



Case Study

Reducing Nitrogen Application on Old/late cut Ratoon Blocks while maintaining the Farms Productivity



LANDHOLDER	PCCCF2021BAV28
LOCATION	Wagoora
CATCHMENT	O'Connell
RAINFALL	1705 mm
PROPERTY SIZE	178.74 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 ratoon sugarcane blocks



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●●●● 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 off-farm environmental effects.



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●●●● Overview

The farm is located at Wagoora north of Mackay and is situated in the O'Connell Catchment Area. The farm has limited irrigation and relies on supplementary rainfall. There are three main sugarcane varieties grown across the farms Q138, Q183 and SP80-1816 complementing each other with their strong ratooning and germination abilities while Q138 having good standover suitability. The growers aim is to adopt a practice change by reducing nitrogen application to old or late cut sugarcane ratoon blocks across the farm while maintaining the farms productivity.

This farm consists of four soil types being Prairie, Solodic, Soloth and Podzolic.



Soil Types: Prairie, Solodic, Soloth & Podzolic

●●●● 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 was deferred being incorporated into the farm management plan where appropriate. With the growers completed 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 on improving the quality of water leaving the paddock and reducing the impact on the Great Barrier Reef. A DIN saving of 25.4kg was achieved over the two year practice change adoption program. 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. The grower has now implemented one practice change plus a second one to be implemented next year to meet the projects practice change pathway goal of 2 new practice changes being adopted.



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