Project summary

Effective Rangeland eID Decision-Making Systems

Overview

The Producers Demonstration Site Project 'Effective Rangeland eID Decision Making Systems' running from 2021 until 2022 showed the potential of utilising individual animal management systems through electronic identification tools to improve the effectiveness of decision-making in the rangeland regions of Australia.

Background

The project was instigated prior to eID becoming compulsory in the regions concerned. It was predominantly related to utilising eID to optimise management decision-making rather than traceability throughout the supply chain. Key to the project was how decision-making can be enhanced with the utilisation of eID rather than simply the methodology to utilise the capture of that data.

Individual animal management has been slow to emerge in the rangeland regions. This is due to several factors, such as labour, seasonality in conditions and the sheer scale of operations. For these reasons, any eID framework utilised in the rangelands should be well leveraged upon these key factors.

The demonstration

The demonstration took place across several sites in the Western Division Region of New South Wales. Typically, these enterprises cover a vast area in lower rainfall districts of less than 250mm per annum.

The demonstrations ranged from data collected on smaller enterprises of around 1,000 ewes joined annually to over 4,000, encompassing Merino and Shedding breed systems.

Seasonal conditions remained good to excellent during the demonstration, albeit with significant rainfall events causing challenges around joining and parasitic presence.

The project showed significant variance in the potential productivity of individual animals. Some Dorper ewes demonstrated their ability to raise multiple births three times in two years. Others, however, failed to conceive and rear a single lamb.

Individually identifying ewe lambs also provided interesting insights. There was a significant variance in the ability of ewe lambs to conceive when analysed in Shedding breeds. Given the pricing in mutton markets, this may present an opportunity for producers to class out lower-performing animals rather than doing so as a more mature mutton class ewe.

Figure 1 A basic wand reader can prove an incredibly cost-effective method of capturing eID Data.

Capture of data

Data was captured during the project, utilising cost-effective methods. A wand reader and leveraging pregnancy scanners equipment to provide fertility data was the cornerstone of the data capture process.

Pregnancy scanners captured data in line with their traditional methods and sent the data file that evening to the producer. Lambed and lost data was collected during lamb marking where dry ewes were recorded utilising a wand reader.

Data was stored using a simple spreadsheet system, however there are several off the shelf individual animal management systems available to producers. Whatever system is being utilised it is important that producers maintain the integrity and security around their data.

Decision-making utilising data

After data was captured, it was leveraged to decide which ewes were prioritised for culling when seasonal conditions made it relevant to do so.

As seasonal conditions began to deteriorate in 2023, ewes that had been recorded as either not conceiving within the parameters or not rearing within the given parameters were selected to be marketed.

In some situations, producers may take some time to utilise their data to make decisions. For instance, some individual data sets may need to be leveraged against other data sets to be able to utilise in sound decision making. For example, bringing together ewe age, scanning data and lambs lost data to identify higher-performing ewes to maintain within the flock.

Key outcomes

- eID may be used as a cost-effective tool that can potentially increase productivity in a rangeland grazing system.
- Fertility traits are a key profit driver that eID will help to enhance in a cost-effective manner.
- It may take some time to utilise the data involved in eID for decision-making, with, for example, multiple joinings required to build an accurate narrative.
- Given that some areas have labour challenges, autodrafting technology may help improve livestock handling efficiency.

Things to consider

- Is your current flock at a level where it can benefit from eID?
- What relationships can you leverage to improve the ease of your eID program?
- Decision-making must occur in the context of your enterprise's ability to manage changes.
- In some instances, producers will need to accept some minor imperfections in data. This shouldn't be seen as disheartening, but attempts should be made to minimise these errors or misreads.

Additional Resources

- PDS: Using eID to improve ewe performance | Meat & Livestock Australia (mla.com.au)
- Maximising the value of eID technology for sheep producers | Meat & Livestock Australia (mla.com.au)
- eID saving time and money | Meat & Livestock Australia (mla.com.au)
- Should I invest in sheep eID? | Meat & Livestock Australia (mla.com.au)

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