

Project Catalyst Report

Reduced Fertiliser Rates on Late Cut Ratoons

Grower Information

Grower Name:	Brett Coulthard
Entity Name:	Sarona PTY LTD
Trial Farm No/Name:	5679
Mill Area:	Mossman
Total Farm Area ha:	559.23
No. Years Farming:	25+
Trial Subdistrict:	South
Area under Cane ha:	531.3

Trial Status

Completed

Background Information

Aim:

The aim is to find a block which has been cut late in the season and trial differing rates of fertiliser.

Background: (Rationale for why this might work)

This is aimed at assessing the impact of harvest time on ratooning. Anecdotal evidence indicates that crops cut after October usually yield lower due to water logging and reduced solar radiation. This would suggest that lower fertiliser application rates may be appropriate for late cut ratoons and this trial is intended to test this theory.

Potential Water Quality Benefit:

Reduced nitrogen losses due to less nitrogen applied for the same yield.

Expected Outcome of Trial:

In wet years it would be expected that the nitrogen rate could be altered due to the lower growth rate of the crop.

Service provider contact:

Mossman Ag Services

Where did this idea come from:

Mossman Ag Services agronomy staff

Plan - Project Activities	Date : (mth/year to be undertaken)	Activities :(breakdown of each activity for each stage)
Stage 1	September 2016	Plan out trial, rates of fertiliser to be used. Confirm site is appropriate. Install field equipment (equipment purchases to align with project application). Seek agronomic advice for trial design. Develop workplan for trials. Soil and product testing (if applicable). Set up trial sites.
Stage 2	October 2016	Determine trial site, set out trial with grower, apply treatments.
Stage 3	November 2016	Ongoing management of trial site: Monitor trials and keep accurate records of trial results, field operations, chemical and fertiliser inputs, crop yield and quality (as relevant to project), and provide to Terrain. Monitor trial. Facilitate site access for Terrain NRM staff to observe trial results.
Stage 4	October 2017	Harvest Trial, keeping records of strips cut, bin numbers in order to get bin weights and CCS samples from the mill. Site Access. Progress report.
Stage 5	November 2017	Retreat trial as per previous treatments
Stage 6	October 2018	Harvest trial keeping records of strips cut, bin numbers in order to get bin weights and CCS samples from the mill. Site Access. Progress report.
Stage 7	November 2018	Retreat trial as per previous treatments
Stage 8	October 2019	Harvest trial keeping records of strips cut, bin numbers in order to get bin weights and CCS samples from the mill. Site Access. Progress report.

Project Trial site details

Trial Crop:	Cane
Variety: Rat/Plt:	Q208
Trial Block No/Name:	41.1
Trial Block Size Ha:	4.95
Trial Block Position (GPS):	-16.484442, 145.414785
Soil Type:	Clifton

Block History, Trial Design:

^ N	Product	Treatment	N Rate (kg/ha)
REP ONE	Nitra King S	80% 6ES	110
	Nitra King S	6ES	140
	Nitra King S	60% 6ES	80
REP TWO	Nitra King S	80% 6ES	110
	Nitra King S	60% 6ES	80
	Nitra King S	6ES	140
REP THREE	Nitra King S	6ES	140
	Nitra King S	80% 6ES	110
	Nitra King S	60% 6ES	80

Treatments:

T1: Nitra King S at 6ES rates

T2: Nitra King S at 80% of 6ES rates

T3: Nitra King S at 60% of 6ES rates

Results:

Table 1. Results for late cut fertiliser trial 2017

Product	N rate (kg/ha)	t/ha	ts/ha
Nitra King S (6ES)	140	66.7	9.1
Nitra King S (80% 6ES)	110	64.3	9.0
Nitra King S (60 % 6ES)	80	63.6	9.0

Table 2. Results for late cat fertiliser trial 2018

Product	N rate (kg/ha)	t/ha	ts/ha
Nitra King S (6ES)	140	63.4	10.7
Nitra King S (80% 6ES)	110	65.7	11.1
Nitra King S (60 % 6ES)	80	61.5	10.4

Conclusions and comments

With two years of data the treatments have all yielded relatively similar, without running statistics on the data, the 110kg/ha of Nitrogen treatment seems to have produced the best tonnes of sugar per hectare. The economics would need to be run on this trial to see which treatment would produce the best profit.

Advantages of this Practice Change:

It would appear a large cost saving would be evident as well as a water quality benefit for reducing N rates in this situation.

Disadvantages of this Practice Change:

This may not hold true in different years due to the weather/climatic pattern.

Will you be using this practice in the future:

Provided future results hold the same results, this could be employed across my farm.

% of farm you would be confident to use this practice :

Depending on soil type, previous productivity and weather it could be up to 100% of the farm.