# E-Beef and GrazingFutures Case Study
## *ReproScan technology to boost breeder performance and profit*

Innovative producers are utilizing ultrasound technologies for pregnancy testing in beef cattle to diagnose early pregnancies, perform accurate fetal ageing, determine sex, reduce costs, and improve breeder productivity.

The E-Beef Smart and Grazing Futures projects introduce innovative technologies to support beef producers make more informed herd, land and business management decisions. Pregnancy testing and foetal ageing enable extensive beef producers to improve weaning rates and business resilience in the face of seasonal variability and drought. On the 25th and 26th August 2020, members of the Mount Surprise E-Beef Producer Innovation Hub gathered at Ooralat Station, approximately 40 km west of the Mt Surprise Township. These E-Beef Producer Hubs include like-minded graziers that come together to network, collaborate, and share ideas on the key challenges and opportunities in their beef businesses.

The *Reproscan* Technology training workshop was hosted over two days and graziers were able to try their hand at using the *Reproscan* unit, with more than 200 cattle being preg-tested (pregnancy tested). Collin Hammond, the Managing Director of Catagra Group who sell the units, led the event and introduced the Producer Group members to this new tool that can improve both their herd management and financial performance. Integral to the technology training was a session detailing how preg-testing data can be practically used to identify nonperformers, segregate mobs and improve overall reproduction efficiencies.

### Why pregnancy test in the first place?

Pregnancy testing of breeder cattle is an incredibly important management tool in monitoring reproductive efficiency and detecting problems early in the breeding cycle. Along with improved growth and mortality rates, the key to profitability for extensive beef breeding enterprises maximizing weaning rates. In the Northern Gulf region, an area dominated by breeding operations, the capacity for producers to accurately and effectively diagnose pregnancy status vital in segregating cows and managing them according to their nutritional requirements. Preg-testing allows producers to: identify non-performing breeders and heifers for culling and better marketing opportunities; manage surplus females; identify productive breeders; and reduce feed and mustering costs. However manual preg-testing (via rectal palpation), and particularly fetal aging, is notoriously difficult for most producers to accurately perform given their limited practice each year. Easy-to-use ultrasound scanning will increase the industry uptake of preg-testing across the northern rangelands.

### What is the Reproscan Unit?

The *ReproScan* preg-testing unit is an ultrasound scanner that is a non-invasive, innovative convex probe that offers an alternative to manual rectal palpation. The advanced *Reproscan* technology allows producers who are new to, or lack confidence in manual methods, to rapidly develop their preg-testing skills and accuracy. Within days, producers are able to use *ReproScan* to identify pregnant versus non-pregnant females, fetal age as early as 4-weeks and even determine the sex of the growing fetus.

## Workshop overview

This event was coordinated by the Northern Gulf Resource Management Group (NGRMG) in partnership with the Department of Agriculture & Fisheries (DAF) to showcase innovative ultrasound technology and demonstrate its benefit to northern beef producers. In particular, the training aimed to demonstrate:

1. A simple Preg-test method cattle to help producers make informed decisions on pregnant and non-pregnant cows.
2. Diagnosis of early pregnancies and the ability to accurately age a fetus by trimester.



The producers in attendance remarked on how simple the unit was to use, and how preg-testing with the *ReproScan* was far less invasive to the animal. Producers also remarked that they felt more confident diagnosing early pregnancies using the unit, which they wouldn't have been able to do using rectal palpation.

*Day 1:*

The first day started in the yards with a practical introduction to the technology from Colin, followed immediately by producers having the opportunity to get their hands on a *ReproScan* unit. This first session was about becoming comfortable with the Probe and improving the attendees' confidence in locating the uterus and beginning to determine pregnant versus non-pregnant.

The Producer Group members then escaped the heat of the day, retiring back to the Ooralat homestead for *smoko* and a short theory component conducted by Colin that included a Q&A session prior to lunch.

After lunch Russell Lethbridge of Werrington Station, a highly respected beef producer and a board member of Meat and Livestock Australia (MLA), discussed the benefits of preg-testing cows and heifers on extensive breeding operations in north Queensland. He articulated exactly how *Reproscan* could be integrated into existing beef operations and improve herd management practices in the region.

Russel explained how this technology can be an incredibly useful in determining overall breeder performance, enabling producers to achieve higher reproduction rates and improved financial performance. Russel delivered a number of sobering facts to the group, most notably that across Northern Australia the average breeder delivers just 3 calves in her lifetime before being culled at 10 years in most cases. Accurate preg-testing with new industry tools such as the *Reproscan is essential to lift these poor reproductive rates.* Russell described the importance of segregating breeders and caring for them according to their needs. For example, he spoke about the importance of looking after joiner heifers to ensure they are given the best opportunity to fall pregnant, give birth and care for their first calf. Russel also stressed the importance of managing joining periods to calve at the optimum time of the season which maximizes energy and protein supply to the cow-calf unit.



The day wrapped up with more hands-on training which saw all participants improve their ability to distinguish 'in calf' and 'empty' cows.

**Day 2:**

By early day two the group proved more than capable of determining pregnancies. Colin then encouraged the group to focus on ageing the pregnancies into trimesters, which all participants picked up quickly. In addition to the crush-mounted screen there was an additional monitor set up in the yards for other producers to watch and evaluate pregnancy and foetal age for themselves. This kept all attendees actively engaged at all times and continuing to *'get their eye in'* even when not controlling the probe themselves.

Foetal ageing during preg-testing is incredibly valuable in Identifying calving windows and guiding herd management and segregation decisions. Cows at different stages of pregnancy and lactation have particular nutritional requirements and ideally producers can manage supplementation, paddock selection and stocking rates accordingly.

By the end of day two everyone was confident at identifying pregnant and empty cows and could classify pregnancies into trimesters.

## In Summary

This 2-day training workshop exemplified why the Producer Innovation Hubs were initially developed and industry benefits of the E-Beef and GrazingFutures partnership exist. The event brought together producers from throughout the region into an environment that encouraged peer-to-peer learning. This training laid the foundations for producers to develop new skills and knowledge, with support not only from industry leaders such as Colin and Russell, but from each other.

The event was designed to break down the major barriers that so often inhibit the uptake of new tools and technologies on extensive grazing properties namely: inexperience, lack of time, skills and confidence; and the perception that it's all too costly. After just a few days of practise, producers can quickly and confidently use *Reproscan* to capture pregnancy data across their operation. This information then guides management decisions vital to increasing productivity, profitability and business resilience.

"The ReproScan Ultrasound preg testing was a great event. A big thanks to Kevin and Shelly Taylor for their hospitality and supplying a lovely line of cattle for the 2-days of preg-testing. The ReproScan Ultrasound tool is an unbelievable initiative for cattle producers. In no time, all the participants were able to confidently preg-test and foetal age a calf. The tool was not causing the cattle discomfort and was easy to operate for both female and male operators. Very accurate to diagnose a cow in very early stages of pregnancy. The ReproScan would suit any cattle enterprise once you can justify the initial outlay to purchase one."

**David, Yappar River Station.**

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