



# Case Study

## Reduce Nitrogen Application on Older/Late-cut Sugarcane Ratoons while Maintaining the Farms Productivity



LANDHOLDER	CSMW010030
LOCATION	Chelona
CATCHMENT	Plane Creek
RAINFALL	1500 mm
PROPERTY SIZE	48.28 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 Sugarcane Ratoons



Reduced Nitrogen Application on Sugarcane Ratoons



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 incurring productivity penalties, thereby, saving on fertiliser costs and reducing off-farm environmental effects.

## Overview

The grower's farm is located at Chelona south of Mackay and is situated in the Plane Creek Catchment Area. The sugarcane variety Q208 is planted to the majority of the farm due to its good performance and reliability. The farm has irrigation utilising a high pressure overhead system relying on supplementary annual rainfall. The grower's aim is to maintain the farm's productivity while adopting a practice change to reduce Nitrogen fertiliser application to older/late-cut ratoons. This will help with reducing costs and contribute to improving the quality of water leaving the paddock. The main soil type across the farm is Soloth: Soil Series: Sandiford, consisting of sandy clay loam topsoil over a mottled yellow clay sub-soil.



Soil Type: Soloth  
Soil Series: Sandiford



Reduced Nitrogen Fertiliser Application on Sugarcane Ratoons

## 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 in comparison to their current practices. With this completed, the grower could see where Nitrogen fertiliser 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 on older/late-cut ratoons without impacting crop yield is to create immediate cost savings. Reducing the Nitrogen fertiliser application rate was conducted by advising the contractor of the adjusted application rate. This was a simple and an effective operation for the grower to coordinate with his fertiliser contractor.

A 10.5kg/ha of Nitrogen reduction was implemented on older/late-cut sugarcane ratoon blocks across the farm.

## Outcome

With the support of Project Catalyst and Nutrien Ag Solutions the grower has adopted a beneficial and sustainable farming practice change across his farm. 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 6.0kg 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 sugarcane 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 2 practice changes which exceeds the project's practice change pathway goal of one new practice change being adopted each season.