

# THE LAND

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## Breakthrough in strawberry harvesting

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THE prototype of a low cost commercial robotic harvester that will be able to harvest strawberries, 24 hours per day in all weather conditions is now nearing completion.

It is hoped this major breakthrough will provide a solution to the labour problems facing the strawberry industry and will substantially improve productivity.

Faced with the ever increasing issues in the labour market, Glass House Mountains strawberry farmer Ray Daniels of SunRay Strawberries Pty Ltd, on the Sunshine Coast north of Brisbane, discovered a solution to the challenges faced by strawberry growers while listening to a presentation on robotic harvesting by agricultural engineer Rudi Bartels at a strawberry growers meeting in 2007.

He realised the potential of being able to cut his itinerant workforce by up to 80 percent, with associated productivity benefits.

Ray Daniels joined forces with Rudi Bartels to create the company Magnificient Pty Ltd which is pioneering robotic harvesting technology in Australia.

"Horticulture is a labour intensive industry and while the strawberry price has remained largely stagnant over the past 15 years, labour costs have doubled," Ray Daniels said.

"With extremely few Australians willing to take on this demanding seasonal work, we are almost completely dependant on overseas workers to harvest our crops.

"We require 140 staff each season to harvest 1,000 tonnes of strawberries.

"Labour costs account for 56pc percent of our total production costs."

The large itinerant and seasonal labour force also brings many management issues including recruitment, payroll administration, social issues, language barriers, training and supervision costs, as well as the need to provide accommodation, transport and medical care.

"This revolutionary robotic harvester will allow us to pick straight into punnets which will reduce the majority of our wages bill and remove the need for a packing shed," Mr Daniels said.

"Another major advantage is the provision of reliability and continuity.

"The robot will be able to be programmed to pick the correct colour and grade of fruit 24 hours per day, even when it is

raining or temperatures are too hot for human pickers.

"Staff are paid by the kilogram picked so there are constantly issues of fruit bruising and immature fruit being picked.

"So a lot of management time is spent trying to maintain fruit quality.

"The robotic harvester will alleviate this problem, giving customers a more consistent quality of fruit, apart from cutting costs."

Food safety issues are also reduced with the use of the robotic harvester.

There is no human contact with the strawberries, thus minimising the risk of microbial contamination.

"We are also working towards the harvester being able to segregate fruit with half ripe fruit picked into punnets for export, while fully mature fruit are picked for the domestic market," Mr Daniels said.

A grant from AusIndustry has helped to fast-track the development of this autonomous low cost robotic harvester.



The Magnificent team (left to right) working on the new robotic strawberry harvester: Ray Daniels, Rudi Bartels (back), Aran Naidu (front), Kieran Harper, Bob Lindeboom and Phillip Palk.

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The prototype will be completed in June this year.

Extensive field testing will commence at the start of the strawberry season to ensure that the harvester is capable of reliably picking through the season.

\* For further information on the Magnificent robotic strawberry harvester contact Rudi Bartels on 0427 661 633 or email rudi@agnificent.com



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