



Case Study

Reducing Inorganic Nitrogen (N) Fertiliser Rates on Late Cut and Older Ratoons



LANDHOLDER	Merv Keating
LOCATION	Ilbilbie
CATCHMENT	Marion Creek
RAINFALL	1500mm
PROPERTY SIZE	227ha
ON-GROUND PROVIDER	Farmacist Pty Ltd Author: Laura Sluggett

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.



Fig.1 Merv Keating has reduced his overall N inputs



Fig.2 N use efficiency has increased across the farm



Great Barrier Reef Foundation



●●●● Goal

To reduce overall farm use of inorganic N fertiliser by reducing applications on late cut and older ratoons.



Fig.3 Older ratoons have less vigour and therefore have a poor N use efficiency if over-supplied

●●●● Overview

Inorganic N fertiliser applied to late harvested, older paddocks (>4th ratoon) at the Six-Easy-Steps (6ES) recommended rate may provide an over-supply to these crops that have a low crop yield potential due to reduced vigour.

Having a lower yield potential provides the opportunity to lower the amount of N fertiliser applied.

As reduced yields have a lower economic return, a reduction in input cost will increase the profitability of late harvested, older sugarcane.



Fig.4 Irrigation demand was a consideration when reducing N fertiliser on identified blocks.

●●●● Action

Merv, in consultation with Farmacist, investigated reducing N fertiliser rates on old and late cut ratoons.

Historical yield, soil type and irrigation demand were factors considered in the identification of blocks where there was potential to reduce inputs.

In implementing the new N budget, Merv reduced N fertiliser applications by >10kg/ha the recommended 6ES guidelines on older and late cut ratoons, without yield loss.

●●●● Outcome

Merv has not experienced any yield loss from reducing his rate of N fertiliser on old ratoons. This practice has reduced the overall N fertiliser inputs applied across his farm.

Earlier trials had been conducted on his property that had given him the confidence to develop a new N fertiliser budget at reduced rates on his late harvested, older ratoons. It is a practice that he continues to implement.

With ongoing support from Farmacist, Merv closely monitors the yield performance of these paddocks.

The reduced N rates applied to Merv's paddocks will increase N use efficiency and therefore reduce N run-off risk. This results in improved water quality outcomes for the local catchment and reduced input costs for Merv's business.

For further information contact Laura Sluggett (Farmacist) Mb. 0429 474 698.