

SFU researchers to develop Canadian local blueberries for first time

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A team of Simon Fraser University (SFU) researchers is working to develop new plant varieties and precision indoor growing techniques for producing fresh, local blueberries for the first time during the off-season.

The team, led by SFU biological sciences professor Jim Mattsson, is exploring how biotechnology, advanced physiological methods and precision indoor growing techniques will help maximise plant productivity while minimising water and energy consumption, even in the depths of winter, resulting in fresher, better and more sustainable produce.

“If you have an indoor environment, you can tell the plants when to produce leaves and when to produce flowers and fruit,” Mattsson says. “You’re not dependent on the season and weather. You can change the light intensity, day length, and temperature to get the full potential of different blueberry varieties.”

The Canadian blueberry season runs from July to the end of September. For the rest of the year, Canada imports nearly half a billion dollars of blueberries from countries such as Mexico and Peru.

These berries have a higher carbon footprint than local berries and are typically four to five weeks old by the time they reach Canadian grocery stores. Like other imported produce, they are vulnerable to shipping delays and other supply chain issues that can result in spoilage and shortages that undermine our food security.

A home-grown solution needs to be both energy-efficient and profitable for farmers. The research is being done in partnership with B.C.-based agritech company BeriTech Inc. with \$1 million in support from the Weston Family Foundation as part of the Shepherd Phase of the Homegrown Innovation Challenge.

The research team is evaluating selected blueberry varieties under controlled environmental conditions to understand better how factors such as temperature, lighting and airflow can be used to enhance their growth. The first growth trial round is underway at BeriTech's research farm and SFU.

The research team will also be exploring ways to use resources more efficiently, reducing water and energy use and recycling fertilisers to reduce waste. They are also considering how they will introduce a brand-new category of food to Canadian consumers, with support from Beedie School of Business professors Terri Griffith and Andrew Harries.