

2012

# Mud Mill Nutrient Trials



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## Reef Rescue Case Study: Mud Mill Nutrient Trials

Reef Rescue industry funding in the Mackay Whitsunday region has progressed the development of nutrient management guidelines incorporating the use of mill mud.

This new knowledge can be directly applied to A class practices, i.e. banded application using less than 70 tonnes per hectare.

This research was needed to fill gaps in information on mill mud, including how much variation there is in mud nutrient levels coming from a mill and also the variation in mud between mills. Farmacist Pty Ltd were engaged to undertake the necessary field studies and to

develop user guidelines for the use of mill mud.

It is important to establish guidelines for the application of mill mud so that growers can apply at measured rates that offer maximum benefit. With the development of banded applicators mud can be applied directly onto the row rather than spread over the whole paddock. This has reduced application rates by as much as 100 tonnes per hectare. With growers required to report applications of mill mud over 100 tonnes per hectare it is essential for to have confidence in the amount of

nutrient being applied when applied at lower rates.

Having confidence in the rate of nutrients coming from the mud means growers can top up with conventional fertilisers ensuring the cane has adequate nutrients to grow while still complying to '6 Easy Steps' methodology.

This has benefits for both water quality and the grower with only the required amount of nutrient going onto the paddock, meaning that excess is not lost to runoff or deep drainage and the grower won't pay for additional fertiliser that is not used by the plant.

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



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A mill mud truck fitted with side applicators fitted to enable banded application



A mill mud truck at work (above and below)



Banded mill mud sits above the water running off this cane paddock during rain.

## Trial Results

There has been much conjecture as to the variability in relation to the nutrient content of mill mud. Analysis of mud from 2010 and 2011 has shown that while there is variability in mud being produced from any single mill variation might not be as high as first thought, reportedly deviating by less than 10 per cent away from the mean. There was however variation between mills sampled but this was due to some mills producing mill mud only while another mill had a mill mud and boiler ash mix. This variation would need to be taken into consideration when nutrient content calculations are performed. Results from the trials established during 2010 on five properties have shown that lower rates of mud using banded application have no measurable difference on cane quality parameters such as yield, sugar content and dirt levels.

After the collection and analysis of data from the first years trial further knowledge gaps were identified. These included what level of nutrients remain within the mud after a crop cycle and if the mud remaining in the paddock increases dirt levels collected during harvest. Results from the 2011 harvest season have indicated that minimal mill mud remains on the surface prior to the harvest in the year following application. Of the mud collected and analysed, less than 10% of the original content remained on the surface. There have also been some concerns that dirt levels in the cane supply from areas that had mud banded onto the surface may be higher than other areas. Daily dirt levels have been compared between areas with banded mud applied and areas of no mud with results showing that there is no measurable difference in dirt levels from each area.

## New Trial Sites

During 2011/12 Farmacist has established five new trial sites with the aim of further validation of these early results. Results will be available after samples collected from the 2012 harvest have been analysed.

### Reef Catchments

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

Contact the Reef Rescue team at Reef Catchments on (07) 4968 4200 or email: [reception@reefcatchments.com.au](mailto:reception@reefcatchments.com.au)

If you are interested in finding out more about the Reef Rescue funded Mud Mill Trials contact Rob Sluggett from Farmacist.  
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