Ewe Nutrition for Lambing
In this booklet

Ewe Nutrition for Lambing

Introduction 02
Why is nutrition so important? 03
Understanding the problem 04
Nutritional planning 05
Tools for assessing nutritional needs 06
Common nutritional problems associated with ewes pre-lambing 07
Other indicators of poor nutrition 08
What to do next 09
The majority of conditions seen in sheep around lambing time are directly attributable to inadequate nutrition.

**Introduction**

**Ewe Nutrition for Lambing**

Correct ewe nutrition is perhaps the single most influential factor behind periparturient losses, from adult sheep as well as lambs.

Much has been done in recent years to provide correct nutritional advice for dairy farmers, with part of the approach being ration formulation. This booklet discusses many of the problems that are associated with ewe nutrition and provides practical solutions to them. It contains some recent research material as well as simple and practical advice from sheep practitioners.
Why is nutrition so important?

Ewe nutrition can be simplified into energy and protein requirements.

The twin-bearing (or more) ewe is under great nutritional stress during the last six weeks of pregnancy. This relates almost entirely to the huge demand that the multiple foetuses place upon the ewe at a time when she is increasing the growth of her udder and coping with a combination of low food availability and poor weather.

The majority of conditions seen in sheep around lambing time are directly attributable to inadequate nutrition. This can include problems such as smothering, which may be due to an underfed lamb being too weak to get out of the way. Getting the feeding right will increase lamb survival, increase profits and reduce labour.

If you have had problems in your flock relating to any of the following, nutrition is likely to be the primary cause:

- Twin lamb disease
- Hypocalcaemia
- Hypothermia of lambs
- Joint ill (naval ill)
- Watery mouth/rattle belly
- Liver abscesses
- Pneumonia
- Lamb dysentery

Even conditions that occur later in the lamb’s life, such as joint ill or some of the clostridial diseases can be attributable to poor colostrum, as a result of poor nutrition.
Understanding the problem

In the last six weeks of pregnancy the following takes place:

- The lamb has its greatest growth
- The ewe's udder grows
- Colostrum is produced
- Brown fat is laid down in the lamb

This all places great demands upon the ewe for energy and protein. She therefore needs a balanced diet as well as being able to physically eat and drink.

Practical issues:

- Grazing
- Housing
- Trough space
- Water availability
- Ewe health
- Lamb numbers

The fitness of a ewe to carry lambs to term should be assessed as part of a pre-tupping routine. However, conditions such as lameness, which will reduce the ewe's ability to walk to available food, can arise later into pregnancy and need to be considered and adjustments made to help the ewe. Many farmers are naturally concerned about turning over pregnant ewes; however, the recent advances in lameness suggest it may be more appropriate to treat lame sheep with an antibiotic prescribed by your vet. This will be of minimal interference and has no ill-effect on the growing lambs.

Physical constraints:

A ewe can only consume 2-2.5% of her body weight in dry matter (DM), therefore all the requirements for this period of intense growth must be contained in this volume. For an 80kg ewe this equates to 1.6 to 2.0kg DM. This is complicated by a 10% reduction in dry matter intake (DMI) during the final two weeks of pregnancy.
Nutritional planning

Assuming all other factors listed before are correct, the make-up of the diet becomes the most important factor. The majority of farms will use a combination of grazing, forage (hay or silage) and commercial concentrates. This will be augmented or replaced by straights such as fodder beet. If commercial concentrates are used, then macro and micro mineral balances will probably be correct. If, however, a home-made ration is used, mineral requirements need to be considered.

Ewe nutrition can be simplified into energy and protein requirements and in many cases energy can be the main focus. As the lamb can only utilise glucose, the diet must provide sufficient for the lamb and for the ewe’s daily needs. The energy requirements for ewes carrying different numbers of lambs is well established and can be compared to the energy available for the diet. The bulk of energy has to come from forage so that a forage analysis is vital. In creating a diet, it is accepted that there can be huge variation between forages, even from the same field, but the analysis forms a starting point. Fine tuning is discussed later.

By knowing the forage analysis, the analysis of the concentrate and the calculated DMI of the ewe, the energy content of the ration can be determined. By comparing this to the known requirements, the energy excess or deficiency can be seen and any corrections made. Whilst the calculations are not difficult, your XL Vets practice has a nutritional spreadsheet that can perform these.

This method can also be applied to homemade diets, and to a TMR.
Tools for assessing nutritional needs

Scanning
Scanning for foetal numbers is a very cost effective procedure that can make a huge difference to ewe feeding for the following reasons:

- Barren ewes are identified early, so do not receive supplementary feeding
- Single bearing ewes can be identified and fed accordingly, they may get sufficient energy from forage alone, reducing supplementary feed costs
- Twin and above ewes are identified so that they can be fed and monitored separately

As well as being beneficial for nutrition, identifying foetal numbers can help as part of your worming plan, if wormers are to be used at lambing.

Condition scoring
This is another vital aspect of ewe feeding. The ideal Body Condition Score (BCS) at lambing is 3.0-3.5 for lowland breeds and 2.5-3.0 for hill breeds. If ewes are in poorer condition then supplementary feeding needs to start earlier. If in good condition, then some energy deficits can be overcome by relying on the ewe's own reserves.

Fine tuning and metabolic profiles
It is well known that all the planning possible cannot accurately predict how a diet is actually fed. The only way to accurately assess the diet is to test the ewes to find out how they are responding through blood samples. This is best done approximately six weeks before lambing, ideally with a minimum of six ewes from each management group.

Analysis can include the following:
- B-hydroxybutyrate (BHB)
- Albumin
- Total protein
- Blood Urea Nitrogen (BUN)
- Calcium

Results from the analysis above will show if the energy or protein content of the diet needs adjusting.
Survival rates of ewes with twin lamb disease is generally considered poor and there are a multitude of treatment regimes, all having varying success. There is an argument that the effort and cost of treatment is better put into the remaining healthy ewes.

**TREATMENT OPTIONS:**

**Glucose supplements**
Twin lamb disease is a hypoglycaemia in the ewe, so replacing this is desirable. However the demands are such that even a constant intravenous infusion may not be sufficient, although is a good measure in the short term. Oral glucose will not work as it is metabolised by rumen flora so glucose precursors such as glycol need to be used. Work from one XLVet practice suggests that dosing four times a day is more beneficial than the traditional twice daily regime.

**Steroids**
Much has been made recently of the use of low dose dexamethasone. However, as the twin lamb ewe is known to have high level of circulating corticosteroid it is difficult to see how this would be effective so further discussion with your XLVets practice would be recommended for this option.

**Non-steroidal drugs (NSAID's)**
Recent work has also shown the use of NSAID's to be effective. There is evidence to show that the complex biochemistry associated with twin lamb causes release of inflammatory factor that have an effect on appetite. Suppressing these can encourage the ewe to eat.

**Inducing birth**
As the major reason for the occurrence of twin lamb disease is the presence of the lambs, inducing birth is often the best means of a cure. However, this can be difficult to achieve in practice and should be discussed in detail with your veterinary surgeon.
Ewe mastitis/Agalactia

Insufficient milk, in an otherwise healthy ewe, is almost certainly due to poor ewe nutrition, so any cases of mastitis or agalactia should be considered as a warning of inadequate flock nutrition.

Increased numbers of hypothermic lambs

Whilst cold and wet weather can be a problem, large numbers of hypothermic lambs would suggest poor ewe feeding. Unless conditions are very severe, a lamb should have enough reserves of brown fat to be able to stand and suckle.

Lamb death

Using post mortems to assess nutrition

An uncomplicated post-mortem examination on a lamb takes very little time and can provide vital information. The lamb will first be examined externally to see if it has walked (i.e. stood to suckle).

Then, internally your vet will assess the following:

- **Lungs** - inflated/not inflated
- **Stomach** - full/empty
- **Intestines** - full/empty
- **Brown fat** - present/absent/used
- **Abscesses**
- **Trauma** - rib fractures and liver ruptures

Undertaking a basic post mortem on a number of lambs can highlight commonalities, for example a high number of lambs that have not sucked, so adjustments to management or diet can be implanted on-farm.

Even conditions that occur later in the lamb's life, such as joint ill or some of the clostridial diseases can be attributable to poor colostrum, as a result of poor nutrition.
What to do next

Contact your local XLVets practice and ask to speak to someone about Grassroots Ewe Nutrition for Lambing.

To find your local XLVets practice and learn more about feeding ewes to ensure success at lambing time visit the XLVets website www.xlvets.co.uk.

### LAMBING CHECKLIST

- Arm length disposable gloves
- Lubricant
- A head rope or lambing snare
- Disinfectant solution
- Calcium injection
- Energy supplement like propylene glycol to treat twin lamb disease
- Syringes and needles
- Antibiotic injections for treating mastitis and metritis
- Anti-inflammatory injection for use after lambing
- Prolapse retainers
- Strong iodine (10% tincture of iodine) for dipping navels
- Colostrum (ideally frozen sheep colostrum, if not goat or cow or powdered colostrum substitute)
- Thermometer
- Stomach tubes
- A warming box
- Glucose for intraperitoneal injection of hypothermic lambs
- Oral antibiotics for watery mouth treatment
www.grassroots.xlvets.co.uk

Ewe Nutrition