Feeding ewes in the run up to lambing

To give birth to healthy, live lambs and rear them to weaning, a ewe needs adequate nutrition in the two months before lambing and have sufficient body reserves to meet her nutritional requirements in early lactation

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The performance of the flock at lambing time has a major bearing on the subsequent performance of both the ewe and the lamb up to weaning. Three key areas that will affect the lambing performance of the flock are: ewe body condition score, late pregnancy nutrition and colostrum production.

Producers often judge lambing performance by lamb birth weight but the volume of colostrum produced and lamb mortality rates are equally important.

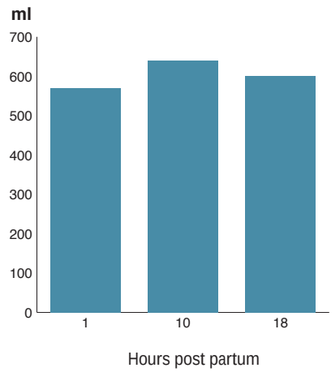
Ewe body condition score

Although the "absolute BCS" of ewes tends to get a lot of focus, practically speaking it's the change in BCS from one part of the year to another that's most important.

Changes in ewe BCS reflect that the ewe is storing excess energy or drawing down energy depending on intake. This has led to some nutrient requirement recommendations being based on the amount of body reserve mobilisation taking place.

During the period from immediately post-lambing to approximately four weeks into lactation, the ewe's energy and protein demands are at their highest of the entire production cycle. But her feed intake potential does not peak until approximately six weeks after lambing.

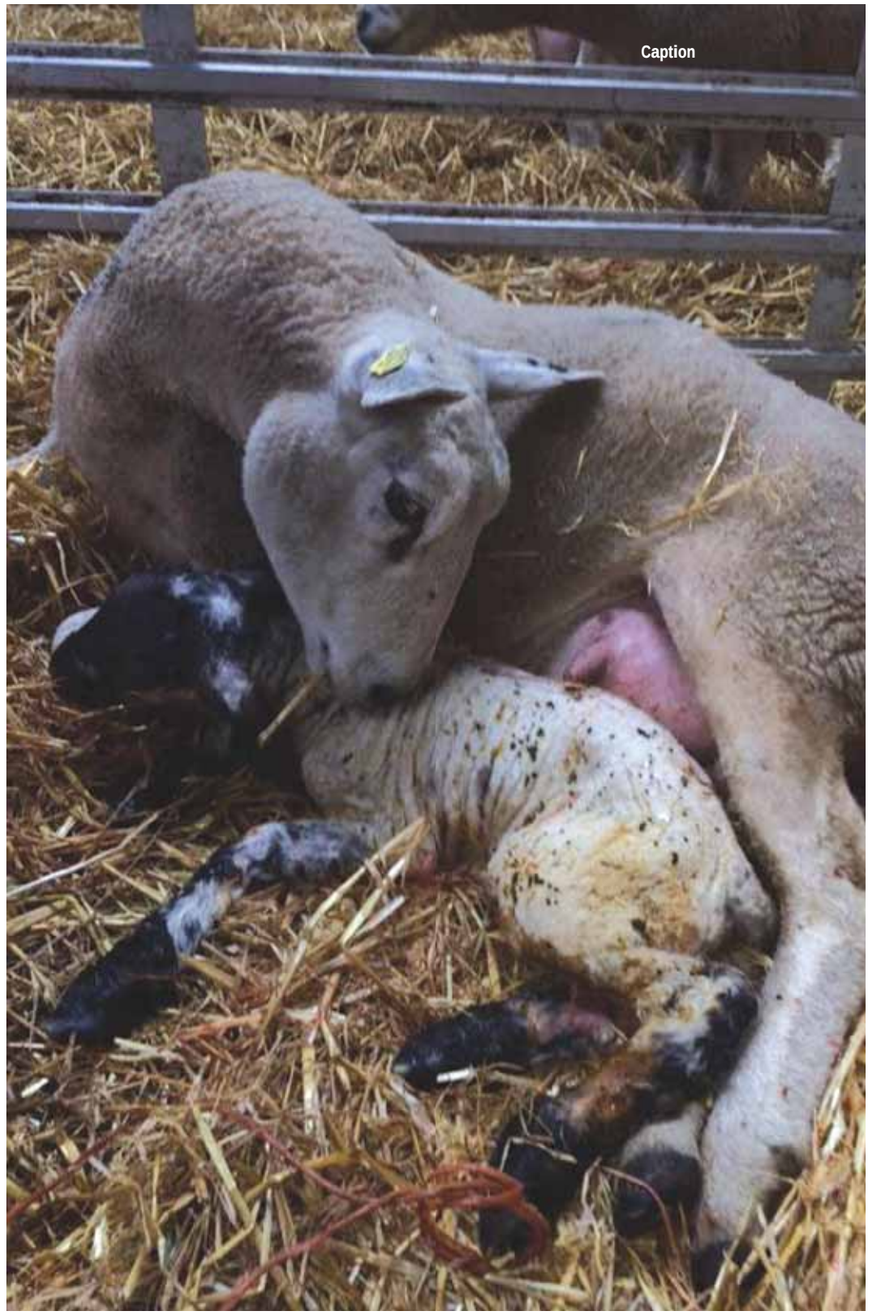
Figure 1
Typical colostrum volume at 1, 10 and 18 hours post-partum (Campion, 2016)



As a result, she needs to be able to mobilise body reserves, to ensure milk production is sufficient to maintain high lamb growth rates.

Ewe BCS should be assessed each time they pass through the race or footbath. This can be done simply by assessing the ewe's muscle and fat cover along the spine and transverse process (short ribs) between the last rib bone and the hip bone.

Ewes that are below target BCS at lambing are more likely to suffer pregnancy toxaemia in the hours post-lambing, have a reduced rate of colostrum production, and be less attentive mothers. To this end, it is important that thin ewes are identified early and separated for additional feeding. For most producers, this involves putting thin twin-bearing ewes in with triplet bearing ewes for feeding etc.



Late pregnancy nutrition

Nutrition during late gestation influences ewe body reserve mobilisation, colostrum production, lamb birth weight, lamb vigour and lamb survival. Late pregnancy is typically defined as the last six to eight weeks pre-lambing, during which time approximately 80% of foetal growth takes place.

Formulating diets during this time is challenging as the rapid growth of the foetus reduces feed intake, potential leading to the need for concentrate supplementation.

Table 1: Net energy requirements of ewes during late gestation given as UFL units

Ewe liveweight (kg)	Litter weight (kg)	Litter size	Wk 1-6 and -5	Wk 1-4 and -3	Wk 1-2 and -1
70	5	1	0.88	1.02	1.22
70	9	2	0.93	1.14	1.50
70	11	3	0.96	1.24	1.63

1 Weeks before giving birth (parturition)

Energy requirements

The first limiting nutrient to the ewe during late pregnancy is energy, with requirements increasing above maintenance from eight weeks pre-lambing. The need for energy will be influenced by ewe live weight, scanned litter size, target litter weight and predicted lambing date.

Energy requirements for the pregnant ewe are determined by first calculating the ewe's own maintenance energy requirement, which is the energy she requires just to maintain her own body weight. The larger she is, the more energy she will need. For every 5kg increase in liveweight above 70kg, the maintenance energy requirement of the ewe increases by 0.04 UFL.

Table 1 shows how the total energy requirement of the ewe increases rapidly during the final six weeks pre-lambing. Typically, ewe energy requirements are discussed in terms of either metabolisable or net energy requirements. In the net energy system, energy is described in terms of UFLs, where one UFL is the equivalent of the energy content found in one kg of standard air dried barley with all other energy values given relative to this.

Protein requirements

For the final two to three weeks of pregnancy rumen undegradable protein, or by-pass protein, is particularly important. It supports mammary gland development and the process of colostrum production. Soya bean meal is an excellent source of rumen undegradable protein and has been shown in the past to improve subsequent lamb performance.

It is important that rations offered during this time contain a high percentage of soya bean meal or that additional soya bean meal is offered with the ration if inclusion rates are low. A useful guideline is that the ewes should be consuming 100g of soya per scanned lamb in the final two to three weeks before lambing.

Colostrum production

The newborn lamb requires colostrum during the first hours of life for nutrients and immunity against disease. Colostrum contains high levels of fat which provides the lamb with energy to hold off hypothermia in the first hours of life.

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Newborn lambs have virtually no immunity to disease and infection but gain passive immunity from colostrum. Colostrum requirements for lambs born indoors, over the first 24 hours of life are in the range of 143ml/kg to 175ml/kg birth weight or 50ml/kg birth weight in the first 18 hours of life. Where lambs are born outdoors, or in colder air temperatures, the energy requirement of the lamb increases with colostrum requirement increasing as a result.

Conclusion

In order to maximise flock performance, particular care is needed to ensure ewes are lambing down in correct BCS. This will only happen if they have had an appropriate late gestation nutrition plan to ensure adequate quantities of colostrum are available to the lamb.

Where ewe BCS is below target or colostrum supply is below requirement after lambing, urgent action should be taken to ensure flock performance is not negatively affected.