Catalyst Project Report

Grower Information	
Grower Name:	Wayne Dal Santo
Entity Name:	DalSanto Farming Co
Trial Farm No/Name:	BKN-00327A
Mill Area:	Invictor
Total Farm Area ha:	367ha
No. Years Farming:	
Trial Subdistrict:	Clare
Area under Cane ha:	337.4

Background Information

Aim:
This project aims to investigate different Nitrogen rates to determine the Nitrogen Use efficiency of some of the newer varieties in the Burdekin.

Background: (Rationale for why this might work)

There has been much anecdotal data to suggest that some of the newer varieties (Q240, Q253 and Q232) have the potential to be much more efficient users of Nitrogen. This has been found by growers who have suffered CCS losses when applying high rates of N. To verify this, we need to find what %N reduction can be achieved to maintain yield in varieties that have shown to be more efficient in N utilisation such as Q240, Q253 and Q232. As a result there is the potential to reduce amount of N applied, improve sugar production, reduce costs and improve water quality.

Potential Water Quality Benefit:
As the presence of Q240, Q253 and Q232 will be increasing in the future, if we can work out an optimised N rate that will give us both high tonnes and increased sugar accumulation there is the potential for significant reductions of N across the region. Henceforth, there will be a reduction in the amount of Nitrogen that is leaving our catchment and entering the Great Barrier Reef.

Expected Outcome of Trial:
It is expected that there will not be a reduction in yield tc/ha however there may be a CCS increase in the lower rates. Water quality leaving these locations will be improved.

Service provider contact: Farmacist

Where did this idea come from: Advisor

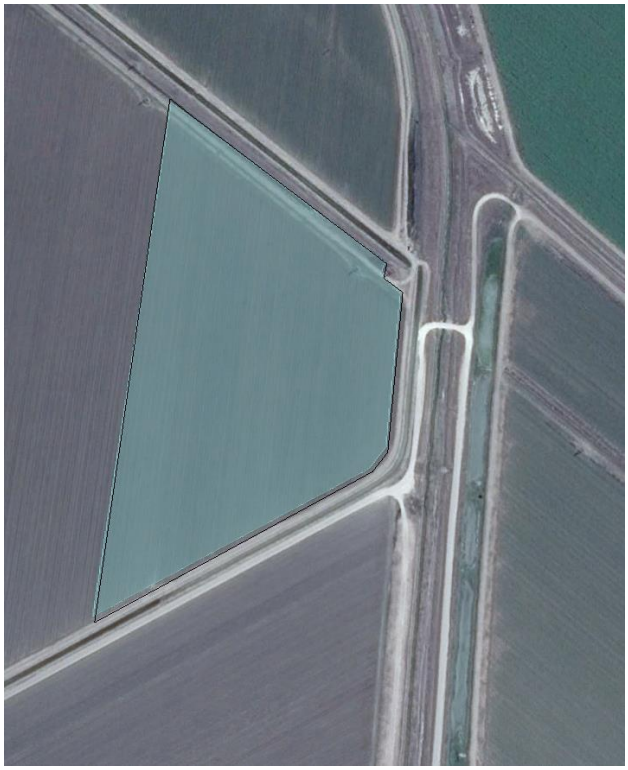
Plan - Project Activities	Date : (mth/year to be undertaken)	Activities :(breakdown of each activity for each stage)
Stage 1	**September 2016**	• Trial was implemented with 4 different rates (223N, 201N, 181N, 162N) along with a 50meter strip of 100N
Stage 2	**November/December 2016**	• Biomass samples ?
Stage 3	**September 2017**	• Harvest trial site • Analysis of trial data
Stage 4	**October 2017**	• Reapplication of trial for year two data
Stage 5	**November/December 2017**	• Biomass samples ?
Stage 6	**October 2018**	• Harvest trial site • Analysis of trial data
Stage 7	**November 2018**	• Reapplication of trial for year three data
Stage 8	**November/December 2018**	• Biomass samples ?
Stage 9	**December 2019**	• Harvest trial site • Analysis of trial data • Prepare final report.

Project Trial site details

Trial Crop:	Sugarcane
Variety: **Rat/Plt:**	Q253 1st Ratoon
Trial Block No/Name:	BKN-00327A-5-8
Trial Block Size Ha:	10.38
Trial Block Position (GPS):	147.196619 -19.825188
Soil Type:	2Ugc Bottom Half of Block, 2Uge top half of block

Block History, Trial Design:

	Rep 1				Rep 2				Rep 3			
245kg/ha 100N	Treatment 1 630 kg/ha	Treatment 2 560 kg/ha	Treatment 3 500 kg/ha	Treatment 4 440 kg/ha	Treatment 2 560 kg/ha	Treatment 3 500 kg/ha	Treatment 1 630 kg/ha	Treatment 4 440 kg/ha	Treatment 1 630 kg/ha	Treatment 4 440 kg/ha	Treatment 2 560 kg/ha	Treatment 3 500 kg/ha

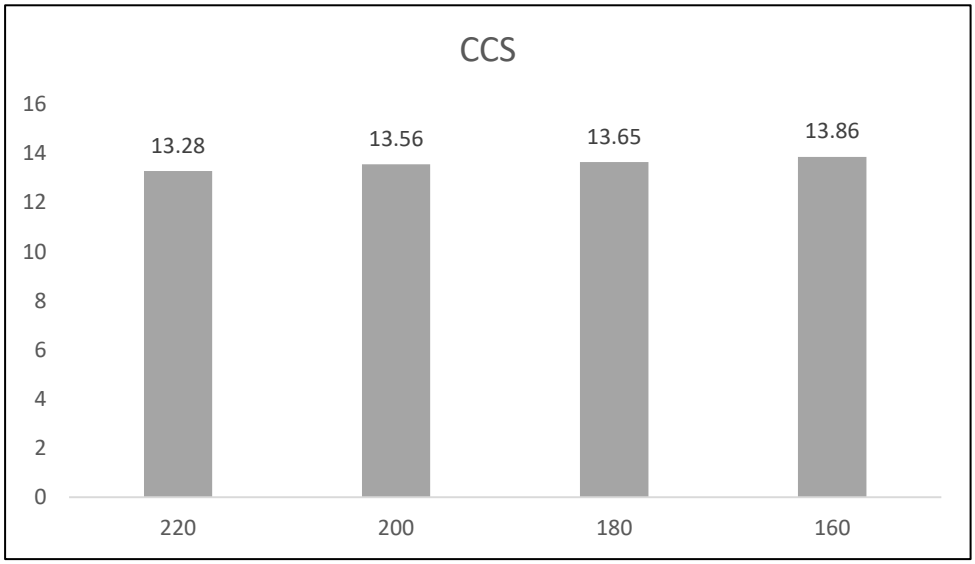


Treatments:
T1 – 220N
T2 – 200N
T3 – 180N
T4 – 160N
T0- 100N

Results:

Harvest Results Year 1:

	Tc/ha	CCS	Ts/ha
T1R1	89.09	13.35	11.89
T1R2	101.65	13.50	13.72
T1R3	103.73	13.00	13.49
T2R1	102.41	13.70	14.03
T2R2	98.78	13.90	13.73
T2R3	103.14	13.10	13.51
T3R1	100.86	13.70	13.82
T3R2	103.82	13.70	14.22
T3R3	101.16	13.55	13.71
T4R1	94.21	14.30	13.47
T4R2	95.51	13.80	13.18
T4R3	99.20	13.50	13.39



First year results did not show a statistical difference in tc/ha, CCS or ts/ha with yield results ranging from 89t/ha to 103t/ha.

This is unsurprising considering there may be residual N left in the soil from the plant cane crop. The trial has been re-established for a second year with harvest due in 2018

Conclusions and comments
Advantages of this Practice Change:
Disadvantages of this Practice Change:
Will you be using this practice in the future:
% of farm you would be confident to use this practice :