Maximising lamb output from mating ewe lambs
Introduction

At a time of increasing pressure on flock efficiency and maximising ewe lifetime performance breeding ewe lambs can be a financially sound decision.

Whether mating ewe lambs is right for an individual flock will however vary according to a range of factors including land and forage quality and availability, ability to manage an additional group of stock on the farm, labour considerations and flock replacement policy.

Well grown ewe lambs having reached at least 60% of their adult mature weight are well suited to mating. Such ewe lambs can provide both financial gains from the production of an additional lamb and also performance benefits in subsequent years.

Table 1 - Target liveweights at different ages

<table>
<thead>
<tr>
<th>Adult weight at 2 years of age</th>
<th>Target yearling weight at 18 months of age</th>
<th>Minimum mating weight at 7-8 months of age</th>
</tr>
</thead>
<tbody>
<tr>
<td>55kg (e.g. Welsh Mountain)</td>
<td>44kg</td>
<td>33kg</td>
</tr>
<tr>
<td>65kg (e.g. Lleyn)</td>
<td>52kg</td>
<td>39kg</td>
</tr>
<tr>
<td>75kg (e.g. Mule)</td>
<td>60kg</td>
<td>45kg</td>
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</table>

Lambing ewe lambs is, however, not without its challenges and achieving good results requires a high level of management to ensure at the end of the season their lamb crop is well grown and the ewe lambs themselves are ready for mating again at 18 months of age.

Advantages and disadvantages of breeding ewe lambs

ADVANTAGES OF SUCCESSFULLY BREEDING EWE LAMBS INCLUDE:

- Additional income from the production of lambs within the first year of life
- Behaviour at lambing and milking ability is improved when yearling ewes have reared lambs as ewe lambs
- Research has shown that breeding ewe lambs increases their lifetime reproductive performance
- Ewe lambs failing to conceive can be culled from the flock
- Can be used as an early selection tool to cull out ewe lambs that fail to conceive or have poor maternal performance
- Potential to increase genetic gain if progeny born to ewe lambs are selected as replacements
- Can reduce the carbon footprint of lamb production with a reduction in methane emissions per kg of lamb produced from the farming system

DISADVANTAGES OF BREEDING EWE LAMBS INCLUDE:

- Increases workload and can extend the lambing period
- Depending on when ewe lambs are mated and the type of rams used in the main flock additional rams may be required
- Increased feed and forage requirements
- Increased losses from lambing associated deaths and the culling of problems such as prolapses and mastitis will increase replacement costs
- Additional groups for management are required
- A high number of twins (or triplets) can put pressure on the need to cross-foster or create additional lambs for artificial rearing
- Lambs born and reared by ewe lambs are often smaller at weaning and take longer to meet target finish weight
- Good grazing is required both pre and post-weaning to ensure target weights at next mating are met
- If the ewe lamb experiences ‘hardship’ during her first pregnancy and lactation there is the potential for reduced live weight and lifetime reproductive performance
The cost-benefit analysis

Sale of the progeny of ewe lambs took place from the 5th of September to the 21st of November with an average sale price of £57.50. Concentrates were fed for the last 4 weeks of pregnancy at a flat rate of 250g/day and feed buckets offered post-lambing at a total cost of £470.25. Compared with non-pregnant ewe lambs supplementary silage was fed to pregnant ewe lambs until the 15th of March with an estimated forage cost of £5/head. Additional health and miscellaneous costs were estimated at £1.90/head including the cost of milk replacer. The loss at lambing and subsequent culling of two ewe lambs at weaning added £210 to the total cost of the system.

No separate costs were included for labour requirements associated with the lambing of ewe lambs however with outdoor lambing it was estimated that an additional hour per day was required for 21 days. Assuming a cost of £10/hour including this charge would lead to an overall net difference of £2,102 including labour costs.

Top tips for improving ewe lamb breeding performance

Making money from breeding ewe lambs does require good technical performance and careful planning is required to maximise lamb output. Reproductive performance of ewe lambs is a combination of genetics, nutrition and management. Selecting the right replacements is the first step in the process however the following tips can help optimise their subsequent output.

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The cost-benefit of mating ewe lambs

Mating ewe lambs must make economic sense and the starting point to deciding whether to mate ewe lambs (or to continue the practice) is to carry out a cost-benefit analysis of the process.

The actual cost-benefit of mating ewe lambs will vary considerably with management systems used and subsequent output. There are however a number of common factors to consider regardless of the system employed.

Lamb output

The biggest driver in mating ewe lambs is the additional lambs generated. This can allow a reduction in the number of mature ewes required or an increase in the number of lambs produced from the flock.

Feed Requirements

Pregnant and lactating ewe lambs require 20% more feed than mature ewes of the same live-weight. Increased feed requirements are therefore one of the biggest costs involved in lambing ewe lambs at 12 months of age. Some flocks may creep feed lambs bred from ewe lambs particularly if the ewe lambs are required to rear two lambs. This is however a further cost so the increase in lamb live-weight at weaning should be considered against the additional cost of creep feed.

Ewe lamb loss and culling rate

Lambing ewe lambs at 12 months of age can be associated with an increase in losses and there may be a small number of ewes requiring culling after weaning. Good nutrition and health can reduce losses from the flock but as a rule some losses will occur and this will impact upon replacement costs.

Other factors to consider include costs such as ‘vet and med’ and ram mating costs. A routine vaccination programme will be required for all replacement stock whether they lamb as ewe lambs or not. However, pregnant and lactating ewe lambs are likely to be more susceptible to worms and advice should be sought on the most appropriate anthelmintic treatment for this class of stock. Depending on the type and number of rams present on the farm the mating of ewe lambs may require additional rams.

An example

The following provides an example for a 500 ewe crossbred flock with 100 homebred replacement ewe lambs retained annually. Ewe lamb mating takes place 17 days after rams are added to the main flock so no additional rams are required. Lambing starts on the 14th of April and takes place outdoors on young leys where ewe lambs and their lambs remain until weaning at 12 weeks of age. Of the 80 replacement ewe lambs reaching target mating weight 58 were in-lamb at scanning with 47 singles and 11 twins. Depending on the size and milking ability of those producing twins the second lamb is either left with the ewe lamb or taken off for fostering or artificial rearing. At weaning there were 59 lambs reared including two lambs that were artificially reared. One ewe lamb was lost at lambing due to ringwomb and two ewe lambs were subsequently identified for culling at weaning.

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Top tips for improving ewe lamb breeding performance

**PRE-MATING**
Ewe lambs should be at least 60% of their mature body-weight at mating however avoid heavily creep fed lambs as this can affect their maternal performance. Sticking to a minimum weight is vital – it is detrimental to try and make up weight gain post mating. Avoid flushing ewe lambs!

**MATING**
Using teaser (vasectomised) rams can help bring on oestrus and should be introduced 14 days before rams are added. Do not leave the rams in for too long – 21 days is common practice and do not leave them in for more than 2 cycles (34 days). Ewe lambs don’t show oestrus strongly so if possible use experienced rams and avoid ram lambs.

**EARLY AND MID-PREGNANCY**
Ewe lambs should be allowed to grow at a steady rate of between 80 and 150g/day through early and mid-pregnancy. Over-feeding at this stage can reduce placental development and lead to small lambs and poor milk production. Under-feeding will however stunt ewe lamb growth and live-weight should therefore be monitored over this period and targets set.

**LATE PREGNANCY**
Correct nutrition at this stage is vital. Good quality forage and where necessary supplements with adequate levels of ME and quality protein i.e. bypass or rumen undegradable protein will help optimise lamb birth weight and allow the production of adequate amounts of colostrum. Over-feeding of singles should however be avoided and ewe lambs should be condition scored regularly to meet a target score of 2.5 - 3.

**LAMBING**
Whilst good supervision at lambing is needed ewe lambs should be given time and space to complete the lambing process and ensure good bonding with their offspring.

**POST-LAMBING**
Creep feeding may be beneficial especially for those rearing twins.

**WEANING**
Lambs should be weaned early from 10-12 weeks of age.

**POST-WEANING**
Once weaned monitor ewe weights to meet target of 80% of mature weight by next mating at 18 months of age.

The Role of ewe lambs in genetic improvement

A compelling reason to consider breeding ewe lambs can be its role in improving the genetic merit of a flock. Assuming that continual improvements are being made in the genetic attributes of the flock through participation in recording schemes and careful selection of replacement stock the animals with the highest genetic merit are most likely to be the youngest in the flock. Mating young high genetic merit animals to males of equal or higher performance will therefore speed up the rate of genetic improvement.
Conclusion

• Select ewe lamb replacements from ewes that have performed well in the flock and use performance recorded rams wherever possible. If purchasing ewe lambs try and select stock from vendors who are actively improving the maternal attributes of their own flock.

• Only breed from ewe lambs having met a minimum target weight.

• Carefully select the rams for mating to ewe lambs. Consider the use of teasers to maximise the number mated in the first cycle. Do not leave rams in for too long.

• Monitor ewe lamb growth and condition over the winter period and carefully consider whether supplementation is necessary and if so at what level. Make sure that if supplements are required there are adequate energy levels and good quality protein is present in the feed.

• Monitor health problems in the ewe lambs and their progeny and seek prompt veterinary advice should any issues occur.

• Carefully monitor ewe lambs at lambing but allow time and space for bonding with their lambs over the first 24-48 hours.

• Allow ewe lambs rearing lambs access to the best grazing on the farm and wean in good time for recovering of body condition and further growth before their next mating.

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