

THE STATE OF APPLE COUNTRY

Breeding 'local' apples for multiple micro-climates



No one really knows how many acres of high-density apple orchards exist in Canada. A definition would be hard to pin down. Is it a thousand trees per acre? Fifteen hundred? Suffice to say that many orchardists are converting to high-density orchards with top-selling consumer favourites: Honeycrisp, Ambrosia and Gala. Those trends have been carefully tracked by Cathy McKay, vice-chair of the Ontario Apple Growers and a long-time participant in national research committees. Pictured here, she measures progress after petal fall in her Port Perry, Ontario orchard. Photos by Glenn Lawson.

KAREN DAVIDSON

One out of every 10 apples exported by Washington state gets crunched in Canada. That's a formidable competitor for a country whose tradition of apples harkens back to 1633 in Nova Scotia's Annapolis Valley. The French settlers called the original apple the Fameuse. The English called it Snow.

Centuries later, apple breeding continues its noble path in Canada. A new Canadian Apple Breeding Consortium is coalescing with \$4.2 million in federal funding. Rather than search for the next blockbuster to compete against Washington, Canadian researchers are pursuing several varieties that might work in different areas of the

country. Take note. There are many microclimates within six apple-growing provinces: British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island.

"It's still early days," says Dr. Daryl Somers, research director for applied genomics at Vineland Research and Innovation Centre, Ontario, putting into context the long haul of apple breeding. "2019 represents the eighth season of orchard work and tree evaluation at Vineland. We're getting a better understanding of the architecture of trees and yields."

Somers points to the input of apple grower Cathy McKay, vice-chair of the Ontario Apple Growers and chair of the research committee. "She's been a real champion of our work, keeping us

grounded from a grower's perspective."

For decades, McKay has nurtured her 27-acre orchard called Nature's Bounty near Port Perry, Ontario. She has also adapted in recent years with conversion to high-density orchards and varieties that will draw consumers to the rolling hills of her scenic farm.

Of all her talents, the one that's least known is her contribution to both provincial and national research groups. She's done a stint as a director on the Summerland Varieties Corporation (previously PICO) whose mission is to identify and commercialize new tree fruit varieties. Her eight years on that board have sharpened her awareness about the goals of a complex breeding program.

"This Canadian program gives

growers the opportunity to become connected on the numbered varieties that have potential for the future," says McKay. "Summerland has a variety that's been fast tracked in the release program because of its good flavour, texture and disease resistance. It can work in geographies where it rains a lot."

This multi-pronged approach is appreciated by Vineland's Dr. Somers who will be working closely with Dr. Amritpal Singh at Ag Canada's Summerland Research Centre in British Columbia as well as Dr. Sean Myles at Dalhousie University, Nova Scotia. Together, they are developing molecular techniques to identify traits of interest in young plants.

Continued on page 3

What's new in insect traps PG 7

CPMA: innovation PG 8

Storage, containers & packaging PG 15

COVER STORY

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Dr. Daryl Somers, research director for applied genomics at Vineland Research and Innovation Centre, is one of the participants in the Canadian Apple Breeding Consortium. Other members include Agriculture and Agri-Food Canada, Dalhousie University, Summerland Varieties Corporation, Réseau d'essais de cultivars et porte-greffes de pommiers du Québec, and the Canadian Horticultural Council. Also represented are a number of major grower associations, including the Ontario Apple Growers, the BC Fruit Growers Association, Les Producteurs de pommes du Québec and Scotian Gold Cooperative Ltd.

Continued from page 1

Imagine not needing years of breeding research because they can determine if an apple tree will produce crisp fruit before it is even old enough to flower.

Growers have an important role in the research continuum. A national grower testing program minimizes the risk to fellow growers by demonstrating that a new variety can be successfully

grown throughout the country.

"It's important that the variety will retain premium quality throughout commercial storage, pack and retail display and that the variety has enough consumer appeal that people

will choose it over other commercial varieties," says Erin Wallich, research and development manager for Summerland Varieties Corporation.

On the face of it, a business strategy to use pan-Canadian resources to produce several local varieties sounds surprising. Dig deeper, and it's a very perceptive strategy in playing to strengths while countering global imports.

McKay points out that diverse micro-climates are a strength for the Canadian apple industry. If one area suffers a weather setback, then other areas can fill the production gap.

"A lot of investment is going into the apple industry," notes McKay. "It's in establishing new orchards, new trellis systems and new varieties. We have a very active group of young growers here in Ontario."

The local food movement has lifted the Ontario industry with about 45 per cent of apple production sold directly to consumers. Another strength is proximity to the large consumer market of the Greater Toronto

Area.

Every province has its unique set of growing and marketing climates. But growers have proven to be resilient. The Canadian apple industry posted its first increase in acreage in decades -- in 2016. Apple breeding research is a cornerstone in keeping the storied history of Canadian apples alive.

The Grower goes "Behind the Scenes" of this cover story to speak with Cathy McKay, Nature's Bounty, Port Perry, Ontario. She talks about the Canadian Apple Breeding Consortium. To listen, visit www.thegrower.org/podcasts.



AT PRESS TIME...

Ontario processing veg sector in turmoil

Ontario ag minister Ernie Hardeman is calling for direct contracting between processors and tomato growers in advance of 2020 crop negotiations. The 343 growers of the Ontario Processing Vegetable Growers are surprised.

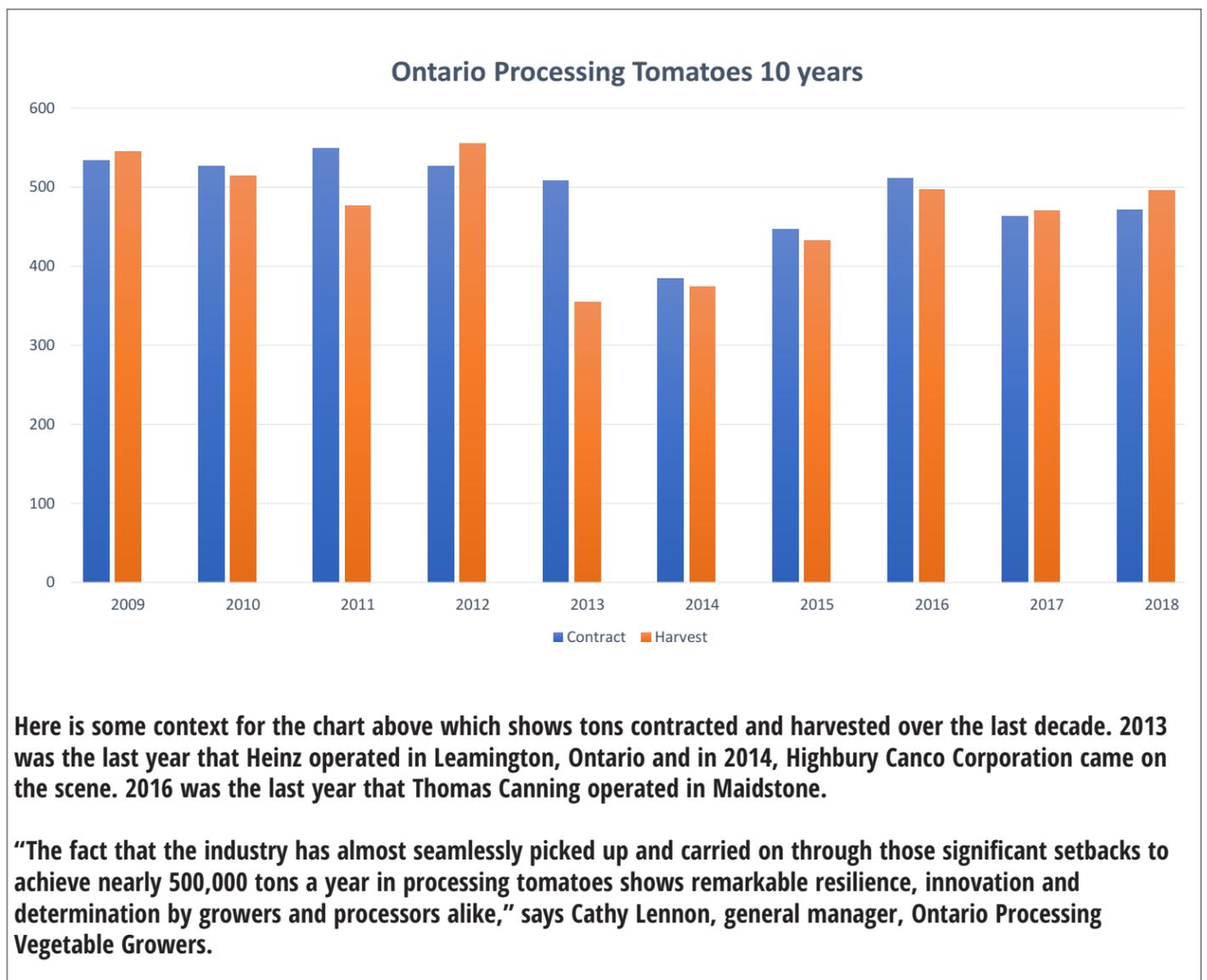
In an April 17 news release, Ontario processing vegetable growers said they were "dismayed" at the lack of consultation from the provincial government about its intent to overhaul the regulated marketing system.

There are 343 growers who produce a variety of processing vegetables for a farmgate value of just under \$100 million. They include: tomatoes, onions, sweet corn, carrots, cucumbers, green, wax and lima beans, green peas, squash and pumpkins. Tomato processing comprises about half of the dollar total. The minister cites 16 facilities in the province.

Hardeman wrote: "Despite a growing market, Ontario production growth has been flat, exports of Ontario tomato products have declined to a third of what they were 10 years ago, imports have increased dramatically, the sector has seen a lack of processing investment, and there has been an exit of key processors. In my consultations with growers and processors, everyone agrees that we need to reverse these trends."

The Ontario Farm Products Marketing Commission has been given a mandate to consult with the grower community.

The announcement is perplexing to Dave Hope, the government-appointed chair of the Ontario Processing Vegetable Growers (OPVG). He took up the position



as recently as January 2019.

"The organization is unable to make further comments on the province's announcement until more information becomes available," says Hope. "Our board remains committed to representing the views of our grower members and helping them understand how these

changes have the potential to affect their farm businesses."

In an interview with *The Grower*, Hope said it was not valuable to speculate until the draft regulations are published. A comment period is expected. Hope anticipates that regulations would need to be in place by the end of the 2019 calendar

year in order for growers to make planting decisions for 2020.

Sources: OMAFRA April 16, 2019 open letter from Ernie Hardeman/Ontario Processing Vegetable April 17, 2019 news release