Efficacy of Copper Oxide Wire Particles and Albendazole Against Gastrointestinal Nematodes in Goats

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Controlling gastrointestinal nematodes in goats is one of the greatest challenges facing goat farmers, and the issue is only rising due to the prevalence of anthelmintic resistance in parasitic populations. The purpose of this study was to determine the efficacy of copper oxide wire particles (COWP) in combination with albendazole in reducing the EPG of nematodes in goats. Naturally infected kiko goats were randomly assigned to receive no COWP or albendazole (CON;n=3), or 2g COWP in a gel capsule form as Copasure® (COWP;n=3), no COWP and albendazole(CON + alb; n=3), or a combination of COWP and albendazole(COWP+alb;n=3). Medications were administered on day 0, and fecal samples were taken on days 0,14, and 28. Samples were analyzed using the McMaster Technique to determine the approximate EPG of each sample. FEC were log transformed to normalize data, and a linear regression model was used. The mean FEC was reduced in COWP (p=0.0458), COWP+alb (p=0.0187), and CON+alb (p=.0007) groups, with FEC remaining similar in the CON group. By day 28, FEC in COWP+alb had reduced significantly to nearly 0 epg, and a slight decrease from day 14 values was present in COWP and CON+alb groups. There was an r-squared value of 0.57. The FEC saw a greater decrease in the combination of COWP and albendazole than the individual medications over the course of the 28 study, making this treatment a possible option for long term reduction in GIN levels in goat herds.

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