



Growing the Market for What Consumers Love

Canadian consumers share a love for sweet potatoes and seek out the great nutritional value of these root vegetables. A large proportion of sweet potatoes available in Canada are imported from the United States. To increase Canadian growers' competitiveness, Vineland Research and Innovation Centre (Vineland) is developing fresh market varieties better-adapted to our shorter growing season climate and ones better-suited for the processing sector.

Now in its third year, Vineland's sweet potato breeding program has moved to a critical phase – farm trials in Ontario and the Maritimes. "So far we have screened over 2,500 sweet potato seeds, some of them acquired from our Louisiana State University collaborators, for several traits including flesh colour, shape quality, days to maturity, dry matter content and sugar content," says Dr. Valerio Primomo, Vineland's Research Scientist, Vegetable Breeding. "We have reduced the sample size to 15 top-performing varieties that are being evaluated by our partners throughout this summer including three growers in Southern Ontario and one in Nova Scotia."

Sweet potatoes - including Covington, the main variety grown in Canada - require a long season to mature and are susceptible to chilling injury at temperatures below 12°C. Vineland's breeding team is searching for alternative varieties better-adapted to our climate. "Growing sweet potatoes in Nova Scotia can be a challenge," says Philip Keddy, Farm Manager at C O Keddy Farms in Kentville, Nova Scotia. "This summer, I am testing varieties that Vineland has been screening for early maturity and hardiness to cooler temperatures."

Currently, only varieties from the United States are used for processing sweet potato fries. Pride Pak, a fresh fruit and vegetable processor in Mississauga, has shown interest in sourcing Canadian sweet potatoes for their production. "Once the 15 selected sweet potato varieties have been evaluated by the growers, we will process and test them for cutting ease, packaging and shelf-life," says Steven Karr, Founder, Pride Pak.

Vineland's Consumer Insights team will undertake sensory and consumer evaluation on sweet potato fries beginning in November. Using the 15 farm-evaluated and currently available varieties, they will create a preference map to define sensory attributes that drive consumers' liking for sweet potato fries. Consumer preference results will be integrated with agronomic performance and used to guide the sweet potato breeding program.

Vineland's industry-focused research creates impactful results for the Canadian horticulture industry. For more information on this research program, please contact: Dr. Valerio Primomo, Research Scientist, Vegetable Breeding at 905-562-0320 x873, valerio.primomo@vinelandresearch.com

This research project is funded through the Growing Forward 2 AgriInnovation Program, Agriculture and Agri-Food Canada's Canadian Agricultural Adaptation Program and the Ontario Ministry of Agriculture and Food's New Directions Research Program.