

The preventive effect of the fungus *Duddingtonia flagrans* on trichostrongyle infections of lambs on pasture

Githigia, S.M.; Thamsborg, S.M.; Larsen, M.; Kyvsgaard, N.C.; Nansen, P.

Date: 1997

Abstract:

Four groups of 8 parasite-naive Dorset-crossbred lambs, 3–4 months old, were turned out on infected pasture on 2 May and allocated to 4 separate paddocks. From May to September, 2 groups received *Duddingtonia flagrans* (106 chlamydospores per kg body weight per lamb per day) mixed in 100g of barley, while the other 2 groups received barley only. All groups remained set-stocked until slaughter for worm counts on 10 October. In late June, all lambs were treated with fenbendazole due to severe parasitic gastroenteritis in all groups. The faecal egg counts were comparable for the 2 treatments throughout the grazing period. Larval development of *Ostertagia*/*Trichostrongylus* spp. in faecal cultures was 1–28% in the fungi-fed groups compared with 60–80% in the untreated groups ($P < 0.05$). In September, pasture larval counts of *Ostertagia*/*Trichostrongylus* were 930 and 4400 L3 kg⁻¹ on paddocks of fungi-fed and untreated groups, respectively. Corresponding figures for *Nematodirus* spp. were 7200 and 11 600 L3 kg⁻¹, respectively. At slaughter, the number of immature *Ostertagia* spp. was 62% lower in the fungi-fed groups compared with the untreated groups ($P < 0.05$). Four parasite-free lambs were introduced to each paddock during the period 3–23 October and slaughtered for worm counts after 3 weeks of housing. The total worm burden of tracers on paddocks previously grazed by fungi-fed lambs was reduced 86% ($P < 0.05$; geometric means) compared with control groups, while significant reductions were also seen in abomasal worm counts (68%; $P < 0.05$), *N. spathiger* (98%; $P < 0.05$) and for *N. battus* (97%; $P < 0.01$). It is concluded that dosing sheep with *D. flagrans* while grazing may limit the build up of pasture contamination in the late grazing season and subsequently limit the intake of larvae in sheep.