



Case Study

Reduce Nitrogen Application on Old Ratoon and Lower Yielding Blocks While Maintaining the Farms Productivity



LANDHOLDER	PCCCF2021BAV34
LOCATION	Mt Pelion
CATCHMENT	O'Connell
RAINFALL	1705 mm
PROPERTY SIZE	198.87 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.



Reduction of Nitrogen application applied to sugarcane ratoons



Contractor applying reduced Nitrogen rate on sugarcane ratoons



Great Barrier
Reef Foundation



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.



Reduction of Nitrogen application applied to sugarcane ratoons

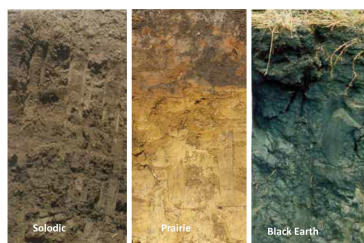
Overview

This farm is 100 per cent dryland and the grower relies on annual rainfall to grow their sugarcane crop. The farm is located near Mt Pelion and is situated in the O'Connell Catchment Area.

The two main varieties grown across farms are Q208 and Q183. These varieties complement each other and other varieties growing across the farms with performance and reliability.

The growers aim is to maintain the farms productivity while adopting a practice change to decrease Nitrogen application to old ratoon blocks across all farms.

There are three main soil types across the farms, Solodic, Prairie and Black Earth.



Soil Types: Solodic, Prairie & Black Earth

Action

Two Practice Changes were required this year, with only one implemented due to many challenges associated with the season. Planting of a cover crop is now included in the farm management plan where appropriate. With the grower completing P2R-21 Question Survey and his farm property information a baseline of their current farming practices was set. With this information, the grower's nutrient management plan has been revised and updated in comparison to their current practices. 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 without impacting crop yield created immediate cost savings and therefore higher value in the least productive blocks. From these recommendations reducing the Nitrogen application rate was conducted by advising the contractor of the adjusted application rate. This was a simple discussion for the grower to coordinate with his fertilising contractor.

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 being 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 346kg.

The Grower has been provided with a current Nutrient Management Plan which extends a revitalised 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. Where appropriate implementation of a Nitrogen reduction practice change plus a second practice change is required to meet the projects pathway goal of 2 new practice changes being adopted over two years.