DIGIFARM PROJECT: Optiweigh Demonstration Site, Maules Creek

Background

The Digifarm Project is funded through the Australian Government Smarter Farming Partnerships which is run as part of the National Landcare Program.

North West Local Land Services and the University of Sydney have teamed up to run a series of demonstration sites across the North West region to showcase the latest in agricultural technology and how it can be adopted into North West Farming Systems.

A component of the project is looking at livestock technologies, specifically in paddock systems for weighing cattle, and how the information collected can be best utilised to provide real time return on investment within local grazing systems.

How does it work?

The Optiweigh system is an easily transportable in-paddock system that accurately measures and records the weight of cattle and performance of the mob over time. It was developed by Bill Mitchell, a grazier from the New England who saw the need to monitor stock weight and daily gain from the paddock within their own grazing enterprise. For more information on the Optiweigh you can visit their website at https://www.optiweigh.com.au/.

A loose lick or molasses-based lick block is generally used as an attractant in the unit to encourage and sustain attendance to the unit over time.

The site at Maules Creek is owned and operated by Ron and Jil Ison. Ron was running 128 trade heifers grazing subtropical pastures on rotation across eight paddocks. We monitored the performance of the heifers over a 16-week period, taking bi-weekly pasture cuts to monitor pasture quality.

> The Optiweigh gave incredible power to Ron's decision making process with his mob of trade heifers, allowing him to forward plan and assess the best options for the mob with no added time, labour or livestock movement, and well in advance of the truck leaving the farm gate.

Pros/cons

Being one of our first demonstrations sites, one of our objectives for this site was simply to test the functionality of the unit, set-up, teething issues and the response of the cattle to the unit in the paddock.

There were a few troubleshooting issues which are mentioned below but these are related to the cattle and environment, rather than the functionality of the unit itself.

The cattle showed a lot of natural inquisitiveness from day one with excellent attendance that was sustained over the life of the project. Over the first 1-2 weeks the cattle spent a lot of time, rubbing, digging and pushing around the unit which led to a large furrow being dug around it. If ground disturbance is a concern, particularly in farmed or levelled paddocks, place the unit on a headland, near water sources and/or shade.

The importance of monitoring the daily email summary was highlighted on a number of occasions; a drop in attendance often meant the attractant needed topping up. Most notably, we noted a significant drop in weight across the mob which was not being reflected in the condition of the cattle. On investigation, we found that mud and small stones had become lodged under the load bars when the unit was moved following rain

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causing the tare weight to drop to -18kg. The issue was easily resolved but resulted in a week of data needing to be removed from the data set and served as a good reminder to check the summaries, and tare weight when near the unit.

Ron collected static weights during routine management practices which showed excellent accuracy when compared to the weights being

recorded by the Optiweigh in the paddock.

Farmer/advisor experience using the technology

We had a very positive user experience with the Optiweigh, from both a producer and advisor perspective, and can see huge potential for the application of in-paddock weigh systems within North West grazing systems.

Clear weather impacts were detected with all drops in ADG that were observed in data linked back to a weather event, we also noted an extended impact on ADG during periods of overcast and rainy weather when small falls of <10mm were recorded over a week. While we knew weather impacted animal performance, the true extent of that impact in terms of both lost gain, and period of influence on ADG became much clearer, and more significant than originally thought.

While in the active growing phase, the pasture quality tested well however, the growth we were seeing in the cattle did not reflect this. We believe this was due to a combination of factors relating to weather, and observed cycling behavior of the heifers. The power of having the Optiweigh in the paddock meant that Ron could see early on that the cattle would not reach target market weights as early as anticipated, giving him the opportunity to discuss market end point with his agent, look at options to split and forward sell the heavier portion of the mob and to explore the cost of supplementing vs extending the period of carry on the trade.

What's next?

Further analysis of the data collected on farm, along with details on the evolving pasture monitoring tools utilised by the university of Sydney are currently being collated and will be released when available.

The Optiweigh unit that was used at this site has now been moved to a property West of Narrabri where we will look at its application in an intensive feedlot operation that is run on farm as part of a mixed cow/calf and trading operation.

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