

Managing Merinos with eID in the Southern Flinders



Enterprise snapshot

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| Owners | David and Chloe Clarke and parents Ian and Susan Clarke |
| Property name | Clarisglen, South Australia |
| Location | Multiple sites between Wirrabara and Hammond, South Australia |
| Size | 1,600 ha |
| Brief enterprise description | A self-replacing merino flock based on 500 - 650 ewes, and a cropping program of 1,100 ha with cereals, legumes and canola. |
| Number of employees | 2 full time |
| Average annual rainfall | 290 - 450 mm |
| eID data being used | Pregnancy scanning status of all ewes, birth mob and weaning, post weaning and yearling weight for ewe lambs. |

Background

The Clarke family own five properties across a distance of approximately 50 km. Rainfall ranges from 450 mm at their southern-most property near Wirrabara, to 290 mm at the northern-most property near Hammond.

Ian and Susan Clarke have been farm managers since 1988 with their son, David, coming into the business full time in 2013. David gradually began taking over responsibility for managing the cropping program, with the livestock program management transition beginning in 2017.

The business generates more than three quarters of its income from cropping and the remainder from the sheep enterprise. The sheep are managed to fit around the cropping program, with the flock being based on 500 to 650 self-replacing Merino ewes.

Sheep are run as two big mobs for most of the year, with mob size being reduced to below 100

during lambing for ewes with multiples. Single bearing ewes are generally run as a single mob of up to 300. Ewes are typically mated in March and April and are pregnancy scanned 80 to 100 days post joining.

In 2021, the Clarkes commenced tagging their ewe lambs with electronic identification (eID) after attending an eID information day organised by Upper North Farming Systems group in 2020.

They have approached eID adoption from the perspective of starting as simply as possible to address their key needs, and then slowly adding improvement goals and associated data collection over a period of a few years.

This case study gives an insight into the Clarke's use of eID to support decision making to achieve their livestock goals and increase the flexibility of managing mobs around their cropping program.



Figure 1: Dave Clarke at Clarisglen

What improvements were the Clarks looking for that are supported by use of eID related data?

- Higher scanning and lambing rates (in particular, getting dries to below 5%)
- Reliable individual animal identification, to enable boxing and splitting of mobs at different times
- Reliable tracking of individual ewes breeding performance across multiple years
- Fast growth rates in lambs
- Best use of available feed

Using eID for data collection

Whilst eID tags were first applied to ewe lambs in 2021, basic data collection didn't commence until 2022, when the Clarke's purchased a stick reader and began pregnancy scanning ewes from that year. Weighing equipment was then purchased in 2023 and they began collecting weight data for ewes, followed by wether lambs in late 2024.

Types of eID related data being collected are:

- pregnancy scanning results - multiples, singles, dries
- birth status of ewe lambs - twins, singles
- ewe lamb weights at weaning, and opportunistically at other times
- occurrence of fly-strike and high dag scores
- paddock of birth.

Data is collected using a Gallagher HR4 stick reader and a set of wireless load bars installed on a Combi Clamp handler. Data is sent via Bluetooth to a Gallagher animal performance application installed on a smart phone. The app has similar functionality to a scale indicator without the upfront cost, however, there is a monthly subscription fee for the app.

The equipment purchased was chosen on the basis of:

- having the desired functionality
- mid-range price
- simple setup that gets the job done
- lower upfront cost.

David recommends assessing different brands before purchasing equipment. It is worthwhile considering the merits of all the components of the system you intend to use as it can be difficult to integrate components from different brands, he explains.



Figure 2: Gallagher HR4 stick reader

There are no plans to get additional eID equipment as they don't operate at a big enough scale to economically justify the use of items such as an auto-drafter.

Data collection outside of pregnancy scanning is arranged around other activities. Birth status of ewes is collected at marking, by reading eID tags of singles and twins in their separate mobs. Weight data is collected at weaning and shearing. Collecting data has not created any additional labour requirements.

Data is transferred into excel spreadsheets on a 'year of birth' basis, creating sets of data for different age groups for ewes. Data in the form of drafting lists is also stored and retrieved from the Gallagher app as needed, in the yards to guide manual drafting.

David says that his experience of initially setting up and using the eID equipment was pretty good. He received good after sales support from his local reseller, in particular. A major limitation with collecting weight data has been the distances between the properties across which the sheep are run since the weigh equipment is fixed at the main yards at the shearing shed.

How has eID technology helped them achieve their livestock goals?

Stock management

Electronic identification of ewes bearing twins and singles at scanning, means all stock can be boxed together into one big mob immediately following scanning for greater ease of management. They can then be reliably separated three to six weeks prior to lambing into twin and single mobs for better lambing outcomes.

Prior to implementing eID, groups had to be kept separate from scanning through to lambing. This made livestock management tasks, such as shearing or

moving between paddocks, more complicated and time consuming. The use of eID has provided the Clarkes with an easier way to work their livestock enterprise around the demands of their cropping program.

Increasing lambing percentage

One of the key drivers for taking up pregnancy scanning in 2019 was to increase lambing percentage. The Clarkes had found they were having too many dry ewes in their flock and identifying and removing them early produced an immediate and significant improvement. The use of eID tags since 2021 has subsequently enabled dry maiden ewes to be easily identified and potentially kept for a further year before being sold if they scan dry a second time, as opposed to older ewes which are sold off following being identified as dry.

Implementing pregnancy scanning also revealed a 40% loss between scanning rate and lambing percentage. Closing that gap has been a priority, and using eID to simplify the management of ewes based on their pregnancy status is contributing to this improvement. Twin bearing ewes are given supplementary feeding where possible, from the time they are separated from singles up until lambs are 10 - 12 weeks old.

Keeping records of pregnancy status for individuals has enabled David to build up a lifetime reproductive performance profile for each ewe and this is an important aid in deciding which ewes are kept and which are culled. Ewes that have twinned are retained to an older age than singles, while dries (apart from maiden ewes) are immediately removed. Ewes that have only born singles have a higher culling pressure applied at all age stages.

Lambing percentage has improved by about 20% over the past five years, mostly by removing unproductive dry ewes, but also as a result of retaining and breeding from twin bearing ewes for longer, and managing the nutrition of twin bearing ewes to improve their foetal survival rate.



Figure 3: Combi Clamp handler



Figure 4: Gallagher wireless load bars (on Combi Clamp handler)

Monitoring weight gain

David began recording average daily weight gain to provide data to identify poorer performing ewe lambs for earlier removal as lambs rather than hoggets. Since 2024, all lambs are now being eID tagged and monitored for weight gain. Data collected is being used to aid decision making for which animals in the containment feeding yards, especially in difficult dry times, can be pushed to finishing weight quickly and sold, versus those that will be put onto maintenance and finished later in the year when better feed is likely to be available.

David is also using weight data to monitor for the prevalence of oversize animals. Whilst good weight gain and easier attainment of ideal finishing weights in lambs is desirable, increasing the incidence of oversize breeders creates problems for animal management, such as at shearing, and he wants to make sure their numbers do not increase. Decision making of this nature helps to allocate feed resources effectively, maximising profit and simplifying management.

The wand reader is used any time sheep are in the yards to identify ewes that have high dag scores and also to record those that have been treated for fly-strike, and these go on a list for subsequent culling.

The use of individual animal data makes deciding which sheep stay, which go and when they go, a more certain process than using just visual classing and age alone. This has particular significance in difficult seasons when efficient management of feed becomes critical for profitability.



Future plans

David has done two rounds of flock profile DNA testing, and based on the results, has begun to apply selection pressure for eye muscle depth and fat to improve stock resilience.

Recording weaning weight and post weaning weights against birth status may also be undertaken in future to better assess feed conversion efficiency.



Advice for producers commencing with eID

David's advice for starters is:

- Start small and simple. Collect a small amount of data to begin with - don't swamp yourself.
- Don't be afraid to get data management/ use advice from a consultant. Value your own time properly to understand the value a consultant can bring. They can complete tasks much more quickly.
- Always create a backup copy of original data before doing significant changes. Avoid creating self-inflicted office-based problems.
- Remember to get the Bucket File that accompanies your eID tags from the manufacturer. Tick that box!

More information

This case study is an initiative of eID Advantage Program from the Government of South Australia, supported by Meat and Livestock Australia and AWI Extension SA.

For more information visit pir.sa.gov.au/eid

