

# Feed selection in parasitised sheep

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When sheep become infected with parasitic nematodes, feed selection can alter towards higher protein feeds presumably to compensate for protein losses due to the parasites (Kyriazakis et al. 1994). As part of an experiment to determine the effect of urea supplements on parasitised sheep fed low quality roughages diet, the following diet selection observations were recorded.

Seventy-two 4-month-old Merino wethers were individually confined and fed oaten chaff and a molasses-mineral supplement (MS) for 6 weeks. The sheep were then divided into 2 groups and offered the MS supplement or MS with 10% urea added (UM). Within each group 3 subgroups were then infected orally with either 200 *H. contortus* and 1000 *T. colubriformis* (LOW) thrice weekly, twice this rate of infection (HIGH) or remained uninfected (CON). Chaff intakes were recorded daily and intake of MS or UM twice weekly.

Intake of chaff was affected by diet and parasite infection. UM sheep consumed more chaff than MS sheep while the intake of MS supplement was greater than of UM supplement. Within dietary groups CON sheep consumed more chaff than LOW sheep and the HIGH sheep ate least of all. Intake of UM was relatively uniform over time in all groups but levels were reduced by infection with parasites with LOW sheep eating least of all. A similar influence of infection was observed in the sheep offered MS but from week 11 the CON sheep increased their intake of MS substantially, the LOW sheep showed a similar but lesser increase whereas intake of MS by the HIGH group tended to decrease.

During experimentation feed selection changed in those sheep offered MS with the CON sheep preferentially choosing to consume a higher proportion of MS to oaten chaff during the latter stages of experimentation (see Figure 1). A similar pattern of consumption behaviour to the MS CON sheep was shown by the LOW sheep offered MS, but parasitism appeared to limit the response. Sheep given the HIGH level of infection showed no change in food preference during the experiment other than a decline in the proportion of MS consumed during the early stage of infection.

It appears that these sheep recognised MS as a source of rumen digestible N and/or energy and shifted their consumption away from the less digestible oaten chaff to meet their nutritional demand for N and/or energy. Parasitism reduced this selective response in

MS sheep. This finding is contrary to previous observations and may result from the low quality basal diet offered or the parasite species used in the present experiment.

## References

Kyriazakis, I., Oldham, J.D., Coop, R.L. and Jackson F. (1994). The effect of subclinical intestinal nematode infection on the diet selection of growing sheep. *British Journal of Nutrition* **72**, 665–677.

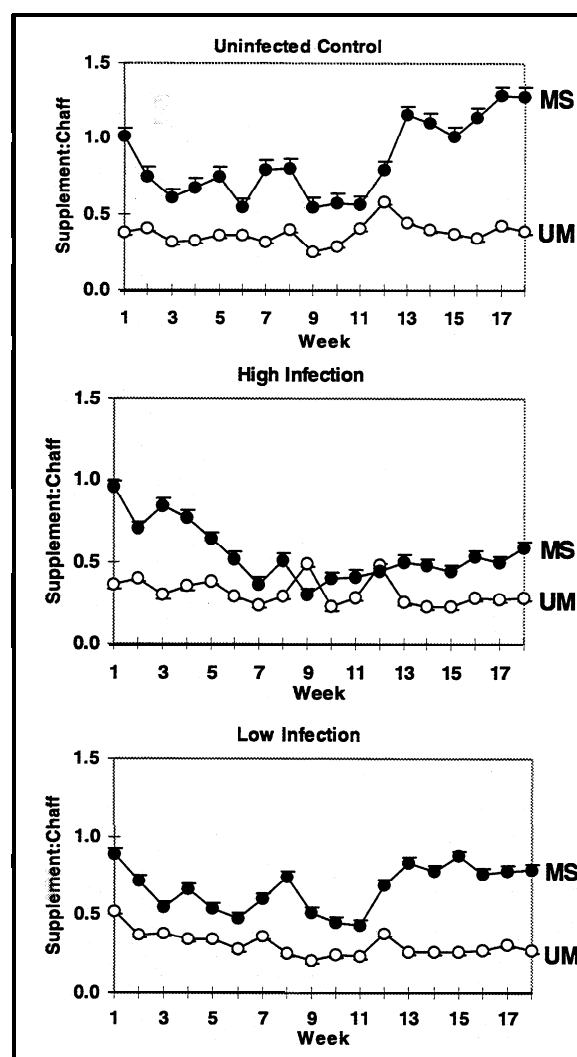


Figure 1 Ratio of molasses-mineral feed supplement consumption to chaff consumption (means  $\pm$  SE) for groups of young sheep subjected to parasite treatments and offered the supplement without (—●—) or with 10% urea (---○---).