

# Catalyst Project Report

## Grower Information

<b>Grower Name:</b>	Peter Hackett
<b>Entity Name:</b>	Peter Joseph & Lynette Joy Hackett
<b>Trial Farm No/Name:</b>	PCK-0756A
<b>Mill Area:</b>	Plane Creek
<b>Total Farm Area ha:</b>	189
<b>No. Years Farming:</b>	50
<b>Trial Subdistrict:</b>	Koumala
<b>Area under Cane ha:</b>	165

## **Background Information**

### **Aim:**

**To improve nitrogen use efficiency**

### **Background:**

The Walkley-Black wet oxidation technique is the most widely used commercial assay to report soil organic carbon. For the sugar industry, the use of Walkley-Black organic carbon analysis is of significance. The industry endorsed BMP (Best Management Practice) utilises the 'SIX EASY STEPS' (6ES) nutrient management program. This program provides the industry with a set of soil and district-specific guidelines to manage N inputs based on a combination of district yield potential (DYP), organic carbon (%).

In the current 6ES framework, the contribution of N mineralized from soil organic matter available to the crop is based on the soil OC. Results from other sites have indicated a poor correlation between soil-organic carbon levels and potential soil mineralisation.

Because of this reason many growers are apprehensive lowering their Nitrogen rates to 6 Easy Steps level.

The trial will compare different rates of N application compared to the 6ES requirements for yields and NUE.

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

Maximisation of fertiliser use efficiency to maintain yields and ensure maximum amount of nutrient is taken up by the crop, reducing amount lost to environment.

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

It is expected that the yield will be the same across all treatments.

### **Service provider contact: Farmacist**

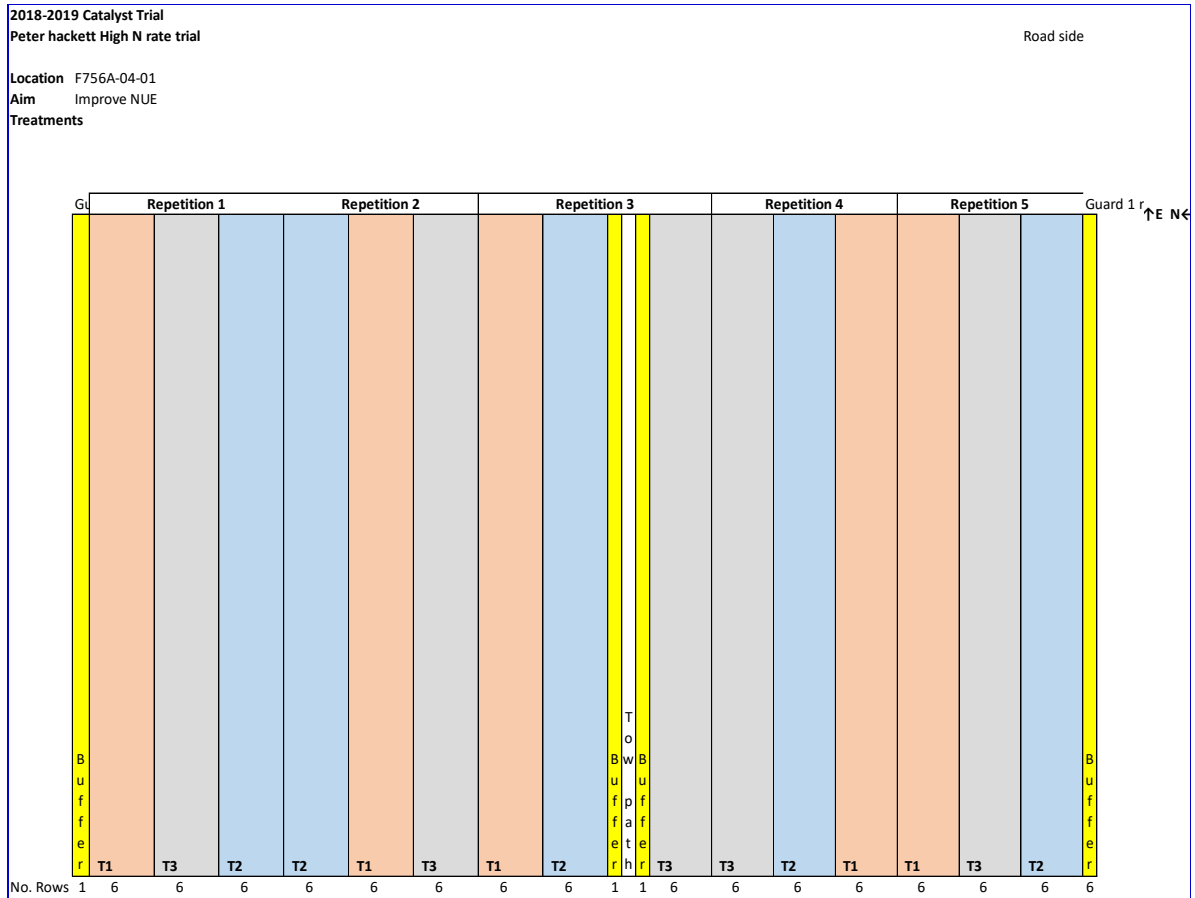
### **Where did this idea come from: Grower/Farmacist**

<b><u>Plan - Project Activities</u></b>	<b>Date : (mth/year to be undertaken)</b>	<b>Activities :(breakdown of each activity for each stage)</b>
<b>Stage 1</b>	<b>August 2018</b>	Harvest paddock to collect normal paddock yield
<b>Stage 2</b>	<b>September 2018</b>	Apply treatments
<b>Stage 3</b>	<b>April 2019</b>	Biomass sample to find nitrogen uptake
<b>Stage 4</b>	<b>September 2019</b>	Harvest

## Project Trial site details

<b>Trial Crop:</b>	Sugar cane
<b>Variety:</b> <b>Rat/Pit:</b>	2R Q240
<b>Trial Block No/Name:</b>	4-01
<b>Trial Block Size Ha:</b>	6.7
<b>Trial Block Position (GPS):</b>	-21.570840, 149.250755
<b>Soil Type:</b>	Cherry Tree – gravelly grey-brown duplex

## Block History, Trial Design:



- Treatments:**
1. 6ES 150N
  2. 6ES +15% 168N
  3. 6ES + 25% 184N

## Results:

### Leaf samples March 2019

Leaf samples were taken at this site in March 2019, following the generic third leaf sample protocol. Results, shown in Figure 1, indicated that all nutrients were at an adequate level in the cane as all were at or above the critical value. Nitrogen content was slightly higher in the highest nitrogen rate, however this difference is minimal and is unlikely to impact final yield.

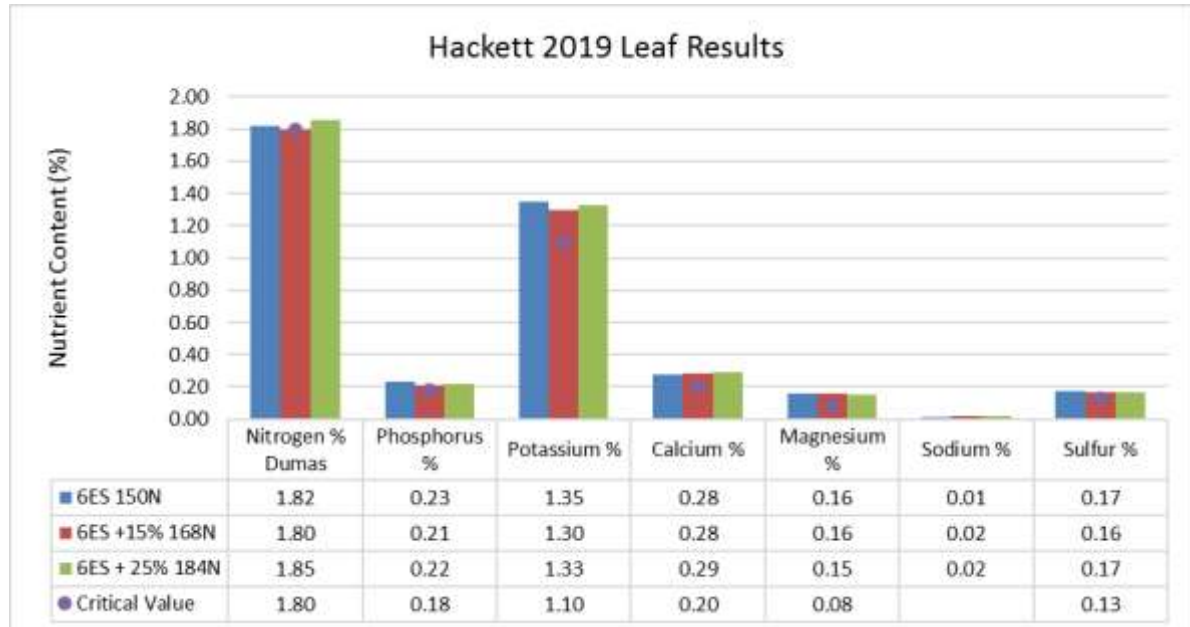


Figure 1 leaf sample results 2019

## Conclusions and comments

Established in 2018

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 :

