

Project Catalyst Final Report

Meat Chicken in Rotation with sugarcane

Grower Information

| | |
|----------------------------|--|
| Grower Name: | Daniel Cordner |
| Entity Name: | Bellasato PTY LTD ATF Cordner |
| Trial Farm No/Name: | Meat Chickens in Rotation with Sugarcane |
| Mill Area: | Sunnybank |
| Total Farm Area ha: | 56 Ha |
| No. Years Farming: | 2yr |
| Trial Subdistrict: | Sunnybank Leggs road. |
| Area under Cane ha: | 54Ha |

Background Information

Aim

1. To see if it is beneficial to use Sommerlad meat chicken in rotation with cane as a viable economic source.
2. Chicken manure is an excellent organic fertilizer and should reduce the need for added in-organic nutrients on the next cane crop cycle. Especially phosphorus
3. Having a mix legume crop as a chicken forage source should improve soil health, and help fix nitrogen and other minerals into the soil profile
4. Having a 18mth fallow system will break the cane crop monoculture
5. Using bio- fertilizer as a soil amendment will improve soil bio-diversity and sustain agricultural soil for future use

Background: (Rationale for why this might work)

The farm will centre around regenerative practices, focusing on the health of everything in the farming system – from financial health aspects to soil, plant and animals

The chickens should provide organic nutrients to soil profile. Chicken manure is an excellent source of phosphorus and this will reduce the need for in-organic sources.

Chickens will scratch and forage through the cover crop incorporating plant biomass into the soil profile creating organic matter and improving soil health.

Chickens are a profitable income when meat is sold to market.

Having an 18mth fallow will break the monoculture of sugarcane and improve soil bio-diversity.

Using Bio- fertilizers that are made on farm, will reduce the cost of in-organic fertilizers, as well as benefit soil health.

Potential Water Quality Benefit:

Less use of inorganic fertilisers would reduce the risk of runoff.

Expected Outcome of Trial:

That with the added organic sources from the chicken manure the farmer should be able to reduce his chemical source fertiliser.

That the chicken meat will be a good economic provider to the overall farming system

Service provider contact: Megan Zahmel 0447 317 102

Where did this idea come from: Daniel Cordner

| Plan - Project Activities | Date : (mth/year to be undertaken) | Activities : (breakdown of each activity for each stage) |
|----------------------------------|---|---|
| Stage 1 | Establish trial 2016/2017 | <ul style="list-style-type: none"> • GPS'd baseline soil nutrient samples taken down to 60cmx 10 samples – 16th of Dec 2016 • Prepare fallow block for planting of legumes. Planted chicken forage crop on the 23rd of Dec 2016 • NMP completed – August 2017 • WMP completed – August 2017 |
| Stage 2 | Establish Chickens 2017 | <ul style="list-style-type: none"> • Chickens established onto trial – 15th of Jan 2017 |
| Stage 3 | Sampling in Fallow 2017/2018 | <ul style="list-style-type: none"> • Nematode sampling – 17/05/2017 • Pachymetra sampling – 17/05/2017 • GPS's chicken coop positions – 2017/2018 • Update NMP – Dec 2018 |
| Stage 4 | Establishment of 2019 plant cane | <ul style="list-style-type: none"> • EM map trial before sugarcane is planted • Updated NMP – May 2019 |
| Stage 5 | | |
| Stage 6 | | |

Project Trial site details

| | |
|------------------------------------|--|
| Trial Crop: | Legumes, meat chickens, sugarcane |
| Variety: | Fallow |
| Rat/Plt: | Forage cover crop. 2017 Plant cane 2019 |
| Trial Block No/Name: | Farm # 05228A Block # 5-1 |
| Trial Block Size Ha: | 0.84ha |
| Trial Block Position (GPS): | Refer to google earth map |
| Soil Type: | Clay/Terrace silt loam |

Block History, Trial Design:



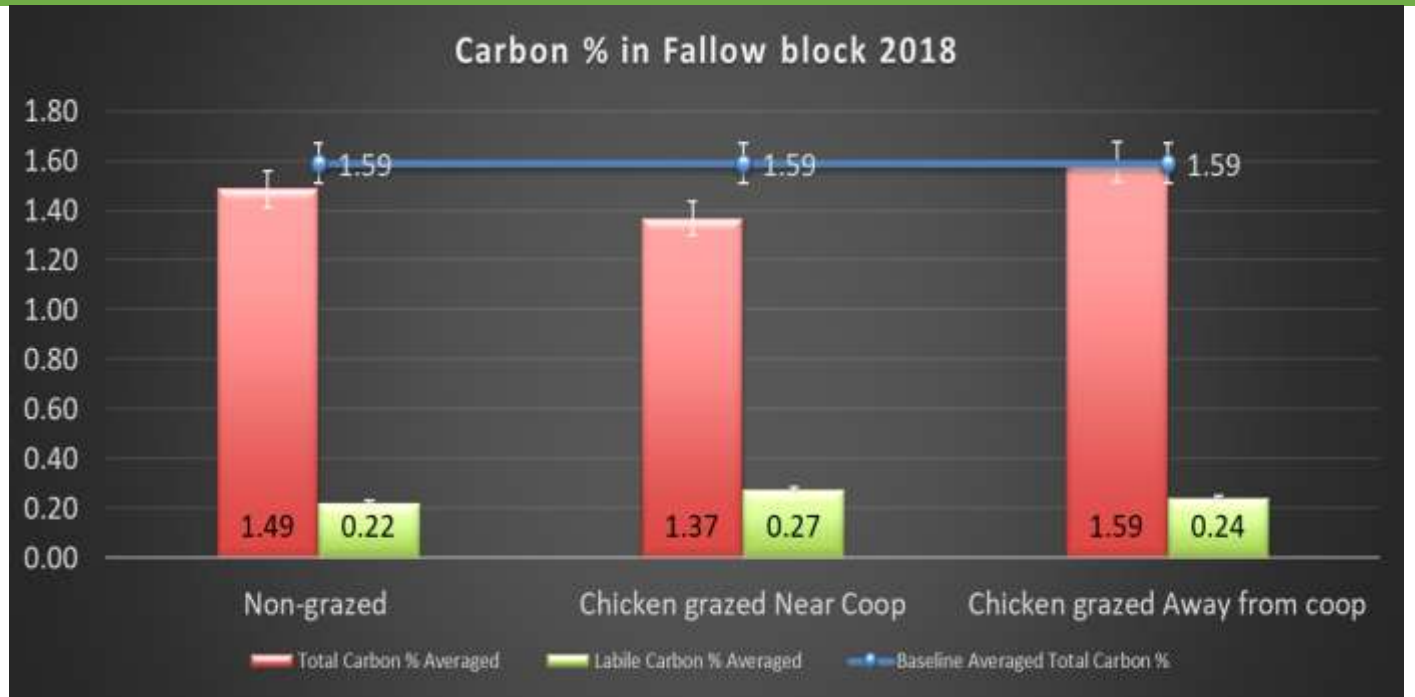
Block History

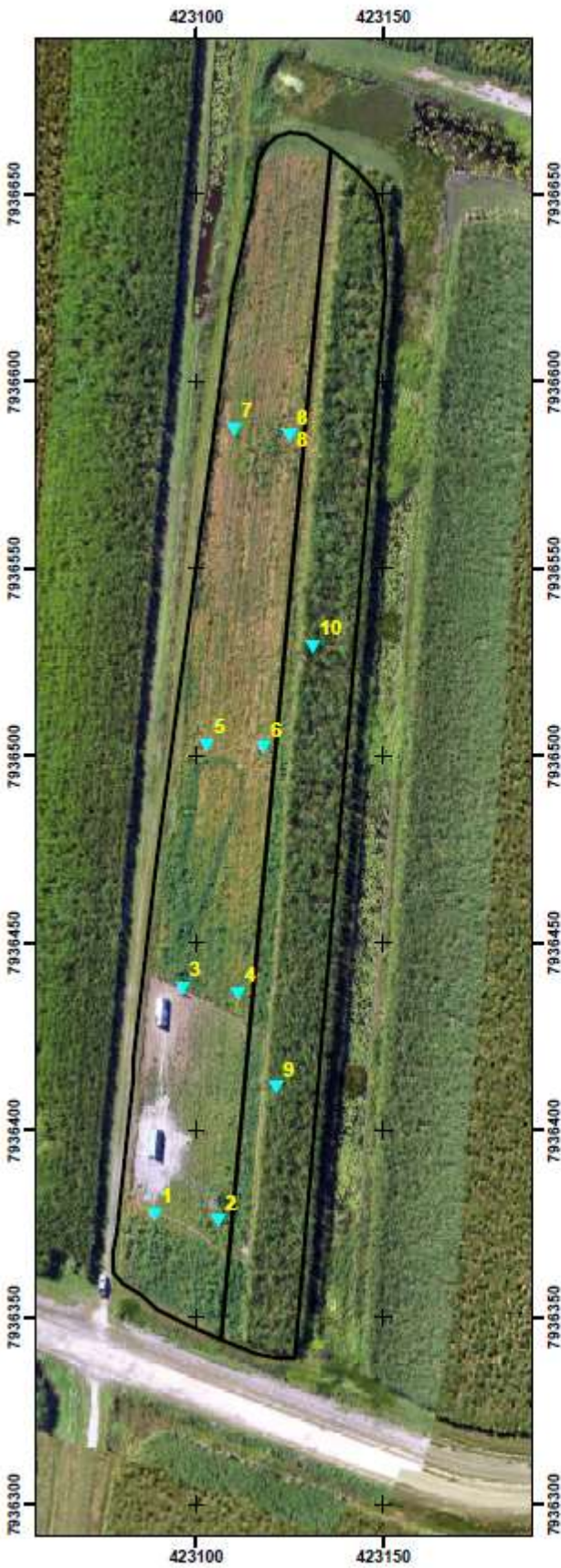
- Row spacing was 1.63m
- Previous variety was Q190
- Was last fallowed in 2010

Treatments:

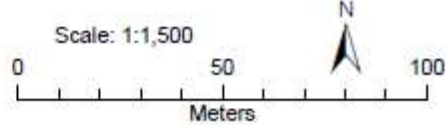
- **Trt 1** - Sommerlad meat chickens with forage cover crop
- **Trt 2** - Forage crop without meat chickens– Chicory, red clover, sunflowers, tropical mustard, V8 Stylo, seca stylo, Lucerne, millet, radish, lablab, cowpea ebony.

Results:





FARM 5228A-05-01 & 02



Data Sources
 Wilmar: Cane Block Layer (2016);
 HCP SL: Aerial Photography (2015);

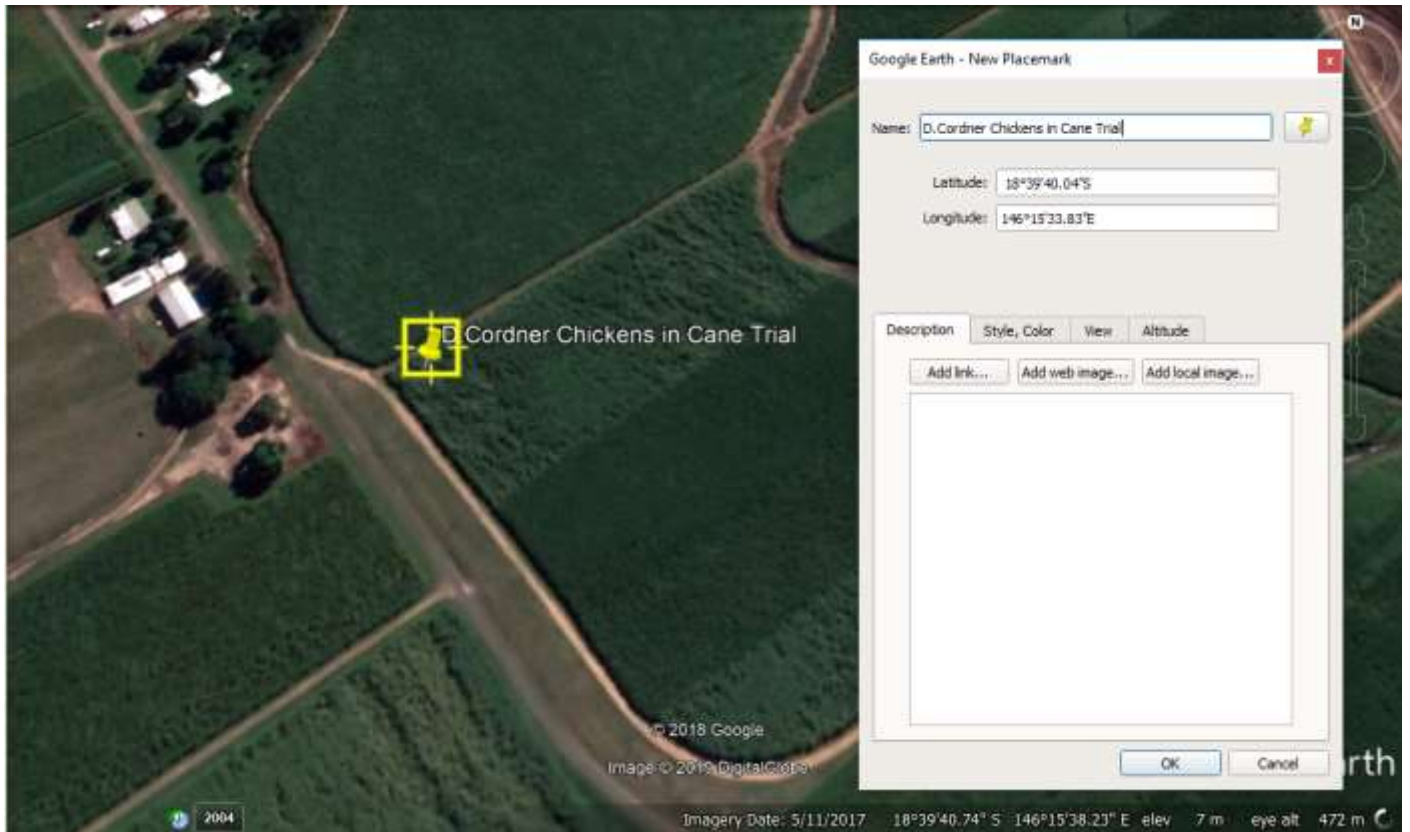
| Site_Number | Easting | Northing |
|-------------|------------|-------------|
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| 2 | 423105.971 | 7936375.697 |
| 3 | 423096.407 | 7936438.047 |
| 4 | 423111.212 | 7936436.326 |
| 5 | 423102.924 | 7936502.901 |
| 6 | 423118.076 | 7936502.083 |
| 7 | 423110.274 | 7936587.318 |
| 8 | 423124.977 | 7936585.634 |
| 8 | 423124.975 | 7936585.619 |
| 9 | 423121.405 | 7936411.331 |
| 10 | 423131.199 | 7936529.096 |



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Google Earth Reference Map



Conclusions and comments

Unfortunately the trial has run into a number of unprecedented weather event from the end of 2018 through to 2019. Further study into trial would have produced a number of findings ,but due to bad weather a lot of the work was unable to be completed.

I believe the idea of running meat chickens with sugarcane can be a successfully one ,but further time would need to be spent on the trial to see if there would be benefits to the cane crop from having a meat chicken rotation. Economically the meat chicken business has been very successful with many market opportunities for a unique source of chicken meat.

An 18mth multi-species fallow cover crop is good for resting soil and promoting soil regeneration ,but has some issues when trying to work within government soil testing regulations.

Overall the idea of mixing two businesses into one farming systems is a good business venture with many added benefits.

Advantages of this Practice Change:

Reducing the need for in-organic fertilizers by using bio-fertilizer products that are sourced from chicken waste and the natural organic fertilizer that the chickens are putting out with their manure.

Having a longer fallow break between cane crop cycle will help improve soil biodiversity and health

There will be an extra income by utilising all areas of the property for agricultural practices

Disadvantages of this Practice Change:

Government soil testing regulations don't take into account soil testing for 18th mth fallows. Therefore timing of the soil test needs to be consider carefully, so as to still fit with time regulations ,but also for testing at the right time to gain the most benefits from the soil test.

Herbicide use and timing needs to be considered, so that withholding periods are met to industry standard and that herbicide doesn't effect the quality of chicken meat.

Will you be using this practice in the future:

Yes

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

All fallow pastures of the farm