Ontario’s stone fruit industry collaborates for best varieties.

by Peter Mitham

A reinvigorated industry is on the horizon for Canada’s Ontario stone fruit growers, three years after the formation of a committee that puts industry stakeholders in the field alongside the breeder in test plots.

Stone fruit research in Ontario languished following the retirement in 1995 of Dr. Richard “Dick” Layne, who had overseen fruit breeding activities at the federal research station in Harrow, Ontario. Some of the most promising selections were transferred to the provincial research station in Vineland, but little was done with them. The discovery of plum pox virus (PPV) in 2000 effectively halted breeding and propagation activities, as well as the work of the Ontario Fruit Testing Association (OFTA), which had previously received plant material for testing.

During the past two decades, just four peach varieties have been released: Vollie, on the occasion of the centennial of the Vineland station in 2006, Vee Blush, Virtue and White Knight, all designed to fill gaps in the market. Of these, the early season variety Vee Blush has attracted the most interest.

Now, a host of new peach and nectarine varieties could be ready as early as 2018, thanks to the efforts of the Ontario Tender Fruit Evaluation Committee, established in 2012 with money remaining from the OFTA to guide breeding and commercialization activities.

The committee officially formed as a partnership between the Ontario Tender Fruit Growers (OTFG), the University of Guelph, and the Vineland Research and Innovation Centre, which now operates the Vineland research facility. Committee members who are engaged in outreach to stone fruit growers include Jay Subramanian, a professor of tree fruit breeding and biotechnology at the University of Guelph in Vineland who oversees the breeding activities; OTFG general manager Sarah Marshall; and Michael Kauzlaric, a researcher with the Vineland Research and Innovation Centre. The committee meets weekly during the growing season, reviewing about 60 varieties a year. The meetings usually attract 15 growers and industry members from nurseries to packers who provide feedback, bringing them into the discussions.

“They look at it from a different angle than what we as breeders look at it,” Subramanian said. “It’s not what I like that is important, it is what the growers like.”

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Frost control has become very important to us. In the last 9 years, we have had 5 frost events that have significantly damaged our production. We decided to do something to help mitigate this so our production would be consistent. That’s where Orchard-Rite® wind machines have come into play for us. 

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I believe that the wind machines will help our Texas wine industry grow consistent crops that our wine makers can depend on to produce superior wines and to reliably supply our markets.

“The grape vines under my wind machines yielded 6 tons per acre while my unprotected areas had less than 1 ton per acre.”

-- Andy Timmons
Lost Draw Vineyard
Lubbock, TX, USA
What’s wanted?

Several challenges helped renew interest in finding new varieties of stone fruit for Ontario. The discovery of plum pox virus in the Niagara region in 2000 led to the removal of 377,400 peach and nectarine trees, compounding a shift that took place through the 1990s as acres of stone fruit orchards shifted into more lucrative fruit, such as wine grapes. With the closure of the CanGro Foods Inc. processing plant in St. Davids in 2008, the industry knew it had to turn its attention to fresh market fruit.

“A lot of the focus was in the processing area,” said Michael Kauzlaric, a researcher with the Vineland Research and Innovation Centre engaged in outreach to stone fruit growers. “Then, about five or six years ago, there was a lot of excitement from pluots and plumcots that were being grown in California and exported to Ontario. That’s when a lot of people got to thinking about new varieties.”

Rather than compete directly with fruit from the U.S., growers in Ontario sought to focus on early season varieties that could provide local fruit to the market before the onslaught of summer’s bounty. A sign of things to come: Vee Blush, a new, yellow-fleshed variety with redder skin and fewer split pits than Harrow Diamond, which is a longstanding mainstay of fresh market growers in Ontario.

Harrow Diamond doesn’t get as nice a red color as Vee Blush, Kauzlaric said. “Consumers want to see a nice piece of red fruit instead of 70 percent red and 30 percent green.”

However, Vee Blush matures in late July, whereas four new peach varieties being prepared for release will ripen earlier in the month.

—Peter Mitham
Plum pox virus control zone

Getting local fruit varieties into local orchards is a particular challenge in Ontario because breeding work takes place within the Niagara region, where the movement of plant material is limited in an effort to prevent the spread of plum pox virus (PPV). While the industry established a mother block for propagating clean plant material outside the quarantine zone near Windsor, north of Detroit, Michigan, budwood must first go to the Canadian Food Inspection Agency’s key plant health laboratory in Sidney, British Columbia, on Vancouver Island, for cleanup.

“That’s a three- to four-year process, so all of a sudden, if variety X looks good, then a grower almost has to wait six or seven years to start testing it or look at it on their commercial site,” said Michael Kauzlaric, a researcher with the Vineland Research and Innovation Centre who works with growers seeking new varieties.

To give growers a head start, the evaluation committee won a relaxation of the quarantine rules. Growers within the PPV control zone are able to receive plant material from Vineland and develop plantings of new varieties on a limited basis.

Commercial orchards in the Niagara region now have trial plantings totaling approximately 1,200 trees of eight peach and nectarine varieties now moving through final testing and registration. “We’re doing virus cleanup in parallel to commercial testing,” Kauzlaric said.

“Growers (will) have had four or five years of experience with the variety at their own site, and they can say yes or no, and then – boom! – 10,000 or 20,000 trees can get planted ... instead of waiting another three or four years after it arrives in Windsor.” — Peter Mitham

Subramanian said of the four peach and four nectarine varieties on trial in commercial orchards right now, two might not have made the cut without feedback from industry.

“It might have very well removed them because they weren’t in any way comparable to Vee Blush in terms of quality,” he said. “But the point the industry made was, ‘Yeah, that’s true, Jay, but look at those fruits — they’re large and they come a good week to 10 days before Vee Blush, which means we have that window and any fruit that goes early into the market will give us that extra dollar.’”

It’s not only growers who stand to profit from participation in the variety selection process; the more appealing a variety release, the greater the uptake and, in turn, the greater the licensing fees it generates. This makes for a more cost-efficient selection process from start to finish.

“It’s the way that Ontario wants to see new varieties being brought on. It’s a three-year filtering process, and after the third year, it’s a go or no-go, essentially,” said Kauzlaric, who helps growers identify new varieties on behalf of Vineland, which commercializes the new varieties on behalf of the breeders (fulfilling a function similar to that of Summerland Varieties Corp., formerly the Okanagan Plant Improvement Corp., in British Columbia).

With eight new stone fruit varieties nearing release, Kauzlaric is keen to offer new, locally developed varieties alongside existing selections from programs at Rutgers and in Michigan. He said the committee hopes within 12 months to have a handful of varieties named and available for commercial planting in 2018.

That’s good news to Phil Tregunno of Tregunno Fruit Farms Inc. near Niagara-on-the-Lake and chair of the Ontario Tender Fruit Growers. “The evaluation committee brings marketers, growers, nursery operators and researchers all together to share information which has been very beneficial in ramping up production,” he said. “Vineland varieties of peaches and nectarines, as well as fire blight-resistant pears and improved varieties of apricots, are all being planted, which give growers a longer production season and consumers a wider choice of local fruit replacing imports.”

Peter Mitham is a freelance writer based in Vancouver, British Columbia.