Effects of including chicory in perennial ryegrass-white clover leys on production and health in organic lambs

Two trials were conducted to examine the effect of chicory included in or as additional plots of the ryegrass-white clover pastures on growth, naturally acquired nematode infections and selectivity of chicory by lambs. In Experiment 1, 31 weaned Texel lambs (36 +/- 7 kg) grazed either ryegrass-white clover (CTRL) or ryegrass-white clover-chicory pastures (CHIC). In Experiment 2, 30 weaned Shropshire lambs (32 +/- 7 kg) grazed either ryegrass-white clover (CTRL) or ryegrass-white clover with access to small additional chicory plots, which corresponded to 3% (CHIC-LO) or 6% of the total grazing area (CHIC-HI). No consistent differences in live weight gain and nematode faecal egg counts were observed in lambs grazing the different pasture types. Sward height on the ryegrass-white clover-chicory pasture was higher than the ryegrass-white clover pasture in the period from the 21th August to October in Exp. 1 and in the period from July to mid August in Exp. 2. In Exp. 1 ewe lambs in CHIC performed better than ram lambs (197 +/- 11 vs. 154 +/- 13 g day(-1); P<0.05 for ewe vs. ram lambs) whereas ram lambs performed best without chicory (190 +/- 13 vs. 177 +/- 11; P<0.05 for ram vs. ewe lambs). The relative proportion of chicory eaten by lambs did not differ significantly from August to October and averaged 4.0%. Lambs showed a consistent aversion to chicory. It can be concluded that including chicory into a well-managed mixed sward of perennial ryegrass and white clover 1) improved herbage availability under conditions that are suboptimal for ryegrass/clover swards but 2) did not give consistent effects on growth performance or reduction of nematode infection levels of grazing lambs probably due to a low intake of chicory, as lambs avoided chicory in a mixed sward of high quality. The negative selection of chicory by lambs makes a strategic utilization of chicory's potential in a mixed sward difficult under relatively fertile soil conditions. (C) 2009 Elsevier B.V. All rights reserved.