

Preparing the ewe flock for the breeding season

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Introduction

How the flock is prepared for the breeding season can impact on flock prolificacy, productivity and, consequently, on profitability. To have your flock at its optimum means that the ewes are in optimum body condition and problem ewes have been culled. The objective of this article is to provide information on reasons why ewes are culled and to describe how to body condition score ewes.

Reasons for culling

In advance of the breeding season all ewes, regardless of age, should be assessed for fitness as 'breeding ewes'. Any ewe which has a defect, particularly of the udder, should be culled. During the culling process the availability of good records, collated during the year, which contain information of problem ewes (difficult lambing, blind teats, bad mothering ability, poor milk yield, etc.) is a major advantage as some of these issues are not obvious at this time of the year. Identifying ewes with these issues, and culling, will reduce problems and, thus work load during, the coming season.

The main reasons for culling ewes are tooth condition (mouth), mastitis, poor body condition and feet problems. Also, ewes leave the flock because of mortality. The proportion of ewes that are likely to be culled for these reasons is influenced by ewe age. A recent study at Athenry yielded information on the reasons for culling, as a function of ewe age; this information is presented in Table 1. At Athenry the policy has been not to cull for barrenness. The percentage of ewes that died was similar (4.6%) for each ewe age group up to 6 years of age. The incidence of ewes culled for mastitis varied from 1.6 to 13.3% among age groups, with an average of 5.7% culled

annually for mastitis. As ewes got older the percentage of ewes being culled for condition of the teeth (mouth) increased. Thus 12.7% of ewes that joined the flock to produce their first litter at 2 years of age were either culled, primarily for mastitis, or died within 1 year of joining the flock. Of ewes that joined the flock to produce their seventh litter at 8 years of age, 83% were culled primarily for teeth (mouth) and poor body condition.

Incidence of barrenness

At Athenry, for experimental reasons, barren ewes are not culled. A recent study at Athenry provided information on the incidence of barrenness of ewes up to 6 years of age. In that study a total of 16% of the ewes were barren at least once. On the basis that barrenness is a chance event we would expect about 3% of ewes to be barren twice – the observed incidence was 3.5%; of 10 such cases the second barren event was after a previous lambing that required major assistance in the case of 2 ewes; So the proposition that barrenness is a chance event is consistent with the evidence. This evidence implies that culling young ewes for barrenness merely serves to increase replacement costs unnecessarily as being barren in one year does not mean that the risk of being barren again is increased. The cost of bringing a replacement into the ewe flock for first joining at 18 months of age is equivalent to approximately the value of 25% of the lamb carcass weight that she will produce during her lifetime.

Body condition score

It has long been recognised that body weight *per se* is not a reliable indicator of the body reserve status of the ewe unless age and breed are known, and even then can be misleading. For example the mature body weight of Belclare, Texel and Suffolk breeds of sheep are 76, 80 and 85 kg, respectively.

The most important time for ewes to be at target body condition is at joining. Whilst having the ewes in good body condition prior to the breeding period will have a positive impact on subsequent litter size it also provides a reserve of body tissue which can be mobilised, if required, during the following pregnancy and lactation. Furthermore, ewes that are in good body condition are at a lower risk of metabolic disease (e.g., twin lamb disease) during late pregnancy, produce larger volumes of colostrum, produce lambs that have greater viability and develop a stronger bond with

their dam, and have condition (tissue reserves) to mobilise, if necessary, during early lactation (i.e., milk off their backs).

Body condition score, which is assessed on a scale of 1 to 5, is a “hands on” method of assessing the fatness (condition) of animals. Body condition scoring does not require any equipment, is easy to learn and overcome differences in ewe weight due to age, breed or physiological state (e.g., pregnancy).

The target condition score for ewes at joining is 3.5 to 4.0.

Impact of body condition on weaning rate

Research undertaken at Athenry has shown that each one unit increase in condition score (within the range 2.5 to 4) at mating increases litter size by about 0.13. This increase in litter size can be expected to increase the number of lambs reared per ewe joined (put to the ram) by about 0.1. Mating ewes at condition score of less than 2.5 increases the risk of barrenness, consequently, further reducing weaning rate. In flocks which produce mid-season prime lamb fit for slaughter, each 0.1 extra in the number of lambs reared per ewe joined is currently worth approximately €9.5 per ewe joined.

Effect of weight on condition score

Results from analysis of data on flocks at Athenry shows that, for lowland breed types within the condition score range of 2.5 to 4.0, each 1 unit increase in body condition score is equivalent to an increase of around 12 kg in body weight. Consequently for a flock to be at the target condition score (3.5 to 4.0) at joining it is essential to condition score the flock well in advance to allow time for any required improvement in body condition to be achieved. In general, ewes on good grass swards have the ability to gain approximately 1 kg/week. Body condition scoring the flock well in advance of joining provides adequate time, if required, to increase condition score cost effectively through increased grass intake e.g. to gain 0.5 units of body condition score may require 5 to 6 weeks for ewes grazing good pasture.

In the past, ewes were “flushed”, which is the practice of reducing condition post weaning by tight grazing and then raising the plane of nutrition for about 3 weeks

prior to going to the ram so that the ewes would be gaining in body weight and body condition at mating. Later studies failed to demonstrate that there was any benefit from having the ewes gaining in weight (or condition) at mating. Based on available evidence, if ewes are in good condition after weaning they should not be deliberately slimmed down with the intention of improving condition immediately prior to mating. This practice would also be an inefficient use of energy intake by the ewe and delivers no extra benefit.

How to condition score sheep

Body condition score is assessed by handling the ewe along the top and side of the back bone in the loin area immediately behind the last rib and above the kidneys, as indicated in Figures 1 and 2. The three steps involved in body condition scoring ewes are as follows:

1. Feel the degree of sharpness (roundness) of the spinous processes using your finger tips.
2. Feel the tips of the transverse processes using finger pressure for sharpness (roundness).
3. Press your fingers into the area between the spinous and transverse processes to determine the fullness of the eye muscle and the level of fat cover.

A brief description of each of the scores is as follows:

- Score 1: The spinous and transverse processes are sharp and prominent with a distinct gap between each process. There is no fat cover and the eye muscle is shallow as illustrated in Figure 3.
- Score 2: The spinous and transverse processes are prominent but smooth. There is little fat cover and the eye muscle is moderate.
- Score3: The spinous processes are smooth and rounded and are detectable with a little pressure. The transverse processes are smooth and rounded and the ends are only detectable with firm pressure. The eye muscle is full with moderate fat cover as illustrate in Figure 4.
- Score 4: The spinous processes can be detected only with pressure as a hard line. The transverse processes cannot be detected. The eye muscle is full with a good degree of fat cover.

Score 5: Neither the spinous or transverse processes can be felt, even with pressure. There is a thick cover of fat and the eye muscle is full. There is a depression, due to excess fat, along the mid line fat where the spinous processes would normally be felt as illustrated in Figure 5.

Experienced operators use half scores (i.e. 2.0, 2.5, 3.0, 3.5, etc,) thus enabling more precise assessment of body condition.

Conclusions

It is concluded that:

1. Reasons for culling ewes vary with age.
2. Regardless of ewe age, mastitis is a major reason for culling ewes.
3. Target ewe body condition score at joining is 3.5 to 4.0
4. Each 1 unit increase in body condition score increases weaning rate by 0.1 lamb per ewe put to the ram; worth approximately €9.5.
5. To increase body condition score by 1 unit the ewe must gain 12 kg in body weight.
6. Condition score is easily assessed on a score from 1 to 5 by handling the ewe along the back in the loin area
7. Culling young ewes for barrenness increases replacement cost unnecessarily as the likelihood of being barren on a second occasion is low.

Table 1. Age at lambing and reason for culling (% of ewes joined)

	Ewe age						
	2	3	4	5	6	7	8
Number of ewes joined	284	248	222	159	90	38	12
Died (%)	4.6	4.4	4.1	5.7	4.4	2.6	0.0
Mastitis (%)	6.0	1.6	6.3	4.4	13.3	7.9	0.0
Poor body condition (%)	0.0	0.8	2.7	6.9	5.6	2.6	16.7
Teeth (%)	0.0	0.8	14.4	22.0	31.1	52.6	50
Feet (%)	0.0	1.6	0.4	3.1	3.3	2.6	0.0
Other (%)	2.1	1.2	0.4	1.3	0.0	0.0	16.7
Total culled (%)	12.7	10.5	28.4	43.4	57.8	68.4	83.3

Other = includes rupture and prolapse

(Source: after Keady 2014)

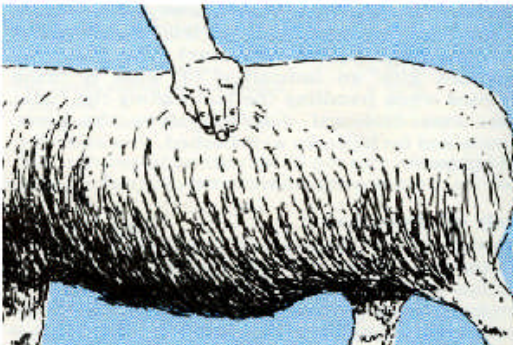


Figure 1. Condition scoring sheep in the loin area

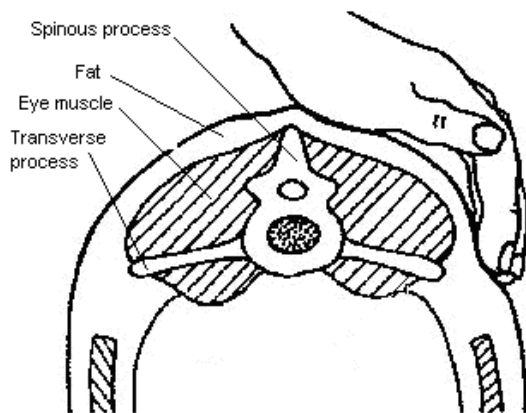


Figure 2. Feeling the tips of the spinous and transverse processes in the loin area

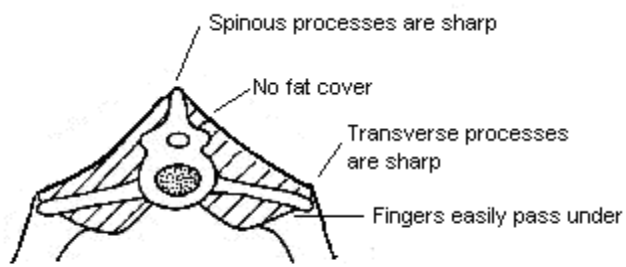


Figure 3. Condition score 1

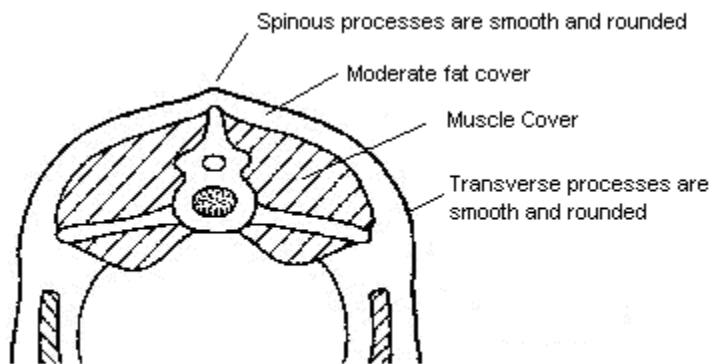


Figure 4. Condition score 3

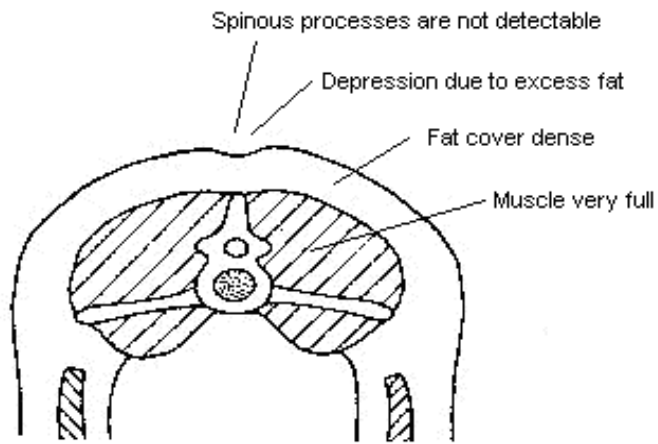


Figure 5. Condition score 5