



# Case Study

## Whole Farm Nutrient Planning



<b>LANDHOLDER</b>	Chris Lyne
<b>LOCATION</b>	McDesme
<b>CATCHMENT</b>	Burdekin
<b>RAINFALL</b>	984mm
<b>PROPERTY SIZE</b>	420ha
<b>ON-GROUND PROVIDER</b>	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

The goal of this continuation project is to assess individual block soil chemical and physical characteristics and ensure the correct nutrition is applied effectively on-farm to both maximise crop yields and maintain environmental stewardship.

Project Catalyst prides itself on sustainable and environmentally friendly farming that reduces pressur



## ●●●● Overview

Applying nutrients tailor-made to block chemical and physical characteristics and/or history, rather than a blanket approach, can help growers improve production, whilst saving money on unnecessary fertiliser inputs. The whole-of-farm nutrient management plans also consider varieties and crop class.

Recent Catalyst trials show some varieties such as Q240 are more effective at utilising N compared to other varieties and therefore finetuned. Additionally, reducing nitrogen and phosphorous applications on late cut ratoons due to reduced yield potential has been supported by a number of Project Catalyst trials.

## ●●●● Action

A Whole Farm Nutrient Plan (WFNP) has been developed for Chris Lyne for the 2020 cropping season. Chris manages MHPF Farms in Burdekin Delta with different soil types and nutritional requirements. This plan has put several strategies in place to reduce input costs whilst maintaining and potentially improving crop yield.

A variety of soil samples for Chris's farms were collated and spatially allocated on Google Earth for Chris's records. The soil tests were also overlaid on soils maps so we could understand the variation in soil chemical requirements. Application records for the 2019 season were collated and produced in a report to allow us to understand Chris's previous nutrition program.

A spatial report of the varietal distribution across the farms were created as well as crop class distribution. This allowed us to identify any opportunities to fine tune nutrients in accordance with these factors.

## ●●●● Outcome

Through continued support from Project Catalyst, Chris has been able to keep refining his nutrient strategies to not only account for soil variation, but Chris also considers crop age in his nutrient management plans.

Chris also has fine tuned his farming operation over time to make legume follows a necessary part of his farming management as he appreciated the financial gains and improvements to soil health. Chris has custom blends made up for each block on his farm based on the nutritional requirements collected over a series of years.

With cutting edge technology and improved nutrient application techniques, Chris is confident that the right rate is being applied in the right zone for maximum plant uptake.