



Case Study

Lower or Zonal Rates of Mill Mud & Reduced Rates of N Fertiliser After Mill Mud Application



LANDHOLDER	CSLH0100025
LOCATION	Abergowrie
CATCHMENT	Lower Herbert
RAINFALL	2022 - 1959mm
PROPERTY SIZE	95ha
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

- To try either lower rates of mud or apply mud zonally and reduce rates following mud to reduce costs in fertiliser outputs without losing yield.



Banded mill mud application

●●●● Overview

- By lower the application rates of mud the grower can spread the benefits of mud further across his farm located far from the mill. EM mapping and district soil maps also have the potential to show where zonal applications of mud could help with soil constraints or poorer areas of growing land. This allows the grower to keep cost down while still improving soil conditions across his farm area.

- By lowering nitrogen rates following mud, the grower can save in output cost of fertiliser without risking yield loses, as studies suggest that older crops will not have the ability to utilise the nitrogen as efficiently as a younger crops of cane.

●●●● Action

- Blocks that will benefit from mud applications will be selected, Following harvest EM mapping will commence and strategic soil testing will provide a baseline for any further amelioration and provide a guide fertilizer reductions.

Block receiving mud will be re-sampled from towards the end of the project.

- The grower will receive an updated Nutrient Management Plan for 2023 encompassing the zones with reduced rates after mud.

●●●● Outcome

Banded mill mud was applied to a 4ha block in late 2022 at 75t/ha.

The grower received a Nutrient Management Plan in 2023 which set out zones for fertiliser application based on best management practice. Based on the plan the grower reduced nitrogen applications in their older ratoons by 10kg/ha. In consultation with their advisor the grower also reduced their application of N and P across the block which had received mud.

The grower is continuing to monitor several 'hungrier' blocks which are likely to benefit from reduced rates of mill by-product. They intend to use low rates of mill by-products as part of a targeted approach at improving the nutrient and moisture holding capacity of these soils.



Sampling red sandy and alluvial soils

