

DELIVERING METHANE-REDUCING ADDITIVES TO GRAZING SHEEP

There are a range of additives being developed to reduce sheep methane emissions and their effectiveness relies on consistent and frequent consumption by all sheep. This is challenging in extensive grazing systems where some animals eat too much, some the right amount and some not enough.

Project Overview

Using automated radio frequency identification (RFID) technology on commonly used self-feeders to assess and refine the delivery of supplements and methane reducing additives in extensive grazing situations.

Project Outcomes

- Evaluate and demonstrate the feasibility of using RFID technologies for capturing individual variability in attendance and feeding patterns simultaneously within group feeding situations
- Understanding what influences this feeding behaviour at high and low volume feeders to inform the design of more effective delivery and management of supplements and additives

Industry Impacts

More effective delivery of additives and the supplements used as carriers, will result in more efficient reductions in methane and more productive sheep generally.



Current Research (MERiL 3.2)

- Targeting "win-win" solutions for delivering combinations of sheep feed additives for improving methane abatement and productivity
- Further assessment of RFID technology.
- Assessing impact of mob size on variability of attendance for grain lick feeders, loose lick feeders and lick blocks
- Assessing the rate of intake – how much individuals eat in a certain time frame, with the potential to estimate consumption by time spent feeding.
- Assess if visitation patterns change when using some key additives.
- Assess relationship between water and supplement intake.

Previous Research (MERiL stage 2)

- Low Frequency (LF) and ultra-high frequency (UHF) RFID systems specifically integrated into lick and looselick feeders capture individual visit duration and pattern
- The technologies are suited for both lower-volume supplements (eg salt) and higher-volume supplements (eg pellets, grain) as carriers for anti-methanogenic additives in grazing systems
- There is a high association between time spent at the feeder and the number of visits
- There was significant variability between individual animals in time spent and attendance
- Feeding patterns were influenced by weather variables and attendance to water troughs
- These integrated RFID systems are an effective tool for monitoring the delivery of antimethanogenic additives in grazing conditions and for understanding and addressing factors affecting supplement intake.

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