

Recording lambing traits

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Summary

- Lambing ease, lamb vigour, lamb birth weight and ewe maternal ability have a significant impact on lamb survival rates and labour requirements at lambing.
- There is a genetic component to these traits meaning selection can be made to improve lambing traits and reduce lamb mortality provided problem animals can be identified and data is recorded on the trait.
- Record or mark ewes and offspring that show undesirable traits so that they are not retained for breeding or record traits using a more advanced scoring system to facilitate improved breeding decision making and genetic progress.
- The complexity of scoring chosen should be based on your breeding objectives with the aim of balancing the benefits of improved breeding decision making and genetic progress with the increased labour and technology requirements to record the trait.

Introduction

Lamb survival is a major factor in determining the number of lambs reared and so the financial performance of any sheep enterprise. Flock management and nutrition has a significant impact however, there is also a genetic factor to lamb survival making it possible to breed for improved lamb survival. Lambing ease, lamb vigour, lamb birth weight and ewe maternal ability all have a significant influence on lamb survival – selecting for these heritable traits will reduce mortality. These traits also have a significant impact on labour requirements. With less strain on the workforce at lambing, more lives can be saved, and there is opportunity to potentially reduce labour costs.



Recording and breeding selection protocol

Design a recording protocol that suits the degree of breeding selection you wish to implement. The principal aim is to make more informed breeding decisions when selecting ewe lamb replacements, ewes to cull and tup selection. Recording can be carried out using pen and paper however more advanced Electronic Identification (EID) recording technology provides the opportunity to improve data handling and subsequent analysis. Whatever the scoring system it is important to be consistent in recording and scoring definitions, particularly when there are multiple lambing staff. Target replacement rate and level of lambing issues might determine the level of tolerance you permit. For instance, if lamb mortality is over 15% from scanning to sale in a lowland flock, then greater selection pressure is required to improve rearing rate in the future.

Apply the following recording and breeding protocols that best suit your objectives:

- Record presence or absence of a trait 'yes or no' based on a defined level of tolerance. Record the score or simply mark the ewe and her lambs. If you need to identify the lamb and associated scores and match to dam at a later date, then lambs need to be EID tagged. Make ewe culling decisions based on a one or two strike policy (for example, lambing intervention) and do not retain ewe lambs that are born to those that don't meet your specifications. This is the most simplified option for commercial flocks
- Record using a 3-point scoring system to provide a range in severity (for example, lambing ease: No assistance, Minor help or Assisted). This provides improved breeding decision-making through more detailed records and is more appropriate for flocks with a higher level of toleration or that wish to go more in-depth into breeding decisions. Cull ewes and select replacements based on a defined threshold and ewe strike policy. If culling hard and not looking to analyse data, then there is no need to make scoring more detailed than presence or absence.
- Record using a more complex 4-6-point scoring system (for example, lamb vigour might be scored from 1 to 5 based on the time they take to stand and suckle after lambing). This provides greater accuracy and variation within a population for the trait which increases the potential rate of genetic gain. This option provides the opportunity for much more informed breeding decisions based on analysis of the data than compared to the previously outlined more simplified options. This complexity of scoring is commonly used for genetics evaluation to produce Estimated Breeding Values (EBVs). EBVs provide the most accurate level of genetic selection for a trait.

Lamb mortality

Recording lamb mortality is perhaps the most important of all traits to record at lambing. It allows identification of ewes that lose lambs and can highlight the ewes, and offspring, that consistently scan and rear multiples. EID tagging of lambs at birth facilitates future identification of the individual lamb and their dams who have successfully reared the lambs for future breeding. Record losses or mark ewes that lose lambs.

Lambing ease

Dystocia (lambing difficulty) increases the risk of lamb mortality through trauma and subsequent weak lambs, increases ewe mortality due to trauma and has a major impact on labour requirements at lambing.

Presence or absence

0 or no mark	1 or mark
No assistance	Assistance required

3-point scoring system

0	1	2
No assistance	Minor help	Assisted

Complex scoring system

Score relates to each lamb.

1. No assistance
2. Slight assistance by hand
3. Severe assistance
4. Non-surgical veterinary assistance
5. Veterinary assistance, surgery required
6. Elective caesarean

Lamb vigour

Lambs born with strong vigour that get up and suckle quickly have a much greater chance of survival. Poor vigour increases the risk of lamb mortality but also adds a significant burden to labour resources where lambs require suckling or additional feeding. Lambs can be scored directly for vigour based on their time to stand, however, this requires monitoring and as such is not suitable for outdoor lambing. The alternative is to score based on the need for assistance to suckle.

Presence or absence

0 or no mark	1 or mark
Up and suck / no intervention	Poor vigour / help to suckle

3-point scoring system

0	1	2
Up and sucks	Slow to suck	Suckled

Complex scoring system – lamb vigour score

Each lamb should be scored for activity and vigour at 5 minutes after birth.

1. Very active and vigorous lamb. Holding head up, and on knees, trying to stand up (eg balanced on knees and back legs), or has stood, moving towards ewes and may be trying to find udder.
2. Active, vigorous lamb. Holding head up, rolled onto chest with knees underneath, maybe pushing up onto knees but not yet trying to stand.
3. Weak lamb. Still lying fairly flat although able to hold up head. Not yet trying to raise chest from ground by pushing knees.
4. Very weak lamb. Not yet raised head, may be having difficulty breathing, either no movements or only weak and uncoordinated movements (eg paddling).

Complex scoring system – Suckling assistance score

1. Lamb suckling well unaided. Lamb always appears full when checked and no time is required to help lamb suck from ewe.
2. Lamb required some help to suck (no more than 2 occasions) from the ewe in the first 24 hours of life.
3. Lamb needed help to suck from the ewe more than twice, and for more than 24 hours, but less than 3 days.
4. Lamb needed help to suck from ewe for more than three days.

Maternal behaviour

Maternal behaviour of the ewe to be attentive to her offspring has a significant impact on her lamb's chances of survival through cleaning at birth and keeping the lambs fed and sheltered. This can be subjectively scored based on expression of maternal ability, attentiveness to lambs, or on a flight distance score based on the distance the ewe stands away from the human holding her lambs.

Presence or absence

0 or no mark	1 or mark
Good mothering ability	Poor mothering ability

3-point scoring system

0	1	2
Follows whatever	Stands well back	Leaves lamb

Complex scoring system

Score within 24hrs of birth. A ewe with a score of one has excellent maternal behaviour. Whilst a ewe with a score of 5 has poor maternal behaviour and little interest in the lamb.

1. Ewe stays close to the lamb and operator.
2. Ewe stays within 10 meters of the lamb and operator.
3. Ewe stays within 30 meters of lamb and operator.
4. Ewe ran away but readily returned when operators moved away.
5. Ewe ran away and was difficult to get to return to lamb.

Lamb birth weight

The optimum birth weight is not linear, high birth weight increases the risk of dystocia and associated increased mortality, whilst low birth weights can lead to reduced lamb survival through hypothermia and weak lambs that fail to suckle. Identifying excessively heavy birth weights or light birthweight genetics is the aim here.

Presence or absence

0	1	2
Ideal birth weight	Light	Heavy

Complex scoring system

Record actual birth weight (kg).

Other important traits to record at lambing

The following traits also have a substantial impact on lamb survival and labour requirements at lambing. Recording these traits as presence/absence or a note is generally sufficient.

- Ewe has sufficient colostrum quantity and quality.
- Ewe has sufficient milk.
- Prolapses.
- Entropion in lambs.
- Issues with udder morphology for example large teats or low hanging udders.
- Mastitis.

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