°C. Controlled atmosphere (CA) storage is becoming more common for long-term storage of ‘Honeycrisp’ and there has been success using 3% O<sub>2</sub> and 1-1.5% CO<sub>2</sub> at 3°C. CA tends to substantially reduce greasiness and senescent-related disorders, as well as maintain fruit acidity.

‘Honeycrisp’ is very sensitive to CO<sub>2</sub>, so unfortunately CO<sub>2</sub>-related disorders can easily develop (i.e. internal CO<sub>2</sub> injury with or without flesh cavities). Delaying the establishment of CA storage for one to two months has been shown to reduce these disorders. Treatment with diphenylamine (DPA) can also decrease the incidence of CO<sub>2</sub> injury in ‘Honeycrisp’ apples.

Ethylene production, respiration, and greasiness can be reduced by postharvest application of 1 MCP (i.e. SmartFresh) on ‘Honeycrisp.’ 1-MCP tends to be slightly more effective when applied at the onset of the conditioning period at 10°C, compared to after that one-week period. However, always be aware of any CO<sub>2</sub> accumulation during the 1-MCP treatment, as this has potential to cause CO<sub>2</sub> injury even though in air storage. There is little loss of firmness in ‘Honeycrisp’ during short-term storage (i.e. four months), so any improved firmness retention caused by 1-MCP treatment may only become apparent during later months of storage.

Acknowledgements

Thanks to the Ontario Apple Growers, Apple Marketers’ Association of Ontario, Les producteurs de pommes du Québec, AgroFresh Inc., and Storage Control Systems Inc. for their support; as well as to Norfolk Fruit Growers’ Association and Pommes Philip Cassidy Inc. for their direct collaboration. Recent work pertaining to ‘Honeycrisp’ storage has been funded in part through Growing Forward 2, as part of the Canadian Agri-Science Cluster for Horticulture 2 and the Agri-Innovation program in partnership with Agriculture and Agri-Food Canada and the Canadian Horticultural Council.

Dr. Jennifer DeEll is fresh market quality specialist – horticultural crops, OMAFRA, Simcoe, Ontario.

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FOCUS: STORAGE, CONTAINERS AND PACKAGING

# Study confirms cleanliness of corrugated shipping containers

Single-use corrugated minimizes risk of contamination, supporting food safety

Periodic testing performed to a protocol designed by food safety, microbiology and toxicology experts from the University of California-Davis and Haley & Aldrich, and sponsored by the corrugated industry confirms corrugated containers used to transport fresh produce are safe and clean.

"Ninety-nine percent of the samples evaluated were well below the sanitation levels of 1000 colony forming units (CFU) per swab for the organisms tested," said Maryann Sanders, product stewardship leader and microbiologist.

Conducted as a follow-up to prior industry wide corrugated container cleanliness studies performed in 2014 (initial) and 2016 (annual), the study examined corrugated containers from various manufacturers, at three separate end-user locations, for the presence of two pathogenic indicator organisms: Enterobacteriaceae and thermotolerant coliforms.

"The data show continued due diligence on the part of individual manufacturers and the corrugated industry to mitigate potential sources of contamination and provide clean containers," said Dennis Colley, executive director of the Corrugated Packaging Alliance.

"Corrugated containers are used once before they are recovered for recycling, which eliminates the potential for lingering contamination that can result from multi-use shipping containers. After use, 90 per cent of corrugated containers are returned to the paper mill for recycling, where high temperatures effectively kill any bacteria that may have been transferred from the product," Colley explained.

The 1000 CFU per swab threshold used in the study was defined by Dr. Keith Warriner, a food science professor at the University of Guelph. The U.S. Food and Drug Administration has not established guidelines for allowable microbial levels on packaging or fresh produce.

Visit CPA on the web at [www.corrugated.org](http://www.corrugated.org) and follow us on Twitter: @corrugatedpkg.

Source: Corrugated Packaging Alliance March 22, 2018 news release



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KRISTEN OBEID

# Ontario Berry Grower



## Raspberry herbicide options

The cooler weather this spring has slowed growth in perennial crops like raspberries. Before new raspberry shoots appear there are several pre-emergence, post-emergence and broad spectrum herbicides that can be applied.

Below is a table that provides herbicide options for new and established raspberry plantings. Each row in the table provides rotation alternatives for your management program.

*Kristen Obeid is weed management program lead- horticulture, OMAFRA*

Crop Age	Fall	Late Fall / Winter	Spring	Summer
Newly Planted	Glyphosate (Preplant)		Devrinol (once soil settles after transplanting); Poast <b>OR</b> Venture (as needed).	Gramoxone <sup>1</sup> (May or June), Poast <b>OR</b> Venture (as needed). Shallow cultivation may be used as well.
Established 1 or More Years	Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar		Authority  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar		Devrinol  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Chateau		Sinbar + Devrinol  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Chateau		Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Devrinol		Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Gramoxone <sup>1</sup> ; Poast <b>OR</b> Venture (as needed).	Casoron	Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)
Established 1 or More Years	Princep Nine-T <b>OR</b> Simazine <b>OR</b> Simadex <b>OR</b> Sinbar		Gramoxone <sup>1</sup> (as needed); Poast <b>OR</b> Venture (as needed).  Ignite <b>OR</b> Aim for primocane control (Late Spring)	2,4-D (as needed); Poast <b>OR</b> Venture (as needed)



ONTARIO BERRY NEWS

Raspberry herbicide options

Pre-emergence	Herbicide Group # PCP #	REI / PHI / Rainfast / Max Applications	Weeds Controlled
Authority	Group #: 14 PCP #: 29012	REI: 12 hours PHI: 3 days Rainfast: moisture required Max Applications: 1	G & BL: <b>wild buckwheat</b> , kochia, lamb's-quarters, redroot pigweed, cleavers, powell (green) pigweed, Eastern black nightshade, common waterhemp, smooth crabgrass, large crabgrass, <b>yellow woodsorrel</b> , <b>common groundsel</b> and <b>common purslane</b>
Casoron	Group #: 20 PCP #: 12533	REI: 12 hours PHI: 100 days Rainfast: moisture required Max Applications: 1 every other year (if using high rate)	G & BL: annual bluegrass, foxtail species, pigweed species, artemisia <sup>2</sup> , <b>groundsel</b> , <b>plantain</b> , <b>bindweed</b> <sup>2</sup> , horsetail, purslane, bittercress, grasses (sedges and juncus species), sheep sorrel <sup>2</sup> , blue aster, knotweed, shepherd's-purse, bracken fern, kochia, <b>smartweed species (lady's-thumb)</b> , Canada thistle <sup>2</sup> , lamb's-quarters, sow thistle, <b>chickweed</b> , loosestrife, spurge species, crabgrass species, mustard species, vetch species <sup>2</sup> , quack grass <sup>2</sup> , nutsedge <sup>2</sup> , wild buckwheat <sup>2</sup> , dandelion <sup>2</sup>
Chateau	Group #: 14 PCP #: 29231	REI: 12 hours PHI: 7 days Rainfast: moisture required Max Applications: 2	G & BL: redroot pigweed, green pigweed, common ragweed, common lamb's-quarters, green foxtail, <b>hairy nightshade</b> , dandelion, <b>Eastern black nightshade</b> , kochia, <b>Canada fleabane</b>
Devrinol	Group #: 15 PCP #: 31081	REI: 12 hours PHI: not stated Rainfast: moisture required Max Applications: 1	G & BL: annual bluegrass, barnyard grass, fall panicum, foxtail species, goosegrass, large crabgrass, sandbur, wild oats, chickweed, small-flowered mallow <sup>3</sup> , annual sow-thistle, carpetweed, common ragweed <sup>3</sup> , <b>groundsel</b> , <b>pineapple weed</b> , redroot pigweed, prickly lettuce, <b>prostrate knotweed</b> , <b>purslane</b> , storks bill, lamb's-quarters <sup>3</sup> Suppression only
Princep Nine-T or Simazine or Simadex	Group #: 5 PCP #: 16370 or 15902 or 23181	REI: 12 hours PHI: not stated Rainfast: moisture required Max Applications: 1	G & BL: lady's-thumb, volunteer clovers, lamb's-quarters <sup>4</sup> , barnyard grass, purslane, crabgrass, ragweed <sup>4</sup> , wild oats, wild buckwheat, yellow foxtail, smartweed, perennial species starting from seed, <b>good on common annual grasses and broadleaves</b> <sup>4</sup> resistant species exist in Ontario to this herbicide group
Sinbar	Group #: 5 PCP #: 30082	REI: 12 hours PHI: 70 days Rainfast: moisture required Max Applications: 1	G & BL: barnyard grass, bluegrass, crabgrass, foxtail, chickweed, downy brome, perennial rye grass, wild barley, <b>mustard</b> , <b>prickly lettuce</b> , <b>stinkweed</b> , annual sowthistle, <b>henbit</b> , lamb's-quarters, pigweed, <b>purslane</b> , ragweed, quackgrass <sup>3</sup> , horsetnettle <sup>3</sup> , yellow nutsedge <sup>3</sup> Best results when applied pre-emergence, but can be applied to weeds up to 5 cm tall (post emergence).
Post-emergence			
2,4-D <sup>5</sup>	Group #: 4 PCP #: see label	REI: 12 hours PHI: not stated Rainfast: 1 day Max Applications: 2	BL: <b>plantains</b> , <b>dandelion</b> , <b>curled dock</b> , <b>mustards</b> , redroot pigweed, prostate pigweed, russian pigweed, common ragweed, shepherd's purse, lamb's-quarters, <b>stinkweed</b> , <b>cocklebur</b> , <b>prickly lettuce</b> , narrow-leaved hawk's beard (fall rosette or spring at 1-2 leaf stage), <b>russian thistle</b> , <b>seedling sow thistle</b> and <b>seedling Canada thistle</b>
Poast Ultra + Merge Adjuvant	Group #: 1 PCP #: 24835	REI: 12 hours PHI: 37 days Rainfast: 1 hour Max Applications: not stated	G: barnyard grass, crabgrass (large), fall panicum, foxtail (green/yellow; wild millet), persian darnel, proso millet, volunteer corn, witchgrass, wild oats, volunteer barley, volunteer wheat
Venture	Group #: 1 PCP #: 21209	REI: 12 hours PHI: 30 days Rainfast: 2 hours Max Applications: 2	G: volunteer corn, Johnson grass, Persian darnel, barnyard grass, volunteer spring wheat and spring barley, wild oats, wild proso millet, crabgrass, fall panicum, old witchgrass, green, yellow and giant foxtail, quackgrass (top growth suppression only), wirestem muhly Does not control fescue species, bluegrass species or sedges including nutsedge.
Broad Spectrum			
Aim <sup>5</sup>	Group #: 14 PCP #: 28573	REI: 12 hours PHI: 1 day Rainfast: 2 hours Max Applications: 1	For primocane control in late spring and control of emerged weeds at time of treatment.
Gramoxone <sup>1,5</sup>	Group #: 22 PCP #: 8661	REI: 12 hours PHI: not stated Rainfast: not stated Max Applications: not stated	G & BL: control of many grasses and broadleaf weeds. Perennial weeds may require a second application
Ignite <sup>5</sup>	Group #: 10 PCP #: 28532	REI: 24 hours PHI: not stated Rainfast: 4 hours Max Applications: not stated	For primocane control in late spring and control of emerged weeds at time of treatment.



<sup>1</sup>Gramoxone is no longer being sold and can only be used until December 31, 2018.  
<sup>2</sup>Controlled with the higher rates and late fall applications.  
<sup>3</sup>Suppression only  
<sup>4</sup>Resistant species exist in Ontario to this herbicide group  
<sup>5</sup>Spot or hooded applications recommended.  
**Weeds in bold are harder to control common weeds in caneberry fields.**  
G = grasses  
BL = broadleaves

**Pre-emergence herbicide application** – helps to control weeds before they emerge. Pre-emergence herbicides typically require ½ inch of rain or irrigation to be activated.  
  
**Post-emergence herbicide application** – helps to control weeds once they have emerged and begin to grow. This will ensure rows remain weed-free throughout the season.

**Broad-spectrum herbicide application** – controls a wide range of annual and perennial weeds.



ONTARIO VEG NEWS

Swede midge is often mistaken for bacterial rot in Brassicas



Figure 1. Multi-headed cabbage plant – OMAFRA



Figure 2. Swede midge damage on kale – photo courtesy of A. Quinn



Figure 3. Swede midge damage on broccoli – OMAFRA



Figure 4. Swede midge larvae on red cabbage – OMAFRA

TRAVIS CRANMER & HANNAH FRASER

Swede midge (SM; *Contarinia nasturtii*) is an invasive, gall-forming dipteran pest that was first identified in Canada on an Ontario farm near in York region in 2000. It has since spread to several other Canadian provinces and American states. The SM targets Brassica crops including broccoli, Brussels sprouts, cabbage, cauliflower, kale, Asian brassicas, and canola. Cruciferous weeds act as hosts and their presence can maintain populations of swede midge even when no crops are present. Damage varies depending on the age of the plant, but in the case

of head brassicas, the result is often no marketable yield. The adult SM is a tiny two mm, tan coloured fly. It overwinters as a cocooned pre-pupa in the top few centimeters of the soil. New adults emerge in late-May to mid-June, although some overwintering individuals do not emerge until August, and some pre-pupa remain in the soil for up to two years. There are multiple and often overlapping generations per year, with numbers increasing as the season progresses. Mated females lay clusters of small translucent eggs in tender new growth of hosts. Eggs hatch soon thereafter. Larvae secrete enzymes that break down plant cells and then feed on the liquid contents. Their presence and feeding causes the plant to form characteristic swollen galls, multiple heads, and distorted and twisted tissue (Figure 1). Infested growing tips often look somewhat moist or rotten. Feeding injury opens up the plant to secondary pathogens, causing rot-like symptoms in the meristem (Figure 2 & 3). Since there can be other causes of these symptoms (mechanical injury, molybdenum deficiency, herbicide injury, etc.) open up the growing tip or other suspect tissues and look for three-to four-mm white to yellow coloured larvae (Figure 4). Use a hand lens if necessary. Management of SM requires an integrated approach that includes:

- Crop rotation to non-brassica of at least two years (and prefer-

- ably three years) can help reduce SM populations (“host free period”). Management of cruciferous weed hosts must also be considered.
- Use pheromone traps to determine SM activity and pest pressure. Three to four baited Jackson traps can be used to determine when adults are present in the field and to time pesticide applications. An action threshold of one male per trap per day (average) has been developed for broccoli and five males per trap per day for cabbage.
- Time insecticide sprays carefully to take advantage of the short window of time available for control. Larvae feed in protected spaces that are not accessible to contact insecticides.
- Rotate between chemical classes to delay the development of resistance. Multiple insecticides are registered for swede midge management, but the Brassica crops they are registered on vary. Always double-check the label and ensure the chemical is registered on the Brassica crop of concern.

- Plant Brassica crops as far away as possible from areas where they were planted in the last year or two. The SM adult is a short-lived weak flyer, and typically does not move more than one km from where it emerged.
- Plant clean material and don’t move SM on your boots or farm equipment. Infested transplants can be a source of SM, so examine them prior to planting. Work infested fields last, and remove any soil from footwear and equipment.

Other strategies, including the use of exclusion netting, entomopathogenic nematodes, and biopesticides, have also been evaluated as alternative tools. For more information, see the OMAFRA Factsheet “The Swede Midge - A Pest of Crucifer Crops” and follow ONVegetables.com for up to date information about swede midge and other vegetable news.

*Travis Cranmer is a vegetable crops specialist for OMAFRA. Hannah Fraser is an entomologist, Horticulture, for OMAFRA.*

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**MINOR USE**

**Luna Sensation available**

Bayer announces the launch of Luna Sensation fungicide in Canada for stone fruit, root vegetables, cucurbit vegetables, leafy green vegetables, leafy petiole vegetables, brassica vegetables and hops. The foliar product is a co-formulation of two fungicide modes of action, a unique Group 7 SDHI (fluopyram) and a proven Group 11 (trifloxystrobin) to deliver superior disease control, resulting in higher yields and exceptional fruit quality.

Luna Sensation is a systemic fungicide that targets highly problematic diseases such as sclerotinia rot, powdery mildew, and monilinia.

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The addition of Luna Sensation from Bayer extends the

trusted protection of the Luna brand to a broader range of crops:

- Luna Tranquility, a Group 7 and Group 9 fungicide, is registered for apples, grapes, tomatoes, bulb vegetables, small berries and potatoes
- Luna Sensation is registered for stone fruit, root vegetables, cucurbit vegetables, leafy green and petiole vegetables, Brassica vegetables and hops

Luna Sensation will be available to Canadian growers for the 2018 season.

For more information regarding Luna Sensation, growers are encouraged to talk to their local retailer or visit [cropsience.bayer.ca/LunaSensation](http://cropsience.bayer.ca/LunaSensation).

*Source: Bayer April 3, 2018 news release*



CROP PROTECTION

# Quick tests for herbicide-resistant weeds

KRISTEN OBEID

Herbicide-resistant weeds are not a novelty anymore; they are the norm. New cases of confirmed and suspected weed resistance to herbicides are steadily reported in all crops and cases of multiple resistances (weed biotypes resistant to more than one group of herbicides) are becoming more common.

We hear about glyphosate-resistant weeds in field crops regularly. Fruit and vegetable crops are not spared from this epidemic. From my perspective, resistant weeds are an even more pressing issue in fruit and vegetable crops because there are far fewer herbicides available and resistance management can very quickly translate into costly hand weeding.

In 2017, a limited survey was conducted in vegetable crops to aid in the development of quick tests to confirm suspected cases of herbicide-resistant weeds. To detect resistance as quickly as possible genetic tests are ideal. These quick tests will provide producers with results in two weeks. This will allow for in-season management and prevent the resistant weeds from spreading. In comparison, conventional tests can take up to one year to complete.

A total of 10 quick tests have been developed. These include:

- Group 1 grass herbicides (e.g. Select, Poast, Venture, etc.) resistant large crabgrass (*Digitaria sanguinalis*)
- Group 2 (e.g. Pursuit, Prism, etc.) resistant giant foxtail (*Setaria faberii*)
- Group 2 (e.g. Pursuit, Prism, etc.) resistant redroot pigweed (*Amaranthus retroflexus*)
- Group 2 (e.g. Pursuit, Prism, etc.) resistant common ragweed (*Ambrosia artemisiifolia*)
- Group 2 (e.g. Pursuit, Prism, etc.) resistant waterhemp (*Amaranthus rudis*)
- Group 2 (e.g. Pursuit, Prism, etc.) resistant common chickweed
- Group 2 (e.g. Pursuit, Prism, etc.) resistant Eastern black nightshade (*Solanum ptychanthum*)
- Group 5 (e.g. Sencor, Sinbar, Pincep, Gesagard, etc.) resistant lamb's-quarters (*Chenopodium album*)
- Group 7 (e.g. Lorox) resistant common ragweed (*Ambrosia artemisiifolia*)
- Group 9 (e.g. glyphosate) resistant waterhemp (*Amaranthus rudis*)

If you suspect you have resistance to any of the weeds listed above, please send in samples to get confirmation. Knowing what you have will aid in the best management decisions.

This summer we will be:

1. Collecting samples of

suspected glyphosate-resistant Canada fleabane to develop a quick test for this resistant weed.

2. Collecting samples of suspected Group 1-resistant large crabgrass to determine its spread across Ontario.

If you have issues with either of these weed species on your farm we will collect samples and test them for you.

The development of quick tests for resistance will help catch resistant weed populations when they are small, prevent their spread by pollen and seed and

will help to maintain the use of the few herbicides fruit and vegetable producers have. Please contact me at: kristen.obeid@ontario.ca or 519-738-1232. Agriculture and Agri-Food Canada, OMAFRA and MAPAQ (Quebec) have been working together to develop these tests in the hopes that lab services in Ontario and Quebec will eventually provide these quick tests as a service to growers.

Kristen Obeid is OMAFRA weed management specialist.



Canada fleabane. Photo courtesy of Peter Smith, University of Guelph.

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"Behind The Scenes" Sooruj Bhoolai goes from seasonal farm worker to farm owner

Apr 23, 2018 / 0 Comments

Trinidadian Sooruj Bhoolai came to Canada in 1992 as a seasonal agricultural worker.

Podcast



Behind the scenes with Danny Mucci

Mar 29, 2018 / 0 Comments

The Grower goes Behind the Scenes of the April cover to gain insight from Danny Mucci. What's the science behind indoor-grown strawberries? Is the market sustainable for future expansion? The president of Mucci Farms shares his forecast for the future of this new crop.

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# MINOR USE

## CRAIG'S COMMENTS

### Middle ground



CRAIG HUNTER  
OFVGA

Last month our young man was just about to embark on his first job coming out of university. He never knew who had actually recommended him to Jim Rainforth at OMAF for a student job two years prior. He did know that he got a good word from his supervisor for those two summers. Jim actually initially offered another summer working ‘for’ Frank Ingratta but changes came quickly. The cascading effect of staff changes never phased Jim. When John Vandenberg decided to move on from his Vineland position in marketing, his successor was Bob Cobbledick, who would leave the extension job vacant in Picton. That position went to a classmate -- Peter Lenhardt, who had been slated for a position in Vineland. In Vineland, another change had occurred when Dave Sangster moved into a newly created position in floriculture, since the former position had been in Brampton (Bob Crawford) and the flower industry was fast moving to Niagara. That left a position in the Fruit Extension service to work along with Bob Wilcox. The young man had struck it lucky again!

It was a matter of learn on the job, and learn fast! There were lots of good books and pamphlets available, and he read them all. Making farm calls along with Bob was an educa-

tion all in itself. Bob drove like the road surface and lines were just suggestions, not requirements! (In later years he was actually hit by a train and the car was totaled, but he walked away unscathed -- another story for another day). Bob was an encyclopedia of production knowledge. He was also willing to take on new challenges such as our ‘Code-a-phone’ messages for growers. A mini recording ‘studio’ was made in the basement, and a daily message of information was ‘de rigueur’ even when no new information was forthcoming!

Meeting growers, learning of their issues, and trying to find solutions became an avocation that would last for the rest of his career. Growers really felt that ‘no one was listening’ to their issues. That needed to be changed.

Jim was a great leader. He kept ‘head office’ at bay for the most part, and did everything he could for his staff. One day he asked the young man to conduct a labour survey of growers. It was (in the young man’s mind at least) a waste of his time. He did the task to the letter, but added his own comments at the end of the report. (Remember that in those days there were no computers, and everything was hand-written.) Jim called him into his office later that week, and closed the normally open-all-the-time door. He proceeded to read the riot act to this young whippersnapper who had the audacity to write or even opine such comments. (The potential impact could have been much worse on a computer where it could have been copied widely with serious repercussions.) It was even more poignant when he suggested that the staff member should consider whether he had ever thought that Jim too felt like that, but had to serve masters above him. It was a wake-up call (first of many over the years) that oth-

ers, too, get put in untenable positions.

In much later years, the chair of a major committee knew that most of us were dead set against a government proposal. He said that he and all of us had a choice we could make. We could each stand up and have our five minutes of fame in opposing that position, and then lose our seats on the committee and lose any future chance to influence further ‘poor’ decisions in their formative stages. The alternate choice available for us was to say nothing ‘out loud’ then and live to fight another day. It was good advice then, and still is today.

Back in Vineland, there were so many opportunities that they had to be sorted and prioritized. It was a time of great changes. Meeting and talking to many ‘old-timer’ research scientists just at the point of retirement, or still around 10 years after retirement, was a source of knowledge privileged to few. Knowledge reaching back to the 1920s could be put to task then, and every year since. The understanding of ‘why’ certain things were recommended was as important as the ‘what’ was being recommended. If you don’t know the history of the whys, you are doomed to wasteful time doing work over again. Another lesson learned.

Opportunity soon arose to go back to take a Master’s Degree. Being ‘footloose’ made the change easy -- one car load (and a Gremlin at that) was all that was needed to move all his worldly possessions. Even before that course was finished, Jim was to offer him a new position -- that of Potato Specialist. It seemed his current incumbent Will Nap was going back to the farm. It was not to be however, as the phone rang just two weeks later. The Plant Pathologist Austin Maitland had been lured away by Diamond Shamrock, so Jim changed the

offer to become the new Plant Pathologist and to move back to Simcoe where he had spent two happy summers.

Life blossomed with new work, new surroundings, and new challenges. A late blight outbreak in Prince Edward County tomatoes in 1976 was a challenge, but a good outcome came as a result of excellent cooperation. No single person can achieve much without that cooperation. The next serious outbreak was the Blue Mould epidemic in tobacco in 1979. Even, though tobacco was a bit outside his venue, the disease progression was similar to many others. A good solution was at hand, but could not be used when the cooperation of ALL parties could not be achieved. A very sad outcome ensued, and a hard lesson was learned -- without suitable registered and market-accepted pest controls, growers face certain loss or worse. It strengthened his resolve to make sure that in the future, suitable control products could be made available for all growers and for all pest eventualities.

Fast forward to later that same year. A few zealots decided to target Captan fungicide. Growers of many fruit and vegetable crops who were very dependent on this proven product were up in arms. A ‘Consultative Committee’ was struck by Agriculture Canada, and it gathered ‘evidence’ after having selected a very eclectic group of folks to sit in judgment. Our young man sat in on most of the sessions and heard many facts, ‘factoids’, mis-truths and outright lies. It was the first time such an external ‘review’ was conducted in this way, and a real eye-opener. It was to be later looked upon as at least a process that invited outside knowledge to participate, and that they had to be identified, and that all could see and hear who said what. Certainly NOT

how things are done today. The outcome of that ‘consultative process’ was an affirmation of what growers and experienced scientists had expected, but secretly were afraid would not happen! It was just a ‘loss’ to the zealots, who have never faltered in their mis-guided assaults on proven products. They face no jeopardy when assailing our tools, whereas growers face the loss of their livelihoods if a bad decision is made.

Another lesson learned, and an inspiration to fight against factoids, mis-truths, lies and worse.

In the ‘80s, the IPM program approach to pest management finally broke through, and a team was pulled together to ‘make it happen.’ Led by Wayne Roberts, that team went from success to success. At the same time, the research team that built the building blocks of the IPM programs was gradually being dismantled at Agriculture Canada. ‘Someone’ ‘thought’ the knowledge base was enough so the funds were stripped and moved to other areas of research. The program lived well off the past research ‘finds’ but was ill-equipped for the inevitable pest dynamic changes, and new pests.

It became evident that without new tools to deal with the pests, the program would be in dire straits. That is when our not-so-young man got involved in the Minor Use Program. Being able to help facilitate availability of pest management tools to growers was the fulfillment of a career’s goals. Being able to give voice to those who felt they had no voice was a real honour.

Our young man has moved on toward retirement, and lives in hope there are others who will fight the good fight, on behalf of all growers out there.



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MINOR USE

Priorities set for minor use research in 2019



Weeds in carrots



Mites in greenhouse cucumbers



Rust in caneberries

JIM CHAPUT

Agriculture and Agri-Food Canada, Pest Management Centre (AAFC-PMC) hosted the 16th national minor use priority setting workshop in Gatineau, Quebec from March 20-22.

This meeting brought together a wide range of participants from across Canada including university and federal researchers, crop extension specialists, provincial specialists, minor use coordinators, registrants, Pest Management Regulatory Agency (PMRA) representatives, growers and grower organization representatives, processing companies and other stakeholders. In addition several individuals from the U.S. IR-4 program and Australia also attended the meeting.

The purpose of this meeting was to review the top minor use priorities identified by each of the provinces for all crops including ornamentals and to establish the top priority projects for Agriculture and Agri-Food Canada, Pest Management Centre (AAFC-PMC) to do work in 2019.

The first full day of the minor use program covered

weed science priorities, the second day covered entomology priorities and the third day covered pathology priorities. Biopesticide priorities were reviewed at the beginning of each discipline day and based upon national interest, two potential biopesticides projects were chosen each day for a merit analysis that will eventually choose three biopesticides Category A projects for PMC to undertake.

For the conventional minor use needs for each of the three main pest management disciplines, up to 10 top priorities (ranked as As) are chosen from a long list of identified crop protection product solutions. Additional secondary priorities (ranked as Bs) were also chosen for each discipline each day.

The provincial minor use coordinators could also add five regional upgrade projects at the end of the process and the organic industry could also add two priority projects to the list of chosen projects.

Additional top crop/pest issues that did not have any identifiable solutions were also chosen to be part of minor use screening trials designed to find some useful solutions for growers. At this year’s meeting the top priorities chosen for this group (called APWS) included broad mite on greenhouse ornamentals and soil-borne

diseases on coriander.

The discussions, collaborations and decisions made at this meeting demonstrated the critical needs that producers have and how the system can work to address them. Growers, researchers, registrants, provincial specialists and other stakeholders worked to reach consensus and negotiate needs. Overall the process was successful and now the next step is for AAFC-PMC to complete the minor use submissions that were agreed upon. Additionally the provinces also have to follow up on a number of potential submissions and rationales for minor use needs.

The following table summarizes the projects agreed upon for each discipline. These projects will be submitted to the PMRA by AAFC-PMC, and the data requirements completed in 2020-2021. Registration decisions for these will likely occur in late 2021 and 2022. A final version of the top projects will be available this summer on the AAFC-PMC website: [http://www.agr.gc.ca/env/pest/index\\_e.php](http://www.agr.gc.ca/env/pest/index_e.php)

*Jim Chaput is provincial minor use coordinator, OMAFRA, Guelph, ON.*



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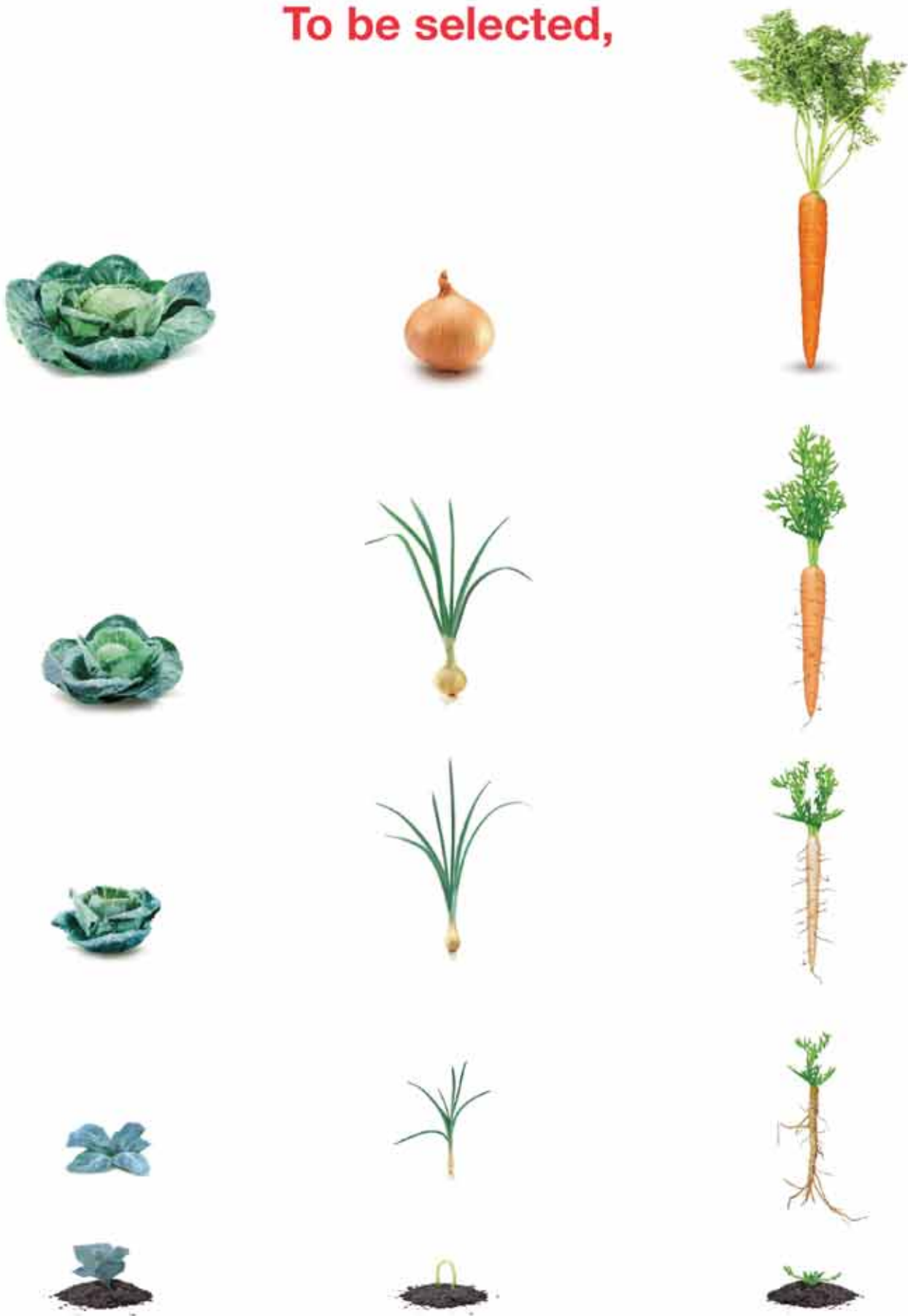
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