



Case Study

Reducing Nitrogen Application on Older Ratoons



LANDHOLDER	PCCCF2021BAV32
LOCATION	Kolijo
CATCHMENT	O'Connell
RAINFALL	1705 mm
PROPERTY SIZE	214.18 ha
ON-GROUND PROVIDER	Nutrien Ag Solution

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.



Old Ratoon Block - Reduce N application after harvest



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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 penalising crop yields, thereby saving fertiliser costs and reduce off-farm environmental effects.



Practice Change Block 3-4

●●●● Overview

This farm has minimal irrigation and relies on annual rainfall to grow their sugarcane crop.

By selecting an older ratoon block, due to the heavy reliance on rainfall and in particular if a dry year occurred, the sugarcane crop would not benefit from a full fertiliser application. This in turn would also assist the growers input costs and reduce DIN without impacting yield on those lower producing blocks.

The Practice Change Block area is 2ha with variety Q183. The majority of this farm is made up of "Calen" soil profile. This profile occurs on slightly elevated areas. The "Calen" soils have formed from floods depositing sands, silt and clay.



Calen Soil Profile

●●●● Action

The grower completed the P2R 21 Question survey and provided property information to set a baseline 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 N application savings could be made simply and safely.

The benefit to the grower in being able to reduce applied N without impacting crop yield is to create immediate cost savings and therefore higher value in the least productive blocks.

To reduce N in an older ratoon block from 140 to 128 kgN/ha.

●●●● Outcome

The crushing completed 30/12/21 and soil sampling remains in progress. When soil sample collection is completed the grower will be provided with the latest advice that allow them to efficiently manage nutrients in response to their own on-farm conditions, crop requirements and farming practices.

The practice change is now part of the farm management system going forward and implementation each season.

The growth of the ratoon crop on the Practice Change Block will be observed and compared to an adjacent ratoon block through out the crop cycle.

A 12kg/ha N reduction was made to 2ha.



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