

Mating for Early Lambing

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Advancing the breeding season

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bing requires ewes to be mated in August but most breeds only exhibit oestrus from September onwards in response to increasing night time/darkness which stimulates the secretion of the hormone melatonin with peak fecundity in October or November. The onset of the breeding season can be manipulated by:

- The ram effect
- Melatonin implant
- PMSG injections following progesterone sponges

Breed and age o

f the flock are determined by flock management policy.

The ram effect

The ram effect can advance the breeding season by about two weeks.

The ram effect occurs when non-cycling ewes are stimulated to ovulate by pheromones produced by male sheep whether entire or vasectomised (teasers). The ram effect relies on ewes and rams being totally isolated from each other by about one mile for at least six weeks prior to the planned mating season (neighbours' rams must also be considered). The initial induced ovulation will be a non-detectable "silent heat" three to four days after the introduction of rams (or teasers). Two peaks of normal oestrous activity follow around 18 and 26 days later. Ewes not conceiving at this heat will cycle again around 17 days later.

In most British breeds the ram effect will only work from about six weeks before the natural breeding season and advance the breeding season by about two weeks.



The ram effect can advance the breeding season by about two

weeks.

Two vasectomised rams are usually required per 100 ewes. Although vasectomised rams are often left in for a week (in for one week, out for one week, then introduce fertile rams is easily remembered), just two days' exposure is sufficient and would allow their use in other groups of ewes consecutively. Fertile rams can also be used as teasers, but a small proportion of ewes may become pregnant to the induced ovulation about three weeks earlier than planned. The major benefit of the ram effect is the synchronisation of oestrous activity; a high percentage of ewes ovulate, conceive and subsequently lamb over a short period of time. Such synchronization necessitates one fertile ram per 25 - 30 ewes.

Melatonin implants

Melatonin implants can override the effect of the short periods of darkness that occur during late summer to advance the breeding season by a maximum of two months. A standard treatment regime would be:

Day 1 (30 weeks before desired lambing start) - remove all rams from sight or smell of the ewes

Day 7 - implant ewes

Day 42 (35 days after implantation) - introduce rams

Peak mating activity will occur about 25 days after ram introduction (see notes on the ram effect). Melatonin use should be combined with known breed characteristics - select older Suffolk-cross and Dorset Horn-cross ewes in good body condition with their lambs weaned earlier in the summer. Melatonin use in other breeds and gimmers may prove disappointing when attempting to advance the breeding season.

Some of the potential benefits of early season breeding using melatonin are listed below

- Early lambs to sell at premium prices
- Mature ram and ewe lambs available for pedigree sales
- More efficient use of staff, buildings and rams (two lambing periods)
- Breed broken mouth ewes early and sell fat

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Early season lambs produced after melatonin implant. The lambs are ready for market at 42 kg in late April/early May on this farm.

Advancing the breeding season will require more supplementary feed in the late winter and early spring as grass growth will not coincide with lambing. Sufficient buildings must be available for housing sheep over the lambing in case of adverse weather. A higher barren rate than the normal 2 per cent is to be expected, however such barren ewes could be returned to the main flock lambing in the normal season.

Melatonin used during the natural breeding season could increase the scanning percentage by as much as 20 per cent in some situations - consult your vet before use for optimum results.

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Progestogen sponges and PMSG injections

The combined use of progestogen sponge and PMSG injection can advance the breeding season by four to six weeks and synchronise mating. In some animals, PMSG will also increase the ovulation rate, resulting in larger litters, although this effect is variable.



Progestogen sponge and PMSG injection used to advance the breeding season by four to six weeks and synchronise mating in these Texel cross ewes.

Rams should be introduced for at least 48 hours at a ratio of 1:10 ewes only after 36-40 hours following sponge withdrawal. If rams are introduced too soon they may repeatedly serve the first ewes to show oestrus depleting their sperm stores for the later ewes. Rams should be re-introduced 16 days after sponge withdrawal to mate

those ewes not conceiving to the synchronized heat.

Increasing ovulation rate

High ovulation and implantation rates are fundamental to achieving a high lambing percentage.

The ovulation rate can be influenced by

- stage in the breeding season
- body condition score and plane of nutrition
- breed
- age
- PMSG injections

Stage in the breeding season

The ovulation rate is generally higher in late autumn during the middle of the breeding season, and lower at the beginning. Advancing the breeding season will result in a reduced ovulation rate at the time of mating.

Body condition score and plane of nutrition

Ewes in body condition score 2.5 - 3.0 generally respond well to a rising plane of nutrition for at least three weeks before and during the mating period. Early lambing ewes are often in excessive condition at mating which may result in reduced ovulation rates and must be controlled by strict grazing management.



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Breed

The ovulation rate of certain breeds such as the Finnish Landrace and Blueface Leicester are higher than those of other breeds.

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Cheviots would not be a good choice for early season lamb production.

Age of ewe

The ovulation rate of gimmers is generally lower than that of adult ewes.

PMSG injections

PMSG can be employed to superovulate ewes but the response is variable. The main use of PMSG injection is induction of ovulation before the normal breeding season.

Fertilisation

Rams should be checked for breeding soundness well in advance of the mating season. Rams need to be in good body condition for mating (score 3.5 - 4.0).



Check rams well in advance of the proposed breeding season; in this case early June ahead of the enhanced August mating period.

It is also important that they are in good body condition and free of disease for at least two months before mating, the time taken for sperm production and maturation.



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