

## **Agricultural research strives to leave tasteless tomatoes in the dust**

Scientists at Vineland Research Station in Niagara are on the hunt for the 'perfect grocery store tomato' — but it could take a few more years, Sonia Day writes.

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By Sonia Day, Special to the Star



*Dr. David Liscombe, a scientist at Vineland Research Station in Niagara, is part of a team seeking "the perfect tomato" that we consumers will fall in love with. (Vineland)*

Terrible tomatoes. Remember them? Pale pink and unripe, hard as a brick and utterly flavourless, they were once all we could find in Canadian supermarkets during the winter. These unappetizing horrors also had an unnatural-looking squarish shape — introduced, so tomato growers boasted, to make them fit conveniently into cardboard boxes for shipping.

No one talked about taste back then. Or appearance. Or texture. Yet look at now. The tomato varieties available year round in any grocery store continually amaze me. We can take our pick from so many: big, medium-sized, small, a "cocktail" type, grape-shaped, the ones called "on the vine" and minis that are so symmetrically arranged in see-through clamshell packs, they look like sparkling gems on a necklace.

Forget that anemic pink, too. They come in yummy reds, yellows, oranges, even purple and candy stripes.

Mmm. And most of these offerings — all produced now in massive [commercial greenhouses](#), often located here in Canada — do taste pretty good. Although I still think nothing beats the [freshly-picked version](#), still warm from the sun, which I grow in my garden, you have to hand it to the hybridizing honchos. In the past couple of decades, they have certainly pulled off a quiet revolution in the art of tomato culture.

They're not done yet, either. Witness what's currently happening at [Vineland Research Station](#) in Niagara. Using highly sophisticated technology, scientists there are on the hunt for the "perfect grocery store tomato" that we'll all fall in love with.

Yet it's a long haul, as agricultural research inevitably proves to be. They started tinkering with tomatoes several years ago and won't be finished for a few more.

"The TOV (Tomato on the Vine) we're looking for wouldn't be good for your garden," research scientist Dr. David Liscombe told me during a recent tour of the pristine palaces of glass (no muddy shoes or perfumes allowed inside, please) where trials are taking place.

Instead, this superlative tomato-in-the-making needs to demonstrate five business credentials: it must grow well indoors, have a good yield, travel without damage, resist disease and be commercially viable for growers in Canada.

"And," Liscombe added with a broad grin, "this amazing tomato must also be so tasty, with such a great texture and aroma, that consumers will seek it out."

A tall order indeed. Is it out there? Well, maybe. So far, over 60 different types of tomatoes — cluster kinds, classic beefsteaks, modern hybrids, very old heirloom varieties, you name it — have gone through exhaustive testing at Vineland and in some commercial greenhouses.

This process includes chemically analyzing every aspect of each tomato -seeds, plants, roots, fruit — a task that Liscombe personally loves.

"They are fascinating plants," he said. "About 400 different chemicals are present in tomatoes and 40 of them are volatile compounds which play a critical role in determining the flavours that people like."

But "mouth feel" has proven to be a surprisingly important factor too.

"In our testing panels, we've found that consumers are very influenced by texture. If tomatoes are mealy or too soft or too hard, they don't like them, however good the taste is."

Vineland's "guinea pigs" — raised hydroponically in shallow troughs of water, boosted by various nutrients — don't look at all like the tomato plants we nurture so lovingly in our gardens every summer. Their thick, gangly stems would, in fact, suit Tarzan. Often shooting up to 10 metres in only a couple of months, they're

wound — again and again — around a network of strings suspended from the greenhouse roof.

Tomato flowers appearing in this forest of foliage are then restricted to human height, making the task of picking and analyzing the crop easier.

In fact, the only resemblance to what happens in my earth-based veggie patch during summer is the comforting sight of bumble bees buzzing around these giant laboratory specimens. The bees pollinate the flowers — very successfully, as it turns out. Other biological controls have been introduced as well, to keep undesirable bugs at bay. In fact, the trials are remarkably pesticide-free.

So my fingers are crossed for Vineland's drive to seduce our finicky taste buds. We've sure come a long way from those "square" tomatoes I remember with such disgust.

Note: this is my last column for the Star. It's been fun sharing my personal take on the great green world with you all, and I'm signing off with a trowelful of wonderful memories.

A final reminder: if you buried your underpants in that bizarre soil test I wrote about last year, don't forget to dig them up after the ground thaws in spring. And let me know the results!

You can contact me — and follow news of my adventures — at [soniaday.com](http://soniaday.com).

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