



A new era of plant variety development

Vineland Research and Innovation Centre launches unique, Canadian-specific service

BY AMY KOUNIAKIS



PHOTOS: VINELAND RESEARCH AND INNOVATION CENTRE

A unique service offered by the Vineland Research and Innovation Centre (Vineland) is ushering in a new era of plant variety development designed specifically for Canadian growers.

Vineland's new consumer-driven plant variety development service aims to eliminate some of the guesswork and inherent risks associated with new variety development all while keeping the needs of Canadian consumers and growers in mind.

"We want to get the best varieties into the hands of Canadian producers," said Travis Banks, Vineland's director of plant variety development. "A lot of material is developed outside of Canada and seed companies don't breed with Canadian issues in mind."

For example, Banks explains, tomato varieties developed in Europe will be bred to perform and

appeal to consumers in that part of the world. While they may still be able to grow in Canada, they might not be bred to resist diseases or pests found in Canada or to the taste of Canadian consumers.

This is a gap Vineland looks to close with its new service. In fact, while the plant development service is relatively new, the program has been founded on the success of several projects that have yielded some uniquely Canadian results.

Banks recalls a decade ago being approached by Ontario Greenhouse Vegetable Growers (OGVG) about developing a new tomato on the vine (TOV).

"We helped develop a TOV that out-yielded others growing in Canada," Banks noted adding, "it tasted better and exhibited better disease resistance."

How did they do this, one might ask?

ABOVE

Vineland Research and Innovation Centre's new consumer-driven plant variety development service helped to develop the Radiance Sweet Potato.

RIGHT

The Radiance Sweet Potato out-yields most other varieties and is frost-resistant.

“All of our processes are data-driven, bringing consumer science together with breeding and genomics,” Banks said. It starts with understanding consumer (and this can be a grower or end-product consumer) needs.

To zero in on those preferences, Vineland’s team of consumer and sensory scientists and researchers work extensively with consumer panels.

Resources are then focused on materials with the highest potential. These are then subjected to extensive agronomic evaluations. Variety evaluation guided by consumer preference at an earlier stage in the breeding process gives researchers an opportunity to select for varieties that will perform better in the Canadian marketplace, Banks explained.

In the meantime, “we incorporate the consumer work, all the way through and we can select for highest consumer preference,” he said.

In some cases, a desired trait may not exist so Vineland researchers subject materials to Deep Variant Scanning, a patented, new spin on a 100 year-old technique which allows researchers to ‘turn off’ specific genes in a particular crop to help develop the new desired trait.

Variety development is still a lengthy process, as “we can only move as fast as plant biology allows us,” Banks said, but the end product is one that is better positioned in the marketplace.

Another successful Canadian-specific variety development project Banks highlights is the Radiance sweet potato.

Several years ago, researchers noticed that most sweet potatoes were being imported to Canada from the U.S. They started looking into why this was the trend and how could they possibly support the local production of sweet potatoes..

Vineland took up the challenge and the resulting variety is the Radiance sweet potato. “It can be grown in time for Canadian Thanksgiving,” noted Banks, “and it is frost-resistant and out-yields other varieties by 20 per cent.”

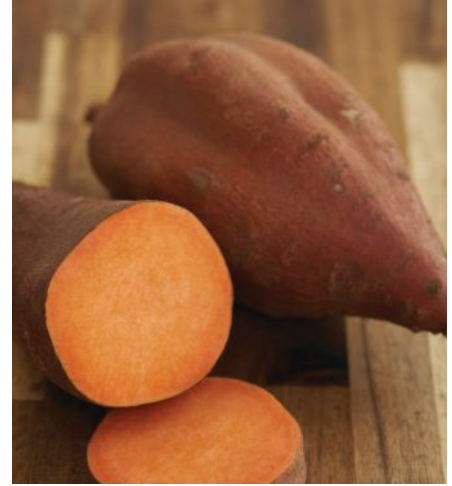
In addition to new variety development, Banks’ team at Vineland also does evaluations of plant materials for the Canadian marketplace.

“We can help make predictions on how a plant is going to perform and how

it will be seen by consumers,” Banks said. “We can help guide a company in how they position a product in the market.”

What it all comes down to, though, is ensuring that Canadian growers are given the tools they need to grow what the Canadian market is calling for.

“It’s really about getting results and the best varieties into the hands of growers that we can,” Banks said. 📷



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