

Lou Raiteri in a paddock of his plant cane, 2012



Lou, Betty and Gary Raiteri

Project: Precision agriculture on a new farm

Lou and Betty Raiteri are second generation sugarcane farmers and have passed on their passion and knowledge to their son Gary. The family farm in the Proserpine area, south of Airlie Beach.

They have embraced new farming systems; changing their row spacing to match their machinery wheel centres (1.8m) and purchased an RTK GPS system so that all operations are performed with GPS guidance.

The Raiteri's home farm is made up of mostly heavy soil types. In 2009 the family leased a new farm that has very light soil types and minimal water. They have introduced new farming systems on both farms with similar but distinct differences.

Both farms have 1.8 metre row spacings, but double disc openers are used on the heavy soil and a conventional shute used on a single row on the lighter soil.

Lou designed the home farm to be both environmentally and economically sustainability with a water reticulation system that combines wonderfully with the natural ecosystem. The farm layout was also established to suit the natural layout of land with modifications to terrain and row length to suit the water reticulation system and harvesting operations.



Lou Raiteri

Project: Precision agriculture

PROJECT CATALYST

Issue being addressed:

The property leased by the Raiteri's was being farmed in an outdated manner. As a result it was a low yielding property with poor paddock design, reduced management efficiencies, high fuel costs, poor soil health and high runoff volumes.

The family decided to take this property on and change the way the land was managed using their ideal farming system. As this new farm has lighter soil than their home farm they had to think of a different strategy when designing the farm layout.

Solution being tested:

Project Catalyst supported the Raiteri's to improve the lease farm using precision agriculture and new farming systems without compromising Lou's vision of enhancing the local environment and the sustainability of both of his properties.

Under Lou's management a controlled traffic farming system and green trash blanketing were introduced to the new farm, with a long term improvement in soil health expected, along with immediate benefits such as improved moisture retention and weed control.

The farm was set up using a GPS guidance system with a revised farm layout comprising larger blocks with headlands strategically placed to maximize irrigation efficiency, reduce labour requirements and allow farm operations to be completed through several blocks with one pass. The aim was to shift from a low yielding farm to one of high production value, reduced runoff and improved efficiencies in management operations.

Changes included increasing the average row length from 200 to 800 metres, improving harvesting efficiencies, general field activities and irrigation. Planting and farming procedures are done in a single shoot, single row 1.83 metre controlled system.

Herbicide management was also improved through the trash blanket and a new shielded sprayer. The shields and the units' air inducted nozzles allow Lou to make better use of knock down herbicides. "The nozzle forms the spray into individual droplets, like bubbles, that explode on impact. This means the spray is heavier and something like Gramoxone will not burn the cane," explained Lou. Lou has set his rig up to apply three chemicals in one pass, turning each chemical on and off as required. The shields and nozzles allow him to cover more ground with the same amount of chemical as a traditional set up.

Results

Within three years the Raiteri's had transitioned the entire lease property to a new farm system without compromising their vision of enhancing the local environment and increasing the sustainability of the lease property.

The original farm set up was operating with a gross margin of around \$344/ha, under the Raiteri's improved farming system this increased to \$1,116/ha – with a benefit of \$722/ha. These savings came hand in hand with environmental and labour saving benefits such as reduced harvesting costs through fuel savings and lower contractor fees, reduced cultivations, reduced fertiliser costs, and of course improved yield.



Lou talks with precision agriculture adviser Tony Crowley.



Lou's shielded sprayer set up for a 1.8m row controlled traffic farming system

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What is Project Catalyst?

Project Catalyst is a pioneering partnership which reduces the environmental impact that sugar cane production has on the Great Barrier Reef (GBR). The project is 'grower led' – and involves a group of innovative farmers (termed A-Class growers) that are developing and testing management practices that improve the water quality of the water leaving sugar cane crops.

