

## THE BURGER PROJECT

### Colour is king when it comes to tomatoes

Consumers eat with their eyes, quickly judging their veggies based on looks

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By Vanessa Lu

When it comes to eating fruits and vegetables, looks matter.

"Your first impression is the colour," said Jim Brandle, CEO of the Vineland Research and Innovation Centre, a not-for-profit organization focused on innovation in horticulture.

That means people actually eat with their eyes, making immediate judgment based on look, with the longstanding view that hothouse tomatoes are flavourless.

"Your first impression is the colour," he said, adding that thanks to plant breeding efforts, growers can get a uniform red colour.

"But you also need texture — which is a driver of liking it — firmness," Brandle said. "It's can't be too mushy or too hard. It can ship well, but doesn't eat well."

Then after the colour and texture are mastered, it comes down to flavour, a balance of sugar and acid.

"It's a complex interaction. People have different preferences, so there will be compositional differences," Brandle said.

Add to that aroma volatiles — not a liquid or a solid, but rather a smelling compound that is responsible for the aroma. It helps contribute to the flavour as you eat something.

Brandle says it is a complex interaction and people naturally have different preferences, but if you took a sugar solution of equal strength, but added vanilla to one, it would be perceived as sweeter.

In the past, as part of an effort to create a plant that will ensure a tomato free from diseases, and produces enough of a crop to be profit, flavour may not have been the key selection criteria.

So researchers at the Vineland research centre are hard at work in breeding plants, create variations — to measure colour, sugars and acids, plus ensure a promising yield.

But it's a slow process — testing plant varieties, and every time a new pest is found, adaptations need to be made.

Brandle estimates it takes five to seven years to bring a new variety to market, noting the program started four years ago, and hopes to have some plants in greenhouses for testing by 2018.

Sensory panels will then be set up for testing — and tested over and over a three-year period, before seeds will even be produced.

Tests including everything from objective measures such as colour and size, poking holes in the skins, looking for firmness.

But if all goes well, it would be 2020 before any new tomato plants could be in use commercially.

Even though any benefits seem really far off, Brandle notes apple breeding programs can take as much as 20 years.

"It's a very slow process," he said, but the payoff will come.

Canadian grown hothouse tomatoes are selling well in the United States, where weather allows for better growing seasons.

"Even today, we are selling tomatoes in Florida. We are killing it," he said. "We are good at it."

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