



# Case Study

## Benefits of Long-term Controlled Traffic Farming Systems



<b>LANDHOLDER</b>	Joe Deguara
<b>LOCATION</b>	North Eton
<b>CATCHMENT</b>	Sandy Creek
<b>RAINFALL</b>	1600mm
<b>PROPERTY SIZE</b>	147ha
<b>ON-GROUND PROVIDER</b>	Farmacist Pty Ltd Author: Zoe Eagger

**Project Catalyst** is a grower led, sugar cane innovation and adoption project that explores, develops and validates farm management practice change to improve the enduring water quality of the Great Barrier Reef.

### BROADER ADOPTION VALIDATION & GROWER SUPPORT

Founded in 2009, the project operates in the Mackay Whitsunday, Burdekin and Wet Tropic regions to deliver valued practice change outcomes and develop methods for industry adoption. Under the Broader Adoption and Grower Support program, professional on-ground service providers assist selected growers to adopt and validate appropriate change practices. Service providers continue to monitor implementation benefits and derived environmental performance improvements. Through targeted extension activities, the program seeks to accelerate the uptake and broader adoption of improved farming practices at local, regional and industry levels.



Fig.1 (L-R) Sam, Gerry & Joe Deguara



Fig.2 One of the controlled traffic implements applying Confidor(R)



Great Barrier Reef Foundation



●●●● Goal

To adopt a controlled traffic farming system that reduces soil compaction across the farm to improve soil health, business profit and catchment water quality.

●●●● Overview

Controlled traffic systems match the row spacing of a crop with the wheel or track spacing of the machinery being used in that crop.

This system reduces the percentage of soil that is compacted resulting in improved soil structure, reduced soil erosion, mitigation of water run-off, increased soil biodiversity and deeper rooting cane crops.

It also increases the efficiency of machinery operations which can lead to farm profitability gains. The system reduces the number of passes required, labour and fuel inputs.



Fig.3 Controlled traffic tractor pulling off-set equipment

●●●● Action

Joe Deguara acquired new farming land that had a history of conventional practice. He has implemented a number of improved practices to address soil health and profit constraints. As blocks have become fallow, he has adopted a controlled traffic system with row spacing of two metres.

Joe farms closely with his family and it was important to implement this system as all machinery across the family business has been modified for two metre row spacing.

Joe's practices are considered best practice. The Queensland Department of Agriculture and Fisheries' ABCD Management Frameworks (2012-2014) specifies that an "A Class" practice is where permanent wheel tracks are matched to harvesting machinery wheel centres, with GPS guidance on planting, zonal tillage, harvesting and haul-out machinery.

●●●● Outcome

The most significant benefit of a well implemented controlled traffic farming system has been the reduced impact that large farm machinery has had on soil compaction. Since implementing controlled traffic, the Deguara's have reduced input costs. It has enabled them to directly plant into beds, reducing the amount of tillage required to prepare for planting. Yield increases have also been measured.

This practice will be maintained in the future and any new farm purchased will be converted to this management system. Improved soil health across the Deugura's farming operations reduces impacts upon the local catchment. Soil and nutrient losses are mitigated by their adoption of best practices.

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Fig.4 Joe Deguara inspects the improved results from adopting controlled traffic.

