

# 2011 Mill Mud Nutrient Trials



## Using mill mud with a nutrient program can reduce fertiliser application

### Integrating mill mud into your nutrient program can reduce application rates

Another industry project funded through Reef Rescue aims to better understand what nutrients are available to the cane crop from mill mud when it is applied to paddocks at low rates.

Independent Agricultural Resources (IAR) has been working with Mackay Sugar and AgriServ to run field trials using 0, 50 and 100 tonnes of wet mud per hectare with the aim of quantifying the rates of release of key nutrients and their availability to the crop. The

trials also aim to demonstrate how mill mud can be tailored to be a component of a balanced nutrient program.

Current knowledge is limited as to how mill mud can be used as part of a nutrient program by growers. Understanding the nutrient components of mill mud and how they are available and taken up by the crop will allow growers to include these nutrients in their fertiliser planning, allowing a reduction in fertiliser application rates while maintaining productivity. "If mill mud can be used at low rates through precision application with sound knowledge as to what is

being applied then there is a great opportunity for growers to save money on fertiliser input," said Rob Sluggett from IAR.

This year IAR established five trial sites in two plant cane and three ratoon crops. Unfortunately the two plant cane sites failed due to the wet weather. Testing undertaken included testing the nutrient content of the mud as it was applied and then again during the life of the trial, soil analysis to examine nutrient movement and availability to the crop, leaf analysis of the growing crop was undertaken on several occasions to examine the adequacy of nutrient

Reef Rescue is funded through the federal government's 'Caring for our Country' program.



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uptake by the plant. As a result of the unusually long and heavy wet season, regular sampling of banded mud applied to the stool on one trial site was able to be sampled after 600mm, 1500mm and 3000mm of rain over the season. This will give an improved understanding of how quickly heavy rain can leach nutrient out of the mud. Each remaining trial will be harvested this year with additional soil sampling and residual mud sampling undertaken. This will assist in developing knowledge of what was not taken up by the plant and is remaining in the soil for the following season.

Table 1: Example Nutrient Budget for a Ratoon Trial Site  
The results to date have shown:

Products	Budgeted Mill Mud Nutrient Contribution				Additional Fertiliser Top Up Targets			
	N	P	K	S	N	P	K	S
Banded Mud 100t/ha + top up fertiliser	62	all	30	7	111	0	66	17
Banded Mud 50t/ha + top up fertiliser	31	all	15	3	140	0	80	20
Nil Mud - full fertiliser program	-	-	-	-	170	18	98	24

- Through leaf sampling, adequate nutrient are taken up by the crop
- Mud applied to the top of the stool was more protected from nutrient loss than when applied to the inter-row after rain events
- Nutrient content of mill mud can be inconsistent especially when mixed with ash

“Unfortunately this year the trial sites have been heavily affected by the unusually long wet season,” said Rob. “We have extended the trials for a further year and will be running new sites.”

Much of the information gained from the year, even though heavily affected by rain, will still be useable and valid, however a second year of testing will enable productivity services to advise growers with more confidence as to how mud can complement a nutrient program. The first year has also highlighted some unasked questions such as how much mud gets picked up during harvesting, which will be looked at this year as part of the trials.

## Reef Catchments

Reef Catchments is the regional NRM body who oversees the Reef Rescue program in the Mackay Whitsunday Isaac region on behalf of the federal government.

Contact Chris Dench at Reef Catchments on (07) 4968 4200 or email: [chris.dench@reefcatchments.com.au](mailto:chris.dench@reefcatchments.com.au)  
[www.reefcatchments.com.au](http://www.reefcatchments.com.au)

If you are interested in finding out more about the Mill Mud Nutrient Trials please contact Rob Sluggett of IAR on ph: 0459 688 844  
Email: [robert.john7@bigpond.com](mailto:robert.john7@bigpond.com)

