



# CASE STUDY



“It’s going to take a while for it to show a difference, especially if it stays dry... It’s worthwhile spending the time in the paddock.”

## BACKGROUND

Windsor and Marlene Gordon own ‘Lazy Acres’, a 225 ha cattle property located at Koumala. Previous owners of the neighbouring property had used a Yeoman plough over many years and Windsor had noticed the improvement in pasture growth, water infiltration and soil structure in the areas that had been ploughed, without disturbance to the soil surface that could result in erosion and a reduction in water quality due to runoff.

Windsor and Marlene applied for funding assistance through Reef Catchments to purchase a Yeoman plough to undertake similar operations on their property. The purchase of the Yeoman plough was co-funded through the Australian Government’s Reef Programme with the Gordons also investing funds of their own. Reef Catchments, using funds from the Queensland Government (Queensland Regional Natural Resource Management Investment Program) engaged local agronomists, Farmacist, to conduct trials to assess the benefits of using the Yeoman ripper on the Gordons’ pastures.

## FOCUS ON



- ▶ Assessment of the benefits of using a Yeoman ripper for pasture growth, reduced soil compaction and increased soil microbiology to improve groundcover and water quality entering the Great Barrier Reef Lagoon.
- ▶ Riparian and land type fencing for pasture management
- ▶ Off-stream watering points for stock





# WHAT'S HAPPENING?

The project aims to investigate the benefits of using a Yeoman plough for pasture renovation and improvements in groundcover to reduce sediment runoff into the Great Barrier Reef lagoon. The project will determine the effects that using this implement has on pasture growth, soil compaction and soil microbiology

- The site has two fields. Field One has two control strips and two Yeoman plough strips. Field Two has one control strip and one Yeoman plough strip.
- Control strips have no plough activities undertaken. Yeoman plough strips have had one pass using the plough.
- All strips have been sampled for pasture dry matter yield, soil nutrient levels, organic carbon, soil microbiology and soil bulk density in February and May 2016.
- Follow-up monitoring and sampling will be performed in May 2017.

In November 2016, Reef Catchments held a field day, funded by the Queensland Government, at Windsor and Marlene's property to demonstrate the Yeoman plough trial. This included a presentation of the preliminary results and a ripping demonstration. The field day also provided a demonstration on calibration of a tractor mounted boom spray and spray nozzle selection/performance for application of flupropanate (Kenock, Taskforce) to control Giant Rats Tail Grass. The day was a great opportunity for graziers and industry advisors to share their knowledge on the Yeoman system and also upskill on herbicide application for Giant Rat's Tail grass control.

During 2014-15 Windsor and Marlene also undertook activities (with co-funding from the Australian Government Reef Programme) to implement on farm activities to improve water quality runoff including:

- Riparian fencing to manage stock access to the creek and reduce creek bank erosion
- Installation of off-stream watering points for stock
- Land type fencing to allow for better pasture management

“The biggest benefit, if we get back to a normal wet season, is the aeration and better pasture growth, especially where you have a good area of pangola. The root system gets really thick and tends to stop water going into the soil. The plough can break it up and it really takes off after it's been done.”



## OUTCOMES TO DATE



Due to the short duration of the trial and associated dry weather conditions, results have been inconclusive at this stage. However it is expected over time the use of the Yeoman plough will improve soil structure and soil microbiology resulting in a more competitive and productive pasture. Farmacist will conduct another round of sampling and monitoring at the end of the wet season in May 2017.

### The Gordons demonstration site has highlighted:

- ▶ Effects of the Yeoman plough on soil and pasture health
- ▶ Importance of breaking compaction layers with minimal topsoil disturbance
- ▶ Importance of maintaining a productive pasture cover to reduce the risk of sediment loss to the Great Barrier Reef lagoon



**REEF CATCHMENTS (MACKAY WHITSUNDAY ISAAC) LIMITED**

PH (07) 4968 4200

E [info@reefcatchments.com](mailto:info@reefcatchments.com)

[www.reefcatchments.com](http://www.reefcatchments.com)

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