

# Information Note:

## Promoting lamb survival outdoors



### - Lessons from down under

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## Impact of mob size and stocking density

Stocking density (ewes/ha) and mob size (number of ewes in a lambing group) can influence lamb survival. This is because ewes are attracted to birth fluid and newborn lambs within a few hours of lambing. This can lead to mismothering, cross-fostering and ewe-lamb separation leading to lamb deaths from starvation and exposure. Both can further impact lamb survival where shelter and lambing areas are limited.

Greater mob size, in-dependent of stocking rate, means more ewes lambing each day with greater presence of fluid and newborn lambs (especially in twin mobs) which increases the risk of mismothering and lamb mortality.

Where stocking rate influences pasture covers this can impact feed supply and ewe nutrition impacting ewe colostrum production, milk supply, lamb vigour and both ewe and lamb behaviour. All of which can impact lamb survival. Where supplementary feeding is required, this can lead to mismothering and separation which further impacts survival.



*Ewe with newborn twin lambs utilising natural shelter. Photo credit: Daniel Stout*

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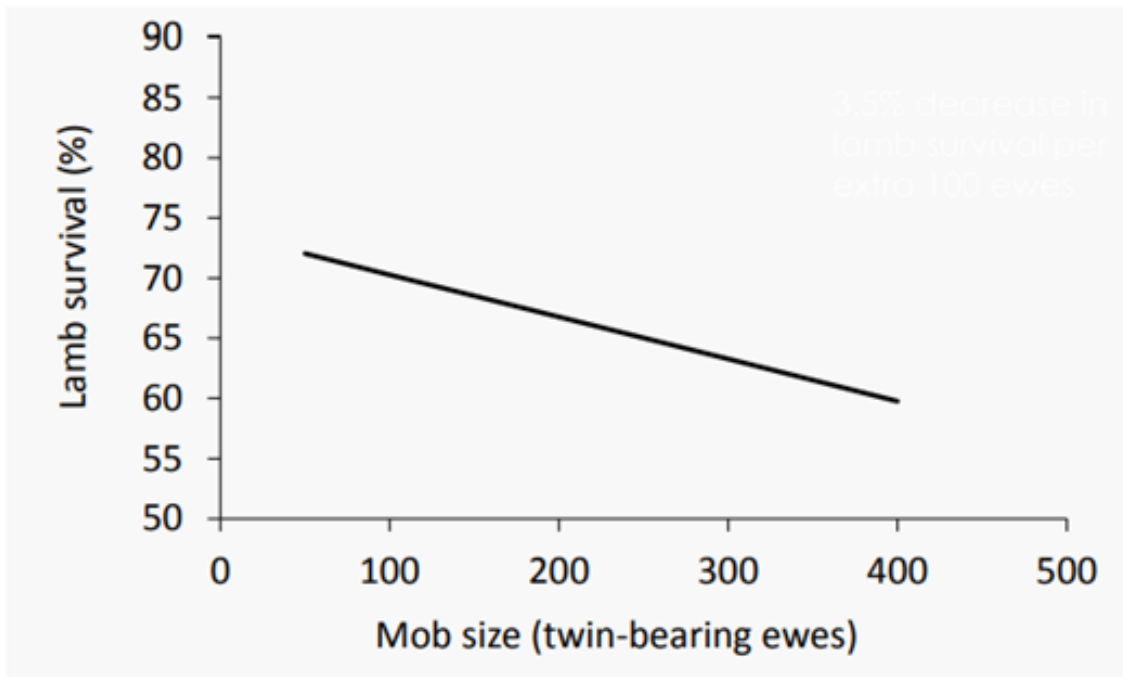
## Learnings from Australia

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### BestWool BestLamb producer surveys<sup>1</sup>

Large scale producer survey of Merino flocks in Victoria, Australia (AUS) published in 2017 found:

- 3.5% decrease in twin lamb survival for every +100 ewes in a mob.
- 1.4% decrease in single lamb survival for every +100 ewes in a mob.
- 0.7% decrease in lamb survival (singles or twins) for every +1 ewe/ha stocking rate.



*Relationship between mob size and lamb survival (Best Wool Best Lamb survey)*

This raised questions over the AUS national guidelines which recommend mob size of twins be 100 – 250 ewes as this would produce a 5.25% difference in lamb mortality or <10% marking rate.

### National Lamb Density Project<sup>1</sup>

Research project on 70 farms across South AUS from 2016–2018 on twin bearing Merino and Maternal composite or crossbred ewes.

4 x 4 experimental design looking at the impact of Low (100 ewes) or High (240 ewes) mob size and Low (5–6 ewes/ha) or High (7–8 ewes/ha) stocking rates. Ewe body condition score (BCS) and pasture covers were consistent across groups. Results found:

- Average lamb survival was superior in Low mob size groups at 77.3% compared to 74.5% for High mob size groups.
- 2% decrease in twin lamb survival for every +100 ewes in the mob found for both Merino and Maternal ewes.
- No statistically significant influence of stocking rate. Although pasture covers were deemed adequate (>1500 kg/DM/ha) on all sites.

This was mirrored (2.5% decrease per +100 ewes) by an accompanying study of low stocking rate flocks lambing at 0.3–3.8 twin ewes/ha.

## Findings from Pingelly Farm<sup>1</sup>

Similar trails were carried out at Pingelly Farm in Western AUS. In 2016, no effect of mob size was found in a season of exceptional pasture growth with covers at 2700kgDM/ha. However, the following year saw pasture covers down to just 400kgDM/ha with ewes supplementary trail fed. In this year survival in twins was 6.2% greater in mob sizes of 55 ewes compared to 210 ewes (4% decrease per +100 ewes). Indicating that feed availability has an impact on the influence of mob size on survival.

## Paradoo Precision Lambing<sup>2</sup>

The Precision Lambing system developed by Paradoo Prime in AUS combines a novel concept – short mating interval of 12–17 days, rams removed for 20–25 days followed by another 12–17 day joining – with best practice such as paddock allocation, mob size and nutrition. Decision making is further refined by recording ewe and lamb mortality by paddock.

In conventional lambing systems all ewes are lambed in one prolonged period >30 days with the vast majority of paddocks (many undesirable) having to be used and the risk of pasture covers becoming depleted.

The Precision Lambing system meanwhile enables better targeted husbandry and management to maximise survival as the best paddocks that promote lamb survival (smaller mob sizes, better shelter, aspect, pasture covers) can be used twice. The benefit is furthered by having a gap between lambing batches allowing pasture covers to build to optimal levels for the next lambing.

Paradoo Prime report that over the past 5 years of doing Precision Lambing they have consistently achieved 88–91% total foetal survival (scanning to weaning). This is much higher than the average results from the National Lamb Density Project. Improved lamb survival has been achieved despite an ongoing increase in scanning percentage and associated multiples with Paradoo rearing 166% in 2020 with 90% foetal survival to weaning.

Additional benefits from Precision Lambing and compact batch lambing include: Lambs in each group are more even in age and weight allowing more flexibility to schedule/intervene (eg marking) and plan finishing. Improved labour efficiency at lambing. Compacted labour peaks allows more effective use of external labour. Better prioritisation of ewe body condition recovery.



*Outdoor lambing system in West Wales. Twins on lower fields with better pasture covers and shelter to promote lamb survival. Singles on the higher more exposed fields. Photo credit: Daniel Stout*

## Application in a Scottish context

- Separating ewes based on litter size (scanning) is essential to best match higher risk ewes (multiples) to best available fields – pasture covers, field size (mob size) and other field characteristics such as shelter and aspect.
- Plan lambing date to best match pasture supply (growth) and ewe demand to ensure adequate pasture covers (>4cm) and negate the need to supplementary feed.
- Target multiple bearing ewes to fields with highest quantity and best quality pasture.
- Set stock ewes on lambing paddocks at least 7 days pre-lambing to allow them to settle and choose their birth site.
- If supplementary feeding is required, prioritise adequate pasture covers for multiple bearing ewes and supplementary feed singles (less risk of separation) on low covers. Where mob sizes for triplet bearing ewes are very low then these could be prioritised instead.
- Ewes with lambs that are up and suckled can be drifted out of lambing fields to provide them with fresh grass and reduce feed demand in the lambing fields to help build covers.
- Whilst mob sizes in Scotland aren't generally as large as those in AUS, there is a clear benefit for lamb survival in reducing mob size. Suggested target mob sizes for a Scottish context are shown in the table below as well as suggested stocking rates assuming adequate covers and grass growth rates >25kgDM/ha/day.
- Reducing mob size will improve lamb survival so look to put singles into large fields where mob size will inevitably be greater. Consider field sub-division – this can be done with electric fencing even at lambing.
- Consider shelter in each field, steepness (concentrates ewes in certain areas), water and risk areas and allocate multiple bearing ewes to the most desirable fields to optimise lamb survival.

### Target mob size and stocking rates for outdoor lambing systems

Litter size	Mob size (ewes/mob)	Stocking rate (ewes/ha)
Singles	<100	10–11
Twins	<50	8–9
Triplets	<30	6–7

<sup>1</sup>[AWI Improving lamb survival by optimising lambing density and mob size](#)

<sup>2</sup>[Paradoo Precision Lambing](#)

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