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FOOD *in* CANADA

Canada's food & beverage processing magazine

Spilling the beans

Pulses present great opportunities
for Canadian producers and
processors **PG.24**

GROWING — IN THE — NORTH

The cultivation of fresh
fruit and vegetables in
Northern Canada
PG.18

Inside:
RESEARCH CHEFS
IN CANADA PG.36

FOOD ON THE MOVE

PG.27

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so you can grow, transform and prosper.



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FOOD in CANADA

Canada's food & beverage processing magazine



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COMING
Next Month

Don't miss these
great reads in the
September 2016 issue
of *Food in Canada*

> **The Top 100 Canadian Food & Beverage Processors**

> **The Executive Roundtable**

> **The Beverage Report: Cider**

> **Food Trends: Protein**

> **Accent Alimentaire sur le Québec**



Ingredient Spotlight

Food Law

Focus on Food Safety

Market Trends

And much more...

Make sure you don't miss this issue!



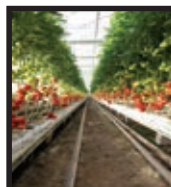
contents

features

- 18 Growing in the North**
Local producers and communities are making cultivation of fresh fruit and vegetables feasible in Northern Canada.
- 24 Spilling the beans**
International Year of Pulses presents opportunities for Canadian producers and processors.
- 31 Destination Europe**
Part III in our look at CETA and the Canadian food industry.



in this issue



Food on the Move

- 27** News & products
- 28** Feature: Connecting the dots



Research Chefs in Canada

- 36** News
- 37** A Culinary Odyssey
- 39** Recipe to Retail: Packaging



22

23



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departments

- 6 Editorial**
- 8 News File**
- 13 Market Trends**
Market outlook and highlights from Dr. Larry Martin and Associates.
- 14 Focus on Food Safety**
Can we ever eliminate foodborne illness outbreaks?
- 16 Food Law**
3D printed food: When will the laws take shape?
- 17 Regulatory Affairs**
The bitter and sweet on sugar labelling.
- 22 Ingredient Spotlight**
Sea asparagus, also known as *Salicornia* or samphire.
- 23 Sensory Trends**
Pickle power.
- 33 Packaging**
Evolution of the bottle.
- 34 Rethinking Innovation**
Nurturing sustainable growth.
- 35 Ask the Expert**
What grocers can learn from selling an avocado.
- 40 Product Showcase**
Post-show review of IFT16.
- 42 Industry Insider**
Burnaby, B.C.-based Canterbury Coffee Corp.

41 AD INDEX



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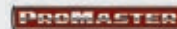
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A new era for food

An interesting new study from Havas Worldwide reveals a lot about our ever-changing relationship with food.

Eaters Digest: The Future of Food highlights the fact that we are living in an era of food concern, where eating is no longer simply about nourishment. Interest in what goes into our food has never been greater, as consumers increasingly read labels, scrutinize marketing claims and ask questions. “It’s about lifestyle, about the economy and employment, about citizenship and stewardship, and, of course, about health and longevity,” notes the report. “What we eat — and choose not to eat — is a daily testament to who we are and how we are choosing to live our lives.”

Of the nearly 12,000 men and women in 37 countries surveyed this February by Havas and Market Probe International, 62 per cent of millennials, 61 per cent of generation Xers and 56 per cent of boomers agree that “what I eat says a lot about who I am.” Seventy per cent of “prosumers” (leading influencers and market drivers across all demographic groups) agree with the statement.

As a result, attitudes toward food are changing. More consumers, for instance, now agree that eating healthily can prevent illness, and that diet is as effective as medicine in maintaining overall health. Consumers are also progressively taking responsibility for their health through their dietary choices, with 89 per cent of prosumers

and 80 per cent of mainstream consumers agreeing that it is their responsibility to carefully choose what they eat to avoid disease and illness. Sugar, GMOs and artificial ingredients are of top concern.

Purchasing decisions are also increasingly influenced by ethical and political considerations, as issues such as animal welfare and the effect of food production on the planet command attention. And at the same time as respondents say they want food that is locally produced and “closer to nature,” they also want products that are convenient, safe and offer good nutrition and value.

While this deeper connection to food is good for the industry overall, brand loyalty continues to erode. “Big food” is seen largely negatively, and less than four in 10 consumers say “they trust the food industry to provide them with healthful food.” In fact, 71 per cent of mainstream respondents (77 per cent of prosumers) say they see junk food and unhealthy diets as “one of the greatest threats facing our species.”

Our relationship with food will continue to evolve as consumers become more vocal about what, when and how we produce food and beverages. How is your business addressing this new reality? 🍎



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Montrealers have unique take-out tastes

According to meal delivery service JUST EAT — which has more than 5,000 partner restaurants in Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary and Vancouver — Montrealers' tastes in take-out food are noticeably different from the rest of Canada's urban centres. JUST EAT's internal analytics uncovered the fact that Montrealers' top choice for take-out is Portuguese grilled chicken, and also revealed Montrealers are more price-sensitive when it comes to takeout: the average order in Montreal is a little over \$30, whereas the average Canadian order is \$41.12.



News > file



Canada expands Nutrition North program

The Canadian government has announced measures to help improve Northerners' access to quality and nutritious food.

Starting Oct. 1, 2016, the Nutrition North Canada (NNC) program will be expanded to an additional 37 isolated Northern communities. This expansion is the result of updates to the community eligibility criteria, and is part of the Budget 2016 commitment to provide an additional \$64.5 million to the NNC program over five years beginning in 2016/17, and \$13.8 million per year ongoing starting in 2021.

"The Government of Canada is committed to listening to Northern families to understand what they need to help feed their families," says Carolyn Bennett, Canada's Minister of Indigenous and Northern Affairs. "This is why we are expanding Nutrition North Canada to include 37 additional isolated communities. These changes will help more families to have access to affordable and nutritious food."

The announcement was made in

Inuvik, NWT, at the Inuvik Community Greenhouse, before a roundtable discussion with Northern, Inuit and First Nations leaders on food security in the North.

Official Made with Pulses seal unveiled

The Global Pulse Confederation introduced the new Pulse Brand and "Made with Pulses" seal at this year's IFT Annual Meeting & Food Expo in Chicago.

The Pulse Brand and "Made with Pulses" seal are distinctive green and gold symbols intended to help consumers easily identify food products that contain pulse ingredients (dry peas, beans, lentils and chickpeas). The seal and Pulse Brand are available to food manufacturers, consumer packaged goods (CPG) companies and the foodservice industry to use on packages and in promotions.

According to the Global Pulse Confederation, several global companies are already showing strong interest in the new "Made with Pulses" seal. Companies that have already signed on to use the Pulse Brand include Princes Food and Drink Group (Napolina and Batchelors brands), JM Grain, AGT Food and Ingredients and Floating Leaf Fine Foods.

Packaged products that contain pulses in the top five ingredients by weight and a minimum of five per cent of the final formulation are eligible to apply to use the "Made with Pulses" seal. For more



information on the criteria or to submit a product for consideration, visit www.pulses.org/pulse-brand or contact pulsebrand@pulses.org



Celebrating 100 Years at the College of Ice Cream, written by historian Pat Bowley, shines the spotlight on the University of Guelph's ice cream technology course, which is the oldest of its kind in North America. The book looks at the origins of the Guelph course, as well as the ice cream industry in Ontario.

Offered since 1914 by Guelph's Ontario Agricultural College, the annual course is currently the only one of its kind in Canada, according to a University of Guelph press release. "The ice cream industry in Ontario was really just at its infancy in 1914," says food science professor Doug Goff in the book. Goff, a leading Canadian expert on ice cream, has taught the course since 1987. "As the course evolved through time, it did so in keeping with the demands of the evolving and changing industry," he explains. Guelph's ice cream course covers a wide range of topics, including mix composition, the freezing process, novelty manufacturing, flavour-making, dairy microbiology and food safety.



Launch of Canadian Centre for Food Integrity

In early June, the Canadian Centre for Food Integrity (CCFI) was launched at the inaugural Public Trust in Agriculture Summit in Ottawa. The CCFI is a division of Farm & Food Care Canada, a charity with a vision to earn public trust in food and farming. The CCFI, like its U.S. counterpart, is made up of members representing the diversity of the entire food system in Canada, from Dow AgroSciences to Tim Hortons.

The CCFI and the yearly Summits are intended to encourage continuous collaborative discussions about public trust amongst farm and food system leaders, while developing concrete actions for earning public trust.

Why the concern over trust in Canada's food system? Basically, because it's quite low. According to the results of the CCFI's new poll of over 2,500 Canadians, exactly 50 per cent are unsure about whether our food system is going in the right direction, and another 21 per cent believe it's on the wrong track. All in all, that's less than a third of Canadians who believe our food system is going in the right direction.

Trust in Canadian food production and farming has been eroded by many factors, among them outbreaks of *Listeria*, swine flu and BSE over the last few years. Public trust has also been lowered because of shocking recent instances of farm animal cruelty that have been caught on tape and broadcast on television and the internet. Almost three-quarters of CCFI survey respondents believe "videos of farm animals being treated poorly are representative of normal livestock farming." There have also been ongoing conflicting scientific claims in the media and in books in recent years about the health



benefits, lack of health benefits and even dangers of different food items.

To build public trust in Canada's food system, the CCFI is working to build its membership roster. It will also continue to research consumer opinions, questions and concerns, benchmarking consumer attitudes about food and farming against U.S. and Canadian data gathered over the last 15 years.

For its part, Farm & Food Care will be working on five action points, the top among them being to get credible, balanced and accurate food system information much higher in online search results. Secondly, Farm & Food Care will

invest in new online content, for example expanding its Virtual Farm Tours to Virtual Farm and Food Tours. In addition, it will continue working to reach "food influencers" in Canadian society (foodies, bloggers and parents), support the development of new research, and continue to build networks and momentum.

Visit www.foodintegrity.ca for more.

— Treena Hein

G-M-Over?

The state of Vermont's new *Act 120*, requiring food manufacturers to label products containing genetically engineered ingredients effective July 1, has renewed debate over mandatory labelling here in Canada.

New Democrat MP Pierre-Luc Dusseault (Sherbrooke) tabled Bill C-291 on June 14, a private member's bill that would amend the *Food and Drugs Act*

➔ to pg. 11

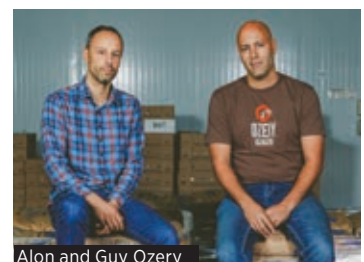
OZERY BAKERY CELEBRATES 20TH ANNIVERSARY



Ozery Bakery started out in 1996 as Pita Break, a family owned sandwich shop in downtown Toronto that offered healthy sandwich options using their freshly baked pita bread. But as demand grew, production

moved to a wholesale bakery facility, and they began delivering their products to small independent health food stores.

After two decades of growth and evolution, today Ozery Bakery supplies its baked goods to major grocery stores in Ontario and Quebec, as well as parts of Eastern and Western Canada, with distribution in the U.S. This year the business celebrates its 20th anniversary, and with that the decision to transition the brand from Pita Break to Ozery Bakery, named for the company's innovative owners Alon and Guy Ozery.



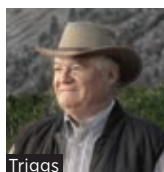
Alon and Guy Ozery



INBRIEF



Donald Triggs and **Shirley-Ann George** were named winners of this year's Canadian Wine Industry Awards. Sponsored by the Canadian Vintners Association (CVA), these awards celebrate success and outstanding commitment in Canada's grape wine industry.



> Food & Consumer Products of Canada (FCPC) members, supporters and industry leaders took a break from the office on June 20 to golf or bike in support of Food Banks Canada. The tournament raised \$12,705, surpassing last year's total amount by more than \$1,150. The 4th annual FCPC Charity Golf Tournament and Gran Fondo was held at Blue Springs Golf Club, northwest of Toronto.

> Anne Goldman, past president of the Canadian Institute of Food Science & Technology, has received the Institute of Food Technologists 2016 Sensory and



> B.C.-based Naturally Homegrown Foods Ltd.'s Hardbite "18 Carrot Gold" Carrot Chip was named the "2016 Most Innovative New Product Award – Salty Snack" by the National Confectioners Association at the Sweets & Snacks Expo in Chicago in May.

> HelloFresh Canada Inc. officially launched its meal plan service throughout Ontario in June. Ontarians can now receive the company's carefully curated meal boxes featuring easy-to-follow recipes and locally sourced fresh ingredients to make a meal for two to four people. The meal kits aim to reduce food waste and eliminate food planning stress. Globally, HelloFresh now delivers 7.5 million meals monthly in nine markets, including the U.K. and the U.S.



Consumer Sciences Achievement Award.

> Arlene Dickinson's business accelerator **District Ventures** (DV) has added another high-profile sponsor, BDO Canada LLP (BDO), to its lineup of partners. The entrepreneur and TV personality launched DV in October 2015 in an effort to create an ecosystem for entrepreneurs in the food and beverage and health and wellness industries. BDO will join DV as its official tax, accounting and advisory service sponsor.



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➔ from pg. 9

with mandatory labelling for genetically modified (GM) foods. In 2014 NDP MP Murray Rankin (Victoria) proposed the very same private member's bill, as did Bloc Quebecois Gilles-A. Perron (Rivière-des-Mille-Îles) in 2008 and Liberal Charles Caccia (Davenport, Ontario) in 2002.

Quebec's Minister of Agriculture, Fisheries and Food, Pierre Paradis, has taken it a step further by making a legislative exploration trip in February. He met his U.S. counterpart, Secretary of the Agency of Agriculture, Food and

Scan your wine

There's a cool new app available for Canadian wine lovers, being positioned as "a full-bodied blend of Shazam and Yelp, except for wine." The Natalie MacLean Wine Scanner & Reviews app instantly identifies any wine in your closest Canadian liquor store using cutting-edge image recognition, geo-specific inventory and a database of more than 220,000 wine reviews. Canadians can just point their smartphones at the front label or the back barcode of any wine to access ratings, tasting notes and food pairings.



Markets Chuck Ross, to learn about the legislative process and discuss the issues and challenges related to the implementation of such a law.

When the House of Commons resumes Sept. 19, the discussion of

mandatory labelling reopens and Bill C-291 could be passed. Or could it?

Susan Abel, vice-president of Safety and Compliance, Food & Consumer Products of Canada, says it's pretty unlikely. "Truth is, we're in a different space in Canada than what is going on in the U.S. right now," she says. Canada has had a national standard for voluntary labelling and advertising of labelling since 2004. As such, if manufacturers choose to label for genetically engineered (GE), the standard clearly lays out the rules to make the claim, she says.

Manufacturers also have other marketing avenues to distinguish their products in the marketplace, including the Canada Organic label, introduced in 2009, and the Non-GMO Project Verified seal, which has been gaining in popularity, she says.

In addition, novel foods, under which new GE and GM foods are classified, ➔

HERE COMES THE RUM TRUCK!

A truck full of Chic Choc Spiced Rum — made with spices harvested from the rugged Chic Choc Mountains in Quebec — travelled across Ontario and Quebec in its inaugural summer tour.

Called "the Chic Choc Spiced Rum Truck Tour," the journey kicked off in Toronto on May 19. The tour then made its way through the province until the end of June, promoting the Canadian-made spiced rum and sharing samples with the lucky people who spotted it along the way. The truck continues its journey through Quebec until the end of August.

The "bar on wheels" is decorated with Chic Choc Spiced Rum branding, complete with the rum's iconic bear and "Chic Choc Adventurer."

The Canadian-made Chic Choc Spiced Rum is produced by Frelighsburg, Que.-based Domaine Pinnacle, makers of Ungava Gin, Coureur des Bois, Cabot Trail and other spirit brands.



SUPPLIER NEWS



> **Handtmann Canada Ltd.** celebrated its 25th anniversary on June 9 and 10 with an open house at its newly renovated headquarters facility in Waterloo, Ont. The event also included the dedication of the Arthur Handtmann Technology Centre,

and the unveiling of a history wall that features key milestones ranging from Handtmann's founding in 1873 all the way to the recent introduction of the new VF 800 series.

> The Elmira, Ont.-based **Tri-Mach Group of Companies** has opened a new office in the U.S., located in York, Penn.

> **Intelligrated**, a North American automated material handling solutions provider, has been acquired by **Honeywell** in a transaction valued at \$1.5 billion.

> **Nellson**, a full-service nutrition bar and powder provider, has added a new high-speed production line in its Lachine, Que. nutritional bar manufacturing facility. The company has also unified its Canadian



operations in Lachine and Anjou, Que. under the leadership of Jean Filion, former CEO of MultiBar and current president of Nellson Canada.

> Chicago-based **Archer Daniels Midland Company** and Richmond, B.C.-based **GLG**

Life Tech Corporation have announced a new partnership to manufacture, market, sell and distribute low-calorie stevia and monk fruit sweeteners to customers around the globe.

> **Metl-Span**, a manufacturer of insulated metal panels (IMPs), hosted a grand opening ceremony for its new production facility in Hamilton, Ont. in May. More than 150 guests came to celebrate the grand opening of the 24,000-sq.-ft. Metl-Span plant.



are regulated by Health Canada. The federal agency undergoes an exhaustive risk review of the GE or GM traits and if approved, the food is deemed safe.

"I would never say never but be very surprised if Health Canada changed their approach because their scientific rationale is very sound," Abel says. "Once something is deemed safe, it's safe."

Recently Health Canada approved genetically modified apples and salmon as safe for consumption. The Arctic Apple and AquAdvantage salmon could be on Canadian grocery store shelves in at least a year.

The senior vice-president of Government Relations and Grocery division for the Retail Council of Canada, David Wilks, says grocery and mass merchandisers have a choice. "If HC indicates that they are safe to sell, that is when the retail community has a choice whether to offer them to their consumers or not," he says.

However, pro-GM labelling advocacy groups have not focused on the safety of GM foods. Rather, they are fighting for the consumers' right to know what is in their food.

Tia Loftsgard of the Canada Organic Trade Association says almost 90 per cent of Canadians polled want mandatory labelling of GM foods, citing an Ipsos Reid poll conducted for Canadian Biotechnology Action Network and released in September 2015. "It's giving the people the right to know, to make a decision about it," the newly appointed executive director says. She says studies by The Centre for Food Integrity overwhelmingly show consumers want to regain trust in their food system.

A week before Vermont's new mandatory GMO labelling law came into effect, the U.S. Senate reached a compromise by introducing a bill that will pre-empt state-level laws. The new legislation will be more lenient than Vermont's law, allowing food companies to use a text label, a symbol or electronic label accessed by smart phone. That bill was approved by the House in mid-July, and now heads to the White House.

— *Natalie Cajic*

Travelling treats



Dare Candy Co. is bringing its sweet eats to Canadians this summer, with a mobile treats truck hitting Toronto, Calgary and Vancouver.

The promotion comes as the company rolls out a new range of candy products, many of which are free of gluten, fat, gelatin, and artificial colours or flavours. These include REALJubes Red, REALJubes Black and

REALJubes Sour; REALSOURS Strips & Sticks; and REALFRUIT Superfruits, REALFRUIT Medley and REALFRUIT Tropical.

"Dare Candy Co. is a family business. We're proud to be Canadian, and have always committed to delivering food that meets the changing needs of candy lovers. Our passion is — and has always been — to make candy better," says Deborah Attwood, director of Marketing for Dare Foods Limited.

PEOPLE ON THE MOVE



> The Board of Directors of the Winery & Grower Alliance of Ontario (WGAO) has announced the election of **Del Rollo**, senior director of Government Relations and Estates at Constellation Brands Canada, as its new Chair of the Board.

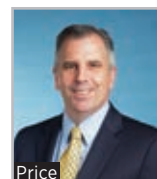


Roth

> Emerald Kalama Chemical, a business group of Emerald Performance Materials, has appointed **Steven Roth** as business development manager for the group's line of Kalama flavour and fragrance ingredients. The company has also appointed **Heidi Wong** as sales manager, Asia Pacific for the group's flavour and fragrance business.

> Cesar Zelaya, Handtmann Bakery Sales and Technology manager and Graham Dalziel, Business Development & Sales manager for Handtmann Canada Ltd., jointly announced the appointment of **Christian Strohm** and **Sean Gorman** to Bakery Sales specialist positions in Canada and the U.S., respectively.

> Baldor Electric Company recently named **Matt Price** as its new Food and Beverage Industry business manager.



Price

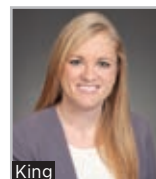
> At its Annual General Meeting, the Canadian Corrugated and Containerboard Association (CCCA) elected **Mike Lafave**, senior vice-president and COO of Kruger Inc., as its chairman for the new one-year term that began in May, 2016.

> **Doug Oakey** has been promoted to vice-president, Retail Sales North America, for Toronto-based Belmont Meats.

> Trudeau Farms Inc., a family business in St-Mathieu-De-Beloeil, Que., has announced **Sylvain Racette** as president and CEO of its new entity Trudeau Farms Distribution Inc.

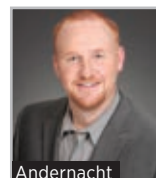
> At its 31st annual meeting held in Toronto, the Further Poultry Processors Association of Canada

(FPPAC) elected a new Board of Directors and Officers, including: **Blair Shier**, J.D. Sweid, chair; **Ian Hesketh**, Intercity Packers, vice-chair; and **Jamie Falcao**, Maple Leaf Foods, secretary-treasurer.



King

> Kemin has added two new people to its protein and grains group of the Food Technologies division: **Amanda King** is Technical Services manager, and **Kyle Andernacht** is product manager – Proteins.



Andernacht



COMMENTARY – The real challenge

Ontario's Farm Products Marketing Commission recently gave notice that it plans to remove the right of the Ontario Processing Vegetable Growers (OPVG) to negotiate contract prices of vegetables with processors. These are contracts for vegetables for freezing and canning. The OPVG has negotiated on behalf of growers for well over seven decades. The reason for the change is to support the Premier's Agri-Food Challenge, which is to "double agri-food's annual growth rate and create 120,000 jobs by the year 2020."

The "inside" assessment is that investors in the former Heinz plant argue that they can't operate profitably with the negotiated prices which, in their case, includes an approximate five per cent "start-up" price discount. I don't know this, but suspect that the company also has limited cash flow, an old and inefficient plant, and little product reputation in a market supplied by well-established California, Ohio and Ontario processors.

In my experience OPVG's negotiations result in prices that are consistent with a competitive market and provide an environment that gives growers confidence to make long-term investments to grow these crops because there is assurance prices won't be much different from their competitors. Removing OPVG's negotiation rights means that each processor will ne-

gotiate directly with their growers to establish prices. This may result in similar prices in the long term, but there is a tendency for the processors to have a bit more power one on one with less shared information.

These crops require significant labour both in growing and, often, processing, compared to corn and soybeans. Much of it is supplied by foreign workers. All of the processing industry is a heavy user of energy for concentrating, canning and freezing. Putting all this together, after constantly increasing minimum wages and raising the price of energy relative to their U.S. competitors, the Wynne government is now going to place the adjustment pressure on farmers — and, presumably give them the blame for losing these industries when the farmers decide it's much easier to grow other crops. It won't work: several years ago, Ontario "raw product" prices were the excuse for two cucumber processors closing down. Today, a U.S. green shipper contracts more cucumbers in Ontario for which the value adding is done in the U.S. and then shipped back to Canada.

So, what's really the challenge here? ●

Market Trends is prepared by Dr. Larry Martin, who offers a course on managing risk with futures and options in Guelph, Ont. through agrifoodtraining.com. Contact him at DLM@explornet.com or (519) 841-1698.

MARKET HIGHLIGHTS

Most commodities trended higher in June, but USDA crashed the grain markets at the end. Energy prices continue sideways.

> Grains: In one of its patented surprises, USDA found two million acres more corn, 1.3 million acres more wheat and 220 million more bushels of old crop corn than the market expected.

> Corn: December corn rallied to \$4.49 by June 17 on drought fears in the U.S., strong export demand, and threatened crops in South America. Then it rained and cooled in the Midwest, Argentina's corn crop was not as bad as feared, and managed funds took profits, reducing their long positions. USDA then dropped its bomb, crashing December to the current \$3.67. Assuming a U.S. yield of 165.7 bu/acre, analysts are estimating stocks/use ratios of 13.3 per cent and 16.2 per cent for the ends of this and next crop years. Factors that can drive ratios lower (or even higher!) are U.S. yields, change in actual acreage and/or domestic use of corn. So, still room for volatility. \$3.64 is support on December, with strong long-term support at \$3.46. If bottoming action

occurs at either, consider doing some pricing.

> Wheat: Just keeps getting more negative. USDA's good yield prospects, additional acreage, and good crops in most of the world puts the stocks/use ratio at 51 per cent; carrying half the crop over won't support higher prices, especially with large corn and soybean crops competing for limited bin space. At \$4.16, December broke well below support. We would buy hand to mouth until a bottom appears.

> Soy oil: The soy complex is much different than corn and wheat – increased acres by USDA were small and demand remains strong for both beans and meal. Analysts expect stocks/use ratios well under 10 per cent this year and next. Soy oil is dominated by palm, which is not in short supply. September futures have been in a channel between \$0.30 and \$0.355 this year, currently at \$0.313. Palm is under pressure. If the \$0.30 area holds, we would do some pricing and protect above \$0.355.

> Sugar: October sugar made three-year highs at \$0.207 led by Chinese demand, reduced output in Brazil, and Brazil pushing more sugar into ethanol. We suggested protection

at \$0.168 and \$0.1535. Take profits here or at next resistance of \$0.23.

> Natural gas: Sept natural gas rallied to \$2.9 on hot U.S. weather creating demand and long positions by managed funds which believe more switching to gas will occur. We suggested pricing near \$1.93, or covering above \$2.63. Next resistance is \$3; a good place to take profit, but cover above it.

> Crude oil: September Brent crude recovered to \$53, but has traded in a range between \$53 and \$47.30 for two months, currently \$50.35. There are concerns about the economy and demand, with a number of inventories building up. We suggested covering above \$45.20. We again suggest taking profits here, but would cover with Calls because of the uncertainty.

> Canadian dollar: The loonie moved back in step with oil after diverging for factors we discussed last month. As oil moved sideways, so went the September loonie in a range between \$0.79 and \$0.758, currently \$0.778. We continue suggesting that commodity buyers cover at \$0.77. The next level of support is \$0.75.



Are we there yet?

In the past months I have participated in a number of webinars. During one question and answer session a courageous subscriber commented that despite the Global Food Safety Initiatives (GFSI) and industry record spending on quality and sanitation programs, foodborne illness statistical trends are not too encouraging. Three questions sprang to my mind: What could be contributing to this? Are we benefiting from current food safety programs? Can we ever eliminate foodborne illness outbreaks?

What's contributing to ongoing outbreaks?

Advances made in detecting and tracing foodborne pathogens along with surveillance networks that enable health and regulatory agencies to communicate with one another are, without doubt, the biggest reasons why statistics on foodborne illnesses are discouraging. Behind these reasons are a number of other factors, including:

- » Finding pathogens not normally associated with certain foods. For example, it has long been believed that dry foods (popcorn and cereals) and dry food processes have little exposure to *Listeria monocytogenes* (LM). We now know otherwise.
- » Pathogen levels below regulatory thresholds can lead to outbreaks. It has now been shown that prolonged exposure to low levels of pathogens can lead to foodborne illness as was the case in the LM outbreak from Blue Bell ice cream.

- » The globalization of the food supply and the diversification of the types of foods now available throughout the year have exposed Canadians to products produced under differing regulatory regimes and with different microbial ecologies.
- » The belief that fresh and/or minimally processed foods are better than preserved or processed foods has encouraged consumers to eat raw foods which may harbour pathogens, including cantaloupe, sprouts and fresh salad.
- » The mind-numbing complexity of the ingredient supply chain used to make the foods we eat exposes us to an innumerable number of pathogens, some of which we are only now learning about.
- » The consumers' carelessness in storing and preparing foods ranks high among the probable causes of foodborne illness. Sadly, schools, industry and governments are doing little to address this problem.

Are we benefiting from current food safety programs?

Years before GFSI was conceived, I introduced KFC, Pizza Hut and Taco Bell suppliers in Canada to a GFSI-type of program called STAR (Supplier Tracking and Recognition). Like today's GFSI programs, suppliers paid for the program. The year the program was rolled out (1992), I was persona non-grata and probably cursed more than the resident CFIA inspector of the day. Two years later, suppliers couldn't say enough "good" about the program. Why the change of heart? STAR opened their eyes to the benefits of disciplined food safety and quality programs, not the least of which was and still is a better bottom line.

To embrace the GFSI schemes and modern regulatory programs of today,

suppliers are being forced into the digital world and, in many cases, kicking and screaming all the way. Computer technology was never a core competency in the food industry but it is becoming so. The net benefit is that the enhanced and evolving food safety programs have forced food processors to embrace change and the concept of continuous improvement throughout their operations. As competency grows in developing and managing food safety programs, so will the skill of mining data from these programs to improve food safety, reduce waste and solidify the bottom line.

Another benefit coming out of today's food safety programs is employee engagement or empowerment, which is part of a company's food safety culture. Unlike yesteryear, upper management is much more aware of what's going on in the plant. Risk management is now or soon will be top of mind for upper management.

Can we ever eliminate foodborne illness outbreaks?

The simple answer to this question is "no." Some of the reasons why we'll never eliminate foodborne illness outbreaks were mentioned earlier, but there are other reasons including allergens, contamination, fraud and acts of terrorism. Just as we adapt to climate change, so do pathogens which have been adapting and evolving since the dawn of time. Our challenge will be to be one step ahead of them in the never-ending journey toward better food safety. 🍎

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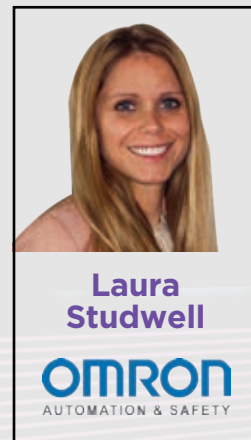
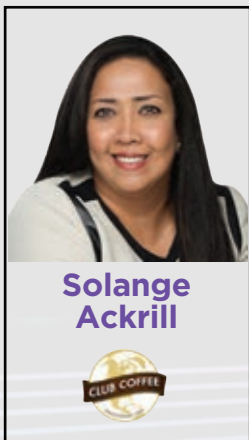
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3D printed food

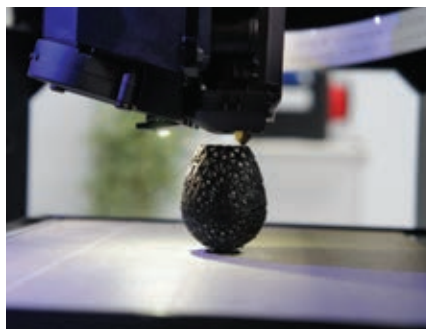
When will the laws take shape?

3D printing is the new buzz technology being used to replicate human tissues, fighter jet parts, and human prosthetics. The technology is also showing excellent potential in the food industry to create personalized foods that meet specific dietary needs for the elderly, individuals with digestive disorders and gastro-intestinal disease, and athletes. It can also be used to streamline food production and offer customizable dietary solutions at lower costs. At this point, the entire Food Guide can be created by pushing a button, including edible meat, cheese, fruit and vegetables. While this technology holds great promise, is the Canadian food regulatory system prepared for the ethical and legal implications associated with 3D printing?

The regulatory framework for 3D printed medical devices is more advanced, and several devices have already been approved by the U.S. FDA. In May 2016, the U.S. FDA released Draft Technical Guidance on “Additive Manufactured Devices,” which is synonymous with 3D printing, to help manufacturers understand and comment on the government’s position with respect to testing and device characterization requirements. This Draft Technical Guidance touches on several elements that may also be applicable to foods, including software formatting, labelling, starting material composition and recycling, process validation, cleaning, and sterilization. While the 3D printed food legal framework is still in its infancy, it is important

for innovative food companies to take a broader look at what type of regulatory barriers already exist for new technologies and ingredients in Canada and how they may be applied to 3D technology.

Broadly speaking, a novel food application will more than likely be required for foods or ingredients made using 3D technology. A “novel food” is defined in the *Food and Drug Regulations* as a substance that does not have a history of safe use; has been manufactured, prepared,



preserved, or packaged by a process that has not been previously applied to that food, and causes the food to undergo a major change; or is genetically modified. Since 3D printing is innovative and does not have a history of safe use, pre-market approval by Health Canada should be considered prior to advertising or selling in Canada. Novel food applications typically require safety and efficacy evidence that explore dietary exposures, nutrient content, toxicology, chemical, microbiological, and allergenicity considerations. Although Health Canada is making efforts to improve the novel food assessment process, the timelines for approval can vary from six months to two years (or longer). If you are planning to use 3D technology in your business, it is important to remember this significant regulatory hurdle.

New food additives may also be required for 3D printers due to challenges associated with the shelf life and adhesion. A food additive is any chemical substance that is non-nutritive and is added during preparation or storage and either becomes a part of the food or affects its characteristics for the purpose of achieving a particular technical effect. New food additives also require pre-market safety and efficacy approval by Health Canada and can follow similar approval timelines as novel foods.

Food companies should also consider the need for good manufacturing practices (GMPs) for the unique nature of 3D printing, especially for the highly regulated sectors of fruit, vegetables, fish, dairy and meat. GMPs will become even more important when the *Safe Food for Canadians Act* is fully in force and preventative control plans are mandated for all foods.

From the consumer perspective, will they want to know that their food has been created using 3D technology? Will there be a similar push for 3D technology labels as there is for GMO?

Only time will tell how Canada will regulate these 3D printed foods. While companies may wish to stay ahead of the curve, it is prudent to be mindful of the regulatory barriers, including food safety requirements, marketing authorizations, labelling, and intellectual property issues, prior to printing full steam ahead. 🍌

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The bitter and sweet on **sugar** labelling

The U.S. has recently finalized rule making on nutrition labelling. By July 26, 2018 manufacturers with food sales of \$10 million or more will need to comply with the new rules. Others have until July 26, 2019. In contrast, nutrition labelling modernization in Canada is still hovering at the proposal stage. There is no word on when final regulations will be completed. Based on similar past efforts, this would more likely happen in 2017.

Current nutrition labelling rules in Canada and the U.S. differ in many respects. These differences, which include among other things how serving sizes, dietary fibre, trans fat and vitamins and minerals are accounted for, preclude the opportunity of creating a harmonized nutrition facts table for both countries. For instance, the new U.S. format includes added sugars and a per cent daily value (DV), while Health Canada (HC) has proposed to set a DV for total sugars and not to include “added sugars.” It will be interesting to see whose labelling strategy will be effective in achieving the goal of reducing sugar consumption.

The scientific information on excessive sugar intake and its role in certain chronic diseases is only starting to come into focus. There is sufficiently clear science around excess sugar consumption for this to be a public health concern. The tricky part is developing nutrition labelling that is impactful but simple

enough for consumers to make healthy dietary decisions.

The approach the U.S. FDA has taken is to include both total sugars and added sugars in a nutrition facts panel (NFP). This will include a per cent DV for “added sugars” based on a Daily Reference Value (DRV) of 50 g per 2,000-calorie diet for adults and children four and over, and 25 g for children one to three based on a 1,000-calorie diet. In Canada, HC has proposed daily values



of 100 g for “total sugars” for adults and children four and older, or five per cent of the caloric intake for a 2,000-calorie diet. For children one to four, the daily value proposed is 50 g total sugars, also five per cent of caloric intake for this age group. The World Health Organization’s (WHO) guidelines suggest that no more than 10 per cent of calories should be from “free sugars,” such as certain added natural forms of sugar like honey and concentrated fruit juice.

The approach in the U.S. is more aligned with the WHO approach, putting its eggs in the “added sugar” basket. HC has placed its eggs in the “total sugar” basket. In addition, HC has also proposed to make it mandatory to collectively declare all added forms of sugars as “sugar,” with a parenthetical declaration of the individual sugar forms, in a list of ingredients.

The differences between the Canadian and U.S. approach on sugar labelling is not the result of differences in the core science, and instead has more to do with HC’s consumer research. HC found that Canadian consumers have an easier time understanding how to use total sugar information than a combination of added and total sugars. The per cent DV for total sugars also fits into HC’s simplified footnote identifying that five per cent of the DV is a little. Placing focus on total sugars introduces a one-time cost for the amendment. In contrast, the U.S. approach requiring added sugars to be declared incurs an ongoing cost related to quantifying, documenting and enforcing the regulations. Analytical methods cannot differentiate between added and naturally occurring sugars. This means added forms of sugars need to be manually determined by accounting for total sugars and added sugars from formulation. The U.S. FDA will require manufacturers to maintain records for at least two years after the introduction of food in interstate commerce. The cost and burden to industry and government in the U.S. is far more significant than what has been proposed in Canada.

Both the U.S. and proposed Canadian approach may very well result in the same goal of lowering overall sugar intake. The Canadian approach is well thought-out, practical, simple and more cost effective than that in the U.S. Time will eventually expose what impact this has. ●

Gary Gnirss is a partner and president of Legal Suites Inc., specializing in regulatory software and services. Contact him at president@legalsuites.com

Local producers and communities are making cultivation of fresh fruit and vegetables feasible in Northern Canada

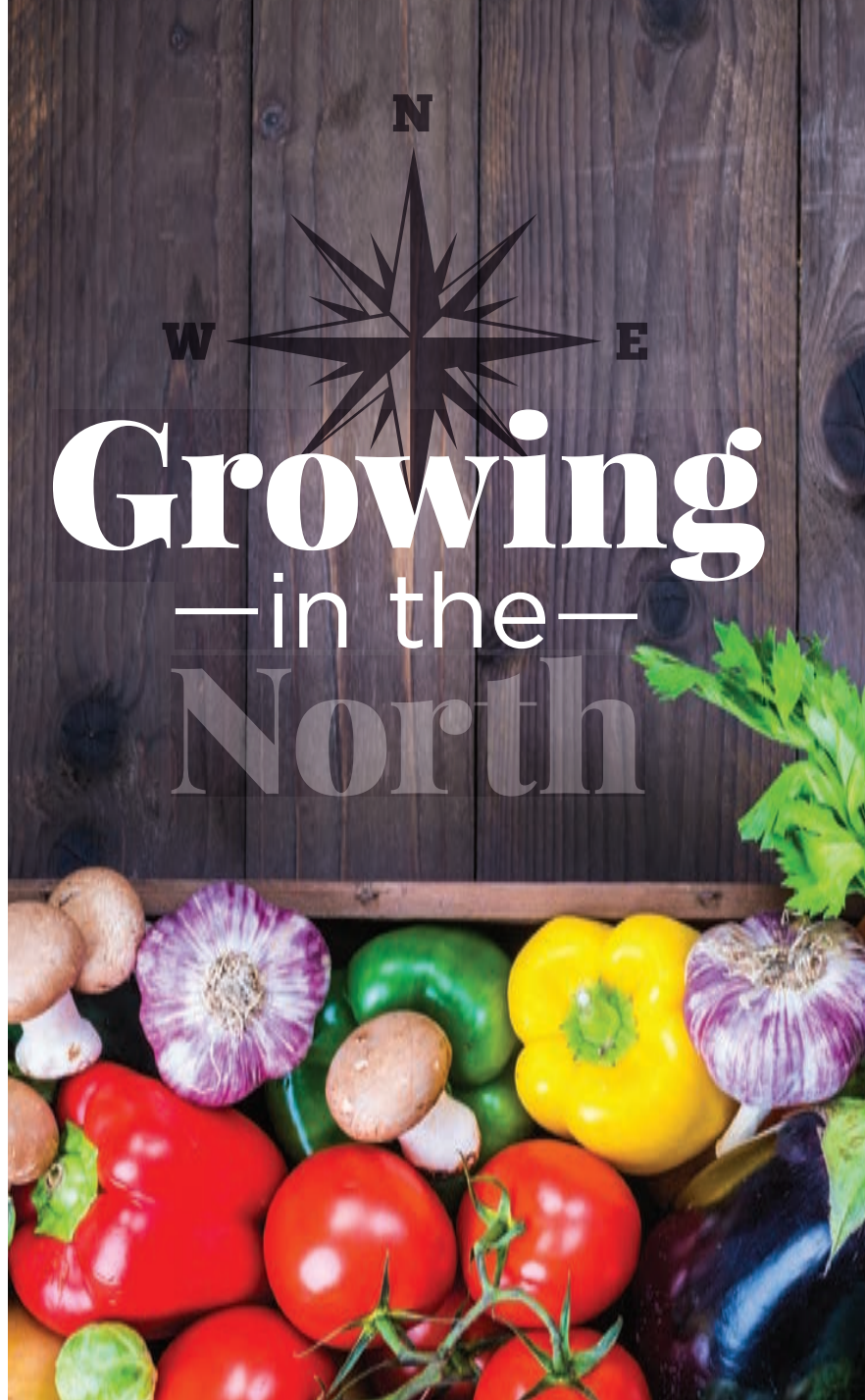
BY TREENA HEIN

It was really no surprise to those of us who grocery shop regularly when Statistics Canada recently revealed that fresh vegetable and fruit costs had risen about 11 per cent between April 2015 and April 2016. This revelation ties into the results of a recent survey of more than 1,000 Canadians done by researchers at the University of Guelph and Dalhousie University showing that due to cost, one quarter of respondents ate fewer fruits and vegetables over the past year. And two thirds of respondents admitted to avoiding certain high-cost produce items.

In Canada's North, the situation is more serious. Fruit and vegetable prices have been extreme for some time, with prices commonly three to four times those of southern Canada because of the transport costs and small market size.

But if you're wondering what Northern Canadians are doing about this, the answer is a lot. There is a relatively large number of established farms and greenhouses (most providing spring, summer and fall shelter for plants), as well as new year-round greenhouse projects getting off the ground that plan to utilize the latest technologies as well as alternatives to diesel generators for heating. Diana Bronson, executive director of the Montreal-based non-profit Food Secure Canada, agrees that there are some really interesting and innovative greenhouse projects going on across the North. "The trend," she notes, "is toward more local food supply everywhere."

And momentum is building. The Yukon government's new *Local Food Strategy for Yukon: Encouraging*



the Production and Consumption of Yukon-Grown Food 2016 — 2021, for example, features a commitment to develop farmers' markets, community gardens and greenhouses, with a strong call for new project proposals. In March, the first Northwest Territories CanGrow Greenhouse Conference was held at the Northern Farm Training Institute (NFTI) in Hay River, organized by the Aurora Research Institute. "Many growers [of fruit and vegetables in the North] have diverse operations, so greenhouses allow for longer seasons and higher production of heat-loving plants, while root vegetables continue to be cultivated in the ground or in raised beds and containers," notes Aurora Community research co-ordinator Jessica Dutton. "There is [as yet] very little high-tech growing happening in NWT and growers tend to be more familiar with growing in soil than with the hydroponic (soil-less growth medium), aquaponics (fish cultivation in conjunction with



hydroponics) and aeroponics (mist) systems that could maximize space and efficiency, so the workshop was a great opportunity to introduce technologies.”

Attendees learned, for example, about the new greenhouse built at Forest Gate Greenhouse and Gardens in Fort Simpson using “Titan Wall” insulated panels developed in part by one of the conference presenters, Tang Gim Lee from the University of Calgary (and Forest Gate also has aquaponics). Phalguni Mukhopadhyaya from the University of Victoria introduced the prototype for his vacuum-sealed insulated panels. People also found out about new developments, such as the dome greenhouse being built at NFTI using funding from Hellmann’s Canada.

Projects established and planned

As government agencies don’t collect hard numbers, it’s hard to say how many commercial greenhouses and farms exist in the Yukon, NWT and Nunavut. According to Jody Butler Walker, executive director at the Arctic Institute of Community-Based Research, there are 14 First Nations in the Yukon and all have greenhouses. Brad Barton, technician at the Agriculture branch of Yukon Energy Mines and Resources, agrees and says First Nation food production capacity is growing stronger every year. The Little Salmon Carmacks First Nation, for example, has had a three-season greenhouse since 2000, and spokesperson Alice Bowland says they now grow broccoli, corn, peppers, melons, tomato, peas and much more.

In Nunavut, the Iqaluit Community Greenhouse Society has been in operation since 2007. Members grow various greens and herbs, beans, peas, radishes and carrots, and even some tomatoes and strawberries (started by members in their own homes using artificial light). Last October,

construction of a dome-shaped greenhouse in Nauyasat, Nunavut got underway, spearheaded by four students from Toronto’s Ryerson University with support from Enactus, an international organization that connects students, professors and business experts in using entrepreneurship to raise living standards. The project, known as Growing North, hopes to expand to nearby communities in the next few years. Crops like tomatoes, cucumbers and potatoes are growing right now, with over 20,000 lbs of fresh produce expected. A cooking club has been formed to help put the greenhouse’s bounty to full use, and students from nearby Tusarvik School will use part of the greenhouse in their studies.

In terms of projects in the planning, Professor Mike Dixon of the University of Guelph’s Controlled Environment Systems Research Facility is planning to head a year-round pilot project in Hay River involving a group of local people and in collaboration with NFTI. Dixon is the foremost Canadian expert on greenhouse systems for harsh environments, from future off-planet settlements to the North. “The insulated unit is already in place,” he explains, “but we need all the systems — lights, hydroponics, controls and so on — purchased and installed.”

Lorne Metropolit, owner of Yukon Gardens in Whitehorse, is also seeking funding to build a year-round greenhouse. He’s been growing hydroponic and field veggies at his garden centre for over 25 years, including cucumbers, cherry tomatoes, greens and herbs. He uses an outdoor wood boiler to ➔

Photo: Jennifer Hall, Yukon Agricultural Association



The Fireweed Farmers Market in Whitehorse, Yukon.

keep seedlings warm early in the year. “[Growing produce] hasn’t always paid over the years, but it’s paying right now with the focus on buying local,” he says. “But it’s still hard to compete with tomatoes brought in from Mexico or B.C. They are \$1 each and ours are \$2 to \$3. I’m learning that novelties sell.”

North Star Agriculture in Whitehorse has partnered with Alberta-based NutraPonics to build a year-round aquaponics facility. North Star CEO Sonny Gray says they are currently securing funding and relationships with other entities such as First Nation development corporations. He is not sure what heat source will be used. “There are options for geothermal,” he notes. “We are still in the development phase and will be working with the Cold Climate Innovation research centre at Yukon College.”

At the farm gate

Yukon Agriculture Association executive director Jennifer Hall says more than 30 farms in that territory now sell fruit and vegetables to retailers and at farm gate. “I believe there is a slow upward trend towards farm production of fruits and vegetables both at the large-scale (hydroponics and aquaponics ventures) and smaller-scale homesteads,” she says. “Root vegetables such as potatoes, carrots and turnips [are being grown] in massive numbers, and also cabbages.”

John and Sarah Lenart of Klondike Valley Nursery in Dawson City, Yukon have been growing apples, pears, cherries, plums, grapes and berries since the late 1980s. John has experimented over the years with dozens of varieties from breeders across the North, and recently the University of Saskatchewan. He has



Participants at the first NWT CanGrow Greenhouse Conference, held in March at the Northern Farm Training Institute and organized by the Aurora Research Institute of Fort Smith, NWT.

Photo: Aurora Research Institute

found keeping fruit trees in containers works best, moving them within or inside/outside custom-built shelters.

Krista Roske and her husband operate Sunnyside Farm outside Whitehorse, with many acres and one greenhouse under production. They sell several types of vegetables through the Potluck Food Co-op, direct sales and the Whitehorse farmer’s market. “We can’t compete with the pricing in the big box stores,” she says. “Our customers are those who are willing to pay a bit more for locally grown food where they know what’s put on it.”

The Yukon Grain Farm, run by Steve and Bonnie MacKenzie-Grieve, is perhaps the most productive farm in the North, with 300 acres under cultivation of field crops and mostly root vegetables. It supplies “From the Ground Up,” a program started in 2012 by the Yukon Department of Health and Social Services to support consumption of more vegetables. Each September, participating schools sell boxes to customers — close to 3,500 boxes (almost 50,000 lbs of vegetables) were sold in 2014.

Year-round greenhouse projects elsewhere

The first of many planned year-round greenhouses heated geothermally is under currently construction in Magrath, Alta. When complete, the flagship Starfield Centre (designed and built by Ag Spectra Whole Earth Science and Technology) will support the cultivation of fruit trees, berries, veggies and more. CEO Lonnie Mesick says that by 2020, they hope to have 70 other Starfield Centres across Alberta.

Construction of a commercial-scale aquaponics greenhouse is underway this summer in Northern Ontario. The stakeholders are Cambrian College (based in Sudbury), Helios Whitefish River First Nation and a company called Greenhouses Canada. The 16,500-sq.-ft. facility in Espanola will produce lettuce, broccoli, tomatoes, cucumbers and tilapia fish, and include a farmers’ market. The greenhouse was designed by Kameal Mina, a professor at Cambrian College, with contributions from retired professor Josef Hamr.

With all these initiatives and momentum, it seems remote Canadian food production will continue to grow. Hall believes that in the North, it will take available land, access to money and people willing to work hard and take risks. “It’s still,” she notes, “a frontier scene.” ●

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Carol Neshevich



By the sea

Sea asparagus, also known as *Salicornia* or samphire, may not be a household name yet — but this wild vegetable is well on its way to becoming more popular in Canada

Here in Canada, it's typically called *Salicornia* or sea asparagus — although East Coasters may call it samphire greens or crow's foot greens — while the British commonly know it simply as samphire. This green and salty indigenous vegetable isn't exactly ubiquitous in Canadian kitchens yet, but according to Jonathan Forbes, owner of Forbes Wild Foods in Toronto, it is well on its way to becoming much better known across the country.

"It will become more popular," says Forbes. "When I first took it to a farmer's market maybe 10 or 15 years ago, not that many people knew what it was, so a lot of people sampled it. Once people try it, they really like it. Now there are a lot of people asking when it's coming. Every year, people are wanting it more and more."

What is *Salicornia*?

"It's a sea and a land vegetable," explains Forbes. "It's right in the tide waters. It's very succulent. It's crispy. It's got good texture and amazing flavour." It grows in North America, Europe, South Africa and South Asia, and it's becoming especially popular in Britain.

In Canada in particular, it's found on both the east and west coasts. "It's



protected in certain parts of Canada, particularly on the West Coast. And we get it both from Vancouver Island and from Haida Gwaii," says Forbes. "On the East Coast we get it from down the southern part of Nova Scotia. And we've had it from New Brunswick, but it just depends on how fat and succulent the pieces are."

Forbes says that here in Canada, sea asparagus is typically in season during spring and summer — "but that's for Canadian fresh, so that's not to say that you couldn't get it from other countries later in the year." Forbes says he commonly sells it to people directly at farmer's markets, "and we do sell some through stores, and we sell to restaurants as well."

How are people eating it?

"People will either eat it raw, or put it in salads, use it as a side dish for fish, or any number of things," says Forbes. "Some

people will even blend it up and put it in smoothies and health drinks."

Last year, both the *Toronto Star* and *Globe and Mail* published articles extolling the virtues of sea asparagus, both of which included recipes and ideas on how to incorporate the salty wild vegetable into your cooking. Suggestions from these articles included eating it raw, pickled, as a side dish or garnish for a fish dish, tossed in a salad, added into a pasta dish, served underneath shucked oysters, or even deep-fried in tempura batter.

What are its benefits?

From a nutritional standpoint, *Salicornia* is rich in vitamins and minerals, including vitamin C, vitamin A, iron, calcium and more; and like most vegetables, it's high in dietary fibre. From a sustainability standpoint, the fact that it grows in saltwater areas where many other crops can't survive is a point of interest for many agricultural scientists globally — salt-tolerant plants are currently being studied as important for the future as sea levels rise around the world.

As the local food movement gains steam, Forbes is quick to point out that sea asparagus is abundantly available right here in our own country — a fact that many Canadians simply aren't aware of. And it's far from being the only wild indigenous vegetable that could use a little more publicity. "That's the thing about a lot of the wild foods: they're available in many different areas, and people just don't know what they are. Canadians know less about our indigenous wild foods than they do about farm foods," he says. "I think [*Salicornia*] is just one of many indigenous foods that a lot of people haven't discovered — there are hundreds!" ●



Pickle power

Kids love them, pregnant women crave them, and in a nation of condiment-filled fridges, pickles are a mainstay. There's no question we love our dills...warts and all. Some eat them straight out of the jar, some as a side, sliced on a sandwich, or piled high on top of a burger. Whether eaten as a condiment or a snack on its own, there's nothing like a dill pickle for a salty, garlicky, tangy dose of flavour.

The word "pickle" is derived from the Dutch word *pekel* or northern German *pókel*, meaning "salt" or "brine," and throughout history, pickling has been a necessity for food preservation. Christopher Columbus rationed pickles to his sailors to fend off scurvy, and pickles were (apparently) one of Cleopatra's prized beauty secrets. The dill variety is about twice as popular as the sweet pickle, and as a testament to that, dill pickle flavouring has found its way into many popular snack options such as popcorn, potato chips, chicken wings, and some less likely partners such as ice cream, vodka, and (egads!) toothpaste.

Nowadays, you can find almost every kind of vegetable from carrots to cauliflower pickled in a jar at the local grocery store or farmers market — pickling it seems, is relishing in its very own renaissance. But the pickled cucumber we know and love as the dill continues to hold the throne in the pickling kingdom. So we recently put four mainstream brands of dill pickles to the test, to see if they are all equally dill-icious.

A date with dill

We recruited 50 females between the

ages of 25 and 54 from the Greater Toronto Area to taste and evaluate four brands of shelf-stable dill pickles, including two national brands and two private labels. They were all regular dills, with no extra garlic, low sodium, or kosher identification.

Each participant received one full pickle from each brand, presented individually on a white plastic plate, labelled with a three-digit code number, in varied order. They were first asked to evaluate the appearance and aroma, followed by a series of liking and "just about right" questions on specific sensory attributes.

It's a dilly

All in all, the four brands performed quite similarly; in fact we could almost declare this a four way tie...but, not quite. One brand narrowly edged out the others as the leading pickle, boasting the highest purchase intent and a particular stand-out performance on flavour. This little green darling was the most likely to be described as delicious and "dilly," and performed the best for strength of the dill flavour.

But having the right strength of dill flavour did not mean having the most dill flavour. In fact, many people agreed that the dill flavour was too strong in the pickle which had the lowest flavour appeal. Interestingly, the brands with the highest overall flavour scores were also the most natural tasting and had the lowest declared sodium levels. This suggests that in this category (unlike many others), saltiness does not necessarily drive enhanced flavour.

While texture was not the strongest driver of overall liking, one brand in our test stood apart with significantly lower textural appeal and it all came down to



the crunch. This texturally challenged pickle was significantly less crunchy than the other three brands with many of our testers actually describing it as mushy.

Due dill-igence

As a designated condiment, some may think of dill pickles as a second-tier product. After all, does anyone really care about the quality of the pickle, when it's the hamburger that truly gets the glory? But sides and condiments can serve an important purpose in the flavour profile of the meal. Dill pickles can bring an acidic tangy note to balance a fatty meat protein, or added zing to a sub.

And dill pickles are not just a "goofy" side-kick either — in fact, more of our participants said they eat dill pickles straight out of the jar more than any other way. The quality of a dill pickle will be judged on its own and our test has revealed that although they are close, not all brands deliver the same flavour and textural quality. So when it comes to the sensory performance — do your diligence to find out whether your product is truly delivering the sensory experience that consumers are expecting...or you may just find yourself in a pickle. 🍷

For questions about this research, or how you can leverage consumer taste buds in your business, contact Dan Scholes at info@contracttesting.com or (905) 456-0783.

Spilling the *beans*

International Year of Pulses
presents opportunities
for Canadian producers
and processors

BY NATALIE CAJIC

There's a lot more to pulses than baked beans and split pea soup. With 2016 named the International Year of Pulses, the spotlight shines on a food crop largely ignored by food processors in North America. Thanks to new research and development, pulses have revealed themselves to be versatile ingredients capable of much more than soups or stews.

Year of the Pulses

The term "pulse" refers only to the dried seed of the legume family. The United Nations Food and Agriculture Organization (FAO) recognizes 11 types of pulses, with the most common varieties being dry beans, dry peas, chickpeas and lentils.

While pulses have a long history of human and animal consumption going back at least 10,000 years and are among the most extensively used foods in the world, North Americans are only starting to appreciate the benefits of this food crop.



Lentil patties with garlic and herbs.



Margaret Hughes of Best Cooking Pulses (BCP) says when her grandfather established the company in 1936, pulses were a niche market. “Pulses were exported and sold to the U.K. canning industry, as well as into the domestic market, mainly Quebec, for French Canadian pea soup,” she says. Today the family-owned agri-food business is a leader in the international pulse trade. In June, BCP was named 2016 Food Company of the Year by Food & Beverage Manitoba.

The main pulse crops in Canada are dry peas, lentils, dry beans, chickpeas and faba beans. Canada is the world’s largest producer and exporter of lentils and dry peas to countries such as India, Turkey, Egypt, China and Bangladesh. In fact, in 2015 we exported six million tonnes of pulses worth nearly \$4.2 billion to more than 150 markets around the globe, according to Pulse Canada, a national industry association.

Pulse R&D

While a large portion of pulses produced in Canada are intended for exports, the last decade has seen a focus on enhancing secondary processing, thanks to organizations such as the Canadian International Grains Institute, or Cigi. Ten years ago the non-profit launched a pulse-processing and specialty milling facility and a project that assessed pulse quality with developing methods for dehulling and splitting pulses effectively and efficiently.

This early work laid the foundation for investigating milling methods and how they affect the functionality of pulse flours as ingredients in food product applications such as baked goods, Asian noodles, extruded snacks and batter-coated products.

Jackie Green, project manager at Quadra Ingredients, explains that not all pulses are ground or milled into flour using the same techniques. “If you have a stone-ground flour, a whole wheat flour, or a white flour they are not going to function the same,” she says. “Pulses are the same.”

Cigi’s latest project, which received a funding boost of over \$950,000 from the federal government last year, looks at the nutrition of pulses and how it translates to applications in food. Heather Maskus, project manager, Pulse Flour Milling and Food Applications at Cigi, says “the challenge of the project will be to maximize the nutritional benefits of pulse flours while maintaining functional quality of the ingredients.” ➔



CANADA IS THE
WORLD’S LARGEST
PRODUCER AND
EXPORTER OF
LENTILS AND DRY
PEAS TO COUNTRIES
SUCH AS INDIA,
TURKEY, EGYPT,
CHINA AND
BANGLADESH.



Pulse-based products today

The versatility of pulses was recently showcased at Mission: ImPULSEible, an annual product development competition for post-secondary students. With 2016 as the International Year of Pulses, competitors were tasked with creating traditional foods products using Canadian pulses.

Fiberger is an innovative, nutritious, high-fibre meat extender made from red lentils, green peas and chickpeas. Created by Caileigh Smith and Evelyn Helps of the University of Guelph, Fiberger

was crowned national champion in the ninth annual competition, which took place on Feb. 22, 2016 in Vancouver.

Helps says Fiberger can be used in many different ways. “For example, adding Fiberger to patties and meatballs can reduce the amount of meat required, while adding fibre and protein to enhance the nutrition of the meal. Fiberger can also help families decrease their food costs by giving them a healthy, affordable ingredient to add to their protein dishes.”

“Pulses pose a triple threat, delivering health, nutrition and environmental benefits.”

The pair represented Canada at the Global LovePulses Product Showcase on July 19, 2016 during the Institute of Food Technologists Expo (IFT) in Chicago. Ten other countries have been invited to be a part of the Showcase which will demonstrate the versatility of pulses to the world’s leading food professionals.

Other winners at Mission: ImPULSEible included a gelato-inspired dessert made with fermented bean milk made using an assortment of pulses, and a breakfast bar containing faba bean flour, chickpea flour, and green lentils.

As consumer awareness continues to grow around the nutritional benefits of pulses, the number of products fortified with pulses will continue to expand. Already food manufacturers have added pulses or pulse products to innovative food products such as breads, cereals and baking products; pasta and sauces; meat and dairy-free alternatives; snacks; and beverages.

Green says food manufacturers are using pea fibre and whole navy bean flour but more are looking at whole red lentil flour, decorticated red lentil and black bean flours because of their visual appeal. Yellow pea grit is becoming of interest in snack applications, she says. Quadra carries a full range of pulse flours and pea fibre from Best Cooking Pulses.

Pulses pose a triple threat, delivering health, nutrition and environmental benefits. With the massive global marketing effort behind International Year of Pulses, pulses are poised to be the next big food trend. Move over kale and quinoa. 🍎

Health by stealth

Pulses are more than a great alternative protein source. They offer a significant source of vitamins and minerals, such as iron, zinc, folate and magnesium. In addition, the phytochemicals, saponins, and tannins found in pulses possess antioxidant and anti-carcinogenic effects, indicating that pulses may have significant anti-cancer effects.

Pulses are also high in fibre and have a low glycemic index, making them particularly beneficial to people with diabetes by assisting in maintaining healthy blood glucose and insulin levels.

In fact, fibre is one of the best reasons for using pulses, says Chef Sean Audet of Red River College’s culinary research program. “Fibre gives them a good thickening characteristic.” Furthermore, Audet says he and his students have found a number of ways to manipulate pulse products and make them work more effectively in various applications. “I’m proud to say that we’ve developed applications for pulse products that range from simple pulse flour substitutions in baked goods to sauce work to completely new techniques we didn’t even know were possible,” he says.

For example, working with Best Cooking Pulses and the support of the Natural Sciences and Engineering Research Council of Canada to look at bean flours as an egg substitute in baked goods, Audet says they were able to develop several recipes eliminating eggs, including a completely vegan, nut-free, bean-flour based French macaron. “Which was actually really pretty amazing,” he says.

Students and chef instructors at Red River College have also conducted recipe development for Manitoba Pulse and Soybean Growers to demonstrate that pulses can be incorporated easily into recipes such as gluten-free crackers and cookies, perogies, flatbreads, even crème brûlée.

ON THE MOVE

FOOD & LOGISTICS IN CANADA



News > file



Sellick Equipment breaks ground on new facility

In April, at the youthful age of 97 years, Walter Sellick stood with sons Howard Sellick (company president) and David Sellick (vice-president), as well as grandson Colin Sellick (systems manager), at a groundbreaking ceremony for Sellick Equipment Ltd.'s new multi-million-dollar, 120,000-sq.-ft. facility in Harrow, Ont. "In order to compete on a global scale, we needed to expand and build a state-of-the-art plant," says Howard Sellick. Sellick Equipment has been manufacturing rough terrain and truck mounted forklifts for more than 47 years.

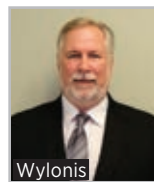
Government extends provisions for rail

Transport Canada and Agriculture and Agri-Food Canada announced in June that the government is postponing the repeal of certain provisions of the *Canada Transportation Act* that were enacted in 2014 by the *Fair Rail for Grain Farmers Act*.

According to a government press release, postponing the repeal of the provisions until August 2017 will allow the various participants in the freight rail supply chain to plan for the upcoming year under predictable conditions, while also giving the government the opportunity to fully assess the recommendations presented in the report from the Canada Transportation Act Review Panel.

"We recognize the importance of a reliable grain transportation system to help farmers get their products to markets around the world quickly and efficiently. This extension allows the sector to plan for the year ahead under predictable conditions while we seek out their input on the long-term plan for grain transportation," says Agriculture minister Lawrence MacAulay.

PEOPLE ON THE MOVE



Wylonis

> UniCarriers Americas Corporation (UCA) has hired **William E. Wylonis** as senior manager of Product and

Sales Training, **Cliff Pinto** as senior manager of Logistics and Trade Compliance, **Jaimie E. Kowalski** as director of Marketing, **Rohit Soni** as director of Compliance, and **Christy Willis** as its director of Human Resources.

> **Joseph (Joe) Dagnese** has been appointed the new CEO for PECO Pallet.

The provisions being extended provide the authority to: prescribe different distances when making regulations on interswitching; make regulations specifying what constitutes "operational terms" that can be referred to in level-of-service arbitration; order a railway company to compensate a shipper or any person for any expenses they incurred as a result of the railway company's failure to comply with its level-of-service obligations; and prescribe a minimum amount of grain to be moved by Canadian National Railway and Canadian Pacific Railway during any period within a crop year.

PRODUCTSHOWCASE

Dock door solutions



Entrematic (Loading Dock Products) is rolling out a comprehensive

line of sectional overhead dock doors under the Kelley brand. Entrematic's new Kelley sectional overhead dock doors include energy efficient insulated dock doors, heavy-duty steel doors, aluminum sectional doors and even medium-duty doors designed to blend into less industrial environments.

www.kelleyentrematic.com

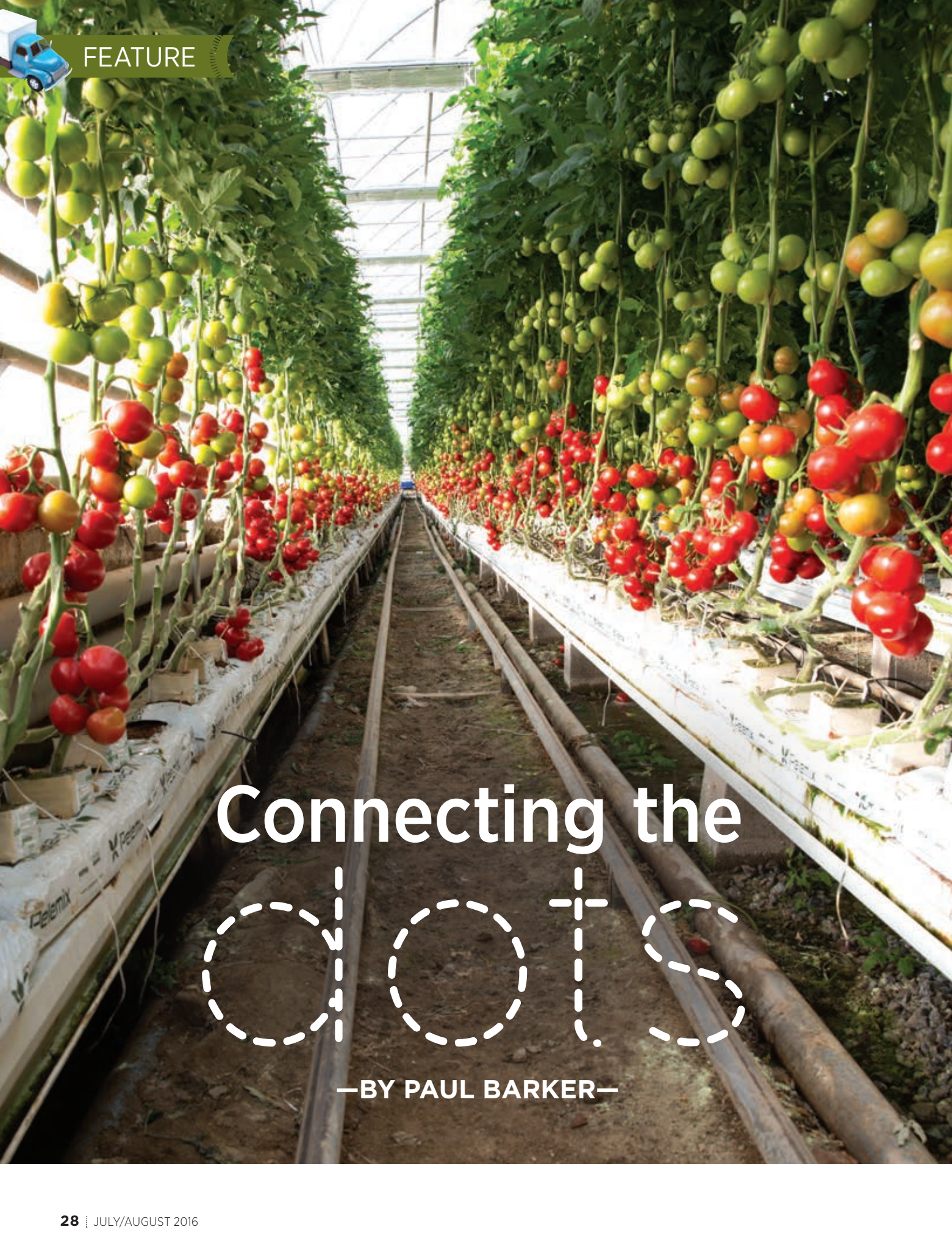
INBRIEF



> **VersaCold Logistics Services**, a Canadian supply chain solutions company focused exclusively on the handling of temperature-sensitive products, has acquired **Coastal Pacific Xpress (CPX)**. CPX, British Columbia's largest refrigerated carrier specializing in the shipping of perishable and ambient products throughout Canada and the U.S., will operate its business as part of VersaCold's newly created VersaCold North America Transportation Solutions (VNATS) division.

> **Axios Mobile Assets** has announced that the process it developed to sanitize its pallets after each use has obtained Provision of Sanitation and Hygiene Services certification under the Safe Quality Food ("SQF") Program.

> **Flowfinity Wireless Inc.**, a provider of enterprise mobile apps, has partnered with Canada's largest food rescue program, Second Harvest, to implement customized mobile forms and apps for use in the charity's delivery trucks.



Connecting the dots

—BY PAUL BARKER—



The Internet of Things and its impact on logistics and the food-to-fork cycle

Leamington, Ont.-based Nature Fresh Farms produces English cucumbers, mini-cucumbers, and a variety of tomatoes. The company also happens to be the largest single bell pepper producer in North America. All of these are grown not in normal farm fields, but in a 130-acre facility entirely encased in glass.

It is a state-of-the-art facility, but the advancements do not end there, says Keith Bradley, Nature Fresh's IT manager. When it comes to every piece of produce that is picked, shipped and delivered, there are tracking mechanisms in place at all times.

In fact, the company's logistics and handling processes are so sophisticated, he says, that "we basically know the row and the person that picked the produce. Our owner has always been an early adapter of technology and as a result, traceability has always been important. We realized that we had to be able to prove where things were, and through that we found that we can trace back volumes even better. As an example, it allows us to ask the question 'This section of the greenhouse is not producing as much — why?'"

Jeff Gagnon, the firm's compliance co-ordinator, says the intent is to track product from the greenhouse to the shelf. "We want to follow everything all the way through," he says. "The technological advancements that happened in a relatively short time are amazing. We have so much data and I am thrilled when our more junior people say, 'I am going to start doing this and checking that trend.' The data is being used, which is fantastic. We have ➔



Photos on this page and next: NatureFresh Farms



a lot of disciplines in place to make sure we gather all the information.”

Among the advances is the so-called Internet of Things (IoT) movement, which is and will play a key role in every aspect of the food and beverage industry.

In a recent blog posted by Thingworx, a business unit of software company PTC, Linda Frembes, the firm’s content marketing group lead, wrote that the “potential for smart connected products, systems and operations when it comes to the food and beverage industry is mind-boggling. According to a 2015 survey, there was almost a 20-per-cent jump in the number of food and beverage companies with product sustainability goals compared to 2013. When you think about sustainable farming, waste reduction, and keeping up with feeding the world’s population, you don’t necessarily think about technology and the Internet of Things. But with IoT changing the landscape of virtually every industry and enterprise, the reality is that [it] can play a vital role in improving processes in the farm-to-fork cycle.”

David Zavitz, senior vice-president at Canada Cartage, says the key to it all from a logistics and handling perspective is that the cost of technology has come down drastically. As an example, he adds, where it used to be cost prohibitive to put telematics into tractors or to provide handheld devices to drivers, the “cost per unit has come down incredibly so. What that has meant to us is that we now have technology in just about our whole fleet whereas even three years ago, it would have been possible, but cost prohibitive. We see gains in many areas, but particularly from a customer service standpoint.

If customers call for the status on shipments it is much easier for us to almost instantaneously tell them here is where your shipment is, here is what the ETA is. We can pull up screens that can see a truck in a particular area.”

As for the food and beverage sector’s wants and needs, Zavitz says the larger companies are looking to integrate both the delivery and logistics information tighter into their corporate enterprise resource planning or ERP systems. “Those are big ambitious undertakings though so it is challenging. It is not for the faint of heart to do that, but certainly there is the will to want to do that.”

Technology advances are also being used to reduce fuel consumption. For instance, it allows the idle time of trucks to be tracked, the speed they are being driven monitored and incidents of hard braking or hard acceleration recorded. “Fuel is such a huge expense for everybody so that is typically where you can get savings out of a system through better management of your assets and better management of the drivers,” explains Zavitz.

“With IoT changing the landscape of virtually every industry and enterprise, the reality is that [it] can play a vital role in improving processes in the farm-to-fork cycle.”

John McKenna, president of McKenna Logistics Centres, oversees an organization that handles both warehousing and logistics for a number of vertical industries, ranging from dry foods to consumer electronics. The control of information, particularly in the areas of food protection and quality, as well as on the warehouse floor, is critical, he says. “People in the supply chain want information. Collaboration between us as a warehouse operator and our customers is key. We store, distribute and ship to all the hard grocery and hard goods retailers in Canada. All that information has to flow quickly and correctly.”

As for other technology advances specific to the food and beverage industry, McKenna says the new Sobeys’ distribution facility in Vaughan, Ont. has “gone into areas that I did not think were possible. Where we have pickers in our warehouse putting cartons onto pallets, shrink wrapping them and shipping, the new distribution centre is almost entirely hands free. It costs hundreds of millions of dollars, but the productivity gains and labour cost savings realizes a very quick payback. There are not a lot of companies that can invest that kind of money.”

That said, McKenna’s goal is to go in a similar direction, but on a smaller scale for two reasons: one has to do with the cost of labour, while the other has to do with the availability of labour. “Looking at demographics,” he says, “in the future we are going to have a smaller resource base to draw upon.” ●

—BY ED WHITE—



Gregory also grows export forage seed but he's more optimistic about the potential for CETA to preserve and expand markets in Europe. "Right now we cannot get exporters insurance," says Gregory about forage seed being sent to Europe. The zero tolerance policy for unapproved GM seeds makes every shipment a gamble. "If this GM seed is found too late in the system, we could be looking at a multimillion-dollar lawsuit against our farm and against our business. There's risk for the grower, the shipper and the processor. It's something that we hope is clarified."

Gregory hopes the dispute settlement and technical issues structures created by CETA can defuse these potentially explosive situations before they cause the sort of damage to trust that has darkened Fridfinnson's view. Gregory has seen Canadian honey shipments suffer because of the GM issue, with pollen from GM canola common in Canadian honey, and he hopes that issue can fade away if CETA can de-politicize the issue. "If we were

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to ratify this agreement, it would help our exports for honey."

A couple of hundred kilometers west of Gregory's and Fridfinnson's farms sits Ernie Sirski's Dauphin, Man. area operation, which produces the usual Prairie crops of canola and wheat but which in recent years has begun producing soybeans. As that crop spreads west into the main growing areas of the Prairies, the European market could get more attention because that is where many Canadian soybeans already go.

Sirski doesn't see CETA as being something that will suddenly break open new markets, since a lot of Canada's soybean crop already goes to the European Union, but he's happy to see it going forward. "There will be some benefit for pulses and soybeans going into Europe, but it's probably not going to affect us as much as other parts of agriculture," says Sirski.

However, protecting present trade will be a real gain, he thinks, because access can never be assumed to be permanent, as the flax situation has proved.

And if Canada doesn't nail down access for its products, it might get edged out in the future.

"If we don't have a trade agreement, then other countries will and we have to make sure we're at the same table and we're not shut out of markets we've been traditionally in," says Sirski. ●



Evolution of the bottle

Packaging in bottles is not a recent invention. Early examples of the bottle appeared in ancient civilizations of China, Greece and Rome and were made from clay and glass. The bottle is a rigid container that has a neck that is narrower than the body with a mouth that is sealed to hold liquids for consumption such as water, milk, soft drinks, beer, wine and cooking oil.

Historical perspective

A turning point in the increased use and function of packaging was the Industrial Revolution. Use of machines led to mass-produced goods. Agricultural workers migrated to the cities to work. Food that was previously grown and consumed locally had to be packaged, preserved and transported to feed the new working class. Glass became a popular material for bottles and found various applications for beverages. The invention of carbonated sodas led to the use of glass bottles that were first sealed with a rubber washer and gasket system. Later, metal crown caps were used. Bottle resealability became a popular feature with the development of screw top caps.

Plastic bottles

Following the invention of plastic, it was discovered that this material could easily be melted and moulded into various shapes, including plastic bottles. Plastic has the advantage of being lighter and more shatter-resistant than glass. Various

plastics have different physical and barrier properties that enable manufacturers to select the appropriate material and design to meet processing and shelf-life requirements of the food. For example, polypropylene is a material that can withstand high temperature retort processing. Beverages that are sensitive to oxidation (such as wine and beer) need bottles with an excellent oxygen barrier. This can be achieved by using multilayer materials, oxygen scavengers and coatings. Convenience and portability promoted the proliferation of single-serve bottles. Product differentiation is achieved by custom designing bottle shapes for aesthetics, functionality and strength.



Sustainability

With the increase in consumable goods came the concern about packaging waste. Light weighting bottles was one initiative to reduce the amount of packaging waste as well as cost. For example, from 2000 to 2014, the average weight of a 500-mL PET water bottle has declined 48 per cent to 9.89 g, according to the International Bottled Water Association. Development of the recycling infrastructure and end use markets enabled successful recycling of plastics. Ice River Springs is the first bottled water company in North America to self-manufacture its own resin and produce plastic water bottles made of 100-per-cent recycled plastic.

Novel bottles

Another trend in the bottle industry is the use of aluminum to provide a novel and premium feel to bottles. Specialty or promotional beers in aluminum bottles have become popular.

A novel twist to the bottle is Tetra Pak's carton bottle (Tetra Top) with a screw-off cap. Tetra Pak claims that cartons are more sustainable than plastic bottles. The separable top allows for recycling of the plastic top and carton sleeve. The majority of the package is made from renewable resources; the cap and top are made from high-density polyethylene derived from sugar cane and the carton portion is mainly paper made from trees. Less energy is used in manufacturing the carton bottle compared to standard PET bottles, and the carton material can be stored and transported flat.

What is the bottle of the future? Imagine an edible container of water made from seaweed that produces zero waste. Ooho! is a new kind of package created by Skipping Rocks Lab. It is made by treating spheres of ice with a liquid form of seaweed-derived membrane. The membrane solidifies and the water melts to create the edible water container.

The packaging industry has responded to the changing demand over the years. Innovation has proven to be the key to the evolution of the bottle. No doubt that packaging challenges will become even more complicated in the future. 🍓

Carol Zweep is manager of Packaging, Food and Label Compliance for NSF-GFTC. Contact her at czweep@nsf.org

Peter Henderson



Nurturing sustainable growth

Why not mimic the systemic culture from the craft beer sector?



The organization culture within craft breweries often exudes entrepreneurship, openness, freedom, fairness, sharing, employee engagement, innovativeness and authenticity.

Before exploring further, let's start with a few stats. In the U.S., estimated 2015 "retail dollar" sales of American craft beer are \$22.3 billion, representing a 21 per cent market share. Last year's volume was up around 13 per cent and retail dollars 16 per cent. In the second quarter of 2016 sales jumped a further eight per cent vs. the prior year, according to the Brewers Association.

In Canada the number of licensed brewers has more than doubled over the last five years, with more than 644 in 2015. In Ontario (which represents 35 per cent of Canada's sales of total beer volume), Ontario Craft Brewers and Beer Canada numbers show that five per cent of total beer volume is from craft brewers.

The high growth over the past decade has been fuelled on a systemic platform of contagious sector-wide culture. It is one that embraces sharing between competitors, including: equipment, best practices, and making and marketing of collaboration brews. As the industry has

evolved in this way, it has fostered almost impenetrable authenticity, openness and trust.

In some instances craft breweries are 100 per cent owned by tens or hundreds of their employees via an employee share ownership plan (ESOP), which is a further embodiment of their desire to remain independent and often rooted in their respective regional communities, adding to the brand's authenticity. An example of a large 100 per cent ESOP is New Belgium Brewery Company in Fort Collins, Colo., founded in 1991.

The fourth largest craft brewery in the U.S., New Belgium Brewery boasts a "High Involvement Culture." An excerpt from its website reads: "We practice open book management, providing co-workers access to company financials and a clear view into managerial decision making processes. We facilitate an all-staff monthly meeting where co-workers are informed on the latest and greatest New Belgium news. We also meet annually, in the form of a Strategic Planning Retreat. This retreat is a sight to behold: all 652 of our co-workers come together for a few days of serious talks and serious fun. We gather input from ALL co-workers as Employee Owners, to help make decisions about the upcoming year's

business plan. It's a wonderful way to celebrate, sustain our culture, reconnect ourselves to our Vision, and give out a heck of a lot of hugs and high fives in the process."

To back up the premise of this column, one of four personal leadership traits identified in Neilsen's 2016 *Breakthrough Innovation Report* is "Embrace a culture of transparency, collaboration and humility." Neilsen describes this leadership trait as:

- » They keep their CEOs actively engaged in — not just aware of — their innovation activities.
- » They operate without egos and boundaries. As relentless integrators, they know great innovation only happens when all functions contribute.
- » They display and encourage a sense of humour and recognize that innovation is hard work but also fun.

This sounds a lot like the culture within a nimble leading craft brewery. 🍷

Peter Henderson is a director on the board of the Agri-food management Institute (AMI). He is also founder and managing director of Ideovation, a Toronto-based growth strategy services company. Contact him at phenderson@ideovation.com



What grocers can learn from selling an avocado

One of the greatest yet underused resources available to grocers today is the customer data they're able to collect through transactions. Retailers can track what customers purchase each time they enter the store. For example, a grocery store can tell that five per cent of their clients are buying one avocado every week. Now, how can they use this information to increase that number to two or add complimentary items? How can they create enough brand loyalty in their customers to ensure they don't go to a competitor that's featuring an avocado sale?

In the past, initiatives like flyers and promotions were enough to draw in new customers and generate brand loyalty. In today's competitive grocery industry, these kinds of marketing strategies are no longer enough. Many retailers are able to use their data to execute elements of a personalized engagement plan, but fail at bringing these elements together to create the all-inclusive experience needed. Using this information to offer double loyalty points or a direct discount on a recurring product like avocados is just the beginning.

According to PwC Canada's *Total Retail 2016 Report*, today's customers want "communities they can feel they're

a part of — reinforced by brands they trust to support the lifestyle and experiences they're looking for." Social networks are an increasingly important tool that many retailers have already begun to use.

Grocers need to follow suit and offer their customers community content that's related to their interests, such as easy everyday meal recipes that contain their most frequently purchased items.

By providing access to recipes featuring products they already love — like avocados — grocers are both promoting regular consumption, and creating opportunity to increase the customer's basket size. Real success is achieved when the grocer is able to distinguish between the customers who purchase avocados to make dip for a Super Bowl party, and those who buy them due to healthy eating habits. With this level of insight, retailers can truly begin to support the consumer's lifestyle outside of the shopping experience.

To take this one step further, as they review the recipe and share it with their friends, customers should be able to see who has also used it and reviewed it among their peer group. Having their customers know that seven out of 10 of their friends on Facebook liked the local grocery store's guacamole recipe is an excellent way to build community around a brand.

But this kind of cohesive online engagement initiative isn't enough to stand out from the competition. Grocers need to make sure they're supporting their communication with an equally intuitive and personalized purchasing experience. The ability to view a recipe, buy the ingredients needed, and have

everything delivered to your home or office with the click of a button provides the level of convenience customers desire and takes engagement one step further.

Alternatively, for in-store shoppers, accurately analyzing data for purchasing trends can also lead to more opportunities for customer satisfaction offline. The top products researched in-store are grocery items. What does this mean? Customers are looking for product information while shopping and grocers can use their data to fill this need. If the most frequent time to purchase avocados is Saturday morning, having a produce specialist in that section at the right time could make a world of difference. Imagine this expert showcasing their knowledge on how to select the perfect avocado for same day use, or for a recipe that will be prepared in a few days. The usual avocado consumer would probably frequent that grocery store more often knowing there will be an expert on hand who can answer produce-related questions.

It's clear that when data is used correctly, there are endless possibilities to connect with consumers. Creating brand loyalty is not just about having the right product at a good price. It's about understanding your customer and making sure you're fulfilling their unique expectations at every point in the shopping journey. ●

Elisa Swern is PwC's Retail Strategy Leader. You can contact her at elisa.swern@pwc.com. To view the key insights from the Canadian *Total Retail 2016 Report*, visit www.pwc.com/ca/totalretail

RESEARCH CHEFS IN CANADA



News > file

Now you're cooking with mustard

This summer, mustard purveyor La Maison Maille is hosting "The Maille Flavour Studio" in three cities across Canada (Toronto, Vancouver and Montreal), an event designed to give visitors a unique culinary experience led by headmaster mustard sommelier Harry Lalouis. As an expert on cooking with mustard, Lalouis is hoping to teach Canadian home chefs how to cook from the heart – no cookbook required.

Demonstrating simple ways to incorporate mustard into meals, Lalouis is offering three different culinary workshops: sauces and dips; marinades and glazes; and vinaigrettes. Visitors will also have the opportunity to make their own flavoured mustards using fresh ingredients for \$2.



"Adding mustard to a dish intensifies the other flavours without overpowering them," says Lalouis. "The aim of the Maille Flavour Studio is to show people ways to incorporate mustard that are so easy, they'll be able to adapt them to any meal for a more instinctual cooking experience, with restaurant-quality results."

The Maille Flavour Studio tour kicked off in Toronto at Taste of Toronto in June, and will be in Vancouver at Columbia StrEAT Food Truck Fest on Aug. 20, and in Montreal at YUL EAT from Sept. 3 to 5.

Chef Smith encourages healthy eating in video series

Half Your Plate has launched a new series of instructional cooking videos featuring Canadian chef and TV personality Michael Smith. The videos are geared toward educating consumers on how to select, store and prepare popular vegetables, with each video featuring a unique recipe created by Smith, as well as showing the basics of preparing produce such as tomatoes, potatoes, celery, cucumbers, creamer potatoes, butternut squash, Brussels sprouts and mushrooms. Five videos launched in the spring, with the remaining five scheduled to launch in the fall.

The Half Your Plate program is managed by the Canadian Produce Marketing Association (CPMA), in partnership with the Canadian Cancer Society, Heart and Stroke Foundation of Canada, and Canadian Public Health Association. The interactive Half Your Plate website (www.halfyourplate.ca) is a one-stop-shop for recipes, print resources, and videos all about fruits and vegetables.

IN BRIEF



> On Sept. 23, 2016, the B.C. chapter of **Les**

Dames d'Escoffier will be honouring Emmy Award-winning TV personality, author and restaurateur **Lidia Bastianich** at the Les Dames d'Escoffier Gala to be held at the Four Season Hotel Vancouver.



Bastianich



Chef Yoshimi of Japan conducts an online class with **The Chef & The Dish**.

> The **Chef & The Dish** is a new interactive online cooking experience, allowing home cooks to connect live with top chefs and cooking instructors from across the globe. Foodies can select from a number of private online cooking classes and cook alongside well-known culinary professionals to learn how to prepare dishes that come from that particular chef's region, all

with real-time conferencing available.

> **Toronto Taste**, a high-profile culinary fundraiser, took place on June 12. Presented by The Daniels Corporation, the event raised \$850,000 for **Second Harvest**, Canada's largest food rescue charity.

> According to food delivery service **JUST EAT**, in the past year alone, Canadians ordered close to 100,000 orders of restaurant-quality poutine for delivery. Montreal, Toronto and Ottawa are home to the most devoted poutine fans in Canada, according to JUST EAT's data.

> In July, **Maria Fernanda Di Giacobbe** from Venezuela was named winner of the **Basque Culinary World Prize**, an international award for chefs whose projects have improved society through gastronomy.



Poutine from Toronto's Toma Burger Addiction

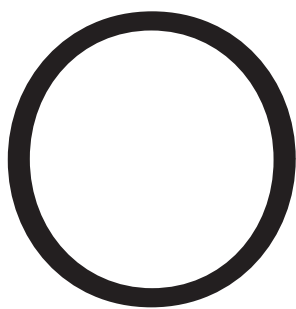


> **Doritos** has partnered with Toronto chef and owner of Parts & Labour **Matty Matheson** to create two exclusive summer recipes that incorporate Doritos chips: Doritos Inferno Chicken Skewer with Inferno Ranch Sauce, and Doritos Inferno Flank Steak Nachos and Burnt Jalapeno Salsa Verde.



BY JOHN PLACKO

The World's 50 *Best Restaurants 2016*



Once a year, the top chefs and restaurateurs gather in one place for this prestigious awards ceremony, The World's 50 Best Restaurants. This year New York was the place to be. An influential group of almost 1,000 international leaders in the restaurant community determine the winners. There are 27 separate regions around the world, each of which has 36 members in-

cluding a chairperson, and each member casts seven votes. Of those seven, at least three votes must recognize restaurants outside of the academy member's own region. This year Spain captured seven positions on the top 50, while the United States managed six and Italy a very decent four positions.

Here are the top 10 restaurants for 2016.



Massimo Bottura of Osteria Francescana.



2.

1. Osteria Francescana, Italy

After sitting in the number two and three spot for a few years, Massimo Bottura finally hit the number-one position with his modern interpretation of classical Italian dishes in his Modena restaurant, opened in 1995. He is best known for his use of authentic Italian ingredients which are transformed into ultra-modern dishes, like his "Five Ages of Parmigiano Reggiano," which features various textures, temperatures and taste sensations. In 2015 Bottura was in Toronto doing events at Buca Yorkville and George Brown College, and just this year Bottura founded a non-profit organization that fights hunger and food wastage called Food for Soul. This place is on my bucket list.

2. El Celler de Can Roca, Spain

This restaurant finds itself in the number-two position after being number one last year. Known as one of the most beautiful restaurants in the world, brothers Joan, Josep and Jordi run this exceptionally modern Spanish restaurant. The kitchen is massive, with multiple sections containing all the modern kitchen and lab equipment needed to transform local ingredients into a work of art. One of my favourite dishes was the "A trip to Havana," a dessert of deconstructed mojito and then chocolate-coated ice cream formed into the shape of a cigar with spiced ash.

3. Eleven Madison Park, U.S.

Voted the best restaurant in North America, chef Daniel Humm's menu pays tribute to New York tradition and ingredients. His modern cooking techniques coupled with the very fine presentation and tableside showmanship makes it a memorable experience. The 15-course tasting menu is the best way to experience the thrill of his menu. If you're there, ask to see the kitchen. So quiet, extremely organized, and service is done with military precision.

4. Central, Peru

Chef Virgilio Martinez worked around the world before returning home to Peru to open Central in 2009. Martinez has brought Peruvian cuisine to a new ➡



5.



10.



7.

level of execution with native ingredients sourced from various altitudes and regions including the jungle, desert, mountains and sea. Martinez also oversees outlets in London and will soon open a location featuring Peruvian cuisine in Dubai.

5. Noma, Denmark

This exceptional restaurant with Rene Redzepi at the helm opened a pop-up location in Sydney, Australia this year commencing on Australia Day, Jan. 26, for just 10 weeks. His use of native Australian ingredients has redefined what Australian cuisine can be, with a 12-course tasting menu which included Albany snow crab with egg yolk cured in fermented kangaroo, scallop pie and lantana flowers matched with a quandong liqueur and raw peanut milk ice-cream, finished with a caramel and freekeh glaze and spiked on a lemon-myrtle stick. One of the interesting dishes I had at Noma when in Copenhagen was the yogurt mousse with sorrel granité.

6. Mirazur, France

Located on the French side of the Riviera, chef Mauro Colagreco of Argentinian-Italian background has created a unique style of cuisine using heirloom vegetables and the freshest seafood, meats and poultry. A staple on the menu is his Tarbouriech's oyster with shallot cream, tapioca pearls, balls of pear and pear juice.

7. Mugaritz, Spain

This restaurant has maintained its position in the top 10 list for years now. Chef Andoni Luis Aduriz runs this restaurant, which opened in 1998. Influences from his tenure at el Bulli are evident in his meticulous

presentation of molecular-inspired cuisine, which spans a 20-plus course tasting menu. The 200-year oak tree in the courtyard is the centrepiece of this countryside location. One of my favourite dishes here was the broken walnuts and faux walnuts filled with Armagnac jelly, milk ice cream and goat cheese.

8. Narisawa, Japan

This restaurant opened in 2003 and is run by chef Yoshihiro Narisawa, who left Japan at age 18 to work in some of the world's best restaurants in Europe before opening his first restaurant in Odawara in 1996. Although strong French techniques and influence are evident in today's menu, unique Japanese ingredients are the focal point in this Tokyo restaurant, which is known for its avant-garde menu offerings.

9. Steirereck, Austria

This restaurant 90 minutes from Vienna has cutting-edge cuisine rooted in Austrian traditional, which is evident with schnitzel on the menu for lunch. Chef Heinz Reitbauer guides the cuisine of this restaurant, which has been in the family for generations. One of his unique dishes is the char cooked in beeswax with boiled and marinated yellow carrot, jellied yellow carrot and apple juice infused with beeswax.

10. Asador Etxebarri, Spain

I'm so pleased to see this restaurant make it onto the Top 10 list. When people ask me where they should dine in Spain, this is always on the list. Self-taught chef Victor Arguinzoniz is the king of the grill, using multiple varieties of wood on unique cooking equipment. The menu features about 20 dishes, or you can select the 10-course tasting menu comprising mainly seafood, pork, beef and even grilled beluga caviar. The presentation is extremely simple but the attention to perfectly cooked food is paramount. My favourite was the grilled sea cucumber.

Other awards announced included:

- » World's Best Female Chef: Dominique Crenn, San Francisco.
- » The Highest New Entry: At number 26, The Clove Club, London, England.
- » Highest Climber: With a new position at number 13, Maido, Lima.
- » One To Watch: Den, Tokyo.
- » World's Best Pastry Chef: Pierre Hermé, Paris, France.
- » Chefs' Choice Award: Joan Roca, Girona, Spain.
- » Sustainable Restaurant Award: Christian Puglisi, Copenhagen.
- » Lifetime Achievement Award: Alain Passard, Paris.
- » The Ferrari Trento Art of Hospitality Award was introduced this year and won by Eleven Madison Park, New York.

Canada failed to have an entry in the top 50 for the 13th year in a row and wasn't able to make the top 100 list. Joe Beef of Montreal was number 81 on the list in 2015. 🍷

John Placko is culinary director, Modern Culinary Academy and Bar 120: Cuisine Transformed at Pearson International Airport. Contact him at johnplacko@gmail.com or visit www.ModernCA.ca



Regulatory labelling: protect your business

Sometimes brand owners make bad business decisions that can damage their brand, like trying to save money on the regulatory aspect of food labels. Regulatory labelling should not be approached as a do-it-yourself project. Legislation is complex, with several sets of regulations coming into play. Virtually everything on a label is covered.

The allergen problem

Labels that do not properly declare allergens (in both official languages) can be devastating for the estimated 1.2 million Canadians affected by food allergies.

Claims are a minefield

Marketers love to make claims, but getting them wrong can put the business at risk. “Wordsmithing” is not an option.

Health Canada has various classifications for claims such as nutrient content, health, functional, composition, comparative and quality. Claims must meet specific criteria and scientific evidence may be required to back them up. Strict regulations prescribe precise wording for certain claims. Gluten-free claims are especially risky in the absence of good manufacturing practices and preventive control measures to prevent cross-contamination.

Beware of deception

Making false or misleading statements can get companies in hot water with

the Canadian Food Inspection Agency (CFIA) and erode customer trust in the brand. Regulations extend beyond labels, covering misrepresentation of products promoted on social media, websites, traditional media and marketing collateral.

Crossing the border

If you’re selling food in Canada and the U.S., the rules are not the same and different labels are necessary. Although nutrition facts panels look similar, the requirements are quite different. Adding a sticker is not enough to comply with regulations. Also, the ingredients permitted in food products differ between countries.



What are the risks?

The worst case scenario is when a customer dies or becomes ill. Financial and legal consequences can result in bankruptcy.

Undeclared allergens and false claims are a leading cause of product recalls. Recalls are bad for business. Consider the impact of lost sales, financial penalties, the expense of packaging changes and damage to the brand reputation.

A CFIA investigation and subsequent product recall can be triggered by:

- » consumer complaints and social media posts;
- » competitors reporting a concern; and
- » routine product testing by CFIA.

The onus is on the brand

Some brand owners tell me they rely on CFIA to approve their labels. However, CFIA no longer conducts label reviews and holds brand owners responsible for ensuring labels are compliant.

What’s the solution?

Hire a regulatory specialist to review packaging before going to print. How can you justify the cost? Let’s just say it’s a lot cheaper than a recall.

When choosing a specialist, it’s important to compare apples to apples. A comprehensive regulatory label review requires extensive knowledge of the regulations. In addition to mandatory information, it should include ingredient compliance, allergens, claims and marketing statements.

Another option is to invest considerable time and money in regulatory training that requires a series of courses and keeping tabs on legislative changes.

Protect your brand

Today’s consumers expect authenticity and transparency. Resist the urge to stretch the truth on packaging and when promoting products.

Consumers and the CFIA are increasingly scrutinizing labels and challenging brands to prove their assertions. Taking precautions to comply with regulations will protect your brand and your business. 🍎

As a packaged foods consultant, Birgit Blain makes food products more marketable. Her experience includes 17 years with Loblaw and President’s Choice. Learn more at BBandAssoc.com or contact her at Birgit@BBandAssoc.com

IFT16 post-show review

From July 16 to 19, the Institute of Food Technologists (IFT) held its annual trade show and conference, IFT16, in Chicago. If you missed this year's big event, here's a round-up of some of the exhibiting companies and innovations that were on display at the show.

Functional & natural

WTI produces functional ingredients that help you improve your products by inhibiting pathogens, extending shelf life, reducing sodium content, increasing yields and improving product quality. WTI's product line includes clean label, all-natural antimicrobials and all-natural shelf life extenders. www.wtiinc.com



Pepper variety

Mizkan America, Inc. is a manufacturer of on-trend, in-demand ingredients, including a full range of pepper products. Mizkan's pepper line includes green and red chilis, green and red jalapeños, chipotles, tomatillos and poblanos. Mizkan's pepper

products are available in a variety of sizes and forms, including purée, IQF, dehydrobrine, frozen, drums, pails, pouches, cans, tankers and totes. www.mizkan.com

Coast-to-coast coverage

Specializing in the manufacture of antioxidants, release agents, dough conditioners and vitamin and mineral enrichment blends, Caldic's facilities are strategically located across North America, providing coast-to-coast coverage for distribution and technical sales.

www.caldic.com

Emulsifier innovation

Palsgaard developed the world's first commercial emulsifier a century ago, and the company hasn't stopped innovating since. At IFT16, the applications on display included a Hazelnut Spread using the Palsgaard OilBinder O2 and the Palsgaard PGPR 4150. This delicious spread is non PHO, has a low fat content, good spreadability and heat resistance. There was

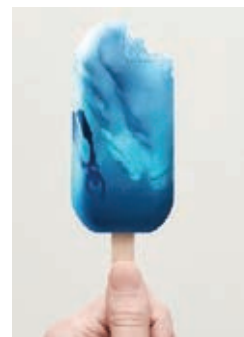


also a lean label, PHO-free yellow layer cake containing Palsgaard's Emulpals 116 and Palsgaard DMG 5611.

www.palsgaard.com

Colour creations

Nature offers limitless colour possibilities: micro-algae can be used to create vibrant blues, while luscious fruits can be transformed into colourful powders. At this year's IFT, visitors were able to experience nature's potential firsthand at the Naturex



booth's ice cream parlour where they had the opportunity to create their own personalized ice cream. Taking advantage of a full palette of natural colours, visitors could use ingredients like spirulina blue along with glittery sparkles to make their creations.

www.naturex.com

Leading to better

As consumers increasingly seek a return to real ingredients, Kerry is responding with a stronger focus on taste and nutrition. Kerry is aiming to take customers on a journey to make food, beverage and pharma products that people enjoy and feel better about. Kerry calls this "leading to better." www.kerry.com

Naturally bold



Sensient Food Colors had a number of colour innovations on display at this year's show. Sensient Natural Brown solutions provide beautiful brown shades that are excellent alternatives to both certified colours and caramel; while Sensient Natural Blue is the industry's first stable natural blue, filling a gap in the natural colour spectrum. And the novel purification technology of Sensient's SupraRed delivers intense, bright red shades at a neutral pH that stand up to heat.

www.sensientfoodcolors.com

Gelatin excellence

Nitta Gelatin NA Inc. specializes in the production of porcine, bovine and fish gelatins, as well as collagen peptides. With almost a century of know-how and a state-of-the-art technical centre, Nitta offers its customers innovative ideas, excellent customer service and consistent quality. www.nitta-gelatin.com

Dairy expertise

First Choice Ingredients is a market-leading manufacturer of natural dairy flavours and concentrates. Their exhibit was the place to be for anyone looking for gluten-free, non-GMO, organic, kosher or halal dairy ingredients at IFT16. www.fcingredients.com

Flavour insights

B&D Flavours creates client-specific, innovative flavours that are focused on specific market demands. With B&D, clients' brand development needs are supported by flavourists and application specialists who leverage strategic market insights and data resources to deliver exactly what the customer is looking for. B&D is GSFI accredited, and is nut-free, kosher, halal and organic certified.

www.bdflavours.com

Fruit & veggie solutions

Van Drunen Farms manufactures and supplies an extensive line of natural, whole-food, conventional and organic fruit, vegetable, herb and specialty ingredients. Their products deliver tasty, nutritious solutions for your processing needs. Products include: freeze-dried fruits, vegetables and herbs; drum-dried fruits, vegetables and grains; IQF vegetables and herbs; sugar-infused fruits; and specialty processing including fire-roasting, puréeing and blending. www.vandrunenfarms.com



Mother Nature's materials

DDW "The Color House" offers a complete range of natural colourings – Mother Nature supplies the raw materials, while DDW brings its 150 years of expertise. New products on display at IFT included Purple Corn Juice Concentrate for Color, EmulsiTech Clear Paprika and Beta-Carotene, and DDW Specialty Dark Powders.

www.ddwcolor.com

Robust & refreshed

Among its many flavour and extract solutions, Virginia Dare offers a robust program of coffee and cocoa concentrates and flavours. Virginia Dare's coffee and cocoa ingredient options include both liquid and dry forms, all-natural and organic programs, and a variety of flavour profiles. Virginia Dare also debuted its new refreshed branding at the 2016 IFT show. www.virginiadare.com



Hatch chili peppers

Using green chili peppers from Hatch Valley, New Mexico, Sensient Natural Ingredients has partnered with chili pepper growers to bring customers



Hatch Chili Pepper in powder form, allowing them to use the world-famous U.S.-grown chili pepper in their next product innovation. Application ideas include mushroom and Hatch dip, Hatch chili mayonnaise, Hatch chili chowder, Hatch chili pancakes, Hatch chili jelly, and much more. www.sensientnaturalingredients.com

Advertisers' index

CHRYSLER CANADA	PG. 5
FIRST CHOICE INGREDIENTS	PG. 10
LUBRIPLATE LUBRICANTS	PG. 43
PAC – PACKAGING CONSORTIUM	PG. 15
PWC.....	PG. 2
REISER	PG. 44
WTI.....	PG. 7

Carol Neshevich



Canterbury Coffee Corp.'s soft pod capsules.

Canterbury Coffee Corporation Burnaby, B.C.

The world was a very different place when Murray Dunlop first started his B.C.-based coffee roasting company, Canterbury Coffee Corporation, 35 years ago. Not only did North Americans typically have a much smaller selection of varieties of coffee to choose from — coffee was pretty much just coffee, and there certainly wasn't a gourmet coffee shop on every corner like there is today — but there was also no internet, which made the process of starting and growing a business a completely different endeavour.

"It's rather comical now, with all the social media and the internet, but I went to the Vancouver library, and I went through the Yellow Pages of every city across Canada, and I sent out letters to every person I could see that sold coffee, telling them that we were doing something different," says Dunlop, describing the early days of his business. "Then I sat at my desk and waited for the mail every day. We'd get three orders, and five orders,



and 10 orders, then 50 orders — and that's how we really started."

The "something different" Dunlop was referring to was the fact that the Canadian coffee roaster was offering a whopping 33 varieties of coffees — African, Indonesian, South American, Peruvian, Columbian, Brazilian, Jamaican, Blue Mountain, and more — which was an unusually broad range for the early 1980s. They also sold it in five-pound bags, whereas their competitors at the time would only sell coffee to restaurants and retailers in much larger volumes. With access to Canterbury's smaller volumes, a smaller operator would be able to buy a wider variety of coffees and offer a bigger range of choices to their customers on a regular basis, rather than only being able to offer one or two blends at a time because they had to buy such large volumes. "So that's kind of been our specialty," says Dunlop.

After several decades of strong growth, today the company is also in the pod market, and they've brought in soft pod capsules (as opposed to the hard pods on the market). "Right now, ours are about 98-per-cent biodegradable, and we're within months of coming out with our own 100-per-cent compostable pod," says Dunlop. In fact, a primary focus for Canterbury right now is its pod business, says Dunlop: "We have a [pod] brand called OneCoffee. We've entered into the retail space, which is new to us. We've basically been a commercial roaster, but now we have our own brand, and we've

got about 90 per cent penetration across Canada. We sell to almost all the major chains [in Canada] and now we're starting to break into the United States."

With approximately \$50 million in sales and about 160 employees, Canterbury has production facilities on both sides of the country — one in B.C. and one in Ontario. Canterbury's current customers include coffeehouses, restaurants, hotels, universities, hospitals, offices, private label and more.

Overall, Dunlop says coffee is a terrific business to be in these days. "I think the great thing about the coffee business right now is that there are very good operators. The quality of the coffee in the last 10 years has probably jumped exponentially," he says. "How people perceive coffee now, it's very much like wine. Coffee is actually getting better, and you couldn't say that 15 or 20 years ago." ☕

Q&A



Q: Is sustainability important to you?

A: "We are specializing now in what they call fair trade organic coffee. We're trying to support the farmers, and we're also doing a fair amount in rainforest alliance coffees. So we're trying to protect the land and the birds and the water."

Q: What are your growth plans?

A: "We're not a company that's tied into sales at all costs. We don't have sales targets, but we do have penetration targets. We'd like to be on the West Coast of the U.S., the East Coast of the U.S., and we'd like to do more national business across Canada."



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