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GRAZING CONTROL FOR EWES AND LAMBS (SUPPLEMENTED AT TURN-OUT) USING SWARD HEIGHT

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INTRODUCTION

Supplementation of ewes in early lactation has been a common practice on lowland and upland sheep farms. It is often considered that grass intake in early spring is inadequate to achieve acceptable animal performance. The decision to supplement is normally made on a subjective basis related to a visual assessment of herbage mass available, stocking rate and expected rate of grass growth. Measurement of sward surface height (SSH), using the Hill Farming Research Organisation (HFRO) sward stick, now provides a reasonably objective and simple assessment of herbage mass (Bircham, 1981). This means that ewe feeding in early lactation can be related to grass availability (Lowman and Swift, 1984). Supplements in the spring are also used as a convenient vehicle to supply magnesium to vulnerable lactating ewes. In this trial, only the nutritional advantage of supplementation was examined. The objective was to determine the minimum SSH of pasture necessary to support ewes with twin lambs in early lactation without cereal supplementation.

MATERIAL AND METHODS

Forty-eight Welsh Mule ewes with lambs were turned out in early spring (April 1988) to one of three paddocks within the same field. There was no replication. The pasture consisted of a ryegrass/clover sward with an initial SSH of 2 cm. Nitrogen fertilizer was applied at 50 kg/ha on 31 March and 24 May. Ewes with twin lambs were turned out to the pasture within 48 h of birth over a period of 11 days. Ewes, supplemented with whole barley at 0·5 kg per ewe per day until SSH reached either 3·0 cm or 4·0 cm, were compared with unsupplemented ewes. The final turn-out stocking rate was 10 ewes + 20 lambs per ha. Once SSH on all treatments exceeded 4·0 cm, swards were maintained between 4·0 cm and 6·0 cm by closing off predetermined areas. To prevent hypomagnesaemia, magnesium was supplied on an *ad libitum* basis in high magnesium (5%) foodblocks. Intakes over the 12-week period were 50 g per ewe per day. SSH was measured twice weekly throughout the trial using the HFRO sward stick as described by Bircham (1981). Forty readings were taken per plot using a standard field sampling technique.

TABLE 1
Sward heights (cm) from turn-out until weaning

Date	No supplement	Supplement to: SSH 3·0 cm	SSH 4·0 cm
1 April	2·0	2·0	1·9
7 April	2·0	1·9	2·2
14 April	2·1	1·7	2·1
21 April	2·8	2·7	2·8
28 April	3·0	2·7	3·0
5 May	3·2	3·0	3·5
12 May	3·9	3·7	4·2
19 May	4·1	3·7	4·2
26 May	3·8	3·7	4·2
2 June	4·4	4·5	5·4
9 June	4·6	4·1	6·2
16 June	4·2	3·8	4·9
23 June	4·0	3·3	4·1

Sward heights remained very similar until 2 June. On that date 40% of each paddock was closed for silage. From that time the 4 cm SSH paddock tended to be higher than the other two. This was counteracted by closing off an extra 10% of the paddock on the 9 June.

Ewes were weighed and condition scored and lambs were weighed at birth, 6 weeks after birth and at weaning (12 weeks after birth).

RESULTS AND DISCUSSION

Supplementation with whole barley had no statistically significant effect on ewe live weights throughout the 12-week lactation period, compared with ewes receiving no supplements. There was a trend for supplementary feeding to reduce ewe live-weight loss from turn-out to 6 weeks. From 6 to 12 weeks of lactation, ewes showed a live-weight gain which appeared to reverse, at least partially, the previous

TABLE 2
Ewe weight† change (kg) from turn-out until weaning

	Supplement to:			
	No supplement	SSH 3·0 cm	SSH 4·0 cm	s.e.d.
Turn-out to 6 weeks	−2·7	−1·4	−0·5	1·44
6 weeks to weaning	+3·3	+2·6	+1·9	0·71

† Ewe turn-out weight = 49 kg.

weight loss. Although of interest, in this situation, all the weight losses and gains were acceptable and had little practical relevance.

TABLE 3
Ewe condition-score† change from turn-out to weaning

	Supplement to:			
	No supplement	SSH 3·0 cm	SSH 4·0 cm	χ^2 test
Turn-out to 6 weeks	nil	+0·1	+0·2	20·24
6 weeks to weaning	+0·1	+0·1	+0·1	9·91

† Ewe condition score at turn-out = 2·3.

The supplement had no significant effect on ewe body condition at turn-out.

TABLE 4
Lamb daily live-weight gains (g) from birth to weaning

	Supplement to:			
	No supplement	SSH 3·0 cm	SSH 4·0 cm	s.e.d.
Birth to 6 weeks	280	290	290	10
6 weeks to weaning	270	290	270	10

The lamb growth rates to weaning were acceptable with the differences observed not being statistically significant.

The lack of response to supplementary feeding was not expected as the initial SSH was only 2 cm. Grass growth was not inhibited by adverse weather during the grazing period. Ewes were grazing swards that were growing to them, although very slowly. In this year, the unsupplemented ewes grazed swards with SSH below 3 cm for 28 days and below 4 cm for 47 days. Lactating ewes, grazing swards below 4 cm, are considered to have restricted intakes (Milne, Sibbald, Lamb, McCormack, Mayes and Lees, 1986) and therefore require supplementary food (Lowman and Swift, 1984). It is possible that if conditions had been less favourable and SSHs had fallen or not risen for a period, then the early ewe weight loss may have become significant. It would be useful to identify when this would affect milk production and lamb growth rates.

CONCLUSION

The supplementary feeding of lactating ewes with twin lambs turned out at 10 ewes per ha in early April to a very short sward (SSH ≈ 2 cm) produced no significant responses.

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