



Case Study

Whole Farm Nutrient Planning



LANDHOLDER	Aaron Linton
LOCATION	Leichardt
CATCHMENT	Burdekin
RAINFALL	984mm
PROPERTY SIZE	102ha
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 Whole Farm Nutrient Plan (WFNP) has been developed for Aaron's farm 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 Aaron's farm to reduce inputs whilst maintaining yield and reduce the risk of nitrogen and phosphorous loss, such as:

- Several small applications of nitrogen through the drip tape (on the section of the farm that is drip irrigated) instead of one or two large applications
- Using fixed nitrogen from a legume crop to supplement the nitrogen rates in plant cane
- reducing the nitrogen and phosphorous rates in late ratoon cane due to the reduced yield potential

●●●● Outcome

Through the continued support of Project Catalyst, Farmacist could develop a whole farm nutrient plan for Aaron. This plan would take a number of factors into account when developing nutrient recommendations such as trickle irrigation, fallow cropping and late ratoons.

Half of Aaron's farm is under trickle irrigation. This allows him to apply his phosphorous, potassium and sulphur in a single granular application and apply the required nitrogen through the trickle tape. This both allows the crops to uptake the nitrogen periodically through the season and minimises the potential losses of nitrogen.

Aaron is also able to reduce his input costs on nitrogen use efficient varieties and old/late cut ratoons whilst maintaining yields - putting money back in his pocket!