



A new breed of company



Michael Pautler, Platform Genetics' head of genomics services

Platform Genetics Inc. is on a mission to make breeding more efficient.

The two-year-old venture is Vineland's first spin-off company to be born of its work in advancing Canada's horticulture industry. It's also one of the only companies in the world to provide access to the tools needed to improve everything from flavour to disease resistance in crops.

Deep Variant Scanning (DVS), a method for rapidly identifying rare and valuable genetic variants, helps Vineland scientists home in on genes responsible for a crop's most prized characteristics.

"Using a technology like DVS, we can look at a population, for example, of tomato plants and if we know the gene that creates a certain flavour compound causing consumers to dislike it, we can selectively omit that gene so we're getting rid of what consumers dislike and make it something they like," said Michael Pautler, Vineland's research scientist in applied genomics.

"It's access to genetic variation," said Pautler, who doubles as Platform Genetics' head of genomics services. "Genetic variation powers breeding programs and enables you to discover great traits that can benefit consumers and growers."

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The company can do it with any crop, too. Pautler and his team have worked on onions, corn, tulips, broccoli and celery, to name a few. It's been tapped by companies throughout North America, Europe and the Middle East to help improve food and flower crops.

Platform Genetics and the DVS technology is a non-GMO approach that is more widely accepted by consumers and avoids enormous costs that transgenic seed companies face bringing a product to market. That positions the company to grow as a business, ushering in new jobs for research scientists to do high-skilled work, Pautler noted.

Platform Genetics and its DVS technology are also poised to help the cannabis industry as it moves into the mainstream.

"Cannabis companies, much like the rest of the horticulture industry, have problems with disease and pests and there's a huge opportunity for trait development and plant breeding. Hypothetically, the emerging field of cannabis is the perfect application for our technology," Pautler explained.

Better still is how efficiently and cost effectively the work can be done. The entire process, from creating increased variation, analyzing DNA sequences and identifying seeds carrying a desired genetic variation, can happen in under four weeks. Pautler credits Platform Genetics' high-tech bioinformatics algorithms for speeding up a historically slow process.

Digital and genomics-based technologies for agriculture, commonly known as AgTech, will be essential for feeding an estimated nine billion people by 2050. The continued success of Platform Genetics ensures that Canada will remain at the forefront of this emerging field, bringing a new generation of tools to the world of agriculture.