

# REFINING THE NUTRIENT APPLICATION FOR A FINAL RATOON



## *Cane to Creek: Russell-Mulgrave growers and the nitrogen story*

The Cane to Creek project is based in the Russell-Mulgrave catchments in the Wet Tropics and has worked with growers to achieve nutrient management best practice, with a focus on profitability and productivity and environmental stewardship.

This demonstration site compared three strategies to refine nutrient inputs on a block entering its final ratoon. The grower was interested in testing the opportunity to reduce fertiliser costs on final ratoons while maintaining production, acknowledging that the block was showing a decline in yield.

Final ratoons, in general terms, are less productive than other crops in the cycle. Reduced productivity may be the result of any number of factors including disease, pest damage, harvest damage, weed infestations and impacts from flooding and weather events. Given the lower productivity, these crops are unlikely to show a significant response to applied nitrogen or get an economic return on a full application of the other nutrients. The lack of response is likely due to the other constraining factors.



Queensland  
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## BACKGROUND INFORMATION

Variety	Q208 <sup>db</sup>
Soil type	Innisfail (Dermosol)
2017 yield (2nd ratoon)	101.6 t/ha
2018 yield (3rd ratoon)	78.04 t/ha
2018 harvest date	20/09/2018

This demonstration gives confidence that a refinement of application rate in a final ratoon crop should not adversely impact yields and offer the opportunity to reduce input costs.

The cane and sugar yields for the refined application rates (T2 & T3) are not statistically different from the full SIX EASY STEPS rate.

The means between the treatments may seem quite different (92.8-102.5), but statistically there is no significant difference. This is a result of a greater difference between the replicates across the paddock than between any of the different treatments or nutrient rates.

It is not recommended that these nutrient rate reductions be made on an annual basis on the same block, as nutrients may begin to be mined from the soil, leading to reduced yields over time.

It is recommended that any changes to management be tested on-farm. This will allow further confidence to be built with both the new or refined nutrient rates and also the process of fine tuning their nutrient management program as part of steps 5 & 6 of the SIX EASY STEPS program.

## TRIAL (4TH RATOON)



- T1 - SIX EASY STEPS (N: 150 kg/ha; K: 91 kg/ha; S: 19 kg/ha)
- T2 - 13% rate reduction (N: 130 kg/ha; K: 79 kg/ha; S: 16 kg/ha)
- T3 - 27% rate reduction (N: 110 kg/ha; K: 67 kg/ha; S: 14 kg/ha)

TREATMENT	T/HA	CCS	\$/HA
T1 – SIX EASY STEPS	92.8 <sup>A</sup>	11.1 <sup>A</sup>	-
T2 – 13% rate reduction	97.2 <sup>A</sup>	11.1 <sup>A</sup>	(+)56.21/ha
T3 – 27% rate reduction	102.5 <sup>A</sup>	11.0 <sup>A</sup>	(+)113.19/ha

The \$ are based on a reduction of input costs, as the treatments are not statistically different.

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