

Field Trip Case Study

Lou and Betty Raiteri

Quantifying the effects of microbial additions to sugarcane soils on crop productivity.



Block pre-application (early in morning).

Trials were implemented in four major districts within the Australian sugarcane industry to identify and objectively measure the effects of microbial additions under different sugarcane systems, climatic conditions and soil types that may lead to the positive impacts of sugarcane growth, soil health, and economic benefits. Each region was tasked with a specific trial relevant to growers in the region.

| | Mackay | Proserpine | Burdekin | Herbert |
|-------------|-----------------------------|---------------------------------------|------------------------------------|--|
| | Reduced Nutrition | Effect of different feedstocks | Accelerated trash breakdown | Effect on parasitic populations |
| Treatment 1 | 100% Nutrition (Control) | 100% Nutrition (Control) | No Trash + No Biology (Control) | No Biology (Control) |
| Treatment 2 | 100% Nutrition plus Biology | 100% Nutrition + Mill Mud | No Trash + Biology | Biology @ 150 L/ha |
| Treatment 3 | 70% Nutrition | 100% Nutrition + Biology | Trash + No Biology | Biology @ 300 L/ha |
| Treatment 4 | 70% Nutrition + Biology | 100% Nutrition + Mill Mud + Biology | Trash + Biology | NIL |

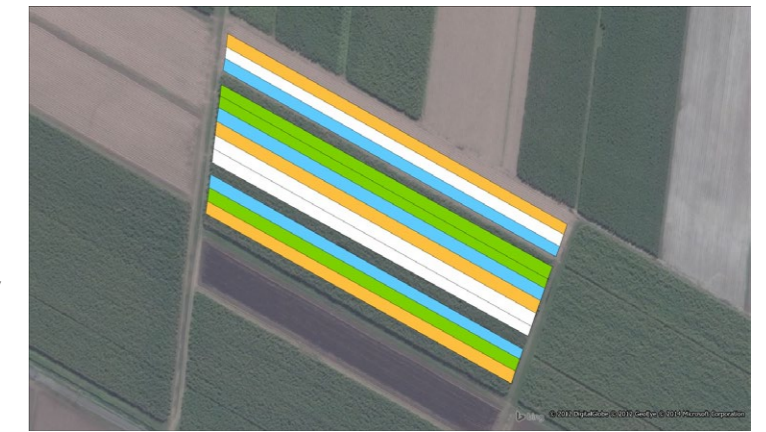
The Proserpine trial was designed to investigate whether or not an available feedstock such as mill mud, in conjunction with applied biology, could sustain higher populations of microbes and what effects might be observed or expected. This trial was applied on Lou Raiteri's farm in Proserpine on the 16th of September 2013.

| Treatment | Description |
|-----------|--|
| 1 | 100% nutrition (160N, 114K, 18S) - Control |
| 2 | 100% nutrition + mill mud banded at 100 t/ha |
| 3 | 100% nutrition + biology applied at 180 l/ha |
| 4 | 100% nutrition + mill mud + biology |

Measurements involve:

- Yield, CCS, tonnes of sugar produces
- Profitability
- Changes in soil chemistry over time
- Changes in soil physical properties over time
- Changes in biological populations over time
- The effect of different feed-stocks on biology

Trials are funded under the SRA GGIP project scheme.



Biology being loaded.



Lui setting up applicator.

A big thanks to Lou and Betty Raiteri for hosting the 2014 Project Catalyst Field Trip.