CASE STUDY

BACKGROUND

Tony has invested in EM soil mapping of his farm over the past 10 years. This hopefully will determine if targeting his annual Pachymetra spore sampling by soil type will provide better information for him to make informed cane variety selections for certain areas.

Generally, Pachymetra soil tests are taken across various random locations and soil types in a paddock, mixed and then set to laboratory for spore counts. However this may give a misrepresentation of Pachymetra pressure, as Pachymetra can be more prevalent in certain soil types. In highly variable paddocks, mixing of the soil dilutes the Pachymetra spores which could produce a result where a susceptible cane variety is planted instead of a resistant variety.

EM mapping is a tool that can potentially be used to locate appropriate Pachymetra soil sampling locations.

The case study paddock has history of above threshold Pachymetra spores (›30,000 per sample) from previous years' sampling.

FOCUS ON

- Confirming the relationship between soil characteristics and Pachymetra pressure.
- Determining if EM mapping a paddock can help decide the most appropriate areas for Pachymetra testing, and whether resistant cane varieties should be planted.

KEY POINTS

- Given the association between soil type and Pachymetra spore counts, it is suggested that growers EM map their paddocks first, and ensure tests are taken from lighter soil types and then develop a Pachymetra action plan from there.

OUTCOMES TO DATE

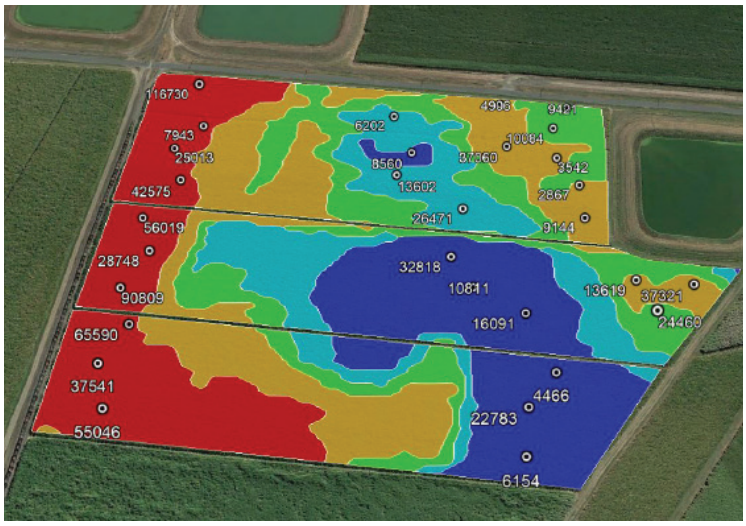
Results from this site indicate the Pachymetra spore numbers were higher in the lighter soil types and lower in the heavier soils, from sample points as identified from the EM map.

Sugar Research Australia indicates that a spore count over 30,000 per sample in fallow yield will result in yield losses if susceptible varieties are planted. However, in resistant varieties such as SP180-1816 and Q183 that the grower had planted, a spore count ›80,000 is the threshold for damage.

Given the association between soil type and Pachymetra spore counts, it is suggested that growers EM map their paddocks first, and ensure tests are taken from lighter soil types and then develop a Pachymetra action plan.

"I have done a lot of work with Reef Catchments over the years, I am doubtful that we would have ever been able to do these trials. It has made things much quicker and easier to progress."

– Tony Bugeja, Landholder



"There is always more things to learn and we have been doing trials for a long time now. Every trial is an ongoing process and this is one no different. We need to put the work in so that the farming industry can progress."

– Tony Bugeja, Landholder

Tony Bugeja owns a 330ha property at Palmyra, and this is where the his current sustainable agriculture trial is being held. Tony has been farming for over half a century, and still lives on the original family block.

The current project is on the Pachymetra fungus, which is a very serious issue for cane farmers in the region. Pachymetra fungus causes the rotting of sugarcane root systems, which leads to significant reductions in growth in susceptible sugarcane varieties.

This results in reduced crop yield and a thinner trash blanket. Thin trash blankets cannot suppress weed germination which leads to increased use of herbicides, particularly residual herbicides.

"It is a little too early to say, but the Pachymetra has a huge impact on our productivity, I believe that we are losing a lot of money because of the lack of cane variety that suitable for Pachymetra."

REEF CATCHMENTS (MACKAY WHITSUNDAY ISAAC) LIMITED

PH (07) 4968 4200
E info@reefcatchments.com

www.reefcatchments.com

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