



# Case Study

## Reduced Nitrogen Application on Old Sugarcane Ratoons While Maintaining Farms Productivity



<b>LANDHOLDER</b>	PCCCF2022BAV46
<b>LOCATION</b>	Farleigh
<b>CATCHMENT</b>	O'Connell
<b>RAINFALL</b>	1705 mm
<b>PROPERTY SIZE</b>	97.43 ha
<b>ON-GROUND PROVIDER</b>	Nutrien Ag Solutions

**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 Reduction on old sugarcane ratoon blocks



Nitrogen Reduction on old sugarcane ratoon blocks



Great Barrier Reef Foundation



## ●●●● Goal

To work with Nutrient Ag Solutions and be supported by Project Catalyst and the Coca Cola Foundation on improving farm management practices while meeting reef regulations, improving farm productivity and the quality of water leaving the paddock thereby reducing the impact on the Great Barrier Reef.



Reduced Nitrogen application rates on old sugarcane ratoon blocks

## ●●●● Overview

The farm is located in the Farleigh area North of Mackay and is situated in the O'Connell Catchment Area. The farm has limited irrigation and relies on seasonal rainfall. The farm consists of three main sugarcane varieties Q183, Q240 and SRA9 complementing their agronomic performance with other varieties planted across the farm. The grower aims is to reduce Nitrogen application to ratoon blocks including old ratoons while maintaining the farms productivity. The soil type across farms is mainly Grey Clay. The topsoils are massive brown-grey fine sandy loams to loams with a bleached subsurface layer. Subsoils are dark grey-brown medium clays with grey, brown or yellow mottles.



Soil Type: Grey Clay

## ●●●● Action

Grower Information collected from the P2R-21 Question Survey and farm property information provided by the grower set a benchmark of their current farming practices.

With this information, the grower's nutrient management plan is being revised and updated in comparison to their current practices. With this done, the grower could see where Nitrogen application savings could be made on ratoon blocks simply and safely without impacting the farms productivity. The benefit to the grower in being able to reduce Nitrogen application across old ratoon blocks without impacting crop yield created immediate cost savings. Reducing the Nitrogen application rate was conducted by changing cogs on the fertiliser box and recalibration. This was an easy and effective operation for the grower to conduct. A 27kg/ha of Nitrogen reduction was implemented on old ratoon blocks. Another practice change was made where broadcast mill mud at more than 100 wet t/ha was reduced to less than 75 wet t/ha by banded application.

## ●●●● Outcome

With the support of Project Catalyst and Nutrien Ag Solutions the grower has adopted beneficial and sustainable farming practice changes across his farms. The main focus on improving the quality of water leaving the paddock and reducing the impact on the Great Barrier Reef. The grower has made a DIN saving of 276.0kg.

The grower has been provided with a current Nutrient Management Plan which employs a Best Management Practice approach to farming and the environment.

The grower now has the latest advice that allows to efficiently manage nutrients in response to their own on-farm conditions, crop requirements and farming practices. The grower has implemented the practice changes to meet the projects practice change pathway goal of one practice change to be adopted over twelve months.



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