

Resistance of *Haemonchus* spp. to Albendazole, Fenbendazole and Levamisole in 4 Goat Farms of Antioquia, Colombia

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Abstract : Reports of drug resistance have been made in every livestock host and to every anthelmintic class. In some regions of world, the extremely high prevalence of multi-drug resistance in nematodes of sheep and goats threatens the viability of small-ruminant industries. In the region of Antioquia, Colombia, no reports of nematode resistance have been documented due to a lack of veterinary diagnostic laboratories. The objective of this study was to evaluate the efficacy of albendazole, fenbendazole, and levamisole to control gastrointestinal nematodes in goat farms of Antioquia by doing fecal egg count reduction tests. A total of 139 crossbreed goats from four separate farms were sampled for feces prior to, and 14 days following anthelmintic treatments. Individual fecal egg counts were performed using the modified three chamber McMaster technique. The anthelmintics administered at day 0 were albendazole (farm 1, n=63), fenbendazole (farm 2, n=20), and levamisole (farm 3 and 4, n= 37, and 19). Larval cultures were used to identify the genus of nematodes using Baermann's technique and the morphological keys for identification of L3 in small ruminants. There was no difference in fecal egg counts between 0 and 14, with means (\pm SD) of $1681,5 \pm 2121,5$ and $1715,12 \pm 1895,4$ egg (eggs per gram), respectively. The egg count reductions for each anthelmintic and farm were 25,86% for albendazole (farm 1), 0% for fenbendazole (farm 2), 0% (farm 3), and 5,5% (farm 4) for levamisole. The genus of nematodes identified was predominantly *Haemonchus* spp., with 70,27% and 82,81% for samples from day 0 and 14, respectively. These results provide evidence of a total state of resistance to 3 common anthelmintics. Further research is needed to design integrate management programs to control nematodes in small ruminants in Colombia.

Keywords : anthelmintics, goat, haemonchus, resistance

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