



Case Study

Legume Fallow and Reduced Tillage



LANDHOLDER	Joel Pappalardo
LOCATION	Silkwood
CATCHMENT	Johnstone
RAINFALL	3500mm
PROPERTY SIZE	44.4ha
ON-GROUND PROVIDER	CANEGROWERS Innisfail

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.



Block prepared for planting the cover crop



Great Barrier Reef Foundation



●●●● Goal

To improve soil health through cover cropping and minimum tillage, and to reduce the time and cost of cultivation.



Fallow crop

●●●● Overview

As well as running his farm, Joel has a full time job and as a result is looking to reduce the cost and time of operations on his farm.

As part of MSF Sugar's Project Uplift, Joel has already moved to 1.8m row spacing.

The main concerns around implementing zonal tillage on his farm are the high clay content of the soils making them difficult to cultivate leading to reduced volume of cultivated soil that the cane crop will be able to access.

●●●● Action

Cultivation was undertaken in preparation for 2019 planting however it was decided that a rotary hoe was needed to produce good soil tilth due to time pressures so this was completed as full cultivation.

Joel planted a mixed species fallow crop (Cowpea, Soybean and Sunflowers) into his 2019/20 fallow.

These fallow blocks were cultivated using a zonal rotary hoe under GPS guidance. Both the zonal rotary hoe and GPS guidance are changes that Joel says have significantly reduced cultivation time.

The blocks were then planted with a stick planter and crop growth is being monitored.

●●●● Outcome

Based on progress and benefits to date, Joel has decided to make the move to growing mixed species fallow crops on 100% of his fallow with the 2020/21 fallow planted with a mix of Ebony Cowpea, Highworth Dolichos & Sunflower. Joel has also transitioned to zonal rotary hoe for all blocks to be planted.

Yields from the 2020 plant blocks will be monitored.