PROJECT CATALYST

Case Study

Improved Nitrogen (N) Application to Better Match Sugarcane Characteristics

LANDHOLDER	Alan Pedersen
LOCATION	Koumala
CATCHMENT	Rocky Dam
RAINFALL	1500mm
PROPERTY SIZE	40ha
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.

Fig1. Alan Pedersen aims to reduce run-off from his paddocks

Fig.2 Applying precision rates of N fertiliser reduces risk to waterways

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Goal

To improve knowledge and practices leading to more appropriate application rates of N fertiliser to vigorous cane varieties.

Fig.3 Precise N fertiliser use to match vigorous variety crop demand is yielding results

Overview

Different cane varieties can exhibit a wide range of responses to N including lodging, suckering and low CCS that result in lower yields.

Alan Pedersen wanted to reduce N rates on those varieties exhibiting these characteristics to determine whether overall yield performance could be improved.

He was also interested in increasing his water use efficiency- more production from less irrigation.

Both precision N and water management significantly reduces the risk of nutrient and sediment run-off into local catchments.

Fig.3 Farmacist is also assisting to determine improved irrigation scheduling.

Action

Farmacist staff consulted with Alan to determine the varieties on his farm that potentially displayed impacts of inadequate N management and could be more appropriately managed with reduced N inputs.

Varieties chosen included Q138, Q242 and Q232.

A variable N application rate plan was determined based upon soil type and crop variety.

In collaboration with Alan, Farmacist are also assisting to determine and improved irrigation schedule to better match application to the water demand of these more vigorous can varieties.

Outcome

Alan reduced his N rate on paddocks containing the targeted varieties by a minimum of 10 kg/ha.

A reduction in the instance of lodging and suckering was observed, whilst CCS increased.

An additional benefit was an improved crop presentation to the harvester. It is expected this will opportunistically improve future yield results.

With greater precision of N and irrigation applications, costly input wastage is minimised and the likelihood of off-farm environmental impact is greatly reduced.

For further information contact Laura Sluggett (Farmacist) Mb. 0429 474 698.

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