PROJECT CATALYST

Case Study

Benefits Associated with Applying Variable Rates of Fertiliser

LANDHOLDER	Ron Randell
LOCATION	Carmilla
CATCHMENT	Carmilla Creek
RAINFALL	1800mm
PROPERTY SIZE	407ha
ON-GROUND PROVIDER	Farmacist Pty Ltd Author: Laura Sluggett

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 bene its 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.

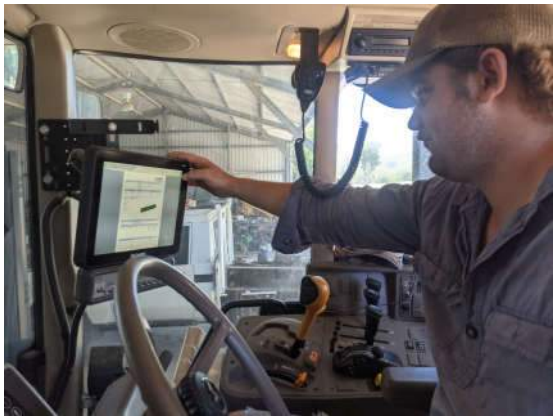

Fig.1 Ron programing his application rates through his GPS system

Fig.2 Ron's fertiliser spreader allows him to adjust rates within paddock

Australian Government | Reef Trust | Great Barrier Reef Foundation | The Coca-Cola Foundation | WWF

Goal

To improve nutrient uptake and yield by better matching fertiliser application rates to crop plant demand and growing conditions.

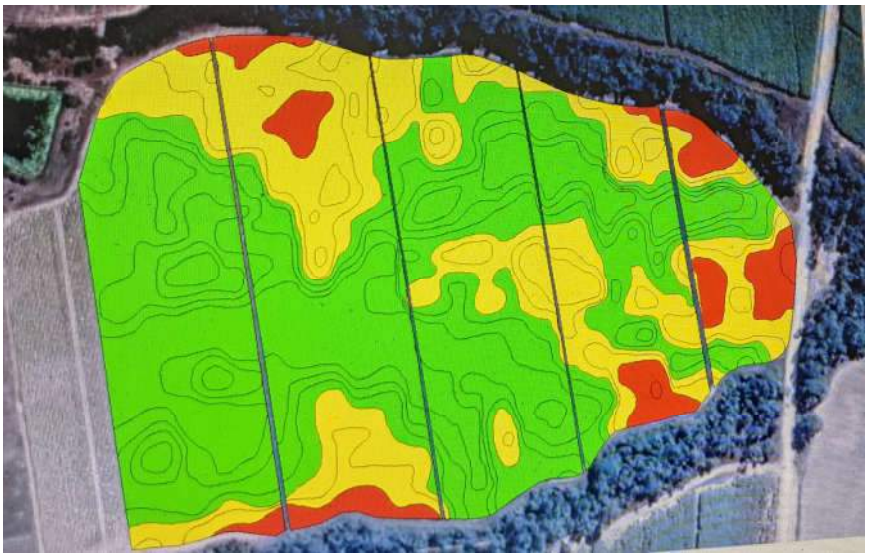

Fig.3 Farmacist EM surveyed Ron's paddocks to produce a map that demonstrated variability

Overview

Variability in topography, soil type, soil moisture and soil health characteristics can be significant within a paddock. This is most often reflective in yield outcomes. Lower yield performance can be due to factors such as soil sodicity, acidity and poor drainage.

Applying fertiliser at a set rate across the entire paddock means valuable profit and nutrients are wasted on poor performing areas.

Responding to the variation in potential yield performance of a paddock, by tailoring fertiliser and soil ameliorants, will save input costs, increase farm profit and reduce loss to the environment.

Fig.4 Improved paddock uniformity

Action

Ron Randell often experienced yield performance variation across paddocks of his farm. His usual practice was to apply a standard application of fertiliser.

Farmacist agronomists consulted with Ron to develop a suitable variable rate application map to account for the variability within paddocks.

Farmacist determined this by providing services to conduct an Electromagnetic (EM) survey across his paddocks. This technology maps changes in soil type and soil moisture by measuring electro-conductivity (EC). They then interpreted the results for Ron to prepare the variable rate fertiliser recommendations.

Outcome

Ron applied variable rate nutrients to 156 ha of his property. He is pleased with the results achieved from the changed practice of varying application rates across each paddock. He has experienced no yield loss whilst reducing input costs.

Ron has demonstrated his belief and commitment to the management practice by purchasing a variable rate granular fertiliser spreader. This provides flexibility to ensure he can continue to apply variable rate nutrients across the non-uniform ratoon paddocks when needed.

For further information contact
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