Our experience with sheep eID

By Fiona Conroy, Knewleave Partnership

Background

My husband, Cam Nicholson, and I run a performance-recorded self-replacing Angus herd and a self-replacing superfine Merino flock at St Leonards on the Bellarine in Victoria. We have been using KoolCollect (Sapien Technology) as a management program for our Angus herd for almost 20 years. Our subscription for cattle is $305/quarter plus $85 second species (sheep).

We have used eID for management extensively in cattle as part of Team Te Mania progeny testing for recording individual:

- Weights – birth, 200-day, 400-day, mature cow weight
- Joining details, AI and natural/pedigrees
- Pregnancy test results, calving ease, gestation length
- 400-day scanning- fat, EMA, IMF
- Breedplan uploads and downloads
- Angus society registrations
- Uploading carcass data
- Treatments (batch numbers, ESI/WHP) - great for audits
- NLIS database transfers
- More recently, we purchased an Optiweigh to get real-time grazing performance.

We initially started with a wand and now have infrastructure with eID readers, etc., and are using an app for calving with a calf management tag linked to eID tag number, via a tag bucket.

Good infrastructure makes recording easy, and good data helps make better decisions.

Image 1. Fiona with part of her Angus herd. Source – Stock and Land.

Why use eID in our commercial wool flock - how we started

We had to use eID tags in sheep with legislation starting in 2017 and knew there were benefits. There was minimal additional cost for getting sheep added to the existing software program; we already had a wand and a weigh crate, and thought, 'this should be easy'?

We identified a few simple measures to start with - micron, fleece weight, and reproduction – as linked to productivity. The thought was simple - better data on individuals in the flock could help make decisions about management and genetics (had been using the flock profile test to get a genetic snapshot of this anyway).

PDS Project

The MLA Producer Demonstration Site project in 2020/2021 was an opportunity to have a go. We opted to look at individual fleece weights and mid-side micron as a starting point.

We used ewe hoggets, weighed them before shearing and off shears and weighed fleeces in the shed to see if there was a correlation (the end result was there wasn't – if you want fleece weights, then weigh fleeces). We also sprayed a dot on the mid side of each ewe just before they went into the shed as a point for mid side samples.

We used a contractor in the shed who had a wand, barcode printer and fleece weighing table – each eID tag was scanned – two barcodes were printed out per sheep - those barcodes followed the fleece (minus bellies) to the scales where the weight was recorded against the barcode. The fleece was then thrown on the table, and one barcode was then bagged with the mid-side sample, and the second barcode went into a bucket next to the wool line that the fleece went in.

Jack Briscoe charged approximately $50 an hour for the barcode printing and fleece weighing and was effectively an extra person in the shed. He scanned the barcodes of the fleece lines and emailed a file to Riverina Wool Testers (RWT), who tested the individual mid-side samples. I then emailed them the off-shears body weight, and RWT could generate an index and send back an Excel file and rankings.

It was a huge first step in getting data on sheep and showed enormous variation between sheep: 14-19 micron, 2.5-6.3 kg wool cut and off shears liveweight 30.5-55 kg. While some of the extremes were explainable, some of the links between fleece weights, micron and body weight were surprising. While visual classing would pick some of these variations, it wouldn't do everything.

It also highlighted that there was a problem in what we did because we couldn't differentiate between single and twin-born hoggets and selecting for fleece micron and fleece weight would disadvantage twin-born sheep. Lifetime Wool research shows that Merinos born as twins can be 0.3 micron broader and cut 0.3 kg less clean wool, so we needed to know a bit more to make informed decisions, but we now felt comfortable collecting the data.

Next steps

The year after the PDS, we purchased a Te Pari handler – primarily to make sheep work easier but also to record weights and really make the most of eID through auto drafting.

We now record pregnancy scanning results against ewe eIDs and have for several years. It has shown that some ewes consistently scan for twins and others consistently scan for singles. At lamb marking, we use a wand to record birth year, birth type (twin or single) and sex against each eID. Last year we also recorded breech cover, as we no longer mules, against each lamb's tag. This means we have the capacity to auto draft on birth year, sex and birth type down the track.

We also record all ewes as wet and dry at weaning against the ewes' eID tags and then have the capacity to autodraft those dry ewes off for sale post shearing.

We still fleece weigh, mid side sample and weigh off shears all our ewe hoggets, but now we split the data set so we only compare singles with singles, and twins with twins (even though some twin-born lambs may have been raised as singles - it's the nutrition in utero that drives follicle formation and sets microns and influences wool cut.

In the future, I'm planning to record dags - are the daggy sheep the same ewes every year? If the same ewe comes in daggy twice, she can go, given we use regular FEC counts to monitor worms and aim to minimise dags in non-mulesed sheep.

We record individual animal weights and all treatment records (product, dose, batch number, WHP, ESI) against every eID tag that goes through the handler. It's easy for traceability and auditing. There is also the potential to use an auto-doser to treat animals according to individual weights, which may save on drench, but we haven't done that yet.

The handler has made monitoring weights easier to do and gives us figures in terms of weaning weights, joining weights, the flock's standard reference weights and it helps with feed budgeting and carbon accounting.

Long-term benefits

The key profit drivers (aside from stocking rate) in our sheep enterprise are wool cut, micron and reproduction – and they are all affected by the season, management, genetics and selection pressure.

Using eID in sheep gives us the data that allows us to improve our management and our selection pressure, which hopefully means we can drive productivity and profitability over time.

Incorporating sheep eID with handling equipment makes collecting data easier, and if it's easier to do, you're more likely to do it.

A recent report by John Francis at Agrista (https://www.wool.com/news-events/news/why-stay-in-wool-sheep/) highlighted the enormous scope to improve profitability, so identifying the most profitable animals as part of farm management and culling passengers improves efficiency.

If we need to reduce numbers, i.e. during the drought, we can use the data we have against individual eIDs to apply selection pressure.

Southern Farming Systems would like to thank Fiona for her generosity in sharing her eID journey as part of the MLA PDS 'Realising benefits of sheep eIDs'.

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