



Best practice sheep management and AgTech use at Mentara Park

Focus Farm case study

The Eckert family's commercial sheep operation is already well-run, but is now exploring what electronic identification (eID) and data-based decision making can offer to further improve the enterprise.

Enterprise snapshot

Owners: DA and GM Eckert, sons Matt and Tim and daughter Alysha

Property name: Mentara Park

Location: Malinong, Coorong District, SA

Size: 6,000 ha

Brief enterprise description: Mixed crop and livestock operation with 3,200 Merino ewes joined to Merino and Border Leicester rams, and a cropping program focussed on wheat, barley, legumes and hay

Number of employees: 7.5 full-time (2 full-time equivalents on livestock)

Average annual rainfall: 450 mm

Background

David and Gwenda Eckert, together with sons Tim and Matt and daughter Alysha, farm 'Mentara Park' at Malinong in the Upper South East. The enterprise is based on a self-replacing flock of 3,200 Merino ewes targeting 18-20 micron wool production, the sale of first-cross lambs from older ewes, plus 3,400 ha of wheat, barley, legumes and hay crop.

This case study focuses on the Eckerts' use of livestock AgTech, and their current efforts to start using eID and individual animal data in flock management.

What improvements are the Eckerts looking for?

- Reduce labour associated with monitoring stock water
- Safer working environment for staff
- Better flock reproductive performance
- Ongoing improvement in wool quality and cut without increasing ewe size
- Simpler way of removing less-productive sheep from their flock
- Reduce requirement for heavy labour in sheep handling.

What have they adopted?

- Water meter monitors
- Safe Ag Systems app for farm safety and machinery maintenance
- Pregnancy scanning for multiples
- eID of all lambs
- BreedElite sheep handler and data management system.

Technologies in use

Safe Ag System software

With the Eckerts' enterprise expanding over the past decade to include extra staff and machinery, the family now routinely uses the Safe Ag software platform and service. The software keeps track of servicing and servicing needs on all machinery, plus helps with workplace health and safety by allowing location tracking of staff via their smartphones.

Pregnancy scanning

To date, the Eckerts have not pregnancy scanned their ewes. However, this year all ewes will be scanned for litter size, enabling ewes to be divided into those bearing singles, multiples or dry (not pregnant). The feeding of ewes will be based on actual nutritional requirements. Multiples will be fed additional grain and run in smaller mobs in paddocks with extra feed and shelter to improve twin survival. Conversely, singles will be fed less, which should reduce dystocia (lambing difficulty). David is interested to see if scanning for multiples leads to an overall improvement in lambing rate.

Water monitoring

Mains water from SA Water is used for stock water at Mentara Park. Recently, Alpha Group Consulting installed water meter monitors to keep track of water use, with daily updates of minimum and maximum use sent by SMS. Alerts are also given if usage is outside threshold values: a high minimum or maximum indicates a likely leak, while a low maximum suggests a problem with water supply.

The main benefits of the system, according to David, are early detection of water leaks, and peace of mind in seeing expected water use, indicating stock are drinking normally.

Detection and repair of minor leaks is also possible by switching off different lines over successive nights, with water savings from minor leaks generally paying for the monitoring system within a couple of years. In the Eckerts' case, water monitoring has led to an approximate 50% saving in water bills (i.e. an average reduction from \$3,000 to \$1,500 per quarter).

Trials of new technology

SA sire evaluation trials

This year, the Eckerts are hosting the SA Merino Sire Evaluation Trial. In this trial, 900 young ewes of consistent type are divided into 15 groups of about 60 ewes, with each group joined to one of 15 sires, from a different studs. Progeny are assessed for measured and visual traits, evaluating the progeny performance of each sire.

David is happy to host the trial on the basis that it will give an indication of how different sheep genetics perform in his environment, plus expose him and his family to more sheep technology.

Autodrafter, eID and individual animal management

The Eckerts will be using eID and individual performance recording for the first time as part of the trial, putting electronic eartags in trial ewes and their lambs, using DNA testing to progeny-match lambs to ewes, and following a wide range of traits in lambs to evaluate sires.

In addition, all other ewe lambs on the property will receive eID this year. In the Eckerts' commercial ewe lambs, birth status (single or multiple) will be recorded, as well as live weight at different stages and wool cut and quality as hoggets.

The Eckerts have recently made the decision to buy a BreedElite autodrafter equipped with eID panel reader for use drafting trial sheep and eventually to draft their own sheep. Once the trial is finished, the Eckerts anticipate using the autodrafter to sort hoggets based on wool traits, birth status and body weight. Over time, the drafter will also be used to draft out adult culls based on performance issues (e.g. twice dry ewes, udder problems or age). For this, the Eckerts will be using data-management support and consultancy from BreedElite.

David urges others to get involved in field days, groups and trials.

“You can live in your world too much,” he said. “Talking, learning and expanding networks can really help you to refine management and improve the way you farm. Getting involved in the SA Merino Sire Evaluation Trial should help us learn how to use technology in our sheep business.”

Other management practices

- Pure lucerne is sown in each paddock after the cropping phase, with veldt grass allowed to re-establish from the seed bank in the second year.
- Pastures are rotationally grazed, with the Eckerts relying on visual assessment to gauge when to shift sheep. Most paddocks are 30 ha and sheep are mostly run in mobs of 300 to 400, except during lambing.
- Lambs are shorn at six months, and every six months (April and October) until 2.5 years of age, after which they are shorn yearly. According to David, wool income is not necessarily better with six-monthly shearing as the fleeces do not always reach optimal staple length by April, but there are other benefits:
 - more opportunities to backline for lice
 - reduced need to crutch
 - less flystrike
 - reduced need to drench (the Eckerts only drench adult sheep once per year)
 - better ewe performance at lambing.
- To-date, a professional classer has been used to select Merino replacements each year based on visual assessment, with surplus females and wethers sold to abattoirs or restockers. With eID and the input of BreedElite, sheep selection will be driven by individual data.

- Older ewes (5.5-year-olds) are joined to Border Leicester rams, targeting first-cross ewe sales at Keith, where the Eckerts attract a strong following.

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