

## EFFECT OF ENSILATION OF LUCERNE ON INTAKE BY SHEEP

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Since voluntary intake is a major limiting factor to ruminant production and intake of silage is usually less than that of a dehydrated or fresh crop (Dulphy 1980). It is important to understand the factors in silage which cause depressed intakes and how these depressions are mediated.

Factors in silage affecting intake include pH, organic acids and products of protein breakdown during silage fermentation (McDonald 1981). Clancy et al. (1977) suggests that fermentation products in silage may be causing lower intakes by impairing physical rumen function.

The experiment reported here was designed to determine if sheep eating a well made lucerne silage have the same intake and rumen function compared to sheep eating hay made from the same crop with the same chop length. Six sheep were randomly assigned to each treatment, and since mild bloat was evident during the preparatory period, all sheep were given 2 ml of Teric 12A23B intraruminally per day. Summarised data from this experiment is presented in the table.

The effect of conservation method on mean intake, digestibility and rumen function

	Hay	Silage		
Intake (g/day)	1220	1201		
Intake (g/kg BW <sup>0.75</sup> )	79	82		
Dry matter digestibility (%)	65.5	68.3		
Organic matter digestibility (%)	67.3	69.2		
	Rumen contractions /min	% of time	Rumen contractions /min	% of time
Eating	2.9	29	2.9	31
Resting	1.9	42	1.9	43
Ruminating	2.3	30	2.6	27

Dry matter content of the lucerne at ensiling was 34% with the resulting silage having low levels of volatile fatty acids, ammonia and acid detergent insoluble nitrogen, whilst having a relatively high level of lactic acid and a pH of 4.6 indicating that the silage underwent an excellent fermentation.

Intake and digestibility of the silage were not significantly different from those of hay. Time spent ruminating and eating was similar for the two diets as was rumen contraction rate. These data show that there were no effects on rumen function and hence intake.

These observations suggest that lucerne silage made at the correct dry matter content has a similar potential as lucerne hay in terms of animal production.

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