



Products and Value Chains

Growing Asian flowers for Ontario markets

Flowers are important in cultural and daily activities for many Asian immigrants, including South Asians, who by 2050 will make up one-third of the Greater Toronto Area (GTA) population. But Asian plants are mostly unavailable in Canada, meaning immigrants have few opportunities to reconnect with flowers from their home countries.

Alexandra Grygorczyk, a researcher at the Vineland Research and Innovation Centre in Vineland, Ont., and a U of G adjunct professor, leads a research team that is helping to bring *Jasmine sambac*, commonly known as Arabian jasmine, to Canada. Introduced to Longo's markets in the GTA in 2017, the plants will become more widely available this year.

Jasmine is significant in Asian cultures, especially for many followers of Hinduism and Buddhism. The plant can grow in Canadian greenhouse conditions. Jasmine plants consist of leafy green vines and small white flowers that give off a heady sweet scent.

"The key thing about jasmine flowers is their fragrance, not their look," Grygorczyk says. "Jasmine flowers don't look like the big colourful flowers commonly sold here."

Grygorczyk expects that growing jasmine in Ontario will also benefit local floriculture markets. Ontario growers face competition from growers in warmer countries who cultivate cut flowers outdoors. Jasmine will be sold as a potted plant and can be grown in Ontario greenhouses in the summer when many floriculture greenhouses operate below capacity.

Jasmine is one of a number of plants selected by researchers after a supply chain analysis, focus groups and country-wide consumer surveys. After completing jasmine production trials at Vineland and Westbrook Greenhouses Ltd., Grygorczyk and her team hope to introduce more Asian plants to Ontario.

– Marika Li

This research is funded by the OMAFRA-U of G Agreement. Additional funding was provided by Longo Brothers Fruit Markets Inc.



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From lab bench to consumer products

Spin-off company builds facility to mass-produce PhytoSpherix

| Alyssa Logan and Owen Roberts

A decade ago, Anton Korenevski, a researcher in Prof. John Dutcher's physics lab, was performing a complicated chemical procedure when he realized the waste material from the exercise looked peculiar.

Normally, such waste would be discarded. But this time, Korenevski decided to hang on to it and do further analysis.

That turned out to be a fortuitous decision. That so-called waste turned out to contain a unique sugar polymer molecule — since named PhytoSpherix — with incredibly broad applications. The molecules are produced in some varieties of sweet corn and have the distinct advantage of being completely natural, and even edible.

"One of the most remarkable abilities of these particles is how they retain moisture," says Dutcher.

Today, PhytoSpherix is on track to be used for food, age-defying super-moisturizers and non-toxic drug treatments. This summer, Mirexus, the spinoff company created to commercialize PhytoSpherix, will open a 12,000-square-foot R&D and manufacturing facility in Guelph's industrial park, with its staff expected to grow to 72 full-time positions within the next 10 years.

PhytoSpherix has a bright future, says Dutcher. It has applications as a non-toxic, biodegradable replacement for certain engineered nanoparticles and petroleum ingredients. He says it can make products such as cosmetics and biomedical treatments more environmentally friendly and more effective.

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