

Abstract:

The objective of this randomized controlled field trial was to determine and compare the efficacies of two anthelmintics, moxidectin and albendazole on gastrointestinal nematodes (GIN) in smallholder dairy cattle in Kenya in June to August 2010. On the first visit, faecal samples were collected from the rectum of 419 cattle on 128 smallholder dairy farms that were above three months of age. Faecal egg counts (FECs) for GIN eggs were conducted using the modified McMaster method, and larval cultures were done on pooled samples for each farm to determine the GIN genera encountered. The cattle were allocated to three treatment groups (albendazole, moxidectin, and placebo groups), using a blocked random allocation method. A second faecal sampling and FEC was done on the recruited cattle two weeks post-treatment, with laboratory staff again blinded to each sample's group status. Statistical analyses were conducted to determine the efficacies of the two anthelmintics mentioned relative to the placebo group. The prevalence of GIN infections in the study population was 13.8%, in large part due to 75% of the cattle being managed using zero-grazing. *Haemonchus*, *Trichostrongylus* and *Oesophagostomum* were found on 28%, 20% and 15% of the 128 farms, respectively. The newer moxidectin had significantly better efficacy (95.8%) than albendazole (74.9%) for treating GINs in smallholder dairy cattle in Kenya.