



Case Study

Reduced N Fertiliser Rates in Late Ratoons & Lower Rates of Banded Mud



LANDHOLDER	CSLH010030
LOCATION	Macknade
CATCHMENT	Lower Herbert
RAINFALL	2159mm
PROPERTY SIZE	38.5ha
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.



Great Barrier Reef Foundation



●●●● Goal

Reduced N applications in older ratoons to improve nitrogen use efficiency and reduce environmental effects from nutrient run-off.



Banded mud application on a ratoon block. More targeted application can reduce loss.

●●●● Overview

The farm is located in the Macknade district. Soils across the farm range from clay and sandy loams to red riverbank soils, some of which are constrained by pH, calcium and sodicity.

The grower has experienced several years of below expected yields. They have previously addressed constrains with lime, gypsum and mill by-products but have expressed a need for a review of their nutrient applications. As part of this review they are interested in refine their rates, particularly in older ratoons where there is potential for savings.



Automatic Water Quality Sampling site in local waterway

●●●● Action

The grower has received a Nutrient Management Plan for 2023 with the recommendation to reduce N rates across several older ratoon blocks. This recommendation should enable immediate cost savings and improve the nutrient use efficiency across these blocks.

In the past the grower would apply mill mud-ash to plant blocks. The grower was initially interested to explore banded mud-ash applied at lower rates eg. 75 wet t/ha, in this season however mill by-products were in short supply and were unable to be sourced this season. The grower still intends to explore potential benefits from reduced rates of mud-ash in supplying phosphorus and improving soil structure in the coming season.

●●●● Outcome

Over the course of the season the grower worked with their advisor to adjust their Nutrient Plan in response to changing block conditions. The grower reduced their nitrogen application in one management zone by 14kg.

The Nutrient Management Plan will be reviewed for 2024 and, conditions permitting, mill by-products will be applied with appropriate reductions in subsequent fertiliser applications to ensure Best Management Practice is followed to improve yields and reduce environmental impacts in local waterways.

