

DIGIFARM PROJECT UPDATE

Livestock

Background

The Digifarm Project is funded through the Australian Government Smarter Farming Partnerships Program 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 improve management and decision making on farm, providing real time return on investment within local grazing systems.

How does it work?

Through this project we are evaluating two in-paddock weighing systems for cattle, the Optiweigh which is commercially available, and a Walk Over Weigh (WoW) unit. WoW systems are commercially available but the unit we are working with is fitted with new back end software that the University of Sydney is developing which is not currently available to the public.

The Optiweigh system is a transportable in paddock weighing system that accurately measures and records the weight of cattle. 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/>.

The WoW unit is designed as a static unit that is fixed in the paddock with cattle yard panels, generally around a water point. Cattle are scanned and weighed as they walk across the scales each day, sometimes multiple times a day, giving an accurate daily weight for each animal in the mob. It is possible to move the unit if necessary, however it does take additional time and manual handling. We are in the early stages of the WoW project so we have less data to report on at this stage.

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(L) Trade heifers inspecting the Optiweigh unit after it was put in the paddock.
(R) WoW unit set up around a water point.

OPTIWEIGH - What have we learnt so far?

ATTENDANCE & ATTRACTANT

- There is a degree of trial and error around which attractant will work the best and this may change depending on the preference and nutritional needs of the mob. The daily summary is an easy way to monitor attendance, and the need to top up or change the attractant without driving into the paddock to check.
- If livestock feed supplements are being supplied, loose lick, lick blocks etc, place the Optiweigh unit close to where these are fed to encourage attendance at the unit. This also makes it easy to monitor and top up the attractant tub within the unit as necessary.

DAILY SUMMARY & THE IMPORTANCE OF MONITORING THE DATA OUTPUT

The importance of monitoring the daily email summary was highlighted on a number of occasions, most notably:

- We had outlying weights popping up in a mob of trade heifers, on closer inspection it appears that we were picking up riding behaviour, thus weighing a heifer and a half! These outlier weights were influencing the average daily gain so it was important that these outliers were identified and removed from the data set.
- On a separate occasion we noted a significant drop in weights which was not reflected in the condition of the cattle in the paddock. On investigation we found that some mud and small stones had been pushed up under the load bars when the unit was moved following rain. This had caused the tare weight on the scales to drop to -18kg. This was easily resolved but we lost a week of data and this was an important reminder to check the data summary each morning and to physically check the tare weight when at the unit.

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Display on the Optiweigh unit showing a -18kg tare weight.

Farmer/advisor experience using the technology

Overall, our experience with the Optiweigh has been incredibly positive and we see huge potential for use of these systems within the North West to compliment grazing management strategies and improve decision making. They are easy to move, operate and monitor and we have correlated the accuracy of the weights with static weights taken on the cattle during routine management procedures at the yards.

Producer feedback on the WoW so far has shown a preference for using this system with their trade stock and feedlot animals where they want to track ADG for every animal every day, and as an early warning system for sub-clinical disease or injury before clinical disease is seen. Where the unit has been in with heifers retained for breeding we have noted that an Optiweigh would be better suited for monitoring the mob to track ADG and to plan management activities around the heifers achieving target mating weights.

What's next?

- 1) We will continue to move the Optiweigh units around the region to trial them in different production systems and environments; most recently we have placed a unit in a feedlot near Narrabri to evaluate its application in intensive and confinement feeding situations.
- 2) The Optiweigh was trialled in a mob of cows and calves near Werris Creek, we found the older cows weren't interested in attending regardless of the attractant used, but the calves became more inquisitive as they neared weaning age with good attendance after weaning. The heifers from this mob have been retained as future breeders so we will follow them through with the Optiweigh to see if exposure to the unit as a form of novel stimuli as calves improves attendance when they have their own calves at foot.

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- 3) An Optiweigh and a WoW unit are currently in a side by side trail in a commercial grazing and trading operation at Boggabri. This is a great opportunity to evaluate the data output each unit gives from the same mob, and to provide real world comparisons of the two units which we hope will help producers considering investing in an in paddock weigh system, determine which unit has the potential to provide the best ROI for their operation.

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