

Ewe Nutrition: The Pre-Lambing Period



As we head towards the busy lambing period, it pays to think ahead about ewes' nutritional requirements during the final six weeks of pregnancy. Not only does this ensure lambs have the best start in life, it also can save time during the hectic lambing period.

When they are in good condition, ewes can maintain condition on minimal keep post-tupping due to lower nutrient requirements, but this changes rapidly in the run up to lambing. A rapidly growing foetus limits intakes as the growing lamb reduces the size of the rumen, and when this is combined with increasing nutrient demand for colostrum production, it can lead to a very demanding time for the ewe.

What happens in the last 6 weeks of pregnancy?

As mentioned above, the energy requirement of ewes increases rapidly during the final six weeks of pregnancy. This also occurs during a time that her intakes are limited by a growing foetus, whose weight increases by 70, 50 and

20% during the last 6, 4 and 2 weeks prior to lambing, respectively (Keady, Teagasc). This means that we must increase the nutrient density of her diet to adequately meet these needs.

Below are some basic management and nutrition principles to help meet nutritional needs as efficiently as possible and ensure ewes lamb down in adequate condition.

- Scan ewes and group by number of lambs carried (e.g. singles, twins, triplets) to target better target feeding
- Body condition score to determine appropriate feeding levels; this can be useful to feed ewes requiring additional nutrition separately or move them into the next priority group (e.g. under-conditioned, single bearing ewe can be fed with twin bearing ewes)
- Feed based on the mature weight of ewes; as breeds and production systems come with a wide range in ewe size, nutritional requirements are largely dependent on mature ewe bodyweight as this will dictate maintenance requirements

If ewes are not provided with adequate nutrition, they can begin to suffer from metabolic issues like twin lamb disease, poor maternal

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behaviour, increased risk of mismothering, and lower milk yield and colostrum quality. Any of these can result in smaller, weaker lambs that are slower growing and more susceptible to disease. Similarly, ewes that are too fat have an increased risk of prolapse, twin lamb disease, mismothering and reduced immunity which can lead to lambing difficulties, increased time needed to tend to poorly ewes and lambs and a reduction in ewe and lamb vigour.

Balancing the diet

Forage represents the largest single feed resource on sheep farms, and as the primary component of diets, it is essential to make all feeding decisions based on the quantity and quality of homegrown forages. This first step in doing so is having forage analysed and then balance the diet, supplementing what nutrients are lacking through additive and/or concentrates.

Energy is often the most limiting nutrient in the pre-lambing period, and when levels are low the ewe will mobilise excess energy from her fat reserves, potentially leading to twin lamb disease. It is important that we provide a balanced supply of energy sources for the

rumen bugs, including:

- Long fibre sources such as forage to create a rumen mat
- More digestible fibre sources like beet pulp, soya hulls etc. These provide slowly degradable sources of energy
- Starch and sugar from cereals and by-products, which provide more rapidly available forms of energy and drive the production of propionate

When it comes to protein, the amount of microbial protein produced and made available to the ewe is crucial, as is optimising rumen function to ensure its uptake. As ewes enter late pregnancy the passage rate of the rumen increases, meaning more bypass protein is needed in the diet and further amplifying the need for protein sources that are of exceptional quality in terms of amino acid content. {box out}: “Did You Know: The metabolisable protein requirement of a 70kg ewe carrying twins increases by 60% in the last 7 weeks pre-lambing!”

Complement forage with concentrate

By feeding high-quality forage and maximising its use, less concentrate feed will be required to supplement the diet. In most cases, using a higher specification concentrate will also mean that less needs to be fed and because forage utilisation will be better so will the health of the ewes, further reducing costs. Additionally, lambs will be born with more vitality and will grow faster earlier in life.

In Table 1, we demonstrate how forage quality and pregnancy stage affects concentrate requirements, using a 70kg ewe carrying twins as an example.

In most cases, using a higher specification concentrate will mean that less needs to be fed,

Table 1: Concentrate needs based on forage quality and time till lambing

		70kg ewe carrying twins 3 weeks pre-lambing (Requires 15.3 MjME/day)	70kg ewe carrying twins 1 week pre-lambing (Requires 18.3 MjME/day)
Forage ME/KgDM	Forage Intake Potential	Concentrate feed required (11.6 ME/kg FW at 89% DM)	
11.5	1.7-1.8%	0.00	0.40
10.5	1.4-1.6%	0.33	0.70
9.5	1.2-1.4%	0.55	0.96

reducing costs. Because forage utilisation will be better, the health of the ewes is improved, but also reducing feed costs overall for the farm. Additionally, lambs will be born with more vitality, growing faster, earlier in life.

Typically, high-quality concentrates will also include a high proportion of cereals, driving rumen digestion and stimulating glucose production needed for foetal growth, colostrum production and prevention of twin lamb disease. Concentrates should also have a good quality protein (typically around 10% soya) and contain 150mg/kg of vitamin E and 0.5mg/kg selenium (Se).

Optimise feed efficiency through improved rumen function

We must not only focus on the amount of nutrients in the diet, but also optimise rumen function to ensure these nutrients are released, especially from forage.

When we feed ewes, we are actually feeding the microbes in the rumen that provide the majority of her nutrients. Like the engine of a car converts fuel into energy, the rumen microbes convert feed and forage into high quality meat and milk. Their efficiency in doing so is reduced during diet changes, meal feeding and higher levels of starch and sugars, especially the fibre digesting microbes, who are sensitive to the resulting changes in rumen pH.

To ensure the health of these bugs, they must be allowed ample time to adjust to diet changes, and any changes should be made gradually. If this happens too quickly or if rumen pH drops suddenly due to small changes in silage quality, the fibre-digesting microbes will be killed off. This also means that energy and nutrient

extraction from fibre and elsewhere in the diet becomes less efficient.

Further to this, ewes naturally experience a relaxing of the immune system in the run up to lambing as the ewe prioritises nutrients towards milk production. This can leave ewes predisposed to higher worm burdens and a poorer response to disease, which is especially true for under-conditioned ewes.

Adding Actisaf® to ewe diets supports the growth of beneficial microbes that digest fibre and convert lactic acid to propionate, as well as stabilises rumen pH. Other benefits include:

- Increased feed intakes
- Up to 20% more milk
- Smooth transition onto pre-lambing diet
- Reduced risk of acidosis

In addition, adding Safmannan® premium yeast fraction to ewe rations delivers real benefits in supporting the immune system of the ewe around lambing time, when she is under the most stress. Feeding Safmannan® results in improved colostrum quality in ewes, giving lambs the best start and setting them up for high performance later in life.

To learn more about pre-lambing ewe nutrition, visit <http://www.yeastolutions.co.uk/sheep> or call us at 061 708 099 (ROI) or 02893 343900 (UK).



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