

# Managing scanned ewes – Lambing (LF-AP-S-3.5)

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A successful lambing outcome can be measured by ewe and lamb survival rates, ewe milk production, lamb growth rates, live lambs and low 'lamb and loss' percentages at marking.



## Factors influencing/impacting on ewe and lamb survival include:

1. Ewe body condition prior to and during lambing
2. Environmental issues - temperature, rain, wind, protection from climatic extremes etc
3. Physical factors - available feed, feed quality;
4. Predation – may include both primary predation and losses incurred because of flock disturbance/stress
5. Health and disease issues such as worms, foot abscess/rot, hypocalcaemia, hypomagnesaemia, pregnancy toxemia
6. Misadventure (such as ewes becoming 'cast')

Under most circumstances producers may have some control over the impacts of many of these factors. Management and paddock design options available for minimising these impacts on ewe and lamb survival are discussed in this Land Fact.

## Ewe Body Condition

Undernutrition of the ewe during pregnancy and lactation can impact heavily on:

- ewe live weight and body condition score;
- udder, colostrum and milk development and yields;
- length and the relative ease of the birth process;
- lamb birth weight;
- lamb suckling drive/viability and, ultimately;
- ewe and lamb survival.

Body condition score targets for single and multiple bearing ewes, repercussions for under or over feeding the pregnant ewe and the financial benefits when meeting targets are discussed in **Land Fact LF-AP-S-3.4** (Managing scanned ewes – Pre-lambing).

There are potentially many health and disease issues faced by the lambing ewe.

## Land fact: Land Fact - Managing scanned ewes - Lambing - LF-AP-S-3.5

### Environment

Twins and triplets are generally lighter and smaller in size than their single born counterparts. These lambs have comparatively larger surface area, expend more energy so as to maintain body temperature and are at greater risk of death due to environmental extremes.

Temperature, rain and wind all contribute to what is known as the chill index. The index is an estimate of an animal's potential heat loss (kJ/m<sup>2</sup>/hour) due to wind speed, temperature and rainfall received over the previous 24 hours. Mortality rates, particularly in twin and triplet born lambs, are known to increase when the wind chill index approaches 1000kJ/m<sup>2</sup>/hour as shown in Figure 1 below.

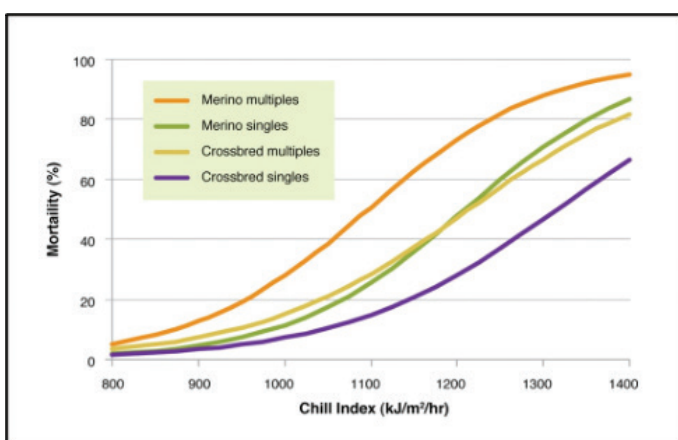


Figure 1. Relationship between the chill index (kJ/m<sup>2</sup>/h) and the mortality of single and twin lambs (Source: Evergraze)

The provision of shelter to reduce wind speed and therefore chill index (heat loss) has been shown to improve animal welfare, lamb survival and ultimately profits.

Paddock engineering through the strategic use of fencing, shelter belts etc. can help to reduce lamb deaths through modifying the ewe's behaviour and minimising environmental extremes and impacts on her lambs.

Sheep for example prefer to camp on the highest, driest location in the paddock, generally facing north-west (Marchant 1990). Fencing can prevent ewes from camping and lambing in these exposed locations, with improvements in lamb marking percentages of between 9 to 20% recorded.

Both natural (trees, shrubs, hedges etc.) and artificial (corrugated iron, hessian etc.) shelter belts have shown benefits in terms of reducing lamb deaths due to wind chill, particularly among twin or triplet born lambs. Shelter that reduces chill index by 50 to 100 kJ/m<sup>2</sup>/hr has been shown to significantly increase twin born lamb survival rates (Lifetime Ewe).

### Physical factors

Available feed and feed quality are important factors within a lambing paddock.

Recommended pasture targets for lambing single and multiple bearing ewes are 1500kg+ and 1800kg+ kilograms of dry matter (green food on offer).

Pasture quality in terms of energy, protein and digestibility, must also be considered.

For example, the energy requirements (MjME/hd/day) for maintaining ewes in condition score 3 during late pregnancy will range from between 12 to 17 and from between 19 to 32 MjME/kgDM/day depending on ewe frame, weight and litter size/pregnancy status (Lifetime Wool).

Ewes approaching late pregnancy and during early lactation will also have an increased protein requirement. Ewes should receive between 12 to 15% during late pregnancy and up to 17% protein when lactating.

Highly digestible, grass-based pastures containing upwards of 30% clovers or legumes are recommended. If required, supplements can be used to improve energy, protein and whole ration digestibility. When using supplements, care needs to be exercised in order to prevent:

- **acidosis**
  - cereal grain versus pulses
  - introduction period
  - effective buffers
  - provision of effective fibre
- **mineral imbalances**
  - additives
- **mismothering/desertion**
  - disturbances when feeding out
  - trail feeding vs self-feeders



# Land fact: Land Fact - Managing scanned ewes - Lambing - LF-AP-S-3.5

## Predation

Dogs, foxes, pigs, eagles, crows etc. are frequently responsible for lamb loss. Degree and severity of lamb loss can vary between years and regions with losses able to be characterised as:

1. **Primary predation** - where viable lambs are attacked/taken.
2. **Secondary predation** - where lambs are likely to die and/or have died prior to predation due principally to mismothering, exposure or desertion by the ewe.
3. **'Disturbance' related deaths** – where lamb losses are caused by disruption or stress by predators. This may be as simple as breaking of the ewe/lamb bond after birth due to the ewe being disturbed by the presence or actions of predators.
4. **Injury/infection** – crows pecking at the eyes, tongue and anal areas of newborn lambs.

Armstrong (2016) and Refshauge et al (2016) both reported primary predation to be responsible for ~7% of lamb deaths. Others have reported as high as 30 to 40%. While incidence (and cause) will vary between years and regions, all producers should implement preventative measures prior to lambing to minimise the risk of losses through predators.

## Health and disease

There are potentially many health and disease issues faced by the lambing ewe. Common issues include pregnancy toxemia, prolapse, dystocia, clostridial diseases, hypocalcaemia, hypomagnesaemia and worms.

Many of these are able to be prevented and/or controlled through sound nutritional management prior to and during lambing.

Armstrong (2016) reports that almost three-quarters of all lamb losses identified were due to not meeting ewe needs (48% of deaths due to starvation and/or mismothering) or over feeding (principally the single bearing ewe) with 25% of deaths due to dystocia (difficult births).

## Misadventure

Misadventure or mishaps are, unfortunately, another cause of ewe/lamb death during lambing. An example of misadventure would be ewe deaths caused by becoming 'cast' within hollows, along drainage lines, among timber etc.

While misadventure is difficult to predict and/or prevent, producers are urged to identify 'safer' lambing paddocks or look to rectify/remove potential causes of misadventure.

## Summary

There are many factors influencing/impacting on ewe and lamb survival rates during lambing. Many of these are within the control of producers.

It is critical that producers meet the pregnant/lambing ewes' feed needs. Providing suitable pasture and/or supplements and a safe, low risk environment for the ewe and her lamb(s) will help to maximise lamb survival.

## References

Armstrong, G (2016) Factors influencing reproductive wastage in Victorian sheep flocks. <https://rune.une.edu.au/web/bitstream/1959.11/27599/8/openpublished/ThesisArmstrongGarryMRSc2017.pdf>

Marchant, B (1990) Paddock Design. Grassland Society of NSW <http://grasslandnsw.com.au/news/wp-content/uploads/2011/09/Marchant-1990.pdf>. Potential reproductive rate and the impacts of ewe nutrition in late pregnancy. Session 4. Lifetime Ewe Manual (High Rainfall Zone edition).

Refshauge, G; Brien, F.D; Hinch, G.N; and van de Ven, D.R. (2016) Neonatal lamb mortality: factors associated with the death of Australian lambs <https://www.publish.csiro.au/an/an15121>

Shelter improves lamb survival. Evergraze. <https://www.evergraze.com.au/library-content/hamilton-key-message-shelter-improves-lamb-survival/>

Supplementary feeding and feed budgeting for sheep. DPRD (Agriculture and Food) <https://www.agric.wa.gov.au/feeding-nutrition/supplementary-feeding-and-feed-budgeting-sheep>



*More Land Facts*

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

- Managing scanned ewes – The basics
- Managing scanned ewes – The benefits
- Managing scanned ewes – Placental development
- Managing scanned ewes – Pre-lambing
- Managing scanned ewes – Lambing mob structure

## Contacts and more information:

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[www.lls.nsw.gov.au/regions/northern-tablelands](http://www.lls.nsw.gov.au/regions/northern-tablelands)