



# Case Study

## Reduce Nitrogen Application on Plant Sugarcane Blocks while Maintaining the Farms Productivity



LANDHOLDER	CSMW010029
LOCATION	Koumala
CATCHMENT	Plane Creek
RAINFALL	1500 mm
PROPERTY SIZE	56.37 ha
ON-GROUND PROVIDER	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.



Reduced Nitrogen Application on Plant Cane Blocks



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Great Barrier  
Reef Foundation



## Goal

To investigate the opportunity to conduct a complete review and update of the Farms Nutrient Management Plan. To identify whether reductions in fertiliser application rates could be made without productivity penalties, thereby saving on fertiliser costs and reducing potential off-farm environmental effects.



Reduced Nitrogen Application on Plant Cane

## Overview

The farm has minimal irrigation and relies on annual rainfall. The farm is located near Koumala south of Sarina and is situated in the Plane Creek Catchment Area. The majority of the farm is planted with Q183 due to its good performance and reliability.

While maintaining the farms productivity, the adoption of a practice change to reduce Nitrogen application to plant sugarcane blocks across the farm is planned.

The main soil type across the farm is Tedlands - Topsoils are massive brown sandy loams. Sub-soils are weakly structured yellowish brown clay loam to clay with distinct yellow mottles.



Soil Profile - Tedlands

## Action

The grower completed the P2R 21-Question survey and provided farm property information to set a baseline of their current farming practices.

With this information, the grower's nutrient management plan was revised and updated with comparison to their current practices. With this completed, the grower could see where Nitrogen application savings could be made simply and safely without impacting the farm's productivity.

The benefit to the grower in being able to reduce Nitrogen fertiliser application across plant sugarcane blocks without impacting crop yield, is immediate cost savings. The growers practice change is to apply a mill by-product of mill mud. By-products of raw sugar manufacture are valuable organic fertiliser sources. With the implementation of this practice change no application of top-dress fertiliser was made to these blocks. A 50kg/ha of Nitrogen reduction was implemented on plant sugarcane blocks across the farm.

## 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 has been on improving the quality of water leaving the paddock and reducing the impact on the Great Barrier Reef.

A DIN saving of 2.0kg is forecast. The Grower has been provided with a current Nutrient Management Plan which extends a revitalised Best Management Practice approach to farming and the environment, whilst delivering cost savings without compromising yield. The grower now has the latest advice that helps to efficiently manage nutrients in response to their on-farm conditions and farming practices.

The grower has now implemented 3 practice changes which exceeds the projects practice change pathway goal of one new practice change being adopted per year.