

Feeding Ewes Prior To And After Lambing

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Before launching forth on the topic of feeding ewes prior to lambing, two points relating to the early phase of pregnancy should be stressed.

1. The importance of good feeding prior to and during the breeding period cannot be over emphasize. This would ensure good conception rates, high incidence of twins and minimize barren ewes.
2. The second factor is the importance of preventing ewes from becoming excessively fat during the first three months of pregnancy. This often leads to a reduced appetite and greater susceptibility to pregnancy toxemia (twin lamb disease).

Rapid development of the fetus occurs during the last 6 to 8 weeks prior to lambing. This section will concentrate mainly on this developmental period.

The objectives of feeding the pregnant ewe are:

1. To produce healthy lambs of sufficient body weight to ensure good subsequent growth.
2. To ensure adequate udder development for lactation.
3. To maintain the health of the ewe.

Good feeding in early pregnancy will not compensate for poor feeding in the later stages. On the other hand some weight loss can be tolerated during the first three months provided that the ewe is well fed during her last 8 weeks. In the case of fat ewes some weight loss may be desirable and will reduce the risk of developing pregnancy toxemia. Studies conducted in New Zealand indicate that 150 lb. ewes can loose up to 11 lbs between the first and third month of pregnancy without any adverse effects.

FACTSHEET



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The effects of feeding levels during the last six weeks before lambing has been well illustrated in work published as far back as 1970.

Table 1. Effect of feeding levels in late pregnancy on lamb birth weight and subsequent milk yield.

Milk Yield Treatment Lbs/day	Level of Feeding lbs TDN/day	100 Days	150 Days	After Lambing	Birth Weight lbs	
1.0	2.4	170 lbs	200	170	11.1	3.1
2.0	1.6	170	183	160	10.4	2.3
3.0	1.2	176	176	160	9.4	1.4

From Treacher 1970. Animal Production, 12, 23-36

To ensure the births of strong healthy lambs, along with an adequate supply of milk, a weight gain of approximately 20% over the last two months of pregnancy is required.

Feed Requirements and Rations

The ewe's feeding requirements for late pregnancy can be easily fulfilled with good quality hay and a small quantity of grain. Requirements for a 150 lb ewe can be summarized as follows:

Total Digestible Nutrients (TDN)	2.50 lbs	
Digestible Crude Protein (DCP)	0.25 lbs	
Calcium (Ca)	13.00 g	0.7%
Phosphorus (P)	8.00 g	0.4%

Three to four pounds of alfalfa, grass-legume or orchard grass hay plus free choice mineral would be considered satisfactory for the first three months. During the fourth month a small quantity of barley or oats should be fed, starting at 0.25 lbs per head and gradually increase to 1.0 lbs in the last week before lambing. Although an average of 0.5 lbs of grain per day over the last six weeks would be satisfactory.

Four pounds of hay plus a half of pound of mineral-supplemented barley would meet the ewe's requirements, providing the protein level of the hay exceeds 10%. Some form of protein supplement should be added in the grain mix for hay containing less than 10% protein.

Five pounds of mineral per 100 lbs of barley is considered to be suitable. Vitamins A, D, and E could be added to the grain mix at the following levels:

5000,000 in A)	
60,000 in D)	Per 100 lbs of grain mix.
1,000 in E)	

Alternative methods of vitamin supplementation are through injections, or by mixing with the free choice mineral.

It is advisable to provide additional mineral and cobalt-iodized salt on a free-choice basis.

Corn Silage

Corn silage can be fed to pregnant ewes but caution must be taken when feeding silage of any type. Constantly monitoring intake is important as the ewe's appetite for silage often declines sharply during the last month before lambing.

If corn silage is fed, a mix containing supplementary proteins, minerals, and vitamins is required.

Assuming corn silage has 25% Dry Matter and 3.2% protein, then the following would be suitable:

7.00 lbs of corn silage
1.25 lbs of supplement

The supplement could consist of:

Barley	75%
32% protein concentrate	20%
% Ca. 13% Mineral-P	5%

250,000 in Vitamin A)
30,000 in Vitamin D) per 100 lbs of grain mix
500 in Vitamin E)

Rather than relying on corn silage alone it may be advisable to feed some alfalfa hay. This helps in three ways:

1. Reduces the volume of silage the ewe consumes.
2. Reduces the need for a protein supplement.
3. Helps to correct the mineral balance of the ration.

Suggested ration: 1.00 lbs alfalfa hay (16% CP or better)
5.00 lbs corn silage
1.25 lbs barley mineral mix

An adequate ratio would contain five pounds of 16% Ca, and 16% P mineral per 100 lbs of barley.

Work in Ohio suggests that corn silage may be fed alone to pregnant ewes provided it has been supplemented prior to ensiling. The recommended supplementation from Ohio was:

20 lbs urea)	
10 lbs limestone)	per ton of silage at the
4 lbs dicalcium phosphate)	time of ensiling.
225 lbs ground corn)	

The supplement results in

- (a) Increased protein content
- (b) Corrected mineral balance
- (c) Increased concentration of energy

The danger still exists of some ewes being unable to consume adequate volumes of silage – particularly if the silage is low in dry matter.

Pregnancy toxemia This is probably the most serious nutritional disorder in pregnant ewes. It occurs when the nutrient demands of the fetus become greater than the supply from the maternal blood stream. The ewe then has to draw on body fat reserves which may not be well utilized, and the blood glucose level becomes abnormally low. When this occurs the ewe may go into a coma and death is not an infrequent consequence. There are two prime causes of pregnancy toxemia, being – (a) inadequate feeding during the later stages of pregnancy and (b) stress. Fat ewes subjected to stress (sudden change-weather, short period of starvation or rough handling) appear to be more susceptible than ewes in moderate condition.

There is no easy treatment for the disorder and the best approach is one of prevention. The incidence of pregnancy toxemia can be greatly reduced by preventing ewes from becoming too fat in early pregnancy and by ensuring adequate feeding during the last six weeks when the developing lambs are growing rapidly.

Lactation

The first month of lactation imposes considerable nutritional stress on the ewe with a heavy demand for energy, protein, and certain minerals. The nutrient requirements of 150 lb ewes nursing twins can be summarized as follow:

TDN	3.5 lbs	- this would result in some live weight loss
DCP	0.5 lbs	
Ca	20 g – 0.7%	
P	13 g – 0.4%	

Because of the higher protein content of ewes' milk relative to that of the cow, the protein requirement in the diet is proportionately greater. For this reason alfalfa hay is probably the best basis for lactating ewe rations. Low protein feeds such as orchard grass hay or corn silage require considerable protein supplementation.

The appetite of the ewe invariably increases markedly after lambing compared to a slow increase in the case of the cow. The level of feeding can be increased soon after lambing although it is wise to make the increases over a period of three or four days.

Ration 1. Alfalfa hay (16% CP) + barley.

5.0 lbs alfalfa hay
1.5 lbs barley/mineral mix
(5 lbs 16% Ca. and 16% P mineral per 100 lbs barley)

This will supply 3.7 lbs TDN, 0.67 lbs. DCP, 30g Ca and 13g P. With hay containing less than 14% protein, supplementation of the grain mix would be necessary.

The feeding level of grain could be reduced to 1.0 lbs during the second month.

Ration 2. Orchard grass hay (10% CP) + supplement.

5.0 lbs orchard grass hay
1.5 lbs supplement (18% CP)

The supplement could be:

55% barley
40% "32% protein supplement"
5% "16% Ca. 16% P mineral"

Soybean meal could replace the "32% supplement" but further mineral supplementation would be necessary.

Ration 3. Alfalfa – corn silage – supplement.

1.0 lbs alfalfa hay
10.0 lbs corn silage (25% DM 2.2% CP)
1.5 lbs supplement (18% CP)

The supplement could be the same as "Ration 2" although a mineral mix with a wider Ca:P ratio may be desirable, e.g. 18% Ca and 13% P.

Conclusion

There is no one best ration for any purpose. The above information is intended as a guide only. Formulation of rations can only be carried out in a meaningful way when the nutrient content of the feed is known. Forages are the most variable in this respect and for this reason forage testing is very important.