2021

PROJECT CATALYST

Case Study

Mixed Legume Fallows and Lower N Rates in Plant Cane After a Successful Legume Crop

LANDHOLDER	PCCCF2020BAV21
LOCATION	Seymor
CATCHMENT	Lower Herbert
RAINFALL	3049 mm
PROPERTY SIZE	237 ha
ON-GROUND PROVIDER	HCPSL

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.

Nitrogen nodules on legumes

Australian Government | REEF TRUST | Great Barrier Reef Foundation | THE Coca-Cola FOUNDATION | WWF

2021

Mixed Legume Fallows and Lower N Rates in Plant Cane After a Successful Legume Crop

Goal

To grow mixed legumes on all fallow blocks when possible. To try lowering the nitrogen fertilizer in plant cane after a successful legume crop.

Good nodulation indicates a chance to reduce N in plant cane fertilier

Overview

The grower wants to improve soil health across his farms by growing mixed legumes on his fallow block when possible.
By growing mixed legumes, the grower will be able to reduce his nitrogen rates in plant cane, improve weed pressure during fallow periods and reduce erosion after serious rain events.

Action

-Pre-mound & lime fallow blocks in preparation for planting mixed legumes.
-This season 2019/2020 the grower has planted some of his fallow blocks to mixed legume crops (Traditional mix of Ebony cowpea & Rongai lablab) in the Seymore area.
- Season of 2020/2021 the grower has missed his chance of growing mixed legume crop on his fallow ground due to extremes in the weather of very dry to very wet.
- Season of 2021/2022 the grower was able to successfully grow another traditional mix of legumes on his fallow blocks and will reduce his nitrogen in plant cane this season by 5 or 10kg/ha as indicated in his nutrient management plan.

Outcome

The grower was able to get a traditional mix of legumes onto some of his fallow blocks in the 2019/2020 season. He has said that he was impressed with his plant crop following the mixed legumes ,but unfortunately it has lodge early and will probably lose it's vigor.
The grower said that one part of the paddock was stick planted and the other part was mound planted. The mound planted part of the block has lodge ,but not the stick planted section.
The grower will now trial different planting methods after decent legume crops to see if he can keep the cane standing for longer.
-Season 2020/2021 was to extreme in weather conditions and he missed his opportunity to plant mixed legumes but will try again next season
-Season 2021/2022 the grower has once again successfully grown a mixed legume crop and will trial some lower N rates when cane planting season arrives.

Crop lodging can be an issue after a succesful legume crop if N rates aren't managed