



Case Study

Whole Farm Nutrient Planning



LANDHOLDER	Eric Barbagallo
LOCATION	Inkerman
CATCHMENT	Burdekin
RAINFALL	984mm
PROPERTY SIZE	99ha
ON-GROUND PROVIDER	Farmacist-Burdekin

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.



Great Barrier Reef Foundation



●●●● Goal

To develop a whole farm nutrient plan that takes soil test results, soil limitations (salinity, sodicity), legume crops, mill mud applications and different block yield potentials into account.



●●●● Overview

Applying nutrient to suit block conditions and/or history, rather than a blanket approach, can help growers maintain production, whilst saving money on fertiliser inputs. Practices such as reducing nitrogen and phosphorous applications on late cut ratoons due to reduced yield potential has been supported by a number of Project Catalyst trials. Similarly, PC has supported trials that have investigated reducing nitrogen and phosphorous rates following legumes and mill mud application. These trials have helped growers gain confidence that they should maintain productions, if they choose to reduce their N and P rates on some blocks.



●●●● Action

A Nitrogen and Phosphorous Budget and associated Whole Farm Nutrient Plan (WFNP) has been developed for Eric's farms for the 2020 cropping season. This plan has put several strategies in place to reduce input costs whilst maintaining yield.

There are several opportunities across Eric's farm to strategically vary and place inputs whilst maintaining yield. We can also reduce input costs and minimise the risk of nitrogen and phosphorous loss, by basing our decision off factors such as:

- Reducing the nitrogen and phosphorous rates in late ratoon cane due to the reduced yield potential
- Lowering rates on plant cane blocks that follow a legume fallow or an 18month fallow
- Reducing nitrogen rates on nitrogen use efficient varieties such as Q240.

●●●● Outcome

Though the Broader Adoption element of Project Catalyst, Farmacist developed a whole farm nutrient plan for the 2020 season.

This plan used the nitrogen and phosphorous budget to simplify fertiliser applications and rates, whilst strategically placing different rates on nutrition on different blocks depending on factors such as fallow management, variety and age of ratoon.

The top dress rates on plant cane blocks that were planted after an 18month fallow or a soybean fallow were reduced to utilise the fixated nitrogen in the soil. Q240 can better utilise nitrogen than other varieties such as KQ228. Reducing the rates on Q240 allowed Eric to apply a higher rate on the high yielding blocks of KQ228. We also reduced inputs on old/late cut ratoons in order to apply more N & P where it would produce better results.

