



Case Study

Reduced Nitrogen Application on Old Sugarcane Ratoons While Maintaining Farms Productivity



LANDHOLDER	PCCCF2021BAV26
LOCATION	Calen
CATCHMENT	O'Connell
RAINFALL	1705 mm
PROPERTY SIZE	167.62 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.



Nitrogen Reduction on old sugarcane ratoon blocks



Nitrogen Application Reduction on old sugarcane ratoon blocks



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●●●● Goal

Based on a complete review and update of the grower's nutrient management plan, identify whether reductions in fertiliser application rates could be made without productivity penalties, thereby saving on fertiliser costs and reduce off-farm environmental effects.



Reduced Nitrogen application rates on old sugarcane ratoon blocks

●●●● Overview

The farm is located near Calen 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, Q253 and SP80-1816 which complement their agronomic traits with performance and reliability with other varieties planted across the farm.

The growers aim is to reduce Nitrogen application on ratoon blocks including old ratoons while maintaining the farms productivity.

This farm has Pindi soils which occurs on crests and hill-slopes. These soils have developed on weathered fine-grain sedimentary rock.



Pindi Soil Profile

●●●● 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 simply and safely without impacting the farms productivity.

The benefit to the grower in being able to reduce Nitrogen application across ratoon blocks without impacting crop yields created immediate cost savings. Reducing the Nitrogen application rate was conducted by advising the contractor of the adjustment. This was a simple and an effective operation for the grower to coordinate with the contractor.

A 10 kg/ha of Nitrogen reduction was implemented on all ratoon blocks including old ratoons.

●●●● Outcome

With the support of Project Catalyst and Nutrien Ag Solutions the grower has adopted beneficial and sustainable farming practice changes across the farm. The main focus on improving the quality of water leaving the paddock and reducing environmental effects on the Great Barrier Reef. A DIN saving of 32.7kg was achieved. The Grower has been provided with a current Nutrient Management Plan which extends a revitalised Best Management Practice (BMP) 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. Where appropriate the grower will implement this recommended practice change plus a second one in 2023 to meet the projects practice change pathway goal of 2 new practice changes being adopted over two years.



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