

FOCUS: SEED & ROOTSTOCK

Crunching the odds for the apple outstanding in its field



Rachael LeBlanc, research scientist, Vineland Research and Innovation Centre

KAREN DAVIDSON

Ask any consumer about their favourite apple and the likelihood is that Honeycrisp, Gala and Ambrosia will be in the top three. What gaps in the apple galaxy could possibly be filled by a new variety?

Those are questions for the apple breeding program at Vineland Research and Innovation Centre (Vineland) which is now in its tenth year of searching for a made-in-Canada apple. The reality is that tastes evolve over time as consumers buy

imported apples such as Envy from the U.S. and Jazz from New Zealand.

“Consumers are demanding and purchasing newer varieties of apples,” explains Rachael LeBlanc, research scientist, Vineland. The domestic market here is decreasing as consumers are purchasing varieties not grown in Ontario or Canada. We are looking to fill this void and breed apples that are suited for our growing conditions but also meet consumer demands now and into the future.”

This fall, LeBlanc and her assistant have been walking the

test orchard every day, sampling apples from trees in their first to third fruiting years. It’s a daunting task with 33,000 trees at different growth stages in the plot. As some trees are discarded, new trees are planted to keep the research pipeline full.

“We have 15,000 to 18,000 fruiting trees right now,” says LeBlanc. “We’re looking for good flavour, crispness and juiciness.”

All of these samples will be cooled and stored for two months and then an in-house tasting panel will conduct initial screening.

LeBlanc is excited to work

with multidisciplinary teams at Vineland including genomics, consumer insights and biochemistry. The breeding group has worked with Dr. Amy Bowen and her consumer insights team to finetune taste testing. They are guided by a preference map that she created after working with consumers to compare flavour and texture of 70 apple varieties.

A recent breakthrough by the biochemistry team is their ability to identify a molecular marker for key aroma volatiles that contribute to apple flavour. That’s a leg up if researchers can pre-select seedlings that have a better chance of enhanced taste.

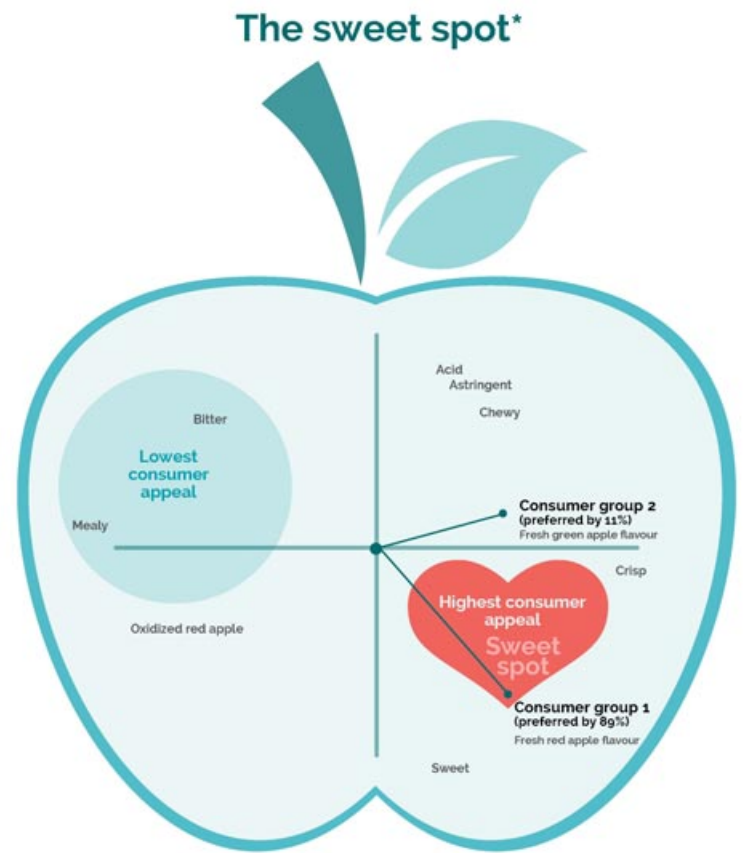
The “gap” or the “window” that could excite growers is the opportunity to harvest a new variety on the shoulders of the regular season, i.e. late August or mid October. That variety still has to meet flavour and texture characteristics, as identified by the tasting panel, but also meet agronomic traits for yield, winter

hardiness, disease resistance and storability.

To that end, 2021 was the first year that Ontario growers had the chance to plant trees in five geographic regions: Georgian Bay, Lake Huron, Lake Erie, Niagara, Lake Ontario. Known only by their numbers for now, 10 trees of three candidates were planted in each location.

Vineland’s research, supported by a Canada-wide consortium in Summerland, British Columbia and Kentville, Nova Scotia, is expected to take another seven years. The target date for the first release from Vineland’s research farm to commercial plantings is 2028 with fruit to consumers in 2030.

This research is supported by Ontario Apple Growers through the Agriculture and Agri-Food Canada AgriScience Program and the Ontario Ministry of Agriculture, Food and Rural Affairs/University of Guelph Partnership Program.



Bringing you the best Vegetable Seed, backed by innovation and expertise.

A division of Agrocentre Fertibec Inc
20 rue de l'Industrie, C.P. 3640,
Saint-Rémi, QC J0L 2L0
TOLL FREE: 1-877-337-8423

Jeremy Schotsman
Ontario Sales Representative
Cell: 705 434-7292
Jeremy.schotsman@agrofertibec.com



Fast, healthy rooting.
Reduced labour.



ellepots.com
800.338.1136



rootsmart.com