Where do ewes go and BCS accuracy 'by eye'

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Introduction

Every year on commercial sheep farms a percentage of ewes exit their flock, either due to culling or death, and need to be replaced. High replacement rates have an economic impact due to the requirement to keep or purchase extra replacements and a higher proportion of younger and thus less productive ewes, while ewe deaths have an additional cost as the value of the ewe cannot be recouped. It has been well established that poor ewe body condition score (BCS) is associated with increased levels of premature culling and ewe death (Flay *et al.* 2021, 2022, 2023). In a farmer survey conducted in 2014, 60% of respondents reported that they had undertaken BCS of ewes at least once in the past three years (Corner-Thomas *et al.* 2016). However, anecdotally it would appear likely that many farmers undertake BCS by drafting out low BCS ewes via the drafting gate, rather than by the recommended method of palpating the lumbar spine of each ewe. The aims of these studies were to describe when and why ewes exit their flock and to assess the accuracy of farmers in identifying low BCS ewes via the drafting gate compared with palpation.

Methods

To assess when and why ewes exit their flocks, data from 34 sheep flocks located throughout New Zealand were obtained in 2021. These primarily comprised ewe tally data at key management events, details of number and reasons for culled ewes and, in some cases, recorded deaths. However, in most cases deaths were estimated based on the number of missing ewes from the tally and culling data.

To assess the accuracy of farmers at identifying low BCS ewes via the drafting gate, 8 farmer and technician participants with varying sheep and BCS experience assessed 100 ewes with known BCS at 0-, three- and six-months wool growth. They were firstly required to draft out the low BCS ewes, and then to palpate the lumbar spines of the ewes to identify those in low BCS. Preliminary descriptive data will be presented.

Thes BCS study was approved by the Massey University Animal Ethics Committee.

Results

Based on combined data from 34 flocks, the average replacement rate was 29.2% which means that for every 1000 ewes present at breeding 292 ewes subsequently exited the flock during the year. Just over half of these were culled during the main ewe culling period after weaning, primarily due to age or defects of the teeth or udder. The remainder were culled or died throughout the year for various reasons. Almost 7% exited between breeding and pre-lambing (set-stocking) due to culling and deaths. In the short period between pre-lambing and mid-lactation (set-stocking to docking/tailing), 3.7% died while approximately 4% were wet/dry and may or may not have been culled. An additional 3.3% died or were culled between mid-lactation and breeding. There was considerable variation between flocks in ewe replacement rates, percentage of ewes culled for different reasons, and ewe deaths. Flocks with higher scanning percentages had lower rates of ewes exiting the flock.

At the time of writing the ewe BCS study had not been completed and so only brief descriptive results from 0-months and three-months wool growth are presented here. Data from six-months

wool growth will also be included in the conference presentation. Preliminary data suggest that at 0-months wool growth, participants were as accurate at identifying low BCS ewes (BCS ≤2.0) via the drafting gate as they were via palpation, with close to 100% accuracy using either method. However, at three-months wool growth, on average participants failed to identify (draft out) almost a quarter of low BCS ewes via the drafting gate but had over 90% accuracy at identifying them by palpation. At three-months wool growth there was considerable variation between participants in their accuracy at identifying low BCS ewes via the drafting gate, and to a lesser degree via palpation, which did not appear to be related to their level of experience.

Discussion and conclusions

Nearly 30% of ewes exited their flocks each year due to a combination of culling and deaths, with considerable variation between flocks. Flocks with high replacement rates could potentially reduce these by identifying the main times and reasons for losses and making farm-specific interventions to reduce losses. In particular, targeting a reduction in ewe deaths during the lambing period is likely to be economically valuable for many flock owners. The production losses associated with low BCS ewes are well known and thus there are considerable potential benefits in identifying low BCS ewes and managing these appropriately. Assuming the participants in this study were a reasonable reflection of farmers and technicians within the industry, identifying and separating out low BCS ewes (BCS ≤2.0) "by eye" via the drafting gate is likely to be an efficient and accurate method for ewes that have recently been shorn. This method would not be recommended for ewes with three-months wool growth due to the relatively high percentage of low BCS ewes that were not identified, although there was considerable variation between participants.

Acknowledgements

References

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