



**PREVALENCE OF GASTROINTESTINAL NEMATODE INFESTATION IN
INDIGENOUS GOATS IN ARAPAI SUB COUNTY, SOROTI DISTRICT**

BY

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DECLARATION

I, **Akello Agnes**, hereby declare that this dissertation is out of my original concept and has never been submitted to any University or institute of higher learning for any academic award.

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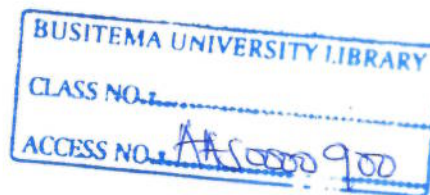
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DEDICATION

I dedicate this dissertation to my Mother Ms Asio Mary, Father Mr. Odee Ambrose, Mr. Ojikan Paul, Matovu Jackline, my lovely Brothers and Sisters, and friends.

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LIST OF ABBREVIATIONS

NaLIRRI	National Livestock Resources Research Institute.
LAB	Laboratory
NAADS	National Agricultural Advisory Services
NUSAF	Northern Uganda Social Security Action Fund
LC	Local council
GI	Gastrointestinal
PCV	Packed cell volume
S.E.A.G	Small east African goat
NaCl	Sodium Chloride
DF	Degrees of freedom
P-VALUE	Probability Value
SPSS	Statistical package for social scientists
EPI- INFO	Epidemiological information
%	Percentage
E P G	Egg per gram
FEC	Faecal egg count
CL	Confidence level
<	Less than
>	Great than

ABSTRACT

Goat farming is one of the most common livelihood activities in Uganda. Diseases, mostly helminthes, are a big challenge to goat rearing, causing low productivity and economic losses. This study was conducted to determine the prevalence of gastrointestinal nematode infestation in indigenous goats in Arapai sub-county, Soroti District. A checklist was used to obtain necessary data on demographic factors. For each goat, a faecal sample was collected from the rectum with well lubricated gloved finger. The glove was carefully tied, labeled and sample preserved using formalin 10% before taking it to NaLIRRI in Tororo for analysis. The McMaster egg counting method was used to determine the egg numbers per gram of the sample. The nematode prevalence in indigenous goats in Arapai Sub County was 67.5%. The particular gastrointestinal nematodes that were involved were: *Haemochus*, *Trichostrongylus*, *Bunostomum* and *Strongyloides*, with *Haemochus* being the most dominant. Farmers should frequently de-worm their animals and practice good nutrition of their goats. Extensive studies should be conducted to establish the factors that could have led to the high prevalence of gastrointestinal nematode infestation in this area.

CHAPTER ONE

INTRODUCTION

Background

Goats originated from Mesopotamia and evolved from wild animals in Southeast Asia 10,000 years ago. The goat world population is about 800 million heads, above 90% found in developing countries (Meza-Herrera, 2011).

Goats play an important role in the culture and economy of the indigenous people of Africa. They improve family food security and livelihood and also reduce poverty. Goats produce meat, milk, skin, fiber, manure, and income they are kept as savings with kids got as interests, and can easily be converted to cash if needed (Woldemariam, 2005; Boomker *et al.*, 1994; Fraser, 1991). The goat meat and milk provide proteins to the farmers and their consumers as almost all individuals irrespective of culture, religion consume goat meat. They are also used as gifts and dowry as well as provide manure for vegetable growth. A farmer with a small piece of land can rear goats than cattle. This makes them a viable economic reserve for the poor resource farmers.

Despite all the above merits, diseases have negatively affected their productivity of which helminthes is among those at the peak causing losses and these are majorly by the gastrointestinal nematodes (Rahmann and Seip, 2006; and Schmidt and Roberts, 1985). They cause anemia, rob hosts of their nutrients resulting into economic losses, lowered productivity, reduced animal performance and weight gain, retarded growth, cost of treatment and mortality (Barger, 1999 and Larson, 1999). These effects affect the income of the smallholder farming communities (Perry *et al.*, 2002).

Goat farming is one of the most common livelihood activities in Uganda and 30.4% of all agricultural households are engaged in rearing goats (Agricultural module, 2002). According to the National Livestock Census report (2008), 39.2% of the households own goats in Uganda. Furthermore, goat farming is still being promoted by the Ugandan government through NAADS and NUSAF programs due to its several advantages including; low costs of rearing, being hardy and adaptable to large ranges of environmental conditions, have short gestation period with high

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