

Managing Merino Ewes Productively in the Cereal-Sheep Zone

The breeding ewe is the engine room of a wool production business. It makes good sense to have her in the right condition at the right time. The benefits of the lifetimewool management system include:

- **improved ewe health and survival**
- **increased wool production and tensile strength of wool**
- **improved ewe reproduction**
- **increased lamb survival**
- **increased progeny fleece weight and lower fibre diameter**
- **improved allocation of feed resources**

These production benefits give substantial gains in profitability and piece of mind. Producers can be sure that they are managing their ewes to optimal production but will also be reducing the risk of lambing losses due to poor nutrition. The lifetimewool guidelines give producers an optimum strategy for managing Merino ewes 'year in, year out' and will improve allocation of feed resources, avoid production losses and achieve good lamb survival.

Although sheep are not usually the primary enterprise in this zone, they are an important contributor to whole farm profitability as well as providing a low risk, synergistic enterprise for high input cropping businesses. Running the sheep part of the business effectively and stress-free relies on knowing what condition your ewes are in and managing them to achieve the desired production level.

Late winter-spring lambing provides the best match of pasture availability to the energy needs of the ewe and lamb. This match can allow more sheep to be run relative to lambing at other times of the year and thereby maximise profit from the sheep enterprise. However, many producers in the cereal-sheep zone choose to lamb their ewes in May for best interaction with cropping programs. This economic and production analysis has concentrated on a May lambing time for this reason.

The **Cereal-Sheep Zone** covers a large part of southern Australia. This analysis and series of recommendations are suitable for areas of 250-450mm of rainfall which is mainly in winter. It has a annual pasture system of grasses and sub-clover or medic and achieves on average ~ 2-5t/ha/yr of total pasture production. The complete Economic Analysis Report for the Cereal-Sheep Zone is available at www.lifetimewool.com.au.

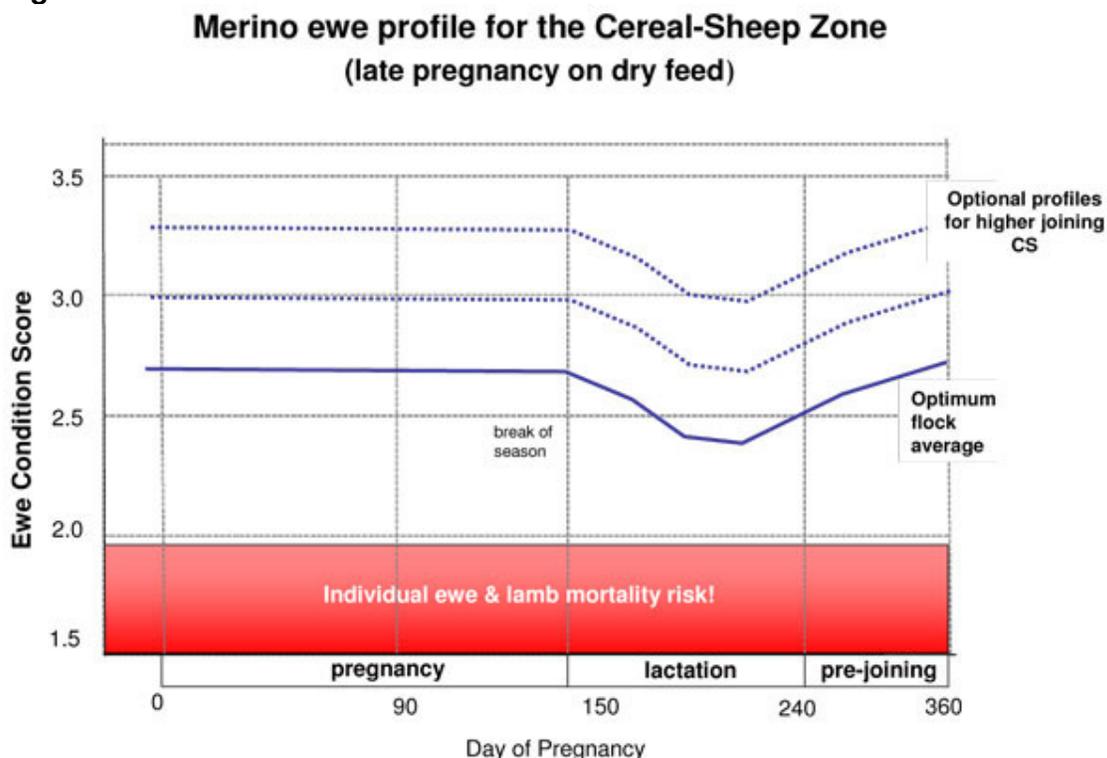
Managing ewes to the 'Optimum' Profile

The optimum profile for May lambing flocks in the Cereal-Sheep Zone (Figure 1) is:

- maintain ewe condition from joining to lambing and regain condition in lactation
- aim for Condition Score 2.7 or higher at joining
- ewes require good feed during lactation to ensure high lamb growth rates

The most important target for ewe flocks is to maintain condition until lambing commences, meeting this target gives the optimum profitability. The analysis conducted by lifetimewool balances the cost of supplementary feed, the likely pasture availability, the changes in stocking rate, the effect of nutrition on reproduction rate, lamb and ewe survival, ewe wool production and progeny growth rates and wool production to determine the optimum profile for ewe management over pregnancy.

Figure 1.



Key Points:

- Ewes being mated in November are usually close to peak condition score (CS) or are rising in condition score during mating. This ensures that a high reproductive rate is achieved and overcomes some of the losses due to mating outside of the natural breeding season.
- The break of season is usually close to lambing and paddocks should be deferred until a 'feed wedge' is grown (at least 700 FOO with the optimum 1500 FOO in lactation).
- Condition at lambing is a key target as this affects lamb and ewe survival. It is not recommended any breeding ewe is in CS 2 or lower as there are significant mortalities of ewes and lambs particularly twins.

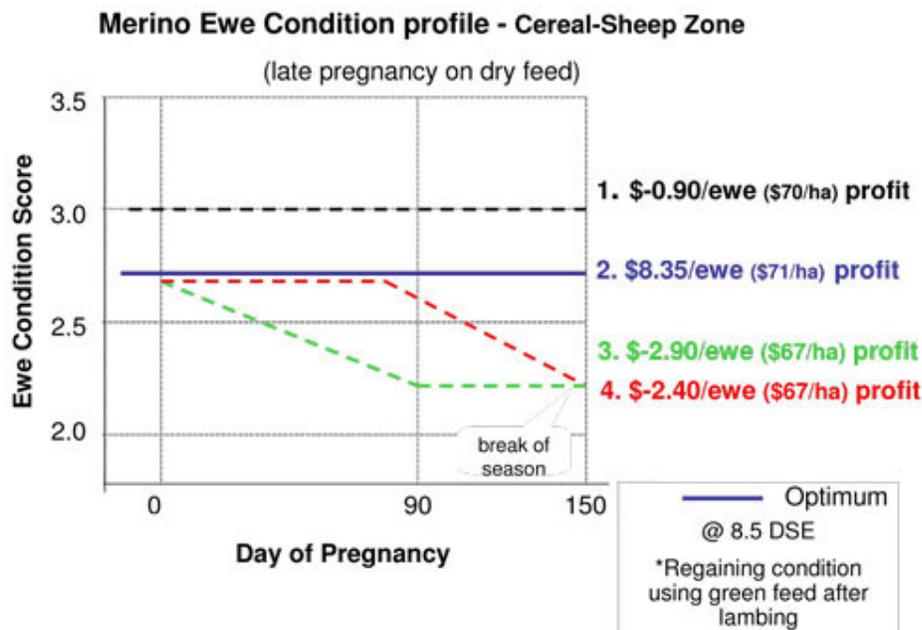
- Ewes in early lactation will tend to lose condition as any available energy is channelled into milk production. Higher pasture FOO gives high lamb growth rates.

Cost of not following the profile

Supplementary feeding through Autumn to maintain condition is the most profitable management option.

Maintaining condition, compared to gaining condition, gives the most efficient conversion of feed. It is important then to not allow any loss of condition if it needs to be re-gained prior to lambing using grain. Although feed costs are high, losing condition or having too low a condition by lambing will also decrease the survival of lambs and increase the mortality of ewes during lambing, thereby affecting profit and production.

Figure 2.



Profile 1. Profit is similar to the optimum but requires a lower stocking rate (0.5 DSE).

Profile 2. Optimum due to maintenance feeding in pregnancy and regaining condition on green feed in lactation.

Profile 3. Profit is lower due to the cost of grain feeding and the loss of production and survival through low condition prior to lambing.

Profile 4. Ewe and lamb mortality limits profitability through lamb and ewe survival as well as lifetime wool production of the progeny.

Trade-offs of risk for profit

The optimum profile shown in Figure 1. takes into account both profitability and the health of the ewe flock. The other profiles, shown in Figure 2, offer only small differences in profitability but there are some important trade-offs in production to consider if following these profiles.

Ewe mortality generally increases with lower ewe condition by lambing (although there are other factors that influence this, such as weather, age and available feed). Ewe condition in late pregnancy has a large impact on lamb birth weight and therefore lamb survival. Twin lambs are more sensitive to this change in birth weight (& survival) as their birthweight is usually lower than the optimum. Table 1 shows the effect of several profiles on both lamb and ewe survival.

	Profile			Lamb survival % difference		Ewe survival % difference.	Supplement fed t/DSE/yr
	Joining CS	Day 90 CS	Lambing CS	Single lambs	Twin lambs		
1	3	3	3	0	0	0	43
2	2.7	2.7	2.7	- 2%	- 5%	- 0.5%	39
3	2.7	2.3	2.3	- 1%	- 1.2%	- 0.5%	46
4	2.7	2.7	2.3	- 8%	- 17%	- 2%	35

Table 1. Difference in survival of ewes and lambs for late lambing flocks compared to maintaining condition score 3 throughout pregnancy in the Cereal-Sheep Zone.

Following a lower profile (profile 4) to the optimum (profile 2) at lambing means that by lambing the flock average will be CS 2.2 with a significant proportion of the mob below the recommended CS 2 minimum. This leads to severe penalties in ewe and lamb mortality. Profile 4 in Table 1 shows that twin lambs have a predicted decrease in survival of 17% compared to maintaining in CS 3 throughout. This can be compared to the optimum profile which has a decrease in twin lamb survival of 5%. Following the lower profile has no room for getting it wrong or provides no buffer in poor lambing conditions.

Running lower Stocking Rates

Producers may choose to run flocks at stocking rates lower than are recommended for maximum profitability. There are many legitimate reasons for doing this, including fitting around changing crop rotations, however, for producers who wish to improve profitability, ewes per hectare are the biggest driver of profitability. By following the lifetimewool ewe profile, you can identify opportunities to lift stocking rate safely during periods where CS targets are being met easily.

In years that ewes' peak condition prior to joining is above the recommended target due to a great season or flock restructuring, it is worthwhile following the same trend of maintaining condition score from joining to lambing for that season rather than trying to drop condition to a lower profile. Continuing to run ewes at this higher flock condition score year in year out will give a slightly lower profitability to running ewes at the optimum profile, as the higher production gains are offset by the higher cost of supplementation.