

Managing ewes to increase farm profit

Southern slopes – NSW

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**
- **more effective use of pasture.**

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 help achieve good lamb survival.

Managing ewe flocks to achieve good production levels and to lift profit requires monitoring ewes at key points (rams out, pregnancy scanning, pre-lambing vaccination, weaning). Condition scoring a random sample of 25 of the mob will give the information required to assess the production of the flock.

This zone is characterised by long growing season and winter rainfall (450-600mm) with a mix of annual grasses, perennial rye-grasses and sub clover and a total pasture production of 6-8t/ha. Typically these enterprises have 30-50% crop

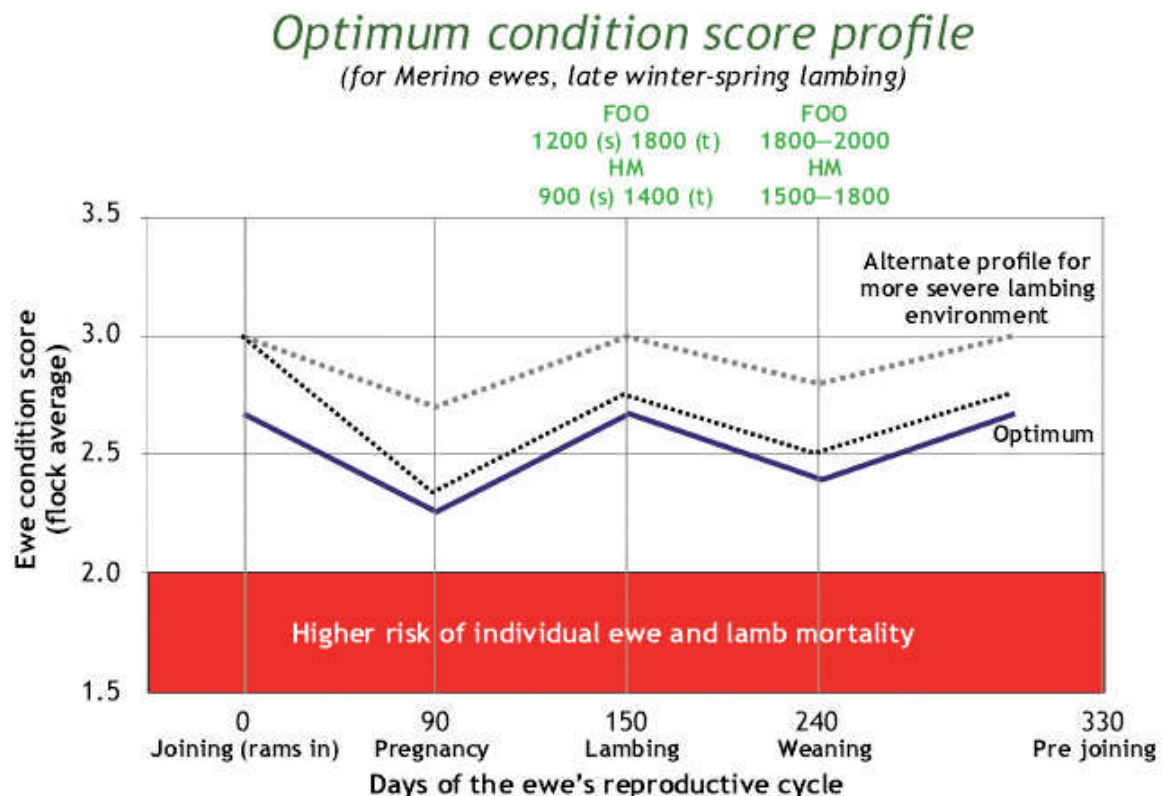
The growing season and production level affects the potential stocking rate and pasture utilisation and therefore affects the recommendations for ewe management. It has a similar shaped profile to the high Rainfall Zone but due to a less severe lambing environment and great stubble resources, the ewe profile can start at a lower condition score.

Late winter-spring lambing provides the best match of pasture availability to the energy needs of the ewe and lamb. This match allows more sheep to be run relative to lambing at other times of the year and as stocking rate is the biggest driver of profitability, producers should look at running optimum stocking rates. The modeling suggests for this region it is around 12-13 DSE. These recommendations are based on the late winter-spring lambing and are likely to be different for a May lambing.

The optimum profile for spring lambing flocks in the Southern Slopes of NSW is:

- a. to allow moderate loss of condition from joining to 'break of season', provided the condition can be regained prior to lambing on green feed

b. aim for Condition Score 2.6 -3.0 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. An alternative option is to start at a higher condition score, lose 0.6 of a condition score and re-gain at least 0.3 of the condition lost by lambing.

There is a trade-off between the saving on feed in early pregnancy (lose more condition) and loss of production, particularly lamb survival and ewe wool production. As ewe condition approaches CS 2 both her and her lambs survival will be compromised. Any breeding ewe be no lower than score 2 for this reason.

In late pregnancy green feed must be used to gain condition as supplementary feed costs are too high to offset any gains in production. Ewes require 1200 FOO (900 HM) by lambing for single ewes and 1800 FOO (1400 HM) 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 lose less condition or maintain ewe condition throughout pregnancy. Establishing pastures should be deferred so that FOO targets can be reached. The greatest value of supplementary feed is maintaining the ewe while pastures are being deferred to allow good pastures for lambing.

Key points:

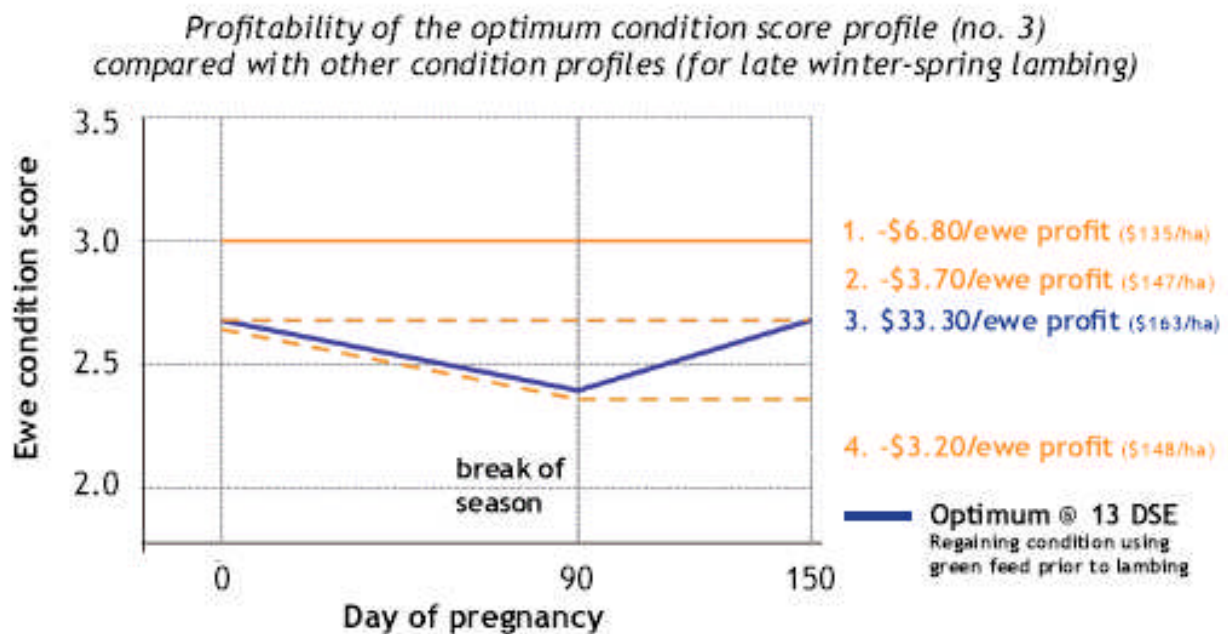
- Increasing ewe condition should only be done using green feed. It is rarely economic to feed grain to increase condition
- Only lose enough condition over autumn that can be regained using green feed after the break. Defer pastures to achieve this level of feed.

- If ewes are, by reason of a good summer, on a higher starting CS, continue to follow the shape of the higher profiles rather than lose more condition to start on the lower profile. This will still give a high economic return.

Profitability of following the optimum profile

Following the optimum profile of joining at CS 2.6, losing 0.3 of a condition score in early pregnancy until the break of season and regaining all lost condition on green feed gives the highest profitability for this region and system of \$33.30/ewe (figure 2, profile 3).

Maintaining ewes at their joining condition throughout the whole of pregnancy is expensive, approximately \$3.70/ewe compared to losing and regaining condition at CS 2.6 due to the extra hand feed over autumn and not taking advantage of the rapidly growing feed in spring (figure 2, profile 2). Maintaining at a higher condition score such as CS 3 throughout pregnancy is -\$6.80 less profitable than losing and regaining at CS 2.6 (profile 1.).



Although profile 4 (losing 0.3 CS and failing to regain that condition) has the same profitability as maintaining condition throughout (-\$3.20 per ewe), it has the important downside of 1.5 times the lamb mortality and double the ewe mortality making this profile not recommended (profile 4).

Following the optimum profile (regaining the lost condition prior to lambing) requires more energy just after the break of the season but results in higher progeny fleece values and higher progeny survival. In this case the reduction in progeny production for the ewes that lose more condition in early pregnancy outweighs the saving in energy requirement and results in a benefit from meeting the target condition scores at all stocking rates (profile 3) and there is little difference in the optimum stocking rate regardless of the timing of regaining the condition.

Trade-offs of risk for profit

The late lambing optimum profile shown in Figure 1. takes into account both profitability and the health of the breeding flock.

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.

Following a profile that loses more condition over autumn (0.6 CS) and only re-gains half of it by lambing has similar profitability to that of the optimum profile, however, there are large penalties in ewe and lamb survival. Ewe mortality doubles and the survival of twin lambs is 10% lower than the optimum (67% compared to 77%). It is also a high risk option in that if the season fails to break and ewes don't regain that small amount the lambing results could be disastrous, with 14% lower twin survival and further ewe losses.

Table 1. Difference in survival of ewes and lambs for late lambing flocks compared to maintaining condition score 3.0 throughout pregnancy

Condition score			Survival %		
joining	Day 90	lambing	singles	twins	Ewes
2.6	2.3	2.6	-2.6	-0.6	-0.5
2.6	2.0	2.3	-5.2	-5.9	-1.4
2.6	2.0	2.0	-9.4	-14.2	-2.6
3.0	2.7	3.0	1.0	6.3	0.1
3.0	3.0	3.0	0	0	0

Running stock to a higher profile such as starting in CS 3 at joining and losing 0.3 by the break and re-gaining all lost condition by lambing has a slightly lower profitability (-\$2.30/ewe) but if there is a more severe climate or irregular seasons this may be the best option. This profile gives an increase in lamb and ewe survival compared to maintaining at condition score 3 throughout pregnancy but there are small costs associated with having the ewes in a higher condition at joining.

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.

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

early pregnancy will have an impact on lamb survival, particularly with twin lambs. Any individuals in the mob at or below CS2 will be at higher risk.

Running lower Stocking Rates

These profiles are also suitable for flocks run at stocking rates lower than the optimum. However, following the lifetimewool ewe profile can allow you to increase stocking rates safely and thereby increasing profitability.

In years that ewes' peak condition prior to joining is above the optimum, it is worthwhile following the higher profile as described in Figure 1 (ie. joining in CS 3, losing to CS 2.7 and regaining to CS 3 by lambing) for that season because extra productivity will result.

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

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