Robotics for zero-tillage agriculture

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Link

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Australian Research Council Linkage Project LP110200375

Summary

This project will develop small cooperative agricultural robots to increase broad-acre crop production and reduce environmental impact. The growth in size of agricultural equipment has increased soil compaction damage as well as disruptions due to single machine failures. This project will create a new class of machines to perform weeding which is the key element of zero-tillage agriculture. These robots will have advanced navigation capability using low-cost sensors, unlike current agricultural precision guidance, while also supporting local navigation with respect to weeds and other robots. They will cause less soil damage, apply herbicide more intelligently, and operate as a system that is more robust to individual machine failures.

News

December 2013
Robots clear weeds at central Queensland farm - ABC News
Farm robots roll onto paddocks - ABC Rural

June/July Media
State Government Media Release
Robocrop
Weed killing robot trials in Central Highlands a world first

First Field Trials
The first field trials were a success. Video here

4th June 2013
QLD State budget - Robotics for Agriculture

The Government will provide additional funding of $3 million over three years from 2013-14 to undertake research in a project with the Queensland University of Technology to develop and fast-track Farm Robotics technology that will re-invigorate productivity growth through increased production and reduced farm input costs. This will continue to support Queensland's world-class research and development capabilities in robotics and its innovative dynamic farm sector.

30th June 2013
David Ball presents the AgBot project and QUT robotics group to the Emerging Technologies section of the national AusVeg conference in the Gold Coast, Australia. Andrew Bate from Swarm Farm also present.

21st May 2013

Successful demonstration of the AgBot for the QLD Premier Campbell Newman and Minister Jon McVeigh. Video here Photo with team (L-R) QUT Research Fellow, David Ball; QUT PhD student, Patrick Ross; QUT Professor Gordon Wyeth; Minister Jon McVeigh; Premier Campbell Newman; Jocie Bate (Swarm Farm); Andrew Bate (Swarm Farm); Dr Ben Upcroft; QUT PhD student, Andrew English.