



Case Study

Direct Drill Legume Fallow



LANDHOLDER	Ray Rinaudo
LOCATION	Cowley Beach
CATCHMENT	Johnstone
RAINFALL	3283 mm
PROPERTY SIZE	77.1 ha
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.



Poor cover crop growth due to waterlogged areas in block.



Planting 2021/22 legume fallow crop



Great Barrier Reef Foundation



●●●● Goal

Support growers who are already planting legumes to take the next step to direct drilled crops, with the aim of reducing cultivation prior to the wet season and therefore reducing the risk of erosion.



Direct drilled legume fallow crop

●●●● Overview

This project aims to assist Ray to assess the change to direct drill legume cover crops. Ray's standard practice for fallow management is to disc out the existing cane stool and plant the legume seeds using a seed planter.

Ray was interested to see how a legume cover crop would perform on his farm when direct drilled into the old cane bed and if his seed planter would be able to plant through the trash blanket without modification. Rays farms on well drained alluvial soils, with the trial block in a Tully-Coom soil series.



Tully Soil Profile

●●●● Action

Following discussions with the local Project Catalyst extension officer, Ray decided to try direct drill planting legumes into his fallow block.

Ray owns his own legume planter and has previously used it to plant legume cover crops into cultivated fallow blocks and is unsure how the planter will handle planting through the trash blanket.

Due to poor weather (too dry and then a heavy onset of the wet season), Ray was not able to plant any cover crops in the 2020/21 fallow.

More favorable weather in the 2021/22 fallow period allowed for the planting of a cover crop. A section of the block was direct drilled into the old cane row and the rest was drilled into cultivated ground. After planting the fallow crop is being monitored with biomass sampling planned at 3 months after planting. This will assess if there is any effect on crop growth between treatments.

●●●● Outcome

At this stage the direct drilled legumes look to be slightly better than the legumes drilled into cultivated soil. We think this is a result of the direct drilled legumes being on the old cane row and therefore higher and drier than the conventionally drilled legumes.

At this stage Ray is happy with the growth of the direct drilled legumes and is planning to direct drill all cover crops in the future.

