CASE STUDY BRIAN STRATHDEE

Who Brian Strathdee

Location Airville, 14km west of Ayr

Catchment Sheep Station Creek

Rainfall 956mm

Property size 130ha

Landuse Sugarcane production

Family History

Brian Strathdee attended the Clare Agriculture College (Burdekin Rural Education Centre) before starting work on the family farm with his father Keith in 1978. He participated in an agricultural exchange program in America in 1981, gaining valuable experience in sugarcane and sugar beet farming practices.

Brian returned to run the farm with his father until 2012, when he took over full management of the family enterprise. He also runs his own earthworks business providing laser levelling services which supplements the family farm income.

Practices

Brian uses GPS guidance in cultivation and planting, and is working towards minimum tillage practices.

The farm is furrow irrigated with recycle pit catchment systems, capturing approximately 95 per cent of the farm's runoff water. Brian is able to re-use and distribute the recycled water to 90 per cent of the farm. Irrigation water is supplied from a mixture of sources including: recycled, open water (from the neighbouring creek) and underground when required.

Brian moved from a legume rotational crop in fallow management, to a bare fallow management cycle due to problematic weed pressures on the farm.

"The bare fallow allows better control over the nutgrass and other problematic weeds," said Brian.

Chemical practices

Brian implements a standard practice herbicide program. Application rates and timing are determined by label rates, tweaked at times following professional advice or based on personal experiences. He completes a full calibration of spray machinery annually and monitors with all applications.

Brian's weed management plan is a whole-farm approach and varies between crop class, but is generally not weed specific. He's currently trialling the cost-benefit of applying Gramoxone® and 24D® as two separate applications which would allow for more strategic control over vine weed pressures.

Nutrient practices

Brian uses a block specific nutrient plan guided by a local agronomist for the family farm.

Regular soil testing during fallow rotation and SIX EASY STEPS recommendations are used to calculate rates

DRY TROPICS

TRIALS...

Brian is hosting one of 12 Burdekin GameChanger replicated Enhanced Efficiency Fertiliser Trials.

of a standard blend used across the farm, as soils are fairly uniform.

He uses GPS guidance when applying the granular fertilser subsurface, generally with a stool splitter applied after the first watering of ratoons. He uses side dressing in particular blocks, where water soakage is an issue and additional cultivation is needed.

Brian is constantly putting the GPS to use, calibrating every nutrient application on the farm and recalibrating with any new fertiliser blends or when rates are varied due the to class of crop.

Motivators for change

Brian's experience with the overseas agriculture exchange program opened his eyes to the many different farming systems that can be implemented or adapted to the sugar industry. The farm is a part of Brian's lifestyle and he is open to any practice improvements that would have productivity and environmental outcomes.

Challenge

There is significant cost to using nitrification inhibitors (ENTEC) and

controlled release formulations (AGROCOTE) and uncertainty around their reliability. Further assessment is needed to determine cost versus benefit. Other major challenges to the trials include soil type, matching nutrient requirement and reducing losses from the farm.

Project involvement

Brian is hosting one of 12 GameChanger replicated Enhanced Efficiency Fertiliser Trials which are looking at breaking down the barriers to the adoption of enhanced efficiency fertiliser in the Burdekin, through environmental, economic and social monitoring.

Treatments

T1-Urea @220N T2- Urea @180N T3- Entec @180N T4- CR25% @180N T5- CR50% @180N

Monitoring

The Enhanced Efficiency Fertiliser (EEF) Trials were designed to identify production differences between N formulations and ratios based on different soil types, application rates and application timings throughout the year.

Results

Using these more efficient formulations has the potential to not only increase production but also reduce N losses, resulting in improved water quality.

Results from the 2015 harvest season indicate no significant difference in productivity or economic returns between any of the treatments. No productivity was lost when reducing N rates from 220N to 180N. N rate, nor N form had no bearing on results due to an exceptionally dry year.

All treatments have been reapplied and will be further investigated in the 2016 harvest season.

Showcasing to community

Brian is an active member of NQ Dry Tropics Sugar Innovations Programme and has attended all meetings, field tours and industry forums. He is very keen to see and share the results on the EEF Trial on his farm with the wider sugar industry.



EXPERIENCE...

Over 35 years of farming experience in the Burdekin and overseas.

Who are we?

NQ Dry Tropics is an independent, not-for-profit, nongovernmental organisation that supports the Burdekin Dry Tropics community to sustainably manage its land and water. As the leading Natural Resource Management body for the 146,000km² Burdekin Dry Tropics region, NQ Dry Tropics views innovation as crucial to the future of the agriculture sector.

BORY TROPICS SUSTAINABLE AGRICULTURE

The Program

NQ Dry Tropics Sustainable Agriculture programme offers information, training and support to assist agricultural producers to use best management practices for resilient landscapes and productive enterprises. Within this program, the Sugarcane Innovations Program delivers a number of projects that support innovative farmers with opportunities to trial their practice ideas with the assistance of technical experts. Delivery partners are Farmacist, the Queensland Department of Agriculture and Fisheries and the Burdekin-Bowen Integrated Floodplain Management Advisory Committee.

The Projects

The fast-tracking adoption of 'game changing' sugarcane nutrient and pesticide management practices (GameChanger) project is funded by the Australian Government Reef Programme. GameChanger management practices focus on the use of precision agriculture technologies and advanced planning to provide opportunities for cane farming to be more economically and environmentally sustainable.

Project Catalyst is a pioneering partnership funded by the Coca-Cola Foundation through WWF which reduces the environmental impact that sugar cane production has on the Great Barrier Reef. The project is grower-led and involves a group of innovative farmers that are developing and testing management practices that improve the water quality of the water leaving sugar cane crops. Growers receive support for projects through Reef Programme Water Quality Grants.

For more information

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