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Summary only

EFFECT OF FORMALDEHYDE-TREATED CASEIN AND METHIONINE ON THE INTAKE OF SILAGE BY SHEEP

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Forty Romney wether hoggets, selected from a flock of 80 paddock-fed on grass silage, were housed indoors in individual pens. They continued to receive the grass silage offered at 20% excess to appetite for two weeks, and voluntary intakes were measured during the second week. Four 10-animal experimental groups were formed by restricted randomization on the basis of wet matter intake per unit liveweight.

Experiment 1: During the next two weeks the sheep were offered a high moisture lucerne silage at 20% excess to appetite. In addition groups 1 to 4 received respectively 0, 24, 40, 60 g/sheep/day of formalin-treated casein (F-casein). Intakes of the silage were measured over the two weeks.

Experiment 2: The groups previously on 0 and 60 g/day of F-casein were each divided into 2 x 5 animal sub-groups, and all continued to receive the silage and F-casein as before for ten days. Once every two days the sheep in two sub-groups received by intraperitoneal injection 50 ml distilled water containing 2 g DL-methionine whilst the other two sub-groups received 50 ml distilled water by the same route.

RESULTS

Experiment 1: The mean silage DM intakes (g/day) of groups 1 to 4 were 360, 344, 338, 379, respectively. Only the last two values differed significantly.

Experiment 2: The mean silage DM intake (g/day) of the four sub-groups were

(1) F-casein 0, methionine 0: 327.
(2) F-casein 0, methionine 1: 404.
(3) F-casein 60, methionine 0: 324.
(4) F-casein 60, methionine 1: 341.

The intake of group 2 was significantly higher than that of the other three groups.

In both Experiments 1 and 2 the addition of F-casein had no effect on intake. In Experiment 2, whilst methionine alone increased DMI, the presence of F-casein inhibited this effect.