

BUSITEMA UNIVERSITY.

FACULTY OF AGRICULTURE AND ANIMAL SCIENCES.

DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT.

FINAL YEAR PROJECT REPORT

**EFFICACY OF PAWPAW SEED EXTRACTS IN THE MANAGEMENT OF
GASTROINTESTINAL NEMATODES IN PIGS**

By

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**TO BE SUBMITTED TO THE FACULTY OF AGRICULTURE AND ANIMAL
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ABSTRACT

Pigs is one of the species reared by socio-economically weaker sections of the society. It is evident that pigs' population increased significantly from 0.19 million in 1980 to 1.7 million in 2002 and to 3.2 in 2008 (Report, n.d.) and Soroti has a total of 75000 pigs (UBoS, 2009). Gastro intestinal helminthes are still a major bottle neck to the piggery industry all over Uganda (Biosecurity, 2017) since most farmers in rural areas of Uganda keep pigs in dirty premises that can stimulate incubation of helminths hence leading to increased demand for other interventions to control helminthes. During the previous years, most of the farmers have insufficient knowledge of use of synthetic chemotherapeutic agents against helminthes (Nsadha, 2013). The comparative studies on efficacy of anthelmintic of papaya seed extract was investigated in naturally infested pigs. 12 pigs weighing averagely 15kgs live body weight were used to compare the efficacy of aqueous papaya seed extract and levamisole in control of gastro intestinal nematodes. The pigs were purposely assigned into three groups namely A, B and C and D each containing four pigs. Group A, B and C were assigned to papaya seed extract treatment of 1.5%, 2.5% and 7.5% respectively while group D were treated with synthetic drug (levamisole). A week after treatments faecal samples were collected to evaluate faecal egg count. The result showed a remarkable reduction in the level of nematodes under study and papaya extract of 1.5% was the most effective in controlling gastrointestinal nematodes in pigs. However there was no significant difference in the reduction of faecal egg count in pigs treated with levamisole and the extract meaning that papaya extract anthelmintic effect is equivalent to that of levamisole. *Ascaris suum* was the most responsive nematode to treatment with the extract among the worms under study. Therefore the effect of treatment of pigs with carica papaya seed extract in this study showed that carica papaya seed extract can act as alternative cheap source of anthelmintic and most effective concentration in management of nematodes is 1.5% papaya seed extract.

DECLARATION.

I **OTIM SMUEL**, declare that this Project Report is my original work and has not been submitted for of award for any Diploma, Bachelors, Masters and PHD in any University.

NameReg Number.....Signature.....

Approval by academic supervisor,

This Project proposal has been submitted for Examination with the approval of the academic supervisor.

Name.....Signature.....

DEDICATION

I dedicate this work to my guardian Rev. Anyati Dickens, my mother Pr. Rose Anyati, my siblings, my friends, my mentor Dr Ekau Justine who supported me financially, academically, spiritually and encouraged me. May God bless you all.

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I would like to thank the almighty God for guiding me throughout my entire study life. He kept me strong physically, emotionally and spiritually. Moreover, he has been providing me the wisdom, knowledge and understanding which enabled me to pursue my diploma program.

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Not forgetting my friends who have been with me in the struggle right from year one, first day till now that we have become finalists.

MAY GOD BLESS YOU ALL

Table of Contents

ABSTRACT	i
DECLARATION	ii
Approval by academic supervisor,	iii
ACKNOWLEDGEMENT	v
LIST ABBREVIATIONS	viii
CHAPTER ONE: INTRODUCTION	1
1.1 Background	1
1.2 Problem statement.	2
1.3 General objective.	3
1.4 Specific objectives.	3
1.5 Hypothesis	3
1.6 Significance of research.	3
1.7 Justification.	3
1.8 Scope	4
CHAPTER TWO: LITERATURE REVIEW	5
2.0 Biology of intestinal nematodes	5
2.1 Ecology of carica papaya	6
2.1.1 Ethno pharmacological value of carica papaya	6
2.3.0 History of levamisole	7
CHAPTER THREE: METHODOLOGY	9
3.1 Research approach	9
3.2 Geographical area of study	9
3.3 Population	9
3.4 Sampling strategies	9
3.5.0 Data collection method	10
3.5.1 Salt floatation method	10
1.6 Data quality control	11
3.7 Measurements	11
3.8.0 Data analysis	11
3.8.1 Data presentation	11
3.9.0 Ethical consideration	12
3.9.1 Environmental consideration	12

3.9 Limitation	12
figure showing extraction of papaya seeds.	21
Figure showing raw data.....	22

LIST ABBREVIATIONS.

- I. Gms grams.
- II. EPG egg per gram.
- III. C.papaya.....*carica papaya*.

CHAPTER ONE: INTRODUCTION

1.1 Background

Pigs is one of the species reared by socio-economically weaker sections of the society. It is evident that pigs' population increased significantly from 0.19 million in 1980 to 1.7 million in 2002 and to 3.2 in 2008 (Report, n.d.) and Soroti has a total of 75000 pigs (UBoS, 2009).

However, gastro intestinal helminthes are still a major bottle neck to the piggery industry all over Uganda (Biosecurity, 2017) since most farmers in rural areas of Uganda keep pigs in dirty premises that can stimulate incubation of helminths hence leading to increased demand for other interventions to control helminthes. During the previous years, most of the farmers have insufficient knowledge of use of synthetic chemotherapeutic agents against helminthes(Nsadha, 2013).

Infestation with helminthes has a lot of negative impact on the piggery industry as well as piggery farmers hence resulting into losses (Biosecurity, 2017).

Increased public awareness of synthetic drug residues (Beyene, 2015) in animal products, combined with wish for an organic way of farming has led to increased effort to find phytotherapeutic agents against helminthes hence leading to evaluation of some of these phytotherapeutic agents for their anthelmintic properties with aim of knowing more about them (Beyene, 2015).

Scientifically, little has been done in this area, even though a lot of phytotherapeutic agents are currently used in developing countries for treating not only endoparasite but also all other diseases with often successful outcome (Iqbal et al., 2003). Also the current lack of verified information to contend with, therefore effective flora need to be divided from infective ones and quickest means of achieving this is in vitro methods.

Once the plant has been proven for its effectiveness in vitro, further in vivo testing will be necessary to confirm the obtained results and evaluate for risks, adverse effects and future applicability(Development et al., 2017) . At this stage it seems a long way off from discovery of a potential plant to the release of commercially viable phytotherapeutic products for use in the farms.

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