

New urban greening initiative focuses on innovation for Canada's urban landscapes

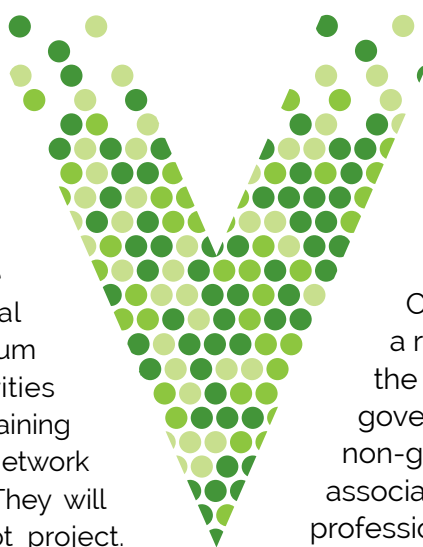


Vineland's Darby McGrath, PhD, Program Leader, Plant Responses and the Environment; Ryan Munroe, Senior Research Technician, Environmental Horticulture and Charlene Williams, Research Technician, Environmental Horticulture.

An exciting new chapter in urban greening and healthy Canadian landscapes has begun and is centred at Vineland.

The new public-private Greening the Landscape Research Consortium to address common urban landscape challenges has launched with an initial cohort of 13 members. Together, consortium participants will set research priorities reflecting industry needs and access training and skills development, innovative data, network connections and emerging knowledge. They will also take part in an urban forestry pilot project.

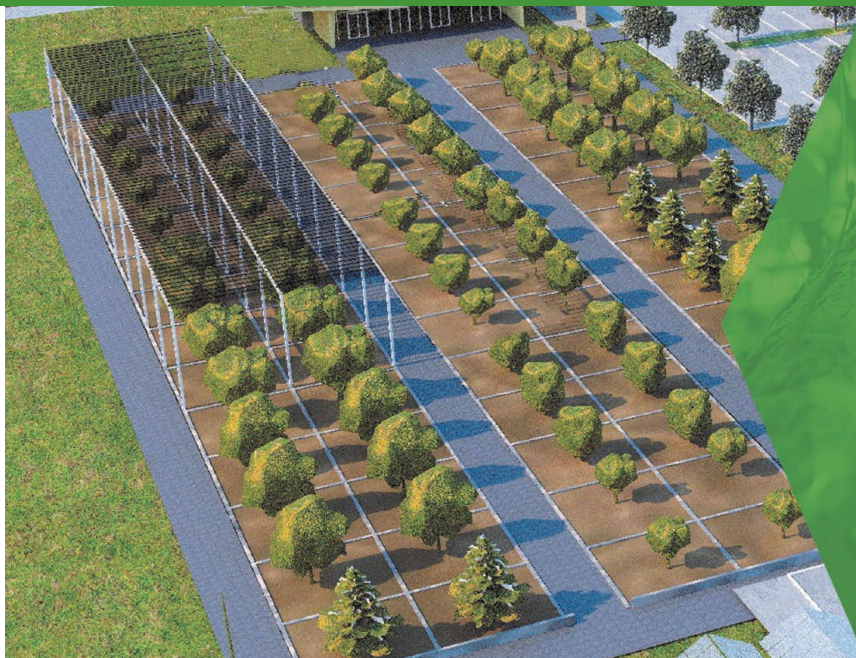
"One of the key features attractive to members is the opportunity to build a customized case study. One of the challenges in urban forestry is gaps in accessing proper solutions — everyone wants nature-based solutions but how do we do it and what type of information can we rely on?" says Darby McGrath, PhD, Program Leader, Plant Responses and the Environment. "We want to fill those gaps with evidence-based research."



Projects are now underway and consortium members will have access to case study findings and resources as part of Vineland's goal to build an information network and a collective capacity for solving common industry challenges.

Current consortium partners make up a range of stakeholders from across the industry, such as municipalities, government, conservation authorities, non-governmental organizations, professional associations, suppliers, nurseries, landscape professionals, developers and consultants. A new membership intake will open in spring 2022.

"The reason for joining the consortium is different for each member and is related to where they fit in the industry. For some, what is important is being able to test and solve a real problem and create a value proposition in their area," adds McGrath. "For others, it's to access information and learn more about what others are doing."



Tree Compartment Prototype

Individual compartments enable testing that reflects urban conditions

- Soil properties
- Maintenance regimes
- Tree stress and growth responses
- Canopy structure and function
- Tree species selection
- Impact of urban contaminants

Having a forum to engage directly with participants across the entire industry was the main driver behind the City of Burlington's decision to join the consortium. The city has been encouraging urban forestry and the concept of canopy growth, with healthy, long-living trees critical to success.

"You have to look at the entire value chain to achieve the desired result, which for us is a good, healthy tree that will last at least 40 to 50 years. That starts with quality nursery stock, having a qualified vendor plant the trees and us, the end-users, caring for the trees over a few years," says arborist Steve Robinson, Burlington's Manager of Urban Forestry. "It's something we've identified for many years as a need for the industry and having Vineland take that quarterback position to bring everybody together is invaluable."

Physical project sites will be set up with each consortium partner so they are geographically relevant and some of the work is expected to also take place at the newly anticipated TreeCulture Research Park on the Vineland campus.

The park is the first of its kind in Canada and will include a laboratory, field testing and flexible spaces for collaboration, education and demonstration. The open-air laboratory will feature Canada's only individually instrumented tree compartments for replicated testing to mimic a range of urban conditions.

Integrated sensor technology in compartments will log trees' responses to stress in real-time and monitor weather, soil function and canopy health.

"Tree treatments will be different in each compartment and we are combining different sensing technologies to gain an understanding of what trees are experiencing," McGrath says.

The goal is to have a portion of the outdoor laboratory compartments ready for a phased-in approach by spring 2022.

The Consortium and TreeCulture Research Park have evolved from more than a decade of urban forestry research at Vineland through its Greening the Landscape program, which focused on improving tree survival and increasing the sustainability of urban trees and shrubs.



At a glance

- Vineland has launched a Greening the Landscape Research Consortium to set research priorities for the industry and build an innovation network across the value chain. Membership information is available at <https://tinyurl.com/ntudvwjn>.
- Each consortium member is participating in a research case study to find a solution to urban landscape problems they are facing, with results shared among all partners.
- Vineland is developing a unique TreeCulture Research Park that will be home to Canada's only individually instrumented tree compartments to mimic a range of urban conditions.