

## Abstract

We investigated direct anthelmintic effects associated with the feeding of fresh tanniferous forages against established populations of *Haemonchus contortus* and *Cooperia curticei* in lambs. Twenty-four parasite naive lambs were inoculated with a single dose of infective larvae of these two parasites 27 days prior to the start of the feeding experiment. Lambs were individually fed with either chicory (*Cichorium intybus*), birdsfoot trefoil (*Lotus corniculatus*), sainfoin (*Onobrychis viciifolia*) or a ryegrass / lucerne mixture (control) for 17 days. Animals were then united to one flock and subjected to control feeding for another 11 days to test the sustainability of potentially lowered egg excretion generated by tanniferous forage feeding. When compared to the control, administration of all tanniferous forages was associated with significant reductions of total daily faecal egg output specific to *H. contortus* (chicory: 89 %; birdsfoot trefoil: 63 %; sainfoin: 63 %; all tests  $P < 0.05$ ) and a tendency of reduced *H. contortus* worm burden (chicory: 15 %; birdsfoot trefoil: 49 % and sainfoin: 35 % reduction). Irrespective of the condensed tannin (CT) containing fodder, no anthelmintic effects were found against *C. curticei*. Cessation of CT-feeding followed by non-CT control feeding did not result in a re-emergence of faecal egg counts based on faecal dry matter (FECDM) in any group, suggesting that egg output reductions are sustainable. The moderate to high concentrations of CTs in birdsfoot trefoil (15.2 g CTs kg<sup>-1</sup> dry matter (DM)) and sainfoin (26.1 g CTs kg<sup>-1</sup> DM) were compatible with the hypothesis that the antiparasitic effect of these forages is caused by their content of CTs. For chicory (3 g CTs kg<sup>-1</sup> DM), however, other secondary metabolites need to be considered. Overall, birdsfoot trefoil and in particular sainfoin seem promising candidates in contributing to an integrated control strategy against *H. contortus* not only by mitigating parasite related health disturbances of the host but also by a sustained reduction of pasture contamination.