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## Avocado rootstocks breakthrough for Australian scientists



Credit: Queensland Alliance for Agriculture and Food Innovation

### Researchers develop new way to produce avocado rootstocks shaving months off the process

**A**vocado production in Australia could be set to accelerate after researchers from the University of Queensland developed a new way to produce rootstock.

Neena Mitter, project leader and director of the University of Queensland's Centre for Horticultural Science, said Hass avocados had been successfully grown from trees grafted onto clonal tissue culture rootstocks.

"We have been successful in rooting multiple industry-relevant avocado rootstocks using our meristem or plant stem cells-based approach to multiply plants," Mitter said.

"Trials show that the clonal tissue culture rootstocks are yielding high-quality fruits in the field."

The tissue culture technology used by

the University of Queensland allows for up to 500 times more plants to be grown from a single cutting in 10-12 months – significantly reducing both resources required and the time it currently takes to produce a plant for sale in an orchard.

"With traditional avocado propagation, trees must be grown in fields for seed production. This is a sustainable technology that reduces the need for water, fertilisers, pest management processes and farming land used to produce rootstocks," Mitter said.

"Another advantage with tissue culture propagation, particularly in this day and age, is that the movement of soil and the biosecurity risks this entails can be eliminated."

Queensland avocado grower Lachlan Donovan has grown the

laboratory-propagated avocado trees for the past three years and was pleased with the tree growth and harvest.

"In the past the delay between ordering new trees and planting has been two to three years," said Donovan.

"The biggest advantage of this new technology for us is to be able to get desired rootstocks and varieties into production quickly."

Economic modelling conducted by the University of Southern Queensland with Queensland's Department of Agriculture and Fisheries as part of the project suggested that the tissue culture technology offers a potential 21 per cent return on investment to avocado growers.

Mark Furner, Queensland's minister for agricultural industry development and fisheries said the breakthrough would be

welcomed by the avocado industry.

“This is a Queensland-owned and invented technology platform validated from lab to orchard, and is now progressing to commercial roll out,” said Furner.

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