



Efficacy of Commonly used Anti-helmintics among Dorper Sheep Farms in Kajiado County, Kenya

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Introduction

- Kajiado County is largely dominated by the Maasai community, who rely heavily on their livestock (including sheep and goats) for their food and economic investment
- The dorper sheep has generally been regarded as the climate smart sheep thanks to its ability to withstand the vagaries of climate change
- The production rate has been significantly reduced by the rise in helminthic infections
- However, there have been rising cases of helminthic infestations in de-wormed animals as reported by farmers causing serious health and productivity constraints
- This calls for the study on effective management of these infestations using effective anti-helmintics

Study Objectives

General objective

- To determine the efficacy of the most commonly used anthelmintics in Kajiado County

Specific objectives

1. To assess the community's knowledge level and attitudes on the rising cases of helminthic infestations
2. To identify the factors associated with the rising cases of helminthic infestations in small ruminants
3. To identify the principal worm species in small ruminants in Kajiado County

Materials and Methods

- This study was conducted among dorper sheep farms in Kajiado County, Kenya
- Questionnaires was administered to assess the community's knowledge and attitudes on these infections
- Animals not treated within the last three months and with faecal egg counts of ≥ 150 were selected for the study
- They were divided into 4 groups of 18 animals each

Materials and Methods

- Group A was treated with Valbazen^R orally, Group B with Nilzan super^R orally, Group C with Supermec^R injection subcutaneously and Group D served as the untreated control group
- Faecal egg counts and cultures were done on **D₀** and on **D₁₄**
- Faecal cultures were used to identify the principal worm species present in the pre- and post-treatment phases using the Baermann technique
- Anthelmintic efficacy was established using the faecal egg count reduction test (FECRT)

Results and Discussion

- It was noted that these residents rely entirely (100%) on the use of anthelmintics in the control and management of these helminthic infestations in their flocks
- The majority of the respondents (80%) could not read and understand the information on the drug's leaflets. This could indicate that the farmers could not get the right dose rate and expiry date indicated on the leaflets
- The most commonly used anthelmintics in Kajiado County as reported by farmers are ivermectin, levamisole and albendazole

Results and Discussions

- The mean FEC between groups (treated and control) was not significantly different before treatment
- However, on **D₁₄** FECs of Group C were significantly different ($P < 0.05$) from the rest of the treated groups
- All anthelmintics exerted a significant ($P < 0.05$) reduction effect on nematode egg counts post-treatment
- FECR revealed 86%, 76% and 17% for Nilzan super^R, Valbazen^R and Supermec^R respectively

Results and Discussion

- In pre-treatment cultures, *Haemonchus*, *Oesophagostomum*, *Cooperia*, *Trichostrongilus* and *Strongiloides* were present indicating multiple parasitic infections
- Post-treatment faecal cultures showed that *Haemonchus*, *Oesophagostomum* and *Trichostrongilus* have escaped the treatments
- However, *Haemonchus* are the predominant species present

Conclusion and Recommendation

- Multiple drug resistance has been confirmed in Kajiado County hence the negative impact on productivity
- Animal health extension services should be deployed to create awareness on the emerging threat of anthelmintic resistance and how to manage the problem

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