Case Study

O'Connell and Surrounds Improved Systems

Improving Farm Management Decisions Through Planning

Case Study developed by Che Trendell, Project Officer - Farmacist. July 2023

QUICK FACTS

Grower: Tony Jeppesen

Location: Bloomsbury

Area: 160ha

Project Focus: Nutrient Management

The Reef Trust VII - O'Connell and Proserpine Basins Water Quality Project is funded by the Australian Governments Reef Trust and administered through Reef Catchments Pty Ltd. The project aims to improve water quality entering the Great Barrier Reef from broad-scale land use, to increase resilience and health of the Great Barrier Reef and to increase awareness and adoption of land management practices that improve and protect the conditions of soil, biodiversity and vegetation.

Streamlining Farming Practices and Record-Keeping Requirements

Tony Jeppesen, owner of Jeppesen Farming Company recognizes the importance of nutrient management on his farming operations.

By developing a nutrient management plan and optimizing his chemical application rate and timing, he is not only streamlining his farming practices but also helping to meet chemical application and record-keeping requirements.

Tony farms 190 hectares of supplementary irrigated sugarcane and leases an additional 120 hectares of sugarcane in the Bloomsbury region of the Proserpine Mill Area. The farms have a range of soil types from light sandy duplexes to alluvial silts and heavy clays, all of which require their own particular management considerations.

Figure 1: Tony Jeppesen (left) and Steve Thurecht (right) looking at the management plans. Photo by Che Trendell, Farmacist.

Tony, along with farm manager Steve Thurecht, heard about the *Sugarcane Extension - Proserpine and O'Connell Basin Project* through their Farmacist agronomist, John Turner, and were keen to be involved.

The project provided agronomic support through Farmacist Mackay to develop a Nutrient Management Plan and Pesticide Management Plan for the farm. In addition, the project also provided financial support through funding to assist with the transition of management practices for nutrients and/or pesticides to C, B or A class.

> ***"The project not only helped us with improving our management, it also helped us meet record-keeping requirements for Reef Regulations."***
>
> ***Tony Jeppesen***

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Planning for Improved Chemical Application

The Nutrient Management Plan undertaken for the farm considered block yield, soil types, crop age and variety, and EM soil mapping data to develop a tailored nutrient application program.

Combining the layers of spatial information available allowed for a more precise determination of nitrogen and phosphorus needs for each block by identifying the productivity zones. The overall aims were to maintain productivity, reduce costs and minimize losses of nitrogen.

> ***"The benefit of having a written chemical plan is that it's so easy to look at our options and choose the most suitable for the weeds being controlled and the soil type."***
>
> ***Tony Jeppesen***

The plan provided recommendations of fertilizer type and ameliorants, such as lime or gypsum, for each block on the farm in an easy-to-read report. This had the added bonus of helping them meet record-keeping requirements for their nutrient applications.

By having the agronomic support to ensure productivity was optimised within the boundaries set by BSES SIX EASY STEPS and reef regulations, the Nutrient Management Plan helped simplify the process of going from soil testing to nutrient recommendation.

Boom Assessment

Tony and Steve were also eager to upgrade their current pesticide application equipment as they knew they were no longer achieving requirements for droplet size and consistent flow rate.

Adam Keilbach, Senior Field Officer with Farmacist Mackay, performed a boom assessment to determine what was required for the equipment upgrade. Adam suggested plumbing, fittings and nozzles to suit the chemicals being applied as per the farm Pesticide Management Plan. The assessment determined current nozzle flow rates and operating pressures, nozzle type, boom width and height, and pump details.

Figure 2: The boom that was assessed by Adam Keilbach, Senior Field Officer at Farmacist Mackay, and upgraded through funding with plumbing, fittings and nozzles. Photo by Che Trendell, Farmacist.

Four nozzle types were suggested based on the type of chemical being applied; TTJ60 110 02 for glyphosate, TTI60 110 03 for glyphosate/ 2,4-D mixes, TTJ60 110 04 for insecticides and TTI60 110 05 for residual chemicals.

These nozzles were fitted to a 5-nozzle body to allow for ease of changing between chemical application type. Implementing these changes meant that they were now achieving droplet size requirements and a more even application of chemicals.

> ***"The nozzle bodies reduce the need to handle equipment that's been in contact with chemicals and makes it so easy to alternate between chemical application types."***
>
> ***Tony Jeppesen***