



# Case Study

## Matching Nitrogen (N) Rates to the Requirements of Vigorous Crop Varieties



<b>LANDHOLDER</b>	Jason Micallef
<b>LOCATION</b>	Koumala
<b>CATCHMENT</b>	Rocky Dam
<b>RAINFALL</b>	1500mm
<b>PROPERTY SIZE</b>	180ha
<b>ON-GROUND PROVIDER</b>	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 Jason Micallef wanted to improve his N management



Fig.2 Farmacist recommended reduced N rates on vigorous varieties



Great Barrier  
Reef Foundation



●●●● Goal

To improve knowledge and practices leading to more appropriate application rates of N fertiliser to vigorous cane varieties.



Fig.3 Jason now manages his N fertiliser inputs at reduced rates for Q138, Q242 and Q232.

●●●● Overview

Different cane varieties can exhibit a wide range of responses to N including lodging, suckering and low CCS that result in lower yields.

Jason Micalleff wanted to reduce N rates on those varieties exhibiting these characteristics to determine whether overall yield performance could be improved.

●●●● Action

Farmacist staff consulted with Jason to determine the varieties on his farm that potentially displayed impacts of inadequate N management and could be more appropriately managed with reduced N inputs.

Varieties chosen included Q138, Q242 and Q232.

A variable N application rate plan was determined based upon soil type and crop variety.

●●●● Outcome

Jason reduced his N rate on paddocks containing the targeted varieties by a minimum of 10 kg/ha.

A reduction in the instance of lodging and suckering was observed, whilst CCS increased.

An additional benefit was an improved crop presentation to the harvester. It is expected this will opportunistically improve future yield results.

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



Fig.4 Matching N application rates to soil characteristics and cane variety it important.

