



Case Study

Mixed Species Cover Crops



LANDHOLDER	Daniel and Michele Borg
LOCATION	Mourilyian
CATCHMENT	Johnstone
RAINFALL	3500mm
PROPERTY SIZE	121ha
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.



Seed Planter



Plant cane following mixed species fallow crop



Great Barrier Reef Foundation



●●●● Goal

To improve soil health and in turn improve nutrient uptake and productivity in the following sugarcane crops.



Daniel inspecting cover crop

●●●● Overview

After participating in a Digging Deeper soil health program back in 2016, Daniel and Michele developed an interest in soil health and have followed up with reading and participation in a number of other soil health initiatives. They now want to put this into practice on their farm. Traditionally the soils of this farm have very low organic carbon and have grown sugarcane for many years.

This project will look at the benefits of mixed species fallow crops on Daniel's farm.



Planting Cover Crop

●●●● Action

Species chosen for trial:

- Mix:
- * Ebony Cowpea
 - * Leichardt Soybean
 - * Sunflower
 - * Sorghum
 - * Buckwheat
 - * White French Millet
 - * Wheat
 - * Oats

To establish a raised seed bed for the cover crop Daniel worked the paddock using a bed renovator. The cover crop was then drilled into the raised beds using a seed drill on the 12/12/2019. The cover crop establishment and growth was monitored and biomass measurements were taken on 2/3/2020.

The cover crop was terminated in July 2020 to allow time for the residue to breakdown in time for the cane to be planted in August.

●●●● Outcome

The cover crop performed well overall however, the Cowpea largely dominated the fallow by the march biomass sampling. the average cowpea dry weight biomass was 6720kg/ha and for the majority of the fallow the only other species present was the sorghum which produced on average 2020kg/ha dry weight. The plant cane has not yet been harvested but Daniel is happy with the crops progress.

Going forward Daniel is planning on continuing with mixed species cover crops and is planning to adjust his mix as a result of learnings from this project.



Great Barrier Reef Foundation

