



Technology and best practice approaches to support prime lamb production in the high rainfall zone

Focus Farm case study

At Kirklands, a wide variety of technologies and best practice approaches are being used for efficient and profitable prime lamb production.

Enterprise Snapshot

Owners: Richie and Nikki Kirkland and family

Property name: Kirklands

Size: 2,500 ha

Location: Furner

Brief enterprise description: Predominantly a prime lamb enterprise running 8,500 maternal composite ewes, but also trades cattle opportunistically and crops 700 ha with broad beans, wheat, barley and canola

Number of Employees: 4 full-time

Average annual rainfall: 600 mm

Technology in use: Sheep handler/autodrafter, management software, grain feed cart with scales, and worm egg counts.

Background

The Kirkland family has been farming at Furner in the lower south east of SA since moving to the district through the soldier settlement scheme in the 1950s. Kirklands is now managed by Richie and Nikki Kirkland and their two children, along with Richie's semi-retired parents. The enterprise is based on a flock of 8,500 maternal composite ewes run on 2,500 ha. Soils range from black flats prone to water logging to sandy rises. Pastures are based on Phalaris, annual ryegrass, sub clovers and Balansa clover. The Kirkland's also crop about 700 ha of broad beans, wheat, barley and canola.

Over the past two decades the Kirkland's have introduced a wide range of best practice methods and technologies to increase the efficiency and profitability of their prime lamb enterprise. This case study gives an overview of the methods and technologies in use with particular focus on animal nutrition and health.

What improvements were the Kirkland's looking for?

- High reproductive efficiency
- Efficient feeding of ewes
- More precise worm control
- Economical and labour efficient mineral supplementation of sheep
- Fast growth rates in lambs
- Labour efficient fly and lice control
- Efficient method of raising orphan lambs
- Way of keeping track of ewe lambs born as twins
- Easier animal handling
- Easier way of recording stock movements

What have they adopted?

- Pregnancy scanning of all ewes for multiples
- Rotational grazing
- Satellite yards – 2 sets using semi-permanent panels to reduce time spent mustering
- Containment feeding of ewes and feeding to LTEM recommendations (grain cart with scales)
- Mineral licks
- Worm Egg Counts
- Automatic lamb feeder
- Sheep handler with no turn lead up race
- Management software for both livestock and cropping
- eID in ewe lambs to keep track of birth status, pasture monitoring

Sheep management

Kirkland Farm has been refenced over the past 15 years and is now fenced into approximately 60 paddocks of 30-50 ha serviced by laneways.

The Kirkland's sheep are run in large mobs of 800 to 2,000 for most of the year, with paddocks generally stocked for 1-2 weeks before sheep are moved.

Ewes are mated from 1 January each year. Pregnancy scanning for multiples is conducted in late March. Dry ewes are rejoined immediately after scanning then rescanned in May with any twice dry ewes then sold.

In addition to the main set of undercover yards near the shearing shed, the Kirkland's have set up two sets of satellite yards using semi-permanent panels and yard components. These are mostly used at lamb marking.

Ewe nutrition is managed according to Lifetime Ewe Management (LTEM) recommendations. Ewes bearing multiples are given extra high quality feed during mid- and late-pregnancy according to feed charts. Paddock feed is tested for quality in about February each year and all hay, silage and grain supplements are also tested.

Containment feeding

Pregnant ewes are brought into 0.75 ha containment pens from March to May with each pen holding approx. 800 sheep (Figure 1). The containment area has 8 adjacent pens but only 7 pens are utilised, so that the empty pen is used for feeding containment sheep silage and grain. Grain is fed using a 4-tonne feed cart with scales allowing precise rations to be given.

At Kirkland, ewes require considerably (25%) less feed when contained, compared to when held in large paddocks, and it is faster to feed the ewes silage and grain in containment pens than in the paddock. The added advantage is that paddock feed can establish in autumn, creating a feed wedge for ewes in late pregnancy and at lambing.



Figure 1. Containment pens set up alongside a race in which silage can be stored

Mineral supplements

To combat some of the mineral deficiencies that are prevalent in sheep in the lower south-east, the Kirkland's give all sheep and lambs ad-lib access to a loose lick mineral supplement all year. The particular mix used was developed in consultation with a vet after taking blood samples from sheep and testing for mineral status. This loose lick is based on dolomite, lime and stock salt, with small amounts of zinc, copper, cobalt, selenium, sulphur and seaweed powder (kelp) also added. The lick has benefited stock health, worm resistance, wool quality and lamb growth rates.

Worm Egg Counts

Five years ago, the Kirkland's bought a FecPak worm egg testing kit (Figure 2), which they now use routinely on samples from their flock. In the first few years, drenching decisions were based on egg counts. In the past two years, egg counts have been persistently low (this has been verified with professional tests) and sheep have not been drenched at all except for spring drop lambs at weaning, which are given a long-acting injectable drench.



Fig 2. Since the Kirklands have been doing their own worm egg counts using a worm egg counting kit (pictured) they have been drenching less

eID equipment

The Kirkland's have been using eID tags in all ewe lambs for the past three years. Initially, records were kept of ewe lamb birth status (multiple or single), but this has now stopped as only ewe lambs born as multiples are being kept as future breeders. At present, the Kirkland's do not keep records of ewe reproductive performance (whether they conceived singles or multiples), instead opting to sell any ewes that do not conceive a lamb (i.e. scan dry twice in one year), or lambed and lost (based on udder assessment at shearing) in December. Richie does envisage that one day the tags may be used to keep records of which sheep develop faults during the year, and which ewes have reared twins, but this is not a priority at present as they are still expanding their flock.

[Sheep handler/autodrafter with no turn lead up race](#)

The Kirkland's were early users of a sheep handler/autodrafter and have now purchased their second sheep handler/autodrafter – a Tepari HD3. To facilitate flow into the handler, a 'no turn' lead up race was bought at the same time as the first handler and is now permanently set up. Sheep at Kirkland have learnt that the only way out of the yards is through the handler, leading to improved flow through the machine.

The main treatments performed through the handler are pre-lambing vaccination and weaning treatments (and drenching when required). Ewes are currently drafted through the handler using the manual draft function at pre-lambing treatment time and at culling. Sale lambs are divided into firsts, seconds or thirds at weaning, based on weight and using the autodraft function.

Management software

The Kirklands were early users of AgriWebb and currently use the program primarily as a mapping and record keeping tool – for both animal and agronomic treatments. Richie finds it easier not having to deal with paper maps. Family members and staff have access to maps, locations of stock and agronomic treatments on their phones. Contractors can also be sent copies of maps via SMS.

Further information

This case study is an initiative of Red Meat and Wool Growth Program from the Government of South Australia, supported by Meat and Livestock Australia, SA Sheep and Cattle Industry Funds and SheepConnect SA.

For more information visit pir.sa.gov.au/redmeatandwool or contact the Red Meat and Wool Growth Program at redmeatandwool@sa.gov.au.