High Concentrate Diet for Ewes in Late Pregnancy

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The need for silage or hay for your ewes in late pregnancy can be reduced or eliminated by the strategic use of concentrates. This was demonstrated by work carried out some years ago by Teagasc regarding the use of all concentrate diets for pregnant ewes. Some farmers have been operating a similar system in recent years with silage requirements reduced dramatically. The question of replacing silage with high levels of concentrates becomes important particularly in a year when silage is scarce and or of poor quality. Some farmers are also operating this system on the basis that it saves them considerably on labour. However, when concentrates are relatively expensive it is less attractive. Furthermore, most farmers feel more comfortable with the traditional feeding programme of a silage-based diet supplemented with concentrates.

Teagasc Studies

In a study carried out by Teagasc at Knockbeg in 2001 ewes were offered one of three diets in the final six weeks of pregnancy. All ewes were housed on straw. The diets compared were:

- Diet 1 consisted of 77 DMD silage plus a total of 20 kg concentrates fed in late pregnancy **(D1)**
- Diet 2 was 60 kg of a pelleted concentrate fed over the same period **(D2)**
- Diet 3 was 60 kg a cereal based loose mix, mixed on farm and fed over the same period **(D3)**

In the week before the trial started, ewes allocated to the complete concentrate diet were introduced to concentrates with some silage also fed. The daily allocation of concentrate was increased gradually to 1 kg per ewe by the end of the week with a gradual withdrawal of silage. Once the actual six week period began ewes were fed once per day the amounts outlined in Table 1.

Feed Costs

The data outlined in Table 2 shows the level of meal and silage consumed in the trial. The cost of these systems at today's prices can be compared by completing the cost column below. There is usually a large variation in prices quoted for rations. While some savings can be made by shopping around for value it is equally important to ensure that good quality ingredients are used in the rations fed. Diet D3

above consisted of a three way mix with 50% whole barley, 30% molassed sugar beet pulp and 20% soya bean meal. A mineral/vitamin mix was added at the rate of 20g/ewe/day. It should also be recognised that the silage offered in diet D1 was high quality, being approximately 77% DMD. On many farms silage quality is much poorer than this. If the silage being fed is of poor quality, performance will be poor or extra concentrates will be required, further increasing the cost of the conventional system. Furthermore, there is a huge variation in the price of silage. If buying silage, the total cost should include the cost of delivery.

Producers should carefully examine the cost of purchased hay/silage relative to meals.

Table 1. Dietary treatments in late pregnancy (kg/ewe/day)

Diet Fed		Weeks pre lambing		
		6 - 5	**4 - 3**	**2 - 1**
D1	Silage	Ad libitum	Ad libitum	Ad libitum
	+ Concentrate	0.2	0.4	0.6
D2	Pelleted concentrate	1.2	1.4	1.6
D3	Loose mix concentrate	1.2	1.4	1.6

From: Flanagan (2002) Easy Feeding of Housed Sheep

Labour

The labour index in Table 2 was based on the amount of work involved in feeding with each system, compared with the conventional system (index = 100). It can be seen from Table 2 that with the high concentrate diets, labour input was reduced by 60% with the pelleted ration. When the diet was a loose mix the labour reduction was less as the ingredients were mixed on the farm. However, it should be remembered that loose concentrates are regularly purchased ready mixed, in which case labour demand for feeding will be similar to that for pelleted formulations.

Other Issues

In the Knockbeg work lamb birth weight was 0.4 to 0.6 kg higher for the lambs from ewes fed the all concentrate diets. This did not cause any increased problems at lambing or subsequently as mortality was not affected and lamb survival rate was the same for all three groups. Furthermore, evidence from Teagasc, Athenry indicates that an increase in birth weight results in higher lamb growth rate and subsequently higher weaning weight. Ewe live-weight was increased in the all concentrate fed ewes. However, this was mainly due to large weight increase in ewes carrying singles. Therefore, it is recommended to feed single and multiple carrying ewes separately and feed according to requirements.

Table 2. Feed levels of ewe diets in Teagasc trials in 2001 with labour index for each diet in final 6 weeks of pregnancy

Diet	Diet Details	Calculate Cost	Labour index
D1	Silage 0.25t (est. 0.3 bale)		
	Conc. 20 kg		
	Total for D1		100
D2	Conc. 60 kg (pelleted)		40
D3	Conc. 60 kg (home mix loose ingredients)		70

From: Flanagan (2002) Easy Feeding of Housed Sheep

Care must be taken to introduce meals gradually to avoid acidosis. Adequate trough space must be provided as well as a constant supply of clean water

Management Factors

To give all ewes an equal chance and to avoid digestive problems, adequate trough space is essential. Meals should be introduced and amounts increased gradually. Access to clean drinking water at all times is a must. It may be more appropriate to avoid feeding more than 0.4 – 0.5 kg meal in a single feed. Access to a small level of roughage (silage, hay or straw) is recommended to help prevent digestive problems.

Advantages of System

The following are some of the advantages, as reputed by farmers, of feeding an all concentrate in late pregnancy:

- Very convenient
- Good ewe body condition is good at lambing
- Lambs born healthy and strong
- No problem with oversize lambs
- Subsequent lamb growth rate is satisfactory
- Land not tied up during summer to grow silage or hay
- Very little time and costs spent making silage or hay. Frequently, the only silage made is from surplus grass thereby maintaining grass quality for grazing lambs. Such silage is usually made from leafy grass and is of good quality
- Surplus silage can be sold

Disadvantages

- An expensive option when concentrate prices are high
- Risk of acidosis in ewes when meals levels are increased too rapidly

Summary

- Concentrate rations can replace silage as the main diet for ewes in late pregnancy. It is easy to manage and can significantly reduce labour requirements.
- When silage quality is poor or is scarce and the purchase price is high, feeding extra concentrates as an alternative becomes attractive.
- When concentrate prices are relatively high it is a less attractive option.

- Care must be taken to introduce meals gradually to avoid acidosis. Adequate trough space must be provided as well as a constant supply of clean water

- When this is taken care of there should be no management or health problems.