THE INNOVATION REPORT 2015

16 A new rose, a new role for Vineland

14 Sweet potatoes get ready to serve up sweet returns

22 World crops program evolves with testing of hybrids

vineland
RESEARCH & INNOVATION CENTRE

The science of storytelling

The new buzzword in marketing is 'storytelling'. Instead of news clips, magazine articles or features, stories are all the rage and journalists have morphed into storytellers.

This got me thinking about Vineland and the stories we tell about our work here.

A quick look back over the past year's media reports reminded me of the many different channels we use to tell our story. For example, we have some very good relationships with traditional and online media. In print, radio and television, last year journalists working in these media covered everything from our greenhouse tomato breeding program to our work on biocontrols.

We work hard to maintain these relationships because they are an important conduit for us to not only transfer our knowledge to growers, our industry partners and the public, they also help to extend the reach of what our researchers publish in scientific literature. Together, it all adds up to a highly-contextualized and comprehensive story about Vineland's activities and performance, told to a wide range of audiences.

We tell our story in other ways as well. Every year, for example, we welcome over 1,000 visitors to the Vineland campus, and recently hosted a delegation from the Netherlands, representing some 60 companies.

Our new website is a quick and efficient way to get the word out to our stakeholders. Last year's redesign has given us the flexibility to reach and stay connected with people in real-time, on various social media platforms.

At scientific conferences at home and abroad, at stakeholder meetings, when we meet with retailers to update them on our work, or when we reach out to growers to ask for their input – through all of these touchpoints, we have an opportunity to tell our story. And what is telling a story really if it's not about exchanging information, building relationships and instilling confidence and trust?

The Innovation Report is another way to tell our story. And in this issue, there are two feature articles that I think go a long way towards explaining what is both so interesting and so unique about Vineland. Together, these features underscore the fact that we are not a pure research play. Our true competitive advantage lies in the fact that in everything we do, we couple rigorous consumer research with equally disciplined scientific research throughout the product development process – all with an eye to the ultimate end result, which is commercialization. Research, driven by consumers, for consumers, is what Vineland's story is all about.

I hope you will enjoy this latest issue of the Innovation Report. As always, I am interested to hear your feedback.

Cheryl Lennox

Cheryl Lennox
Editor

Editor
Cheryl Lennox
Director,
Marketing & Communications
cheryl.lennox@vinelandresearch.com

Editorial Advisory Panel
Daryl Somers
Research Director,
Applied Genomics

Michael Brownbridge
Research Director,
Horticultural Production Systems

Gideon Avigad
Research Program Leader,
Robotics & Automation

Amy Bowen
Research Program Leader,
Consumer Insights

Tania Humphrey
Director, Strategic Planning &
Research Management

Lana Culley
Director,
Business Development

Vineland Research and Innovation Centre
4890 Victoria Avenue North, Box 4000
Vineland Station
Ontario, Canada L0R 2E0

905.562.0320

Cover - The Canadian Hardy Rose Breeding Program

vinelandresearch.com

@vinelandrsrch VinelandResearch

TABLE OF CONTENTS

New commercial research greenhouse set to give Ontario consumers more of what they want 04

Vineland begins multi-product bio-inoculant testing 07

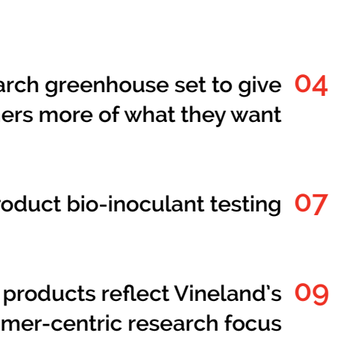
New products reflect Vineland's consumer-centric research focus 09

Innovation and commercialization, two sides of the same coin for Vineland 17

World crops trials to provide growers with scientific basis for decision-making 22

14

16



22

Vineland's commercial research greenhouse under construction

New commercial research greenhouse set to give Ontario consumers more of what they want

Research will target consumers' changing taste preferences, delivering grown-in-Ontario innovation

At Vineland's new commercial research greenhouse, scheduled to open late summer, everyone wants a piece of the action. And everyone knows that the real beneficiaries of the work done inside will be Ontario consumers.

Research scientists like Dr. Viliam Zvalo are looking forward to getting started on new hybrid Chinese eggplant trials, and Science Coordinator Niki Bennett at the Ontario Greenhouse Vegetable Growers is also keen to see how new varieties of tomatoes will perform in this, the only pre-commercial scale research greenhouse in southern Ontario.

"This will be an important greenhouse for local growers," said Bennett. "In order to produce the tomatoes that consumers tell us they want, we need to be able to take the varieties the breeders have identified and mimic real growing conditions. If it works in Vineland's greenhouse, then it will give our growers a real sense of confidence that they too can produce a tomato with strong consumer appeal. We need an Ontario-grown solution."

Research scientists Dr. David Liscombe and Dr. Valerio Primomo are also looking forward to opening day. For Dr. Liscombe, the new greenhouse represents the culmination of more than two years of work cross-referencing the genetic traits of hundreds of different varieties of tomatoes with the biochemical markers for their flavour.

"The new greenhouse is really where the rubber hits the road for us in terms of new tomatoes-on-the-vine," said Dr. Liscombe. His team started with 180 tomato varieties, narrowed it down to 56 cultivars for taste, then grew this subset in the greenhouse and developed a flavour profile. The Consumer Insights team then took these tomatoes and developed a 20-word vocabulary to describe their taste, texture and aroma, and from there asked a consumer panel of 200 people to taste a further subset of 18 varieties.

"To say this whole process has been a labour of love is pretty accurate," said Dr. Liscombe. "What we're trying to do is ensure consumers love what growers produce. And the way to do that is to focus on getting the flavour, rather than just the yield, absolutely right."

> ***"...I can't emphasize enough how important this greenhouse will be for local greenhouse growers."***

Dr. Primomo's team is responsible for managing tomato production in the new greenhouse, and like Dr. Liscombe, he believes it's time to put tomato science to the test. Two vegetable houses have been earmarked for trials, each growing approximately 1,000 plants at a time. The goal is for the plants to yield about 100 kilograms per square metre of space, similar to the standard yields for commercial tomatoes grown in the Netherlands.

As highly anticipated as it is, the new commercial research greenhouse can only live up to expectations if the infrastructure that supports it performs properly. For the past two years, Gary Moffatt, Vineland's Chief Operating Officer, has worked to ensure that not only is the new structure up to farm code but also that everything underpinning it is in top working order.

"The power supply to the entire campus is new," said Moffatt. "The piping for our natural gas supply has been replaced, we have new metering so that we can start evaluating and managing our electricity costs, and we are working to upgrade our water supply from the lake. There's no point in having a state-of-the-art greenhouse if the infrastructure is outdated."

Greenhouse growers also have high hopes for the new greenhouse. The greenhouse sector contributes more than $4 billion annually to Ontario's economy, and in 2013 this included sales of $1.53 billion worth of vegetables, flowers and plants. The greenhouse sector also generates $600 million in export sales, primarily to the United States.

To say all eyes are on Vineland – and the new commercial research greenhouse – is certainly no exaggeration.

The way to consumers' hearts is through their tastebuds

Vineland Research Scientist, Biochemistry, Dr. David Liscombe and Research Project Leader, Consumer Insights, Dr. Amy Bowen, know that when it comes to tomatoes, taste and texture have a lexicon of their own. Words like 'meaty' and 'crunchy' sound about right, but how about words like 'hay' and 'smoky'?

Taste goes to the heart of what Drs. Liscombe and Bowen have been working on during the past two years, as part of Vineland's Enhancing Quality and Production of Canadian Greenhouse Tomatoes program. "We've been trying to figure out what consumers mean when they say they want 'a more flavourful' tomato," said Dr. Bowen. "And now we think we're very close."

Dr. Jim Brandle, Vineland's Chief Executive Officer, is confident his team will be able to deliver the flavours consumers say they want.

"We need fresh produce that tastes good, it's as simple as that," said Dr. Brandle. For years, our industry just assumed they knew what consumers wanted. At Vineland, we're ideally positioned to feed consumers' appetite for good-tasting food. From the get-go, our team has been focused on the sciences – plural – that underpin food production. It's not just biology and plant breeding, it's marrying those sciences with the social science of consumer insight that is critical. If you want to produce more flavourful food, you need that partnership, that synergy."

Dr. Jim Brandle, Chief Executive Officer

Vineland begins multi-product bio-inoculant testing

Data from new research study will help guide decision-making for greenhouse growers and product manufacturers

Dr. Rose Buitenhuis, Research Scientist, Biological Control and Dr. Anissa Poleatewich, Research Scientist, Plant Pathology

Vineland's Horticultural Production Systems team is undertaking a new study that will screen in-market and pre-commercial bio-inoculants for their impact on root diseases and pests in hydroponic production, as well as their effect on plants' overall response to the products.

Bio-inoculants are natural agents based on living microorganisms, or derived from living organisms. They are intended to directly protect plants from root diseases or promote a response in the plant that can aid the plant's natural defenses and help it ward off diseases and pests.

"The study is aimed at providing growers and manufacturers with science-based information that can guide their decision-making," said Research Director, Dr. Michael Brownbridge. "We're not only testing products, we're also evaluating their impact as part of an integrated pest management approach."

According to Dr. Brownbridge, there are currently several products on the market and others in commercial development that can protect plants against soil-borne pathogens and may enhance resistance to foliar diseases and pests such as aphids and whiteflies. But the information on product labels can be confusing, and according to Dr. Brownbridge, growers are looking for information that will help them choose the right product and get the most from the products they choose.

The research has two goals. The first objective, led by Research Scientist, Plant Pathology, Dr. Anissa Poleatewich, is to provide greenhouse growers with scientific data that will tell them how effective commercially-available and experimental bio-inoculants (some of which are registered as bio-pesticides) are in managing root disease in grafted tomatoes grown in commercial substrates in a greenhouse setting. The second objective, led by Research Scientist, Biological Control Dr. Rose Buitenhuis, is to explain how bio-inoculants might be integrated into a grower's overall pest management system.

"Treatment with bio-inoculants on the roots of the plant can affect every other part of the plant," said Dr. Brownbridge. "That's why we'll also be paying attention to any enhanced plant resistance to pests that may result from treatment with a bio-inoculant."

To get a sense of the scope of the problem facing greenhouse growers in Ontario, Statistics Canada data indicates that the farm gate value of Ontario greenhouse tomatoes and cucumbers in 2012 was just over $293 million and $216 million, respectively. Vineland's researchers estimate that Ontario vegetable producers lose approximately $183 million in revenue each year as a result of soil-borne pathogens, even when conventional pesticides are used. If bio-inoculants can help mitigate growers' loss by even 10 per cent, they will increase growers' revenue by roughly $18 million each year.

"The stakes are really high for growers," said Niki Bennett, Science Coordinator, Ontario Greenhouse Vegetable Growers. "They not only need the right products, they need to know how to use them appropriately, and strategically. That's why this project holds such promise for greenhouse growers."

Vineland's bio-inoculant project will unfold over three years, and results will be shared with growers, product manufacturers and other stakeholders through workshops and presentations at events such as the Greenhouse Canada Grower Day and the Canadian Greenhouse Conference.

> ***"...We'll also be paying attention to any enhanced plant resistance to pests that may result from treament with a bio-inoculant."***

New products reflect Vineland's consumer-centric research focus

Since its inception, Vineland has turned the 'build it and they will come' philosophy on its ear, establishing itself firmly within the camp of 'find out what they want first and they will come' instead.

AC™ Harovin Sundown pear

Everything about this fall's launch of the new AC™ Harovin Sundown pear will be driven by what Matt Ecker, Sales and Business Development Manager of the Vineland Growers' Co-operative, and Dr. Amy Bowen, Vineland's Research Program Leader, Consumer Insights, know about consumers' tastes and preferences.

After years of research, including focus groups, consumer taste-testing to compare the AC™ Harovin Sundown pear with imported pears and other Canadian varieties, as well as research into consumers' purchase patterns, questions about their attitudes to pesticide use, and their preferences for the pear's appearance, here is what we know:

- Consumers like eating pears but they are not top-of-mind when purchasing fresh fruit.
- Pears should look and taste good, and if grown locally with less pesticides, so much the better.
- Firm flesh and light green skin with a slight red blush are ideal.

Over at the Vineland Growers' Co-operative, which is taking the lead on marketing the new pear, Matt Ecker is confident growers have a winner on their hands. Ecker is a big believer in the consumer research behind the pear, and based on what he's learned from Vineland's Consumer Insights team, he is developing his marketing plans accordingly.

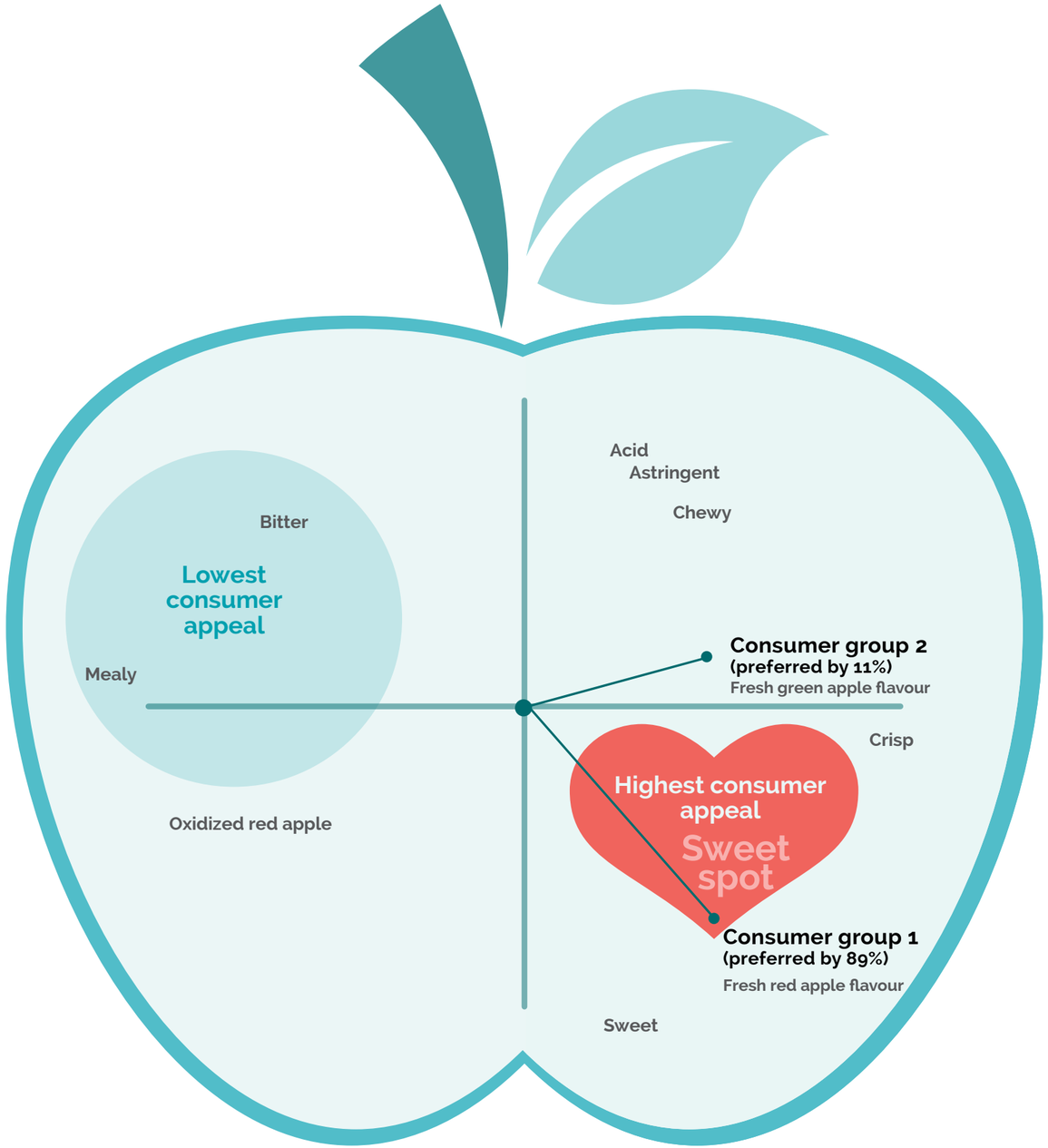
"We're in the process of meeting with retail partners to discuss everything, from the timing of the launch, to the packaging, to setting up product codes, to developing in-store displays and marketing collateral," said Ecker. "There's also the matter of what the new pear will be named, but I'm keeping that a secret until launch day."

Ecker does reveal that the new pear will be marketed as a niche made-in-Canada product, that it will be Canada's first branded pear, and that it will make its debut at the Royal Winter Fair in November. The target market, initially, is foodies, and as a result, the pear will be sold mainly by higher-end retailers. Ecker believes the pear will hold considerable appeal for consumers who enjoy eating pears through the winter months, making it preferable to those with shorter availability such as Bartlett pears.

Growers too are excited by what lies ahead. There are 15 pear growers in Ontario and six in the Atlantic region, as well as recently-established partnerships with shippers in the Atlantic to handle distribution in Nova Scotia.

"It's been a lot of hard work, from the growers' side and the retailers' side, and I don't think I'm exaggerating to say we're all very excited," said Ecker.

The sweet spot*



*Simplified representation of consumer preferences of 70 apple varieties tested.

Apples

Anyone who thinks the perfect apple is simply the result of 'birds and bees' should take a look at a diagram on the wall of Dr. Amy Bowen's lab at Vineland.

Called a 'sensory preference map', the diagram is actually more like a pictogram because it tells the story of where consumer insights about specific varieties of apples can intersect with applied genomics. Simply put, it illustrates Vineland's unique approach to innovation.

As a first step, Dr. Bowen, who heads up Vineland's Consumer Insights group, and her team, spent almost two years profiling approximately 70 varieties of apples to look for similarities and differences for various properties. Using a subset of these properties, she asked consumers to tell her what they liked and didn't like about these varieties. She learned that while all consumers like apples that are juicy and crisp, 89 per cent of consumers preferred apples that smelled of 'fresh red apple', while others liked a 'green apple' aroma better.

Dr. Bowen then transferred this knowledge to Research Director, Applied Genomics Dr. Daryl Somers' team so that the preferences she had identified in her upfront research could be located on the apple's genome, leading ultimately to the development of DNA markers. Once found, these markers help guide the selection of consumer attributes for the apple breeding program going forward.

"The whole purpose of the sensory preference map is to keep us focused on what consumers want, and to deliver on their stated preferences in the most efficient way possible," said Dr. Bowen. "This is a very competitive space. Everyone is trying to get to market quickly with new products, and our local growers are counting on us to ensure that, in the end, they succeed in-store."

Vineland receives prestigious Genome Canada award

In the world of science, a research poster is the picture that's worth a thousand words. The more succinct it is, the better. And better still, if the story it tells is unique and compelling in the eyes of the scientific community.

Genome Canada and The Gairdner Foundation hosted an international conference last November titled 'Genomics: the Power & the Promise'. Vineland Research and Innovation Centre was recognized for excellence in the graduate student poster competition, based on the work it is doing to explain how applied genomics intersects with consumer research and how these points of intersection inform future apple breeding decisions.

Entitled 'Comparing apples to apples: A genome-wide association study of sensory and physical attributes in apple', the first place poster highlights Vineland's work to map the human sensory perception and taste experience of fresh food onto a sequenced genome in order to develop a wide array of DNA markers. According to PhD candidate Beatrice Amyotte, who received the award on behalf of Vineland, this is the first genetic map of its kind.

Other members of the Vineland team who collaborated on the study include Travis Banks, Research Scientist, Bioinformatics; Dr. Daryl Somers, Research Director, Applied Genomics; Dr. Amy Bowen, Research Program Leader, Consumer Insights; Dr. David Liscombe, Research Scientist, Biochemistry; and Dr. Istvan Rajcan from the University of Guelph.

Genome Canada is a not-for-profit organization that acts as a catalyst for developing and applying genomics and genomic-based technologies to create economic and social benefits for Canadians. For more information on how genomics is applied in the agriculture sector, visit www.genomecanada.ca/en/info/agriculture.

Sweet potatoes

Vineland's sweet potato breeding program has moved into the next stage of development, with growers now testing three varieties infield that match what a consumer panel told the Consumer Insights team it wants when it comes to sweet potato fries.

Developing the new sweet potato fry has been a collaborative effort. In order for the Consumer Insights team to identify the three varieties that matched consumers' stated preferences from among 19 varieties, the team tapped Mississauga-based Pride Pak to assist with the washing, cutting and packaging of the sweet potatoes into fries. Then they enlisted expertise from Niagara College's Culinary Innovation and Food Technology program to develop a process to freeze the fries. And lastly, they consulted with McCain Foods to ensure the freezing methodology was consistent with industry standards. The consumer research panels took place at Niagara College, with assistance from students who cooked the fries in the teaching kitchens.

"It's exciting to get to this point in the process," said Dr. Bowen. "We now know early on in the breeding process what it is about the fries' flavour and appearance that is most important to consumers. This gives the breeder another selection tool to ensure new varieties have both the right agronomic and consumer performance attributes. It's a very integrated, very disciplined approach."

In-field testing of the new varieties will continue until Vineland's breeding team is absolutely confident they will yield great taste for consumers, and a healthy return for growers.

"...We take a consumer-driven approach through upfront consumer preference and sensory testing to guide our breeding decisions and increase our chances of success. Growers want science that works and expect innovative products that will sell."

Innovation and commercialization, two sides of the same coin for Vineland

When it comes to commercialization, there are many paths to success.

Sometimes it's the product itself that is innovative enough to warrant a patent, or it's the unique process used to create that product that has strong commercialization potential. Other times, what's innovative is the way the product is marketed.

"We look at commercialization from many different angles before deciding where to focus our attention and invest our resources," said Dr. Jim Brandle, Chief Executive Officer.

Consider, for example, a drying chamber for Appassimento grapes and how different that end-product is from something like a brand new rose. And again, compare a new rose variety to a new technology platform that identifies variations in genetic traits. Different as they all are from each other, these three new products were developed at Vineland, and Vineland not only holds patents and other intellectual property rights but has also found a very specific market niche for each one.

AAC 576 rose

Vineland has been breeding new roses, using plant material from the Canadian Nursery Landscape Association (CNLA) and Agriculture and Agri-Food Canada (AAFC), for many years. But now, for the first time, Vineland will become the 'chief marketing officer' for a brand new rose, referred to, in the pre-launch phase, as the AAC 576 rose.

“...We’re a research organization first and foremost. That means the primary drivers behind our commercialization decisions are always increased market share for growers, impact for our partners and increased jobs for local communities.”

“With the launch of the AAC 576 rose, we want Vineland to become known around the world for being world-class marketers of roses,” said Director, Marketing and Communications, Cheryl Lennox. “We know our roses better than anyone. And our goal is to market them better than anyone.”

To launch the new rose, Vineland is rallying all its core strengths. The Consumer Insights team, the breeding team and the business development team will all be working in tandem to ensure the AAC 576 is a winner right out of the gate.

According to Lennox, the launch is a perfect example of the professional synergies that combine to make Vineland Research and Innovation Centre so unique. “We have world-class in-house rose breeding expertise, which is a key competitive advantage, so it simply makes sense for us to market our own products.”

The new rose, initially developed by AAFC, has all the attributes Canadians say they love in their roses: plenty of full red flowers, green glossy foliage and an average height of approximately 130 centimetres. It also boasts a powerful combination of disease resistance and winter hardiness, making it an ideal candidate for commercialization across the country. Identified by Vineland under the leadership of rose breeder Dr. Rumen Conev, the AAC 576 rose will be launched in time for Canada’s sesquicentennial in 2017.

“We are finalizing details of the license agreement with CNLA to market the new rose and we’re looking forward to working with their members to bring it to commercial success,” said Lana Culley, Director, Business Development. “Our goal is to start propagation right away while developing a comprehensive branding and marketing strategy based on intelligence gleaned from our Consumer Insights team.”

For John Bakker, J.C. Bakker Nurseries, having Vineland assume responsibility for the AAC 576 rose is the right decision. “Given Vineland’s breeding and consumer insight expertise, I am confident they will bring a fresh perspective to the marketing of the AAC 576 rose and will also help to make it a success for growers and retailers.”

Canadian beauty: AAC 576 rose

Appassimento chamber

Vineland's Appassimento chamber pictured at Kew Vineyards

Science, technology, viticulture, winemaking — and now economics — have all joined forces with the launch of a new type of drying chamber designed to help Ontario wineries expand their market share and enhance their competitive position in Ontario's fast-growing Appassimento wine category.

The development of a new portable Appassimento drying chamber by MTX Postharvest represents the culmination of several years of collaboration between the Rockwood-based company, local wineries Kew Vineyards and Rennie Estate Winery, and Vineland Research and Innovation Centre.

Using patent-pending airflow technology developed by Vineland, MTX Postharvest has created a self-contained drying chamber that uses pressurization to pull air evenly and consistently through pallets of grapes – a process that not only allows for enhanced development of flavours and concentration of sugars but also contributes to more complex aromas in wines made from high-quality grapes that are harvested in cool climate areas with shorter growing seasons.

"We were very pleased to have been selected to partner with Vineland on the commercialization of the Appassimento technology," said MTX Postharvest's Director of Business Development, Ethan Strawbridge. "We have years of experience in designing and building environmental spaces in the postharvest industry, primarily ripening rooms. Our team offers a great deal of experience when it comes to developing cost-effective and energy-efficient solutions."

Strawbridge says there is a strong business case for Appassimento wines, not only in Canada but also across North America. In 2010, for example, the Liquor Control Board of Ontario (LCBO) showed net sales nearing $40 million for this style of wine, eight per cent of which originates in Ontario.

Graham Rennie from Rennie Estate Winery recently purchased an Appassimento unit. "I am delighted to be the first winery to order MTX Postharvest's commercial grape drying chamber, as my collaboration with Vineland helped develop this proprietary Appassimento methodology," said Rennie. "The chamber will allow me to customize specific settings such as airflow speed, temperature and humidity to produce our ultra-premium Appassimento wines – Scarpata and "G" Assemblage. The ability to control these settings in an optimal fashion within a secure, airtight, portable chamber will ensure a perfect Appassimento result each harvest for years to come."

The proprietary airflow technology developed at Vineland has many potential applications, dried grapes being only one of them. "Our interest is always to ensure that whatever we develop, whether it's a new technology or a new variety of fruit, that we're doing it for the benefit of local growers, retailers and, of course, consumers," said Dr. Brandle. "We want to help them compete for market share and grow their business."

DVS platform

Vineland has filed a patent for a proprietary 'platform technology' that its researchers developed last year to more quickly identify variations in the breeding traits of tomatoes, cucumbers and other crops.

While the DNA technologies used at Vineland help plant breeders accelerate the breeding process, making it easier to start testing new products sooner both in the greenhouse and the field. It can also be used for other agriculture and horticulture applications.

"The beauty of this kind of platform technology is that it's not unique to any specific vegetable or plant. We see several potential applications outside of our own core business and are looking at ways to package the software and train licensees who have identified a specific application for their business," said Director, Business Development, Lana Culley. "This approach broadens the impact of the technologies we've developed at Vineland, while allowing us to continue to focus on our horticulture mandate."

This DNA platform brings the total number of patents - including plant patents - Vineland has filed since its inception to nine. Vineland also holds plant breeders' rights to 33 varieties and trademarks for the Pixie™ grape and a new pear variety to be launched in 2015.

"...Whatever we develop, whether it's a new technology or a new variety of fruit, we do it for the benefit of local growers, retailers, and of course, consumers."

World crops trials to provide growers with scientific basis for decision-making

Consumers may want them, and retailers too, but before they take the plunge, growers expect to see a solid business case to show them that increased production of locally-grown world crops is worth the investment.

There's no question the demand is there. According to Statistics Canada, imports of eggplant and okra increased by 32 per cent and 45 per cent respectively, during the period from 2011 to 2014. According to Dr. Michael Brownbridge, Research Director, Horticultural Production Systems, there are many reasons for the rise in demand, among them Canada's shifting demographics and consumers' concerns about food provenance and food safety.

"We believe locally-grown world crops like eggplant represent a sound economic opportunity for growers and retailers, but we need to give growers the science to back up our hypothesis before we can expect them to get onboard," said Dr. Brownbridge.

With this in mind, last winter, Research Scientist, Vegetable Production, Dr. Viliam Zvalo began reaching out to growers to see if they would be interested in participating in a trial to evaluate some new hybrid varieties that might be successful in Canada. With help from 22 growers located in British Columbia, Manitoba, Ontario, Quebec and Nova Scotia, they started on-farm trials for Chinese long eggplant and okra varieties. In addition, at the research farm in Vineland, trials on fertility management, spacing, season extension, grafting and direct seeding are being carried out to further improve productivity and production efficiency.

"This trial is a multi-stakeholder partnership," said Dr. Zvalo. "It's important that we're all on the same page and that we stay focused on the end result, which is providing food that consumers and retailers want, and a yield and price point that is attractive for growers."

Vineland's role at this stage of the world crops initiative is two-fold: identify the right hybrids and build the production knowledge base so that growers can gain confidence in growing these varieties, and ultimately capitalize on the opportunity.

"If we can demonstrate that these non-conventional crops perform well, the hope is more growers will sign on. Long-term, this program is about replacing imported world crops with locally-grown varieties and increasing growers' competitive position," said Dr. Brownbridge.

To test the potential year-round domestic production of Chinese long and Indian round eggplant, Dr. Zvalo also began greenhouse trials last December. He plans to take the varieties that show the most promise into Vineland's new commercial research greenhouse for further testing.

Dr. Michael Brownbridge, Research Director, Horticultural Production Systems (left) and Dr. Viliam Zvalo, Research Scientist, Vegetable Production

With a highly-skilled research team, oversight from an independent Board of Directors, engagement from an international Science Advisory Committee and collaboration with more than 160 global partners including a Stakeholder Advisory Committee, Vineland's goal is to enhance Canadian growers' commercial success through results-oriented innovation.

We are an independent, not-for-profit organization funded in part by *Growing Forward 2.*

info@vinelandresearch.com

4890 Victoria Avenue North, Box 4000,
Vineland Station, ON L0R 2E0
905.562.0320

vinelandresearch.com @vinelandrsrch VinelandResearch

Ontario