

## **Abstract:**

The strategic use of closantel, a narrow-spectrum salicylanilide anthelmintic against bloodsucking helminths, and of albendazole, a broad-spectrum benzimidazole anthelmintic, in the control of gastrointestinal nematodes of sheep was investigated on a farm in Nyandarua District in the highlands of Kenya. Thirty Corriedale female lambs aged between 9 and 12 months were assigned to three treatment groups of 10 lambs each. The three groups were set stocked on separate paddocks for 12 months. Lambs in group 1 (strategic treatment group) were treated with closantel and albendazole at the beginning and towards the end of the long rains (April and June, respectively) and towards the end of the short rains (December). During the intervening dry season, the lambs were treated with albendazole. Lambs in group 2 (suppressive treatment group) were kept 'worm free' by regular deworming with albendazole at 3-weekly intervals for 12 months. The third group of lambs remained untreated (control group). Gastrointestinal nematode infections and pasture infectivity were well controlled in the case of the strategic treatment group. This resulted in higher weight gains, wool production, packed cell volume, and serum albumin and protein concentrations compared with the untreated control lambs. These parameters were comparable between the strategic treatment and the suppressive treatment groups of lambs. It was concluded that worm control strategies based on the epidemiology of the parasites and the sustained anthelmintic action of closantel in combination with broad-spectrum anthelmintics can provide effective control of gastrointestinal nematodes of sheep in the study area.