

## No 136 : Lamb Feeding - A Practical View

### Lamb Feeding – a practical view

Early-lambing flocks normally involve some form of housing for ewes and lambs. The lambs are creep fed and are typically weaned around 6 weeks of age.

Provision of a correctly balanced diet for the ewe during the latter stages of pregnancy (see UN 128) will facilitate high milk production and fast lamb growth. However the formulation of the lamb creep diet is also an important element in the production system.

Ewes with multiple lambs and/or with insufficient milk may necessitate the use of a lamb milk powder to achieve early life growth targets.

### Lamb Milk Replacers

Powders are either based on skimmed milk powder or whey powder.

Products should be rich in digestible oils to provide a rapid energy source for the lamb which may have limited body reserves, may have received inadequate colostrum and/or is hypothermic.



Whey based milk replacers do not form a clot in the abomasum so formulations are critical in order to avoid a rapid flow of digesta through the tract. Widening the fat:protein ratio allows such products to deliver an energy dense feed without over-loading the lower gut with excess protein. This is useful in helping to reduce the risk of clostridium scours. An example of such a product would be Milkivit Denkavit Lacto Lamb, an easy mixing high quality whey-based milk replacer with 20% protein and 30% oil.

Skimmed milk replacer still represents a significant proportion of lamb milk sales. Skim-based lamb milks are safe and reduce digestive upset due to the casein protein in skimmed milk forming a clot in the abomasum, slowing digestion rate but increasing digestibility of the milk.

An example of such a product would be Milkivit Denkavit Lamb Traditional, an easy mixing high quality skim-based milk replacer with 24% protein and 24% oil.

Both products contain minerals, trace elements and natural Vitamin E. Natural Vitamin E is retained in the body for longer and creates greater lamb vigour.

Both products are acidified – to prevent souring and helping to support a healthy gut. This acidification also allows it to be mixed and fed cold, so there is no need for heating or an electricity supply.

New for this year is the inclusion of Greenline Lamb, a synergistic blend of essential oils, beta glucans and specific proteins to help support the lamb during the challenging early period of life.



### Concentrate Feed

Target feeding values for lamb feeds have changed substantially since ARC 1980 where the protein required for basal metabolism was significantly underestimated by 3 – 4 fold.

Responses to increasing levels of protein, both in terms of feed intake and feed efficiency are shown in the following table.

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	Dietary Protein Content (g/kg)		
	110	157	194
<b>Feed Intake</b> (g/d at 20kg l.wt)	658	746	711
<b>Feed Intake</b> (g/d at 30 kg l.wt)	960	1192	1116
<b>Feed Conversion Efficiency*</b> (15-30kg l.wt)			
Males	3.7	2.76	2.37
Females	3.75	3.46	2.76
<b>Daily Gain (g)</b>			
Males	191	270	330
Females	177	225	301

\* kg feed/kg gain

The composition of lamb concentrate should be based on a substantial proportion of by-pass protein.

For example a 30kg lamb growing at 300g/day has a requirement for 93g of eRDP and 81g of DUP.

In addition to the need for high levels of by-pass protein the feed should be high in energy. The above lamb would need to receive 13 MJ of metabolisable energy/day within a typical dry matter intake of 1.1 kg giving an overall energy density in the dry matter of over 11.8 MJ/kg DM.

The inclusion of a digestible fibre source into lamb diets (such as soya hulls) between 10 -15% can be useful in helping to stimulate early and greater feed intake.

The starch fraction in the feed can be as high as 30% if barley is the main source and balanced with the higher level of digestible fibre.

With the principle feed being lamb pellets it is essential that the diet is correctly fortified with minerals and vitamins.

For the macro-minerals, suggested dietary levels for intensively fed lambs are typically:-

Calcium	10 – 15 g/kg DM
Phosphorus	4 -5 g/kg DM
Magnesium	(maximum) 2.5 g/kg DM
Salt	12 – 17 g/kg DM

This mineral balance is particularly important in the control of urolithiasis (urine stones) in male lambs. A further aid can be to include anionic salts to reduce the alkalinity of the urine, so reducing urolith formation. Inclusion levels vary but a typical inclusion is around 2.5 - 5g/kg feed DM but in severe cases higher levels can be used.

**Copper toxicity** is breed dependent but copper should not be added to lamb diets. Where feed is fed to susceptible breeds e.g. Texel, then it can be prudent to include a "copper blocker" mixture. Suttle (1977) showed that the addition of 4 mg of molybdenum and 2g sulphate/kg feed protected growing lambs from copper toxicosis.

In lambs suffering a copper related haemolytic crisis then evacuation of copper from the liver can be difficult to achieve. However Ross (1964:1966) found that supplementation with 50 mg of ammonium molybdate a 1 g sulphate decreased hepatic copper accumulation. Feed producers need to be aware that the maximum level of molybdenum permitted under the Feedstuffs Regulations is 2.5 mg/kg of complete diet (88% dry matter basis).

Where an ionophore is being prescribed by the veterinary surgeon one needs to be aware of the increased copper absorption promoted by ionophores.

Further information can be obtained from the Frank Wright Trow technical department on 01335 341102.

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