

Using Electronic ID (eID) in Sheep Breeding and Management - Making the technology work for you

Electronic identification (eID) using Radio Frequency Identification (RFID) tags is widespread within Australia's cattle industry and increasing within the sheep industry. The use of eID allows each individual in a flock to be measured and monitored throughout its lifetime using electronic data capture.

Electronic Identification has applications within both commercial and stud sheep production systems. Within commercial sheep enterprises eID introduces an entirely new level of management precision based upon individual animals. For the stud breeder, performance recording using electronic identification enables the collection of vast amounts of data more accurately and more efficiently. There is significant potential for labour savings through improved animal handling as well as data collection, analysis and decision making.

Over the past three years of commercial use of eID, growers have refined their techniques to get the full benefit from the technology, by identifying animals with different levels of productivity.

Table 1.1 below shows the variability in productivity that exists within a merino flock and how this can affect the profitability on a per ewe basis. With the current high prices for meat and wool, the benefits would be even greater than are indicated with these long term average prices.

Table 1.1: Spread of Variability within a Merino Flock

Trait	Production level of flock:		
	Top 25%	Average	Bottom 25%
Wool Traits:			
Clean Fleece Weight (kg)	5.3	4.6	3.9
Fibre Diameter (µm)	18.9	20.4	21.9
Staple Strength (N/ktex)	35	35	28
Meat Traits:			
Growth rate (g/day)	357	284	200
Fat depth (mm)	8.9	10.6	12.5
Reproduction:			
Lambs weaned per ewe joined	1.43	0.86	0.28
Profitability traits:			
Fleece value per ewe (\$)	82	54	37
Carcase value per ewe (\$)	56	33	12

Source: Atkins, Richards and Sample 2006



By identifying the highly productive ewes for retention in the breeding flock and culling or joining the lowest performing 25% to terminal sires, a producer can significantly improve the genetic value and long term earning potential of the next generation of sheep.

As with precision farming in the cropping industry, collection of production data is the first step, but equally important is the analysis of the raw data to a point where constructive management decisions can be made using that information to move the enterprise forward in terms of efficiency or productivity.

Collecting data becomes effective when it can be done with minimal costs, at a time when animals would be in the yards for an existing operation, such as crutching or drenching. This minimises the need for unnecessary mustering and labour inputs, as well as reducing the time animals are held off pasture.

Remote Tools

New tools that have become available through the eID systems include walk over weighing and pedigree match maker. These are systems designed to collect data in the paddock and provide information to assist producers to monitor production levels.

Walk over weighing provides a weighing system suitable to intensive operations such as feedlots or extensive grazing operations where regular yarding for weighing is not appropriate.

- Remote weighing system
- Sheep weigh themselves
- Requires data analysis
- Requires animal training



Pedigree matchmaker is a system that records association of ewes with their lambs by recording their RFID tag as they move onto an area such as a water point, lick or other attractant. With more and more seed stock producers using this system, it is possible to match over 95% of lambs to their mother in less than 4 weeks. This becomes valuable to both seedstock and commercial producers as they can use this data to identify their more efficient breeding ewes to ensure they are maintained in the breeding flock, but also to identify their ewe progeny as preferred genetics in the next generation of breeding ewes.

- Results must be analyzed by an accredited service provider
- Animal training is vital to success!
- Must find a suitable attractant for the circumstances
- 4-6 week collection period



The Sheep CRC in partnership with TAFE Western are delivering short courses in this eID technology to assist interested people to explore the opportunities and to design a customised eID plan for their own operation.

Using eID in Sheep Breeding and Management is structured to maximise knowledge retention, skills development and practice change. The program involves professional facilitation of discussion groups, practice by doing, on-farm demonstration and teaching others.

Objectives

The objectives of *Using eID in Sheep Breeding* are to:

- Review the use of RFID tags within the sheep enterprise
- Understand the challenges associated with eID and the solutions
- Set objectives for your sheep enterprise and evaluate your current use of eID
- Increase understanding of data capture.
- Manipulate and interpret data
- Define management strategies to effectively utilise this information

- Provide the producer with resources and contacts for trouble shooting data collection and manipulation
- Refine the use of data within your supply chain

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