lifetimewool
more lambs, better wool, healthy ewes

Managing ewes to increase farm profit

High rainfall zone (SA, Vic, Tas)

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 profit particularly for producers already running ewes at moderate to high stocking rates compared with average district practice. The lifetimewool guidelines give wool producers an optimum strategy for managing ewes 'year in, year out' and will improve allocation of feed resources, avoid production losses and achieve good lamb survival.

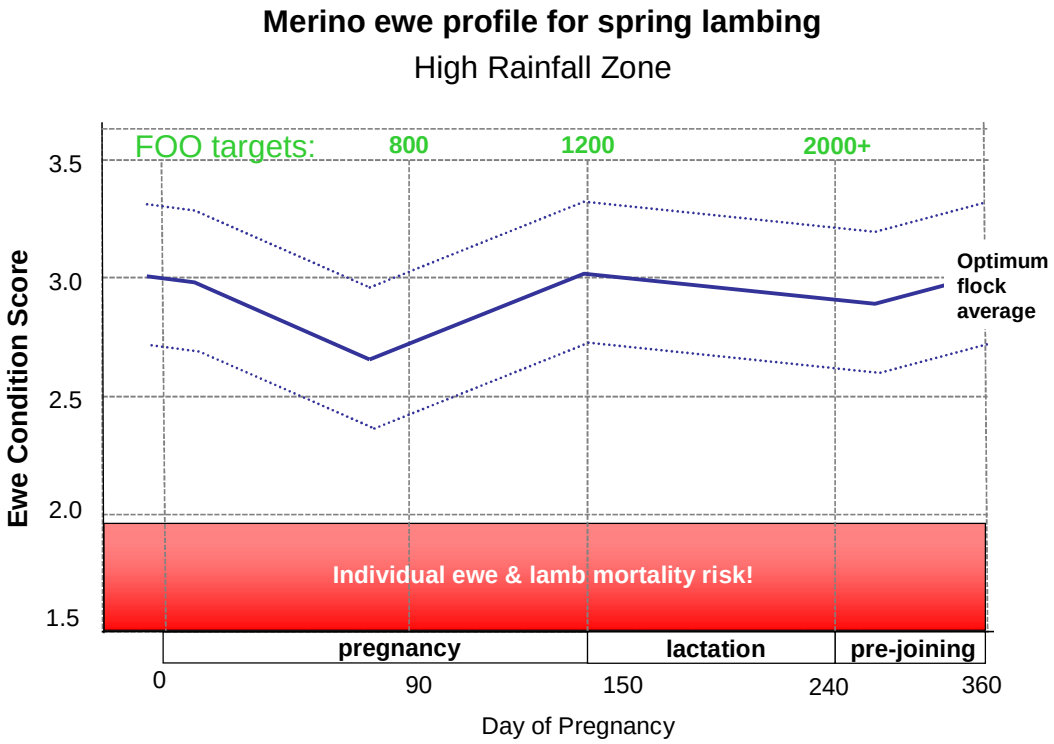
Late winter-spring lambing provides the best match of pasture availability to the energy needs of the ewe and lamb. This match can allow more sheep to be run relative to lambing at other times of the year.

The optimum profile for spring lambing flocks in the High Rainfall Zone (HRZ) as seen in Figure 1 is:

a. to allow moderate loss of condition from joining to the 'break of season' provided the condition can be regained prior to lambing on green feed
b. aim for Condition Score 3 at joining

The most important target for ewe flocks is to regain condition lost in early pregnancy before lambing commences. Meeting this target gives the optimum profitability.

Figure 1.



Ewes can lose some condition (0.3 of a condition score) over early pregnancy, however, they must regain all condition lost in early pregnancy by lambing. Failing to meet the lambing target will decrease the value of the ewe's production by $16 per condition score. It costs at least $12/ewe to gain a condition score with grain feeding. Therefore gaining condition must be done with green feed.

Ewes require 800kg/ha FOO by day 90 and 1200 FOO by lambing for single ewes and 1800 FOO for twinning ewes to regain lost condition. If this amount of green feed isn't likely to be available then the next best approach is to maintain ewe condition throughout pregnancy. Establishing pastures should be deferred so that FOO targets can be reached.

Cost of not following the profile

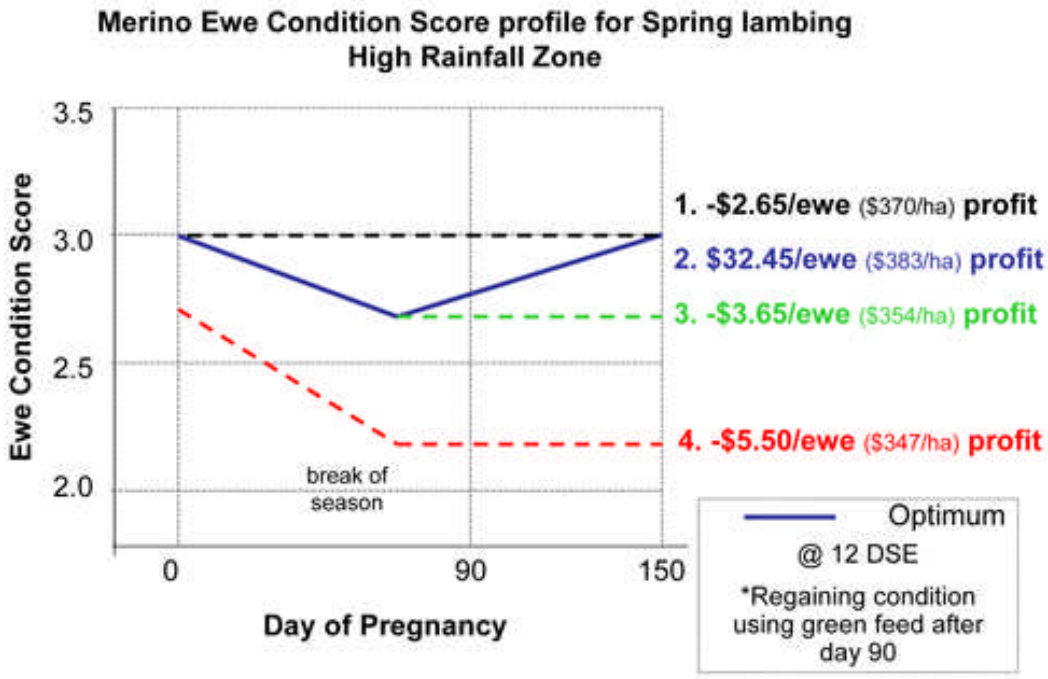
If the regain in condition by lambing isn't made and the ewes continue to lose condition in late pregnancy to CS 2, large penalties from ewe and lamb mortality will be incurred.

Maintaining ewes at their joining condition throughout pregnancy is moderately expensive (approximately $2.65/ewe compared to losing and regaining) due to the extra hand feed over autumn. However, this option is still more profitable than allowed to lose condition and fail to regain it in the last third of pregnancy.

If ewes are allowed to lose over autumn but only maintained in condition after day 90 (rather than re-gaining condition), $3.65/ewe lower profit will be achieved following

this profile compared to the optimum (figure 1). This could be as much as $30,000 on a 1000ha enterprise!

Figure 2.



Profile 1. Profit is lower due to higher supplementary feeding costs in autumn
Profile 2. Optimum due to lower feeding in early pregnancy and regaining condition on green feed
Profile 3. Profit is lower due to impacts from lower condition at lambing
Profile 4. Ewe and lamb mortality severely limits profitability

Running lower Stocking Rates

These profiles are suitable for flocks run at stocking rates lower than the optimum and at lower stocking rates will return a higher profit than those run at a lower condition for lambing. However, following the lifetimewool ewe profile can allow you to increase stocking rates safely and thereby further increase profitabilty.

In years that ewes' peak condition prior to joining is above 3, it is worthwhile following the general trend of losing 0.3 of a condition score from end of joining to the break of season (Figure 1.) and regaining it all by lambing for that season rather than trying to drop further (0.6 CS) and regain only some of the lost condition at lambing. There is a difference of $376/ha profit (CS 3.3 at joining, 3.0 at day 90, 3.3 at lambing) compared to $351/ha profit (CS 3.3 at joining, 2.7 at day 90, 3.0 at lambing).

Continuing to run ewes at this higher flock condition score will give a similar profitability to runninng ewes at the optimum profile, as the higher production gains are offset by the higher cost of supplementation. Aiming to be on this profile every year or in an average year will be slightly more expensive as it takes more supplement to grow maiden ewes to the higher starting condition score.

Trade-offs of risk for profit

The optimum profile shown in Figure 1. takes into account both profitability and the health of the breeding flock. The alternative profile shown offers similar levels of profitability, but there are some important trade-offs to consider.

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

Table 1. Difference in survival of ewes and lambs for late lambing flocks compared to maintaining condition throughout pregnancy in the Western Districts of Victoria.

Profile				Lamb survival % difference		Ewe survival % difference.
	Joining CS	Day 90 CS	Lambing CS	Single lambs	Twin lambs	
1	3	3	3	0.0	0.0	0.0
2	3	2.7	3	+0.8%	+4.5%	+0.1%
3	2.7	2.5	2.7	-3.9%	-2.7%	-1.7%
a	2.7	2.2	2.2	-17.8%	-22.6%	-6.1%

Following a lower, but similar shaped profile (profile a) to the optimum (profile 2) means that at 'break of season', the flock average will be CS 2.2. The mob will require careful monitoring and if the mob fails to regain condition to 2.7 by lambing severe penalties in ewe and lamb mortality will result. Profile a in Table 1 shows that

twin lambs have a predicted decrease in survival of 23%! This can be compared to the optimum profile which can increase twin lamb survival by 4.5%.
As well as this, individuals in the mob will be below the recommended CS 2 for pregnancy and at risk of mortality. Getting it wrong when following the lower profile will impact on acceptable stock husbandry as well as profitability.

The Condition Score profile is for the **average** of the flock. Usually in each flock there will be some individuals at least 0.5 of a condition score lower (and an equal proportion that are 0.5 of a condition score higher). Individual ewes should not be below CS 2. Ewes at or below CS 2 during pregnancy should have preferential treatment to regain condition prior to lambing as ewe (as well as lamb) mortality increases dramatically when ewes are below CS 2.