

# Managing scanned ewes – Pre-lambing (LF-AP-S-3.4)

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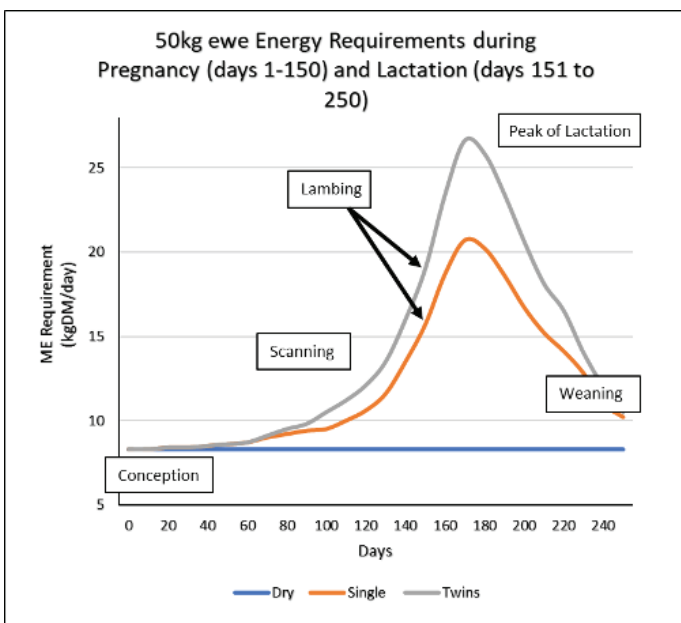


The average gestation (pregnancy) period for most sheep breeds and crosses is between 144 to 152 days. Crossbred/composite 'meat' breeds tend to have shorter gestation lengths than the traditional finer wool breeds such as the Merino.

During the first trimester of pregnancy (days 1 to 50), fertilisation of the egg and embryo development occurs. Placenta and foetal growth during this period are low as are energy demands of the pregnant ewe.

The energy requirements of 50kg single and twin bearing ewes from conception to weaning are illustrated in Figure 1. Note the slow increase in energy needs of single bearing (orange line) and twin bearing (grey line) ewes in the first 100 days of pregnancy.

**Figure 1: 50kg ewe energy requirements during pregnancy (days 1-150) and lactation (days 151-250)**



The majority of placental development occurs between days 30 to 90 (mid-pregnancy/second trimester). Each foetus is 15–20% of its final birthweight at this stage. Placental development and ewe/foetal nutrition are major determinants of a lamb's future wool/carcass traits, lamb survival and growth to weaning. Preferential feeding and management of the twin bearing ewes post-scanning can facilitate placental growth during this time.

85 days after conception, for example, 50kg single and twin bearing ewes' energy requirements are little more than 12 to 15% of the energy intake of a dry ewe. This period is generally considered as the optimum time to scan ewes for litter size.

During the third trimester (late pregnancy) placental growth has slowed/finished. Foetal growth, however, increases rapidly with an estimated 70% of foetal growth occurring during the last 3 to 4 weeks of pregnancy (days 120 to 150). This is a period of extreme energy demand for the ewe. Single and twin bearing ewes will need between 1.5 to 2.5 times the energy intake of a dry ewe during this period (refer Figure 1).

Limited rumen space/pressure on the rumen (due to the growing foetuses and growing physiological requirements) during this period makes it difficult for multiple bearing ewes to meet energy demands. It is critical that these ewes, identified at scanning, are preferentially managed/ fed to ensure they have adequate fat reserves prior to lambing to enable them to meet energy requirements.

## Land fact: Managing scanned ewes – Pre-lambing - LF-AP-S-3.4

### Body condition score targets

#### Single bearing ewes

Aim to have single bearing ewes in a body condition score (BCS) of 2.7+ by lambing.

Single bearing ewes with a BCS of 3.5 or higher at lambing have an increased risk of dystocia (lambing difficulties) and often have increased ewe and lamb mortalities. Consideration may be given to 'aging' foetuses at scanning time to ensure late lambing single bearing ewes are managed to prevent dystocia.

Single bearing ewes are commonly managed in larger mobs prior to and during lambing on lower quality and quantity pastures. Supplementation during 'normal' seasons may not be necessary provided BCS targets are met prior to lambing.

#### Multiple bearing ewes (twins/triplets)

Multiple bearing ewes should be regularly condition scored from scanning onwards to ensure ewes reach a minimum BCS of 3.3 or higher by lambing.

Allow multiple bearing ewes access to the best pasture base and/or supplements to ensure ewes can improve/maintain BCS prior to lambing.

'Aging' of foetuses will help to fine-tune feeding programs to ensure target BCSs are met. 'Early' lambing multiple bearing ewes can be given priority to pasture/supplement while 'late' lambing multiple bearers provide you with greater grazing management control and 'targeted' supplement use.

Consider the use of 'bypass' protein supplements as discussed in Land Fact LF-AP-S-3.3 (**Managing scanned ewes – Placental development**).

### Post-scanning ewe management

Scanning enables producers to identify ewes based on their current and future physiological needs. How you use this information from scanning to lambing can determine ewe/lamb survival rates and, ultimately, marking and weaning percentages.

At the point of lambing, minimum ewe body condition score targets should be:

- 2.7+ for single bearing ewes and
- 3.3+ for twin or multiple bearing ewes

The risk of ewe and lamb mortalities increases with every 'unit' drop below these targets as shown in Figures 2 and 3.

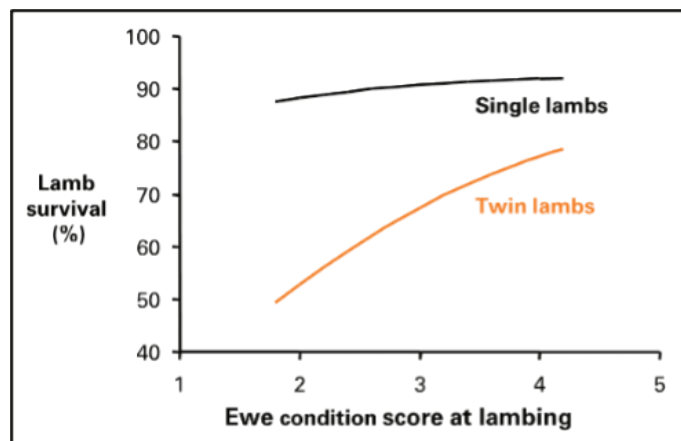


Figure 2. The impact of ewe body condition score at lambing on lamb survival (Source: Lifetime Wool)

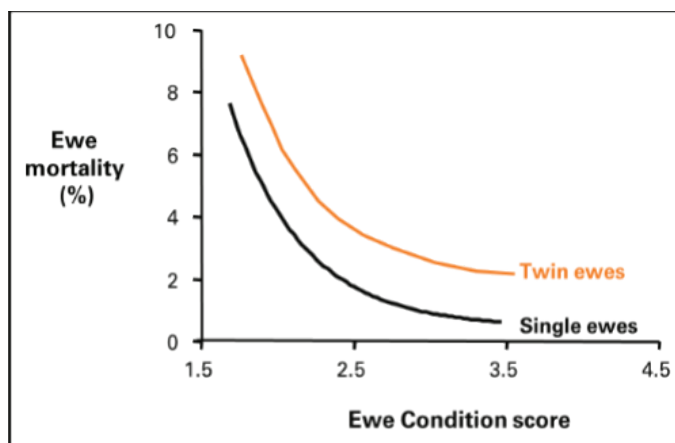


Figure 3. The impact of ewe body condition score on ewe mortality in late-pregnancy/early lactation (Source: Lifetime Wool)

### Lamb birth weight

Single and twin/multiple born lamb survival is principally affected by birth weight. Lamb birth weights are heavily influenced by placental development and the ewe's condition during late pregnancy.

In general, lamb survival rates improve as lamb birth weights increase. Well nourished, heavier lambs generally have greater 'brown' fat energy reserves they can draw on to minimise the risk of death due to exposure.

Survival rates are greatest when birth weights for both single and twin born lambs fall between 4.5 to 5.5 kgs.

Overfeeding single bearing ewes and poor nutrition of multiple bearing ewes during the last 4 weeks of pregnancy, however, can lead to increasing lamb (and ewe) mortalities due to dystocia (difficult, prolonged births) and losses through mismothering/starvation of lambs.

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Lamb survival rates for a range of lamb birth weights are shown in Figure 4.

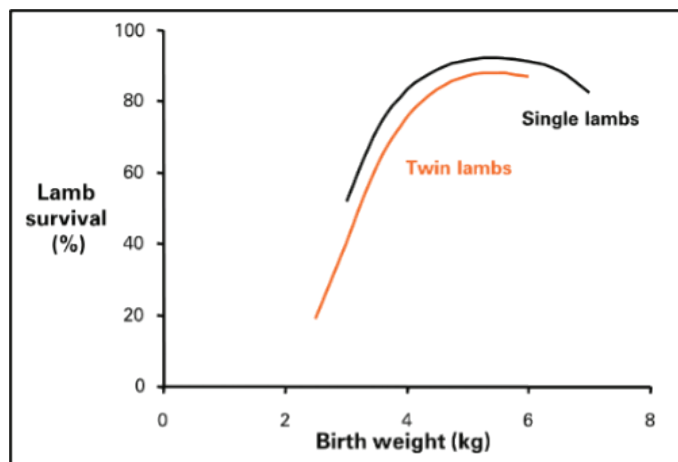


Figure 4. The impact of lamb birthweight on lamb survival (Source: Lifetime Wool)

### Undernutrition – the costs

Underfed ewes, compared to well fed ewes:

- have poorer maternal ability
- spend less time grooming their lambs
- spend less time on the birth site
- spend more time eating post lambing
- produce less colostrum and milk
- have a delayed onset of lactation
- have increased viscosity (thickness/slow flow) of colostrum
- may have higher lamb losses due to mismothering, desertion and/or starvation

Trial work has shown that cereal grains such as corn, wheat and barley can improve colostrum production. Such grains, while difficult to increase quickly due to acidosis risks, have high metabolisable energy values/starch contents. The production of glucose from these feeds can play a major role in colostrum synthesis.

### So what are the benefit/cost outcomes from scanning and preferentially feeding and managing ewes?

Let's consider the following scenarios where we have a 1000 ewe flock with 700 single and 300 multiple bearing ewes.

Assumption - preferentially feeding the 300 twin bearing ewes an extra 300g/day for 70 days post scanning (\$280/t; 12MJME/kg = extra \$5.88/ewe) will:

- improve ewe survival (5% less deaths @ \$250 per ewe)
- increase ewe wool value (no wool loss during pregnancy, cut an extra 0.5kgs @ 65% yield, 1300c/kg)
- improve twin lamb survival (from 65% to 75%)
- improve twin lamb wool cut and quality (cut extra 300g/year @ 1500c/kg; 0.3 micron finer. Wethers shorn once, ewes 5 times)

- increase wether sale numbers (Year 1, \$120)
- increase mutton sale numbers (\$120)
- increase feed by \$1764 and labour cost by \$1400 over the 70-day feeding period

### The outcome?

A benefit:cost of

- 2.70 to 1 if feeding both single (700g/day) and twin bearing (1kg/day) ewes for 70 days prior to lambing – more than a doubling of return for every additional \$ spent!
- 9.02 to 1 if only feeding the twin bearing ewes (300g/day) for 70 days prior to lambing (assumes a 'normal' and adequate pasture quality and quantity to meet single bearing ewe needs)

### Summary

Scanning enables producers to identify ewes based on future physiological needs. How you use this information from scanning to lambing can determine ewe/lamb survival rates and, ultimately, marking and weaning percentages.

Identifying and preferentially feeding multiple bearing ewes post-scanning can help with placental and foetal development, ewe and lamb survival, lamb lifetime productivity and profit margins.

The benefits of scanning and preferentially feeding and managing your ewe flock far outweigh the associated costs.

Decisions in relation to lambing mob composition (singles, twins, singles/twins); mob sizes; management of early versus late lambers; pasture allocation; supplementation rates and feed types (cereal vs pulse grains, hay, silage etc) will depend heavily on scanning outcomes, paddock/pasture availability and personal preferences.

### References:

*Feeding the ewe* (<https://projectblue.blob.core.windows.net/media/Default/Imported%20Publication%20Docs/Feeding-the-ewe-1.pdf>)

### Contacts and more information:

For additional information on feeding and management of scanned ewes, please refer to Land Facts:

- Managing scanned ewes – The benefits
- Managing scanned ewes – The basics
- Managing scanned ewes – Placental development
- Managing scanned ewes – Lambing
- Managing scanned ewes - Mob structure options

For advice and information about improving your sheep enterprise, contact:

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