



Case Study

Investigation into Mitigating Off-farm Water Quality Impacts by Incorporating Cane Grub Control Agent, Imiacloprid



LANDHOLDER	Ross Windsor
LOCATION	Chelona
CATCHMENT	Sandy Creek
RAINFALL	Mean 1544mm, Median 1348mm
PROPERTY SIZE	69ha
ON-GROUND PROVIDER	Farmacist Pty Ltd Author: John Turner

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.



Fig.1 Contractor James Bugeja checking flow indicator equipment



Fig.2 Ross (R), Farmacist's John Turner & contractor James Bugeja (L)



●●●● Goal

To compare runoff water quality impacts from sites where the cane grub control agent, Imiacloprid, is applied with and without the use of a StoolZippa(TM).

●●●● Overview

The StoolZippa(TM) is a unique closing wheel. The wheel geometry enables the soil compacted by the splitter to be broken down and completely cover the Imiacloprid. With this closing-over affect it also restores the trash blanket to give the application protection from weather events and UV damage. This means the application is kept in place to maximise effectiveness and prevent runoff into waterways.

Ross Windsor was keen to conduct a trial to evaluate the water quality impacts of applying Imiacloprid using an incorporated stool splitter (StoolZippa(TM)) compared to not incorporating the product.



Fig.4 Ross was impressed with the StoolZippa (TM) soil coverage



Fig.3 Non incorporated (L) v StoolZippa (R) blanket coverage

●●●● Action

To compare the two treatments of incorporated V non-incorporated Imiacloprid, a trial of three replicates was conducted in the 2018/19 wet season.

Water quality sampling was undertaken using an automated KP sampling valve from replication two in both treatments.

Water sampling analysis was conducted by Australian Laboratory Services (ALS).

●●●● Outcome

The StoolZippa(TM) significantly improved coverage of the application.

Due to heavy rainfall events, the samplers were inundated with water on a number of occasions, contaminating treatments.

The trial did not yield any clear results. There was no definitive trend between treatments and water sample results.

There are a number of possible explanations for these results: rapid break-down of the Imiacloprid, sample contamination and loss to the atmosphere may have reduced the concentration of Imiacloprid to non-detectable levels in the runoff water.

Although Ross has no known cane grub issues, he was impressed by the ease of use of the StoolZippa(TM) and may consider it for other applications.

For further information contact John Turner (Farmacist) Mb. 0437 581 921.