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# Co-administration of Albendazole and Levamisole to control multiple anthelmintic resistant nematodes in a sheep farm in Kabete Kenya

*CJ Nganga, DW Gakuya, RO Otieno, RW Githinji*

**Abstract**

Albendazole (ABZ) and levamisole (LEV) were co-administered to evaluate their ability to control natural helminth infections in a sheep farm where resistance to the individual anthelmintic had previously been reported. Thirty two sheep of mixed ages and sex were randomly allocated to four equal groups. Group 1 and 2 were treated with ABZ and LEV respectively. ABZ and LEV were co-administered to group 3 while group 4 was the untreated control. Rectal faecal samples were collected from all the animals on the day of treatment (0 DPT) and fourteen days post-treatment (14 DPT) and the eggs per gram of faeces (EPG) determined. On both sampling occasions, pooled feacal samples from the respective groups were separately cultured for strongyle larval stage three (L3) identifications. Anthelmintic efficacies were evaluated based on faecal egg count reduction percentage (FECR%). Resistance to both drugs was still evident at FECR% of 71% and 75% for LEV and ABZ respectively. Co-administration of the two drugs resulted in a higher efficacy at 95.4% FECR %. L3 recovered from faecal culture 14DPT indicated that Haemonchus spp. survived treatments with ABZ and LEV given separately and when co-administered. Trichostrongylus spp. survived the LEV treatment but was highly susceptible to ABZ given alone or when co-administered with LEV, while Oesophagostomum species survived ABZ given separately. Combining these two drugs may therefore offer a temporary solution in helminth control on the farm as other control measures are sort.

**Key words**: Efficacy, resistance, albendazole, levamisole, co-administration