



Case Study

EM Mapping to Apply Variable Rates of Amendments and Lower Rates of N Fertiliser in Older Ratoons

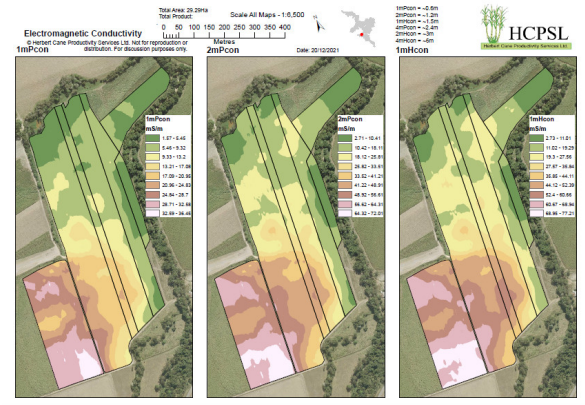


LANDHOLDER	CSLH010007
LOCATION	Upper Stone
CATCHMENT	Lower Herbert
RAINFALL	2022 - 1440mm 2023 - 1175mm
PROPERTY SIZE	375ha
ON-GROUND PROVIDER	HCPSL

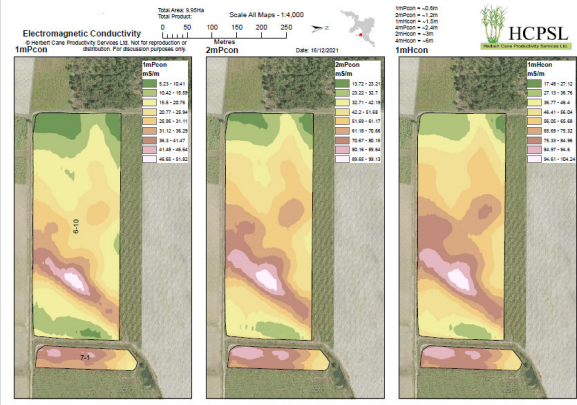
Project Catalyst is a grower led, sugar cane innovation and adoption project that explores, develops and validates farm management practice change to improve the enduring water quality of the Great Barrier Reef.

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.



EM maps



White and red zones indicate higher levels of conductivity

Goal

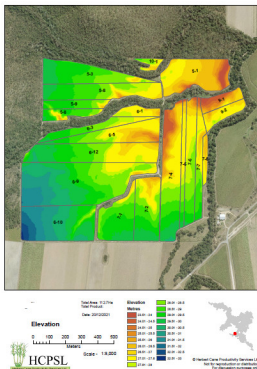
The grower wants to target soil restraints through variable rates of amendments. By EM mapping blocks and soil testing specific zones, they can target their gypsum applications to where they need it most.

Overview

By EM mapping the blocks the growers can make informed decisions on where to soil test and target soil constraints in an effective and economic fashion.

By applying amendments where the blocks need them most, can help target and improve poorer yields within the block.

Studies have shown that reducing nitrogen in older ratoons is an efficient way to save farming cost as nutrient use efficiency is lowered in older ratoons. By reducing nitrogen in their older ratoons the grower can save cost on fertiliser products without impacting yield potential.



Elevation map of farm



Dual EM in action

Action

- After harvest, blocks will be EM mapped and soil testing specific zones to understand where soil constraints are situated within the block.
- Prescriptions for variable rates of amendments will be made for product applications.
- Nutrient Management Plan (NMP) to manage fertiliser zones will help to implement lower N rates in older ratoons.

Outcome

- At this stage a number of blocks have been EM mapped and soil testing specific zones has commenced. As per soil testing results ameliorates have been applied to problem areas of the blocks. The grower intends to continue EM mapping blocks to guide targeted soil testing.
- A NMP has been created to help the growers manage their fertiliser outputs and to gain the most from their productions while saving costs and without impacting yield potential.
- Through targeting specific management zone nutrient requirements through the NMP the grower has been able to reduce their nitrogen inputs on older ratoon cane blocks.