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PREVALENCE OF HAEMONCHOSIS IN GOATS AND SHEEP SLAUGHTERED AT SOROTI ABATTOIR

By

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BU/UP/2021/0129

A RESEARCH DISSERTATION TO BE SUBMITTED TO THE DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT, FACULTY OF AGRICULTURE AND ANIMAL SCIENCE IN THE PARTIAL FULFILLMENT OF REQUIREMENTS FOR THE AWARD OF A BACHELOR OF ANIMAL PRODUCTION AND MANAGEMENT FROM BUSITEMA UNIVERSITY

SEPTEMBER 2024

DECLARATION

I, Walyomo Allan, thus proclaim the research dissertation on the incidence of haemonchosis in goats and sheep slaughtered at Soroti abattoir, Soroti City is my original work. I certify that, in collaboration with academic guidelines, all information sources used in writing this dissertation have been cited and referenced

I continue by certifying that I have not submitted this dissertation for consideration toward any other academic award.

Approval

Walyomo Allan

Sign..... 07/11/2024

Supervisor Approval

D. Matovu Henry

Sign..... 07/11/2024.

DEDICATION

To my supportive father Tayema Sam, mother Tayema Mary, to my sisters and brothers.

ACKNOWLEDGEMENT

I am grateful to Soroti abattoir staff and Busitema University, Arapai campus that are to make this study a learning process. My thanks first go to my supervisor Dr. Matovu Henry for his intellectual guidance to come up with a clear and detailed research dissertation on this research project

Sincere gratitude to be extended to the Busitema University staff for their help during the research period.

TABLE OF CONTENT

ABBREVIATION

GIN	gastrointestinal nematode
H. contortus	*Haemonchus contortus*
BCS	Body Condition Score
SPSS	Statistical Package for Social Science

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ABSTRACT

Haemonchosis disease is a significant parasitic infection affecting ruminants particularly goats and sheep. The study looked at the prevalence of haemonchosis in sheep and goats slaughtered at Soroti Abattoir, soroti district.

The cross-sectional study employed a combination of quantitative data where it involved recording demographic data and examining the abomasum for adult *Haemonchus contortus*, lesions and hemorrhages. It was conducted for one month with a sample size of 382 small ruminants.

The overall prevalence rate was found to be 43.7%, with 43.8% in goats and 43.5% in sheep, 45.6% in male and 54.4% in female, there was an increase in prevalence with increase in age where animals aged one year had a prevalence of 27.8%, two years (48.4%), three years (65.8%), four and above (75%). The study went ahead to determine how FAMACHA score results are related with the worm burden in the abattoir. The findings help to highlight the need for targeted control measures, including strategic deworming and improved nutrition, to reduce the impact of Haemonchosis and improve livestock health and productivity.

In view of the findings of the current study, there is a need and recommendations for proper disposal of condemned organs such as abomasum, proper nutrition and management practices to prevent the spread of haemonchosis disease and public health hazards.

CHAPTER ONE

1.1 BACKGROUND OF THE STUDY

Haemonchosis disease, caused by the gastrointestinal nematode *Haemonchus contortus* according to (D. S. Zarlenga *et al*., 2016), represents a significant health concern for shoats globally, in regions where goats and sheep play crucial role in agriculture and economic livelihoods (Besier *et al.*, 2016). In Uganda, goats and sheep are vital assets to many rural communities, providing meat, milk, and other by-products essential for food security and income generation (Neopane *et al.*, 2022). However, parasitic diseases like Haemonchosis pose a persistent threat to their health, productivity, and overall economic sustainability of livestock farming (Arsenopoulos et al., 2021b).

Haemonchus contortus has a complex lifecycle that includes both environmental stages that are free-living and host-parasitic stages (Cantacessi *et al.*, 2010). The adult worms depart in the host's abomasum, where they consume blood causing anemia, edema(bottle jaw), weight loss, poor body condition, reduced growth and productivity and death causing production losses on livestock industry in the country (Alam *et al.*, 2020). The prevalence and intensity of haemonchosis are influenced by several factors, including climatic conditions, grazing practices, and host resistance (Besier *et al*., 2016). In tropical and subtropical regions, where conditions are favorable for the parasite, infections can become endemic and lead to high levels of morbidity and mortality. Demographic factors, such as age, sex, breed, and origin, significantly influence disease prevalence (Mengist et al., 2014b). Understanding the relationship between demographic factors and the disease prevalence rates helps to identify high-risk groups and tailor interventions. Analyzing demographic impacts aids in developing effective disease control strategies, improving animal health and productivity (Adduci *et al.*, 2022).

Soroti district in Uganda is predominantly agricultural, with many smallholder farmers raising goats and sheep for their economic livelihood (Byaruhanga *et al.*, 2014). The region's climate, characterized by high temperatures and seasonal rainfall (Sharma, 2017), provides favorable conditions for survival and growth of *Haemonchus contortus* larvae. Wet season promotes pasture growth, increasing exposure to infective larvae, while the dry season can lead to higher concentrations of parasites in the remaining pastures.

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