

# Catalyst Project Report

## Reduced N Rates in Plant Cane Following Mungbeans

### **Grower Information**

<b>Grower Name:</b>	Frank Mugica
<b>Entity Name:</b>	
<b>Trial Farm No/Name:</b>	
<b>Mill Area:</b>	
<b>Total Farm Area ha:</b>	
<b>No. Years Farming:</b>	
<b>Trial Subdistrict:</b>	
<b>Area under Cane ha:</b>	

## **Background Information**

**Aim: To compare yield results when Nitrogen rates are reduced in plant cane, following mungbean crops**

### **Background: (Rationale for why this might work)**

Legumes are a regularly used break crop in the Burdekin. They can be planted in both summer and winter and contribute a significant amount of nitrogen to the soil.

Knowing how legume trash management can effect the nitrogen release pattern and the productivity of the cane crop may encourage growers to reduce their tillage operations post-legumes and reduce their fertiliser rates at planting.

The 6 Easy Steps does not currently require growers to reduce their nitrogen-fertiliser rates post mungbeans; this project would like to assess the effect of estimating the nitrogen amount provided by the legume and using this amount to reduce fertiliser rates.

Mungbeans have been chosen for this trial as they are becoming an increasingly popular break crop in the Burdekin (>2 500 ha in 2016).

### **Potential Water Quality Benefit:**

Growers may reduce their fertiliser rates post-legumes; this will reduce the risk of applied nitrogen being lost to run off/drainage.

### **Expected Outcome of Trial:**

That fertiliser rates post-legumes can be reduced without effecting grower productivity.

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**Where did this idea come from:**

<b>Plan - Project Activities</b>	<b>Date : (mth/year to be undertaken)</b>	<b>Activities :(breakdown of each activity for each stage)</b>
<b>Stage 1</b>	<b>June 2018 – Dec 2019</b>	- Design and implement a trial
<b>Stage 2</b>	<b>Dec 2019 – Dec 2020</b>	- Harvest trial - Discuss re-implementation of the trial - Analyse data and report to grower
<b>Stage 3</b>		-
<b>Stage 4</b>		
<b>Stage 5</b>		
<b>Stage 6</b>		

## Project Trial site details

<b>Trial Crop:</b>	Sugarcane
<b>Variety: Rat/Plt:</b>	
<b>Trial Block No/Name:</b>	
<b>Trial Block Size Ha:</b>	
<b>Trial Block Position (GPS):</b>	
<b>Soil Type:</b>	

## Block History, Trial Design:

**Farm:** BKN-09305A  
**Block:** 09-01  
**Date Applied:** 10/09/2018

### Paddock History:

- Mill mud applied in last crop cycle (No mill mud was applied prior to planting on the trial paddock). Remainder of the paddock had mill mud applied subsurface at 100t/ha
- Mungbeans were grown on the paddock prior to planting sugarcane
  - o 1 x crop planted and harvested for grain
  - o 1 x volunteer crop, harvested for grain
  - o Second volunteer crop, sprayed out prior to flowering then sugarcane planted

### Trial Plan:

- 2 Treatments
- 2 Replicates
- RCBD

Bottom								
Headland	Guard	T1	T2	T3	T2	T3	T1	Mudded Rows (subsurface, 100WT/ha applied July 2017)
	3	3	3	3	3	3	3	
	Rep 1			Rep 2				
Top								

### Treatments:

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Treatment	Planting			Top Up			Total N rate (kgN/ha)
	Product	Rate (kg/ha)	N rate (kgN/ha)	Product	Rate (kg/ha)	N rate (kgN/ha)	
1	DAP	250	47	Granam	589	118	165
2	DAP	250	47	Granam	471	94	141
3	DAP	250	47	Granam	339	68	115

## Results:

## 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 :**