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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

DISPERSAL AND CONCENTRATION OF SHEEP GASTROINTESTINAL NEMATODE LARVAE ON TROPICAL PASTURES

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Knowledge of free-living stages of gastro-intestinal population may guide their control in domesticated ruminants. Our objective was to evaluate sheep gastro-intestinal nematode (GIN) L3 distribution in tropical pasture canopy (grass and legume). Paddocks contained aruana grass (*Panicum maximum* cv. IZ-5; G), pigeon pea legume (*Cajanus cajan* cv. Anão; L) or mixes of these (GL) were compared. The experiment was set out in a randomized block design with three replications. The experimental unit was the paddock. Analysis of variance using the Mixed Procedure of the SAS and Spearman correlation with a significance level of 10% showed differences among the different pastures. We compared pasture larval counts (PLC) in upper, medium and bottom strata, each representing one third of the sward height. Lamb health and performance characteristics were also assessed. The PLC per kg of herbage dry matter (DM) was 129 % greater (P = 0.08) in the upper pasture stratum, compared to the lower in GL pasture. However, PLC dispersion by area (PLC/area) was the greatest (P < 0.01) in the lowest stratum in all pasture types. The greatest overall PLC (P = 0.09) was found in GL (377 ± 45 L3/kg DM), when compared to G or L (178 ± 13 L3/kg DM and 160 ± 16 L3/kg DM, respectively). The PLC dispersion in the area (L3/m²) was not different among pasture types (47.0 ± 4.1 L3/m²; P = 0.63). The PLC dispersion by area was negatively correlated with lamb average daily gain (ADG; R^2 = -0.68, P < 0.01), and positively correlated with rainfall (R^2 = 0.78; P < 0.01). There were no differences among treatments in ADG (P = 0.19). All treatments showed high infection rates, but the adult parasite load in the abomasum was 552 and 355% lower (P = 0.05) in animals grazing the mixed pasture compared to G and L, respectively. The GL swards also had 112 and 136% greater (P = 0.09) PLC per kilogram of DM compared to G and L, respectively. We hypothesized that the forage diversity of GL allowed animals the least parasitic contamination, showing benefits of the pasture diversity for sheep.

Keywords: barberpole worm, grass, *Haemonchus contortus*, legume, pasture larval counts

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