



vineland
RESEARCH & INNOVATION CENTRE

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Exciting News for Vineland with FedDev Investment Announcement

Member of Parliament Vance Badawey, Niagara Centre and Member of Parliament Chris Bittle, St. Catharines announced \$5.76 million in FedDev Ontario funding for Vineland's new Collaborative Greenhouse Technology Centre at a special event June 3.

Hon Jeff Leal, Ontario Minister of Agriculture, Food and Rural Affairs and Alan Caslin, Niagara Regional Chair were also present to discuss the importance of this funding to economic growth in the horticulture sector.

"This funding will increase the capacity of Ontario's emerging innovation strength in greenhouse horticulture technologies," said Dr. Jim Brandle, CEO, Vineland Research and Innovation Centre. "Vineland's new Collaborative Greenhouse

Technology Centre is uniquely positioned at the junction of the greenhouse horticulture and advanced engineering sectors to drive growth and we are thankful for FedDev Ontario's support to meet this challenge."

With this funding, Vineland is developing:

- automated vegetable packing systems
- gripper tools for automated handling of horticultural products
- wireless irrigation sensing and decision making systems
- automated disease detection systems

and the commercialization of:

- automated planting and potted plant packaging systems
- automation technologies to aid mushroom harvesting



Collaborative Greenhouse Technology Centre grand opening ceremony. (L to R) Hon Lyle Vanclief, Board Chair, Vineland; MP Dean Allison, Niagara West; MPP Jim Bradley, St. Catharines; Hon Jeff Leal, Ontario Minister of Agriculture, Food and Rural Affairs; MP Vance Badawey, Niagara Centre; MP Chris Bittle, St. Catharines; Sandra Easton, Mayor, Town of Lincoln; Alan Caslin, Niagara Regional Chair and Dr. Jim Brandle, CEO, Vineland.



Vineland's Inside the Science



Public tours of the new greenhouse.

Vineland hosted an Inside the Science open house to mark the official opening of our pre-commercial greenhouse on June 3. The event was a success, welcoming more than 750 people throughout the day.

Attendees toured Vineland's Collaborative Greenhouse Technology Centre and viewed:

- a biocontrol demonstration
- a robotics simulation for greenhouse application
- a tomato display and sensory demonstration

Guests also enjoyed two signature hors d'oeuvres made with Vineland's greenhouse Asian eggplant.

Vineland's new greenhouse brings companies, industry and researchers together to foster collaboration and drive economic growth by bridging the gap between innovation and commercialization.



The public open house was attended by more than 500 guests who learned about Vineland's greenhouse research projects.



Attendees enjoyed signature hors d'oeuvres with eggplant grown in our greenhouse.

Coming up:

Don't miss What's Growin' On Open House 2016 set for July 27. More details will soon be posted on the events section of vinelandresearch.com.



Vineland Greening Canada's Highway of Heroes

In collaboration with Vineland Research and Innovation Centre (Vineland), the Highway of Heroes Living Tribute project started its first season of tree plantings. The team used soil remediation procedures and a tree species selection tool developed by Vineland.

"The planting employs Vineland's latest research and protocols to guide our tree assessment process for planting along the transportation corridor," said Scott Bryk, Executive Director, the Highway of Heroes Living Tribute.

"Our research demonstrates that roadside soils are too compact to support tree establishment and not all species are suitable for this type of environment. Each tree planted represents the life of a fallen soldier, therefore tree survival is paramount," said Dr. Darby McGrath, Research Scientist, Nursery & Landscape, Vineland.

After performing an analysis of highway and city soils, Vineland developed a predictive modelling tool to determine the proper remediation required to reduce soil compaction for improved tree survival. The tool offers site-specific information on soil preparation and generates a list of recommended tree species based on criteria

including site characteristics, environmental conditions and projected site maintenance.

In 2007, a 170-kilometre portion of the highway stretching from CFB Trenton to the Don Valley Parkway (and later Keele Street) in Toronto was designated the Highway of Heroes, reflecting its use as the route for funeral convoys carrying fallen Canadian Forces service men and women from CFB Trenton to the coroner's office in Toronto.

The Highway of Heroes Living Tribute's five-year project is planting 117,000 trees, one tree for every fallen Canadian soldier since Confederation, creating a living, breathing memorial along the 401 between CFB Trenton and Toronto. The project works with founding partners Landscape Ontario, Maple Leaves Forever and The Garden Club of Toronto. Visit hohtribute.ca to learn more.

For more information, please contact:
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First season of tree plantings at CFB Trenton (May 21, 2016).



Okra Opportunity - Creating New Markets

According to Statistics Canada, over six million kilograms of okra are imported into Canada every year, yet domestic production is limited. Vineland Research and Innovation Centre's (Vineland) world crops research program is developing production systems to supply this emerging market and promote Canada's industry competitiveness.

During the 2015 growing season, Vineland tested five okra hybrid varieties planted on raised beds with black plastic mulch. "Three varieties showed the most promise at the Vineland research farm and locations across Canada: Elisa F1 (10,600 kg/ha yield), Lucky Green F1 (8,900 kg/ha yield) and Jambalaya F1 (8,000 kg/ha yield)," said Dr. Viliam Zvalo, Research Scientist, Vegetable Production at Vineland.

Okra production is affected by a number of factors including variety, climatic conditions and production practices. The Vineland research team determined modifications of the growing environment, through the use of row covers and black plastic mulch, may be necessary to grow okra in Canada.

Given the limitations of the short growing season, growers tend to transplant okra. Young seedlings often do not respond well to transplanting. "Directly seeding okra has shown reasonable success," said Zvalo. "While direct seeding of okra would not be recommended for growers targeting early markets or for those with a contract for in-season supply, this practice may be of interest to growers who want to produce larger amounts of okra in August and September, at a lower production cost."

During Vineland's research trials, the highest yield was achieved when okra was planted on double rows spaced 180 cm centre-to-centre and



25 to 30 cm plant-to-plant in the row. Daily harvest of okra is necessary during peak production in the summer to ensure top-quality produce. During the fall, harvest slows to two to three times per week.

What's planned for 2016? The team will continue to gather data on okra agronomy (plant spacing, type of varieties and fertilization practices) to refine production systems and provide growers with robust recommendations.

This project is funded in part through *Growing Forward 2 (GF2)*, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of *GF2* in Ontario. This project also has the support of the Ontario Fruit and Vegetable Growers' Association and participating growers across Canada.

To learn more about this project, please contact:
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