Influence of Feeding Frequency on Intake and Digestibility of Alfalfa Haylage

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SUMMARY

The study evaluated the effect of feeding frequency affects on dry matter (DM) intake and in vivo digestibility of alfalfa haylage fed to wether sheep in the quantity of 120 g DM kg−1 metabolic body weight (M0.75) in 1, 2, 4 or 8 meals d−1.

Altering the feeding from a customary frequency of twice to several times d−1 has a stabilizing effect upon ruminal fermentation pattern by avoiding the two main peaks of fermentation. This is one of the reasons that more frequent feedings increase forage ad libitum intake in ruminants (Nocek and Braund, 1985) and production (Nocek and Braund, 1985) while the digestibility effect varies (Ulyatt et al., 1984).

Alfalfa haylage was harvested at the beginning of flowering (30% of plants in bloom phase), wilted, baled in round bales and wrapped with plastic. In vivo DM digestibility and voluntary DM intake was measured as previously described (Vranić et al., 2007) in 4x4 latin square design with 4 wether Suffolk sheep. The DM contents of feed and faeces were determined by oven drying at 60°C. Samples were milled to pass 1 mm screed, than scan with NIRS Foss instrument (Model 6500). The results were analysed using mixed model procedures (SAS 1999). Alfalfa haylage has 4.8 pH, 759 g DM kg−1 fresh sample, 128 g SP kg−1 DM and 512 g NDF kg−1 DM.

Higher feeding frequency (2, 4 or 8 meals d−1) increased haylage ad libitum DM intake (g kg−1 M0.75) (P<0.05) in comparison with 1 meal d−1. This agrees with previous results (Richard et al., 1989; Nocek and Braund, 1985). No differences in feed intake were recorded among 2, 4 or 8 meals d−1. DM in vivo digestibility was higher only for 4 meald d−1 (493 g kg−1 DM) in comparison with 8-meals d−1 (428 g kg−1 DM) with no other differences in digestibility among feeding treatments which agrees with previous results by published by Ulyatt et al. (1984).

REFERENCES