PREVALENCE OF BOVINE FASCIOLIASIS IN AGAGO NORTH COUNTY

BY

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Declaration

I OCIRA JOEL, do declare that this research report is my original work and has never been reproduced or submitted to any university or academic institution for an academic award.

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Approval

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You all have my best wishes!

Dedication

I dedicate this report to my parents, Mr. Ocan Robert and Mrs. Aceng Betty Ocan who wholeheartedly supported me financially and psychologically to complete this research. I also dedicate this piece of work to all the district staffs of Agago District Local Government who supported me magnanimously during the data collection phase of the research. Finally, I dedicate this report to my daughter, Ayee Anne Alexa and spouse, Ms. Paska Atim who are inspirations to my every endeavor.

May the good Lord bless you abundantly!

Table of Contents

List of Figures

List of Tables

List of Abbreviations and Acronyms

BL…… Body Length

BW……. Body Width

CI……. Confidence Interval

CL……..... Cone Length

CW……... Cone Width

ELISA……... Enzyme-Linked Immuno-Sorbent Assay

ES……. Excretory- Secretory

GDP…….…… Gross Domestic Product

i.e., …… that is to say

PCR……... Polymerase Chain Reaction

SPSS……. Statistical Package for Social Sciences

TCZ…….…..... Triclabendazole

UBOS…….…..... Uganda Bureau of Statistics

List of Appendices

ABSTRACT

Fascioliasis is a zoonotic parasitic disease caused by *Fasciola* species, majorly *F. hepatica* and *F. gigantica*. A cross sectional study was carried out to determine the prevalence of bovine fascioliasis in Agago North County and identify the *Fasciola* species responsible for the disease in the area. The study applied a qualitative approach using coprological analysis to derive prevalence data. Species identification of the liver flukes was done basing on the morphology and standardised morphometric measurements i.e., body length (BL), body width (BW), cone length (CL), and cone width (CW) of flukes. According to morphology, fluke isolates were affiliated to two groups; *Fasciola hepatica*-like and *F. gigantica*-like. The current study found out the prevalence of the disease in the area to be 37.9%. Parabongo Sub- County had the highest prevalence and Kalongo Town Council had the lowest. There were significant differences in BL, BW and CL between the two groups of flukes. The *F. gigantica*-like isolates had significantly higher BL ($p<0.001$) at 28.70±7.19mm than the *F. hepatica*-like isolates (15.96±5.35mm). The *F. hepatica*-like group had a significantly wider BW (8.59±0.77mm, $p<0.001$) than the *F. gigantica*-like isolates (6.47±1.09mm). Mean CL was significantly higher ($p<0.001$) in the *F. gigantica*-like isolates (3.90±0.84mm) than *F. hepatica*-like isolates (2.35±0.43mm). CW showed no significant difference ($p = 0.313$) between the two groups of fluke isolates. The *F. hepatica*-like isolates had a mean CW of 1.69±0.48mm, slightly different from that of the *F. hepatica*-like group at 1.53±0.41mm. The study concluded that fascioliasis is prevalent in all the sub-counties and town councils of Agago North County at over 30% and suggested *Fasciola gigantica* to be the major and most likely the only *Fasciola* species responsible for bovine fascioliasis in the area. Recommendations made include appropriate chemotherapy and control of lymnaeid snails, genetic characterization of the flukes and further study of the intermediate host snails in the area.