



Deep dives on the five senses

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Vineland Research and Innovation Centre's Consumer Insights program go in depth on what consumers prefer, and why

Have you ever taken a swig of hard apple cider on a hot summer day and thought: mmm, that has just the right amount of barnyard aroma?

Or, upon receiving a dozen roses on Valentine's Day, considered the shape of the petal, the specific shade of the rose or even the fullness of the leaves? Have you stopped to check how big and prevalent the thorns are?

In today's advanced and global world consumers can get just about anything they want. Just walk past the apple section of the local grocer and see how many different varieties there are. Honeycrisp, gala, red delicious, McIntosh. The list goes on. And remember, what you see at the big chain grocery store is but a small sample of what is and could be available.

With all that selection one might think it's a consumer's dream. And to a certain extent, that's true. But lost in it all is the realization that quite often, the consumer doesn't really know what they want. Take the McIntosh apple, for instance. One of the most popular varieties and yet, stack it up in blind tests and it very often ends up on the short end of the preference stick.

So, if the consumer doesn't really know what they like, and more importantly why, it's impossible for producers to know.

That's where the Vineland Research and Innovation Centre's Consumer Insights program comes in. Sprawled out on a 200-plus acre parcel of land right in

the heart of Ontario's fruit belt, VRIC has a long – and at times difficult – history. It was created as a gift by Vineland philanthropist Moses F. Rittenhouse in 1906. One hundred years later having fallen into something of a state of disrepair, the provincial Ministry of Agriculture, Food and rural Affairs established a panel that led to the centre's rejuvenation.

It is now a busy research station well-regarded in Niagara's and Ontario's agriculture industry. Projects at VRIC run the gamut, from its world crops program that has taken great strides in adapting non-indigenous plants like eggplant, sweet potatoes and okra to the Canadian climate, to introducing new table grape varieties that can be grown next to the Riesling wine grapes of Beamsville or Niagara-on-the-Lake or creating a blueberry plant that can survive in a container.

For the most part, these projects are geared with the producer in mind. In a way, the Consumer Insights program is, too, but the end consumer is front and centre throughout the process.

"If we only go to consumers with a final horticultural – fruit, vegetable or plant – product and they do not like it, we can't change anything about it. It is not like a new type of granola bar that we can tweak the recipe," says Amy Bowen, research director for the Consumer Insights program.

"At Vineland we take the approach to have continuous touch points with the consumers throughout the product development to ensure that the product has

the characteristics that consumers seek."

While historically much of the research focus has been on increasing yields, VRIC CEO Jim Brandle says consumer preference is just as important, especially in areas like horticulture.

"People care what their piece of fruit or vegetable looks like. What it tastes like," he says.

"They (research on quality and research on quantity) need to converge."

Over the winter VRIC invited a group of food bloggers to tour the centre and learn about its Consumer Insights program. This was a group of writers who spend far more time than most thinking about flavour, taste and texture of foods, and as they were taken through the process the bloggers discovered just how in-depth the research delved.

"It was so much harder than I expected for the cider tasting. The sweet potatoes were easier to identify," said Joyce Leung, who runs food blog Joyce of Cooking where she features restaurants around her hometown of Milton as well as her own recipes and food photography.

The challenge for researchers is that while they make it as scientific as possible, at the end of the day we simply don't know a lot about why people like or dislike certain things. And what might taste sweet to one palate is slightly bitter to the next. For the most part consumers simply say "I like that" or "I don't like that."



Consumer Insights takes it a step further by asking why.

“Most commonly, consumers use language that is highly subjective, ‘it looks fresh, good quality, I like cooking with it, etc.,’ and when considering sensory descriptors, consumers can misuse common sensory terms – like sour and bitter – and use multi-dimensional terms like, flavourful,” Bowen said.

The trained sensory panel does a lot of the heavy lifting for the program. A group of around 15-20 part-time employees at VRIC that come in about once a week for a few hours, panelists are charged with tasting dozens of samples of a product that’s being researched. It may sound like a dream job, but it can be challenging.

An ideal candidate has average or better sensory acuity, the ability to describe individual sensations in a complex product, the ability to differentiate levels of attributes (i.e.: rank apples in order of relative sweetness), identify aromas, learn and remember sensations, participate and actively listen in discussion sessions, have a keen interest in food, flavour, plant, and/or research, Bowen says.

A recent focus for the panel has been apple cider. Given the boom of cider sales in Canada – the LCBO reports it as one of the fastest growing drink categories on its shelves – researchers sought out what drinkers are looking for when they pick up some cider.

Kellie MacMillan, a professional sommelier who runs the blog Princess and the Yard Ape, said the stations were for the most part pretty easy and straightforward, thanks in part to her background as a sommelier and in part to the well-structured and clearly communicated stations. Even still, she got tripped up at one point during the cider tastings.

“I was pretty pleased with my responses to the cider tasting and my scores showed that, the only area I had problems with was the effervescence,” she said, adding it was her fault because her work with wine. “It didn’t translate to cider.”

The bloggers were put through the panel process. At the lead of senior research technician Amy Blake – The Consumer Insights program is led in part by the three Amys: Bowen, Blake and Amy Jenkins – participants were placed in semi-private booths that wrapped around in a semi-circle. The goal is to eliminate any

outside bias so panelists can’t see the reaction of their fellow tasters. Researchers can bathe each booth in red or green light to eliminate the visual cues that can impact taste considerations.

“Most challenging was when the lights were switched so you cannot visually see the differences,” said Leung.

In front of them is a computer screen where they can input their results and a two-way sliding door. Out of sight in the middle of the semi-circle researchers prepare what’s about to be tested, sliding the samples through their door and pressing a button to inform the tester the sample is ready.

The panelist then opens their door and the sampling begins.

They could be asked to rate samples on a sliding scale. For instance, how sweet does this cider taste? The panelists are involved throughout the process, working with researchers to develop a lexicon of terms. Bowen and her team present the panelists with a wide variety of products in the category and panelists brainstorm a list of all the attributes they detect. It can take eight weeks to develop the lexicon. For research into roses it took 12 weeks to develop the lexicon.

“(It) was such a different type of product, the lexicon was mostly visual and the product highly complex,” Bowen says.

And the attributes can get pretty funky. The cider tests asked panelists to consider how strong the barnyard aroma/flavour was, referring to aromas of horse, animal aromas, hay, etc.

“This is a common aroma/flavour found in wines, beer and cider and can also be quite controversial as some people find it adds complexity to the product while others describe it as a fault,” says Bowen.

Other attributes are more standard: sweetness, foaminess, citrus flavour.

Sometimes panelists may be asked to compare two varieties of the same product: is Tomato A more or less juicy than Tomato B?

Panelists can be quizzed on dozens of varieties of the same product over the course of the project. But researchers are careful not to overburden their taste buds. Results can be affected by many variables such

as how hungry a panelist was going into the testing to the time of day or something else they just ate. The program tries to account for that by keeping a guideline for the panelists. For instance, they can’t wear any scented personal products, there’s no smoking for two hours before the session and they can’t consume any strongly flavoured foods or drinks for two hours beforehand either.

But Consumer Insights isn’t just confined to food. Jenkins has been studying consumer preferences for roses. One of VRIC’s success stories is its 49th Parallel Collection roses. Researchers are trying to develop roses that can blossom just about anywhere in the harsh Canadian climate. The program’s first release, Canadian Shield, is described as a low-maintenance, versatile garden and landscape rose that’s resistant to disease and cold.

The truth is, though, no one buys a rose because it’s tough. They buy it because of its smell, and because of its visual beauty. So through both online and in-person surveys Jenkins and her team tests preferences for colour (red, pink and bi-colour roses are popular), and fragrance, as well as flower density, thorns or petal shape.

“What is surprising, is although violet and yellow aren’t popular rose colours overall, there is a certain shade of yellow and a certain shade of violet that consumers love,” said Jenkins. “If we hadn’t looked at each shade individually we never would have found this result and may have ignored the violet and yellow colour categories altogether.”

Studying consumer preferences for flowers, Jenkins says, presents some unique challenges.

“I think the biggest challenge when dealing with a product like roses is having a living plant which is growing and changing on a daily basis,” says Jenkins. “This presents a unique challenge when we want to show these kinds of products to consumers because we need to present all our products in a standardized way.”

For the bloggers who toured VRIC this past winter there seemed unanimous interest in what VRIC is doing with its Consumer Insights program, and most see value. MacMillan said it can help farmers and hopes it leads to changes in the marketplace.

"The evidence-based information coming out of VRIC is thrilling. I hope it changes marketing tactics in the new future. They are essentially giving marketers a bull's-eye to aim for. It's a win-win in my mind."

Brandle agrees.

"You've got data now that you can walk in the door (of a grocery store) and say, 'this is the eggplant that people like,'" he said.

Leung said food trends are always changing and so it's important to get real feedback.

"You can tell food and quality of food is taken very seriously here," she said. **nlife**



An advertisement for Bird Kingdom Niagara Falls Canada. The background is a lush, green tropical setting. On the left, a large blue macaw with a yellow patch around its eye is shown in profile. In the center, the text "Bird KINGDOM" is written in a stylized font, with a small colorful parrot perched on the letter "i". Below this, "NIAGARA FALLS CANADA" is written in a smaller, red font. On the right, a young boy in a plaid shirt is smiling and holding a white cockatoo on his arm. In the foreground, a younger child in a red and white plaid shirt is laughing joyfully. At the bottom left, there is a circular logo for the "2008 HALL OF FAME" with a TripAdvisor logo below it. To the right of the logo, the text "World's Largest Free-Flying Indoor Aviary" and "Open All Year - Memberships Available" is written in white. Below that, the phone number "905 356 8888" and the website "birdkingdom.ca" and email "info@birdkingdom.ca" are listed in white.