Raise the stakes in ewe productivity


Department of Agriculture and Food, WA

Feed requirments: *Peter Walker (from left), Steve Thompson, Ed Naisbitt, Ric de Vree, Vanessa Stone (DAFWA) and Mark Pearce, members of the Tarin Rock and Newdegate Lifetime Ewe Management groups, inspect Steve Thompson's newly established serradella pasture, with a feed-on-offer assessed at 2000kg dry matter per hectare.*

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A sheep programme — Lifetime Ewe Management — is providing farmers with hands-on training to improve animal health and welfare and lift production.

At a glance

- Over the past three years, specialist sheep producers in Victoria that participated in the Lifetime Ewe Management programme have improved their weaning rates by 10% and reduced ewe mortality by 50%, while maintaining or increasing stocking rates.
- The relevance of the Lifetime Ewe management programme is now being road-tested with mixed wheat and sheep producers across south western Western Australia.
- Small groups of farmers meet on farm 5–6 times a year for two years under the guidance of a skilled facilitator.
- Farmers develop pasture and livestock assessment skills and implement feed budget and management guidelines tailored for their ewes based on outcomes from the national Lifetime Wool project.

A programme implementing ewe management guidelines is helping sheep producers to boost their profitability.

Lifetime Ewe Management is a two-year, nationally recognised training initiative administered by Rural Industries Skills Training, Hamilton, Victoria, aimed at reducing stress at lambing by maintaining ewes throughout pregnancy to ensure fewer lamb and ewe losses.

About 250 producers have been involved in Lifetime Ewe Management in Victoria and the programme is now being piloted across the wheat and sheep areas of Western Australia. The guidelines are based on the outcomes of the national Lifetime Wool project (see *Farming Ahead* No. 164–171 and www.lifetimewool.com.au).

Research findings

The Lifetime Wool project found that ewes that were joined in condition score 3 and that lost a condition score during pregnancy has a 20–30 per cent higher risk of twin lamb losses.

Lambs from poorly feed ewes that do survive are less productive throughout their lifetime, in that they produce about 1 kg less wool over 5 years and their wool is 0.3 to 0.4 microns broader.

In addition, ewes in poor condition (less than condition score 2) are at high risk of dying at lambing. About 5% of single-bearing ewes and 8% of twin-bearing ewes will die at lambing at score 2, compared with less than 2% at score 3.

Even with high grain prices, maintaining a ewe condition score of 2.7 or higher, from joining to lambing, can increase profits by up to 6% through beneficial lifetime impacts on sheep production.

Producer trials

More than 250 Victorian producers have tested the principles with Merino and crossbred ewes.

Participating producers improved weaning rates by 10% and reduced ewe mortality by 50%, while maintaining or increasing stocking rates.

The programme is now being piloted in WA by farmers from Brookton, Lake Grace, Newdegate, Kellerberrin and Tambellup.

How it works

The programme brings together small groups of farmers who meet on-farm six times a year for two years. Each meeting coincides with a key stage in the ewe's reproductive cycle including pre-joining, joining, mid-pregnancy, late pregnancy and lamb marking.

During the first year, the focus is on a 'measure-to-manage' approach to help farmers develop the skills to make more informed and profitable management decisions about ewe nutrition. Participants gain a better understanding of how nutrition and animal condition impacts on a ewe's performance and that of her progeny.

The groups develop skills in condition scoring, pasture and stubble assessment, feed budgeting and feed planning.

During the second year, participants implement the management guidelines across their entire flocks and learn to make decisions based on the condition score of ewes. Farmers consider whether the condition score profile is on track, if more feed is required and how much nutrition is available in the pasture or stubble.

Maintaining ewe condition during pregnancy is more profitable than feeding ewes supplements to boost their weight after they have lost condition.

Ewes: the engine room of the enterprise

Just as preparing a paddock before sowing is essential to optimise crop yields, preparing the ewe for joining is the first step in optimising the next 'crop' of lambs.

Managing the condition score profile of a flock will optimise conception rates, follicle development of lambs, lifetime fleece values, lamb survival, ewe wool production and ewe health.

One element of the ewe management programme is learning about the importance of preparing ewes for joining to ensure the lifetime performance of the ewe and her offspring. On each farm, 100 ewes are

Bid to increase weaning rate on track

Sheep producer Steve Thompson, Newdegate, Western Australia, was keen to join the Lifetime Ewe Management programme to lift his weaning rate.

While pregnancy scanning shows he consistently achieves a reproductive rate of 140–145 per cent across the flock (140–145 foetuses per 100 ewes joined), the weaning rate continues to hover at 100%.

The Thompson family loses about 6% of their live lambs between lambing and weaning, so they are keen to explore options to improve the potential reproductive rate.

Watching condition scores

At pre-joining during February 2008, Steve tagged and condition scored 100 ewes to follow the effect of condition scores on reproductive rate over the next year. This relationship will allow Steve to make a decision on the cost of feeding to achieve higher condition at joining compared with the value of the extra lambs produced.

At tagging, the average condition score of the mob was a healthy 2.8. The mob was allowed to drop about 0.3 of a condition score over summer corresponding to the enterprise's condition score profile.

Food energy

Steve uses his stubbles, which feed tests show have a leaf metabolisable energy of about 9.5 megajoules and a digestibility of about 60%. This is enough to maintain ewes. Supplementary feeding makes up for any deficit in energy requirement as calculated in feed budgets.

Steve's key target is to maintain average ewe condition score at no less than 2.5. Due to a winter lambing (July–August), Steve can use green feed as a cheap source of energy to build up ewes to score 2.7–2.8 by lambing.

The challenge is having enough pasture to feed the ewe flock as 70% of the farm is dedicated to cropping. He is looking at ways to boost pasture productivity by sowing different varieties and has leased land to sow oats and peas and to use for weaning lambs.

The programme has confirmed the importance of matching the energy availability of pasture and stubble to the energy requirements of the ewe.

While the practicalities are a challenge in terms of keeping on top of feed requirements in a quantitative way, Steve enjoys the challenge of tweaking his farming system to improve productivity.

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Ewe win: *Steve Thompson, Newdegate, Western Australia, joined the Lifetime Ewe Management programme to lift weaning percentages in his crossbred and Merino ewe flock.*

tagged and condition scored and form the basis of the mob that will be followed for the next year.

Condition score profiles

With this knowledge of a ewe's condition score profile producers than can predict ewe and lamb productivity and set feed targets for key times during the reproductive cycle (see Figure 1).

The total value of production from the ewe and her progeny is driven largely by the ewe condition score at lambing, while profitability is determined by how the condition score at lambing is achieved (supplementary feed versus pasture and stubble).

If seasonal conditions enable a higher condition score at joining it is worthwhile following the higher profile.

Gaining condition is only profitable on green feed, so the expected level of pasture available during late pregnancy dictates the shape of the profile for a particular area and lambing time. The shape of the condition score profile has a larger impact on profitability than the condition score achieved at joining.

As the Lifetime Ewe Management course is rolled out, a range of condition score profiles will be generated according to the individual needs of farmers, including those who produce mainly crops, wool or meat.

Setting feed budgets

Producers also develop a feed budget by assessing feed-on-offer.

If the ewe mob is grazing pasture, dry matter per hectare is assessed at 10–15 points across a paddock. The main feed value of stubbles is the split and unharvested grain and flag leaf they contain.

Count the number of grains in a 0.1 square metre quadrant at 5–10 points across the paddock. For wheat and oats 100 kilograms per hectare is equivalent to 28 grains/0.1m^2, 8/0.1m^2 for lupin, 25/0.1m^2 for barley and 2/0.1m^2 for faba beans.

Pasture or stubble feed assessments are used to develop a feed budget in terms of the amount of metabolisable energy contained. This energy is then compared with the amount of energy a ewe needs to achieve condition score milestones.

Producers can predict the changes in ewe liveweight and condition score needed and assess the feed budget to determine if supplementary feeding is required.

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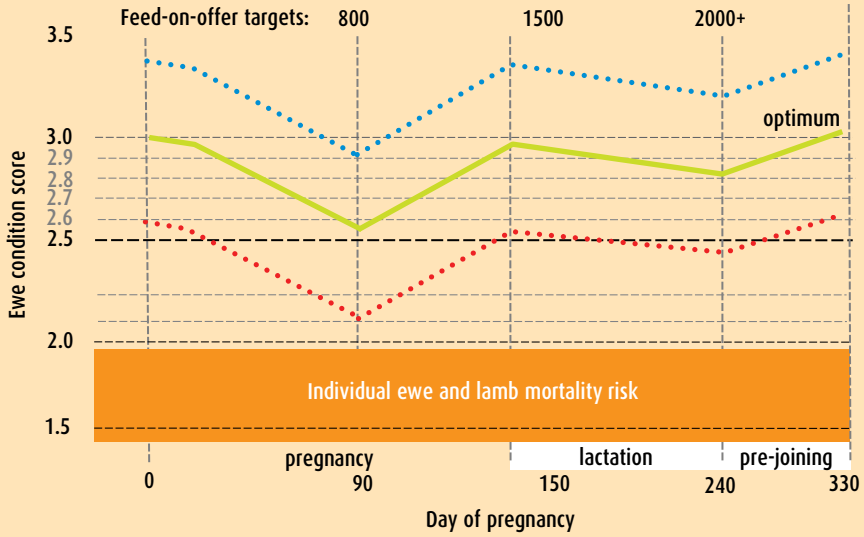
FIGURE 1 Condition score targets



These targets relate to Merino ewes lambing during winter. The graph acts as a constant reference in assessing the performance of the Lifetime Ewe Management mobs. Participants plot the condition score of their mob against the targeted condition score profile, enabling producers to see how their management decisions impacted on the condition of their ewes at critical points in the reproductive cycle.

Source: Department of Agriculture and Food, Western Australia.

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