



**FACULTY OF AGRICULTURE AND ANIMAL SCIENCES  
DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT**

**FINAL YEAR PROJECT REPORT**

**THE GROWTH PERFORMANCE OF GROWER PIGS FED ON MORINGA  
OLEIFERA SEED MEAL SUPPLEMENT AT BUSITEMA UNIVERSITY ARAPAI  
CAMPUS**

**BY**

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**THIS REPORT IS SUBMITTED TO THE FACULTY OF AGRICULTURE AND  
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## DECLARATION

I Arekia Freda Opilowi declare that, this research report has been generated and written by me as a requirement in partial fulfillment of the award of a degree of Animal Production and Management and it has never been submitted to any other institutions for academic credit.

Signature.....

Date ..... 27/02/2024

## **Dedication**

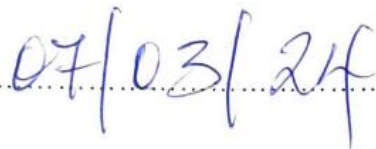
I dedicate this work to God almighty who has been my source of strength, inspiration, wisdom, knowledge and understanding throughout this dissertation writing. Special gratitude to my loving parents and grandmum whose word of encouragement and push kept me moving not forgetting my friends whose good examples have taught me to work hard for the things that I aspire to achieve.

## APPROVAL

This research report has been submitted with the approval of my Academic Supervisor assigned by Busitema University.

Ms. Akurut Immaculate

Signature.....

Date.....

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## LIST OF ABBREVIATIONS

<b>ADF</b>	-	Acid detergent fiber
<b>ADL</b>	-	Acid detergent lignin
<b>AOAC</b>	-	Association of official analytical chemists
<b>EE</b>	-	Ether extract
<b>CP</b>	-	Crude protein
<b>MOSM</b>	-	<i>Moringa oleifera</i> seed meal
<b>NDF</b>	-	Neutral detergent fiber
<b>SBM</b>	-	Soy bean meal
<b>MB</b>	-	Maize bran
<b>FM</b>	-	Fish meal

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## ABSTRACT

This experimental study aimed to evaluate the effects of *Moringa oleifera* seed meal (MOSM) rations on the growth performance of grower pigs. To achieve this, the researcher sought to assess the nutritional composition of the feed composites and subsequently determine the average daily weight gain and feed conversion efficiency. Feeding is one of the biggest challenges in pig production. In that regard, there is a need to find a cheap alternative protein source to the currently expensive feed resources like soy bean meal. This study therefore aims at finding a cheap and sustainable alternative source of protein of which is moringa. A completely randomized design with four treatments of different MOSM inclusions (R1, R2, R3, and R4) and three replicates were used. The pigs were fed on standard control feed for a period of 7 days before data collection started, this will be done to acclimatize the pigs to the new environment. A total of 12 male uncastrated pigs 2 months old were randomly assigned to four dietary treatments: R1 (control), R2 (5% MOSM), R3 (10% MOSM), and R4 (15% MOSM). The pigs were restrictively fed for 8 weeks and their body weight, feed intake and feed conversion ratio (FCR) were measured. The results showed that MOSM supplement improved the body weight gain, feed intake, and FCR of the pigs. The highest growth performance was observed in R1, followed by R2, R4, and R3. The results got from the study suggest that supplementing *Moringa oleifera* seed meal in the diet of grower pigs could be a cheaper source of protein feed. My findings revealed inclusions of 5% of MOSM greatly improved growth performance and feed conversion efficiency as compared to the other treatments. The control ration recorded better results on weight gain however, its feed conversion efficiency was slightly lower than that in R2. I recommend the future research is directed to exploring different processing methods (such as heat treatment) of moringa seeds to optimize nutrient availability, establishment of the most effective inclusion rate of the supplement in the various animal species. Since no mortality was reported, researchers may also explore the antimicrobial properties of MOSM.

## 1.0 CHAPTER ONE: INTRODUCTION

### 1.1 Background of the study

Pigs are omnivores even hooved animals and sometimes called swine. They are non-ruminants, highly prolific, fast growing, and efficient feed converters and have a shorter gestation period which makes them a good business to venture in however the piggery sector has been faced with problems of feeding because mainly they compete with man for food.

Pigs require essential nutrients for maintenance, growth, reproduction and they include carbohydrates, fats, amino acids, minerals, vitamins and water. Pigs needs amino acid like arginine, histidine, isoleucine, leucine, methionine, valine, tryptophan, lysine, threonine, phenylalanine which their body cannot produce.

Protein source feeds like soya bean meal are scarce and expensive because of high demand by humans Abdel-Rahman *et al.*,( 2019). Thus, there is a need to find a cheap long-lasting alternative source of feeds like *moringa oleifera*.

*Moringa oleifera* belongs to the family of *Moringaceae* Hamada *et al.*, (2021). It is a native plant to south Asia. It is a fast-growing plant widely available in the tropics and subtropics with several use (Islam *et al.*, 2021). Its sometimes-called drumstick and miracle tree. It can withstand severe drought and winter thus cultivated across the world (Mahmood *et al.*, 2010). Moringa has been used in traditional medicine passed down for centuries in many cultures around the world for skin infections, anemia, anxiety asthma and blood impurities (Abdel-Rahman *et al.*, 2019). The flowers, fruits, flowers, immature pods and seeds are edible and they form a part of traditional diets (Islam *et al.*, 2021). Moringa is rich in nutrition owing to the presence of variety of essential phytochemicals present in the leaves, pods and seed (Khan *et al.*, 2016). It is found to be a good source of energy with potential pharmaceuticals and cosmetics (Essa *et al.*, 2014) .The seed extract shows antibacterial activity used as a water purifying agent and blood sugar reducing agent (A. Mizory, 2023). Its leaves contain a lot of phytochemicals such as sterols, tannins, flavonoids, alkaloids and saponins (Khan *et al.*, 2016). The essential amino acids in moringa are not found in most of the plant derived protein thus providing a good alternative source of protein (Khan *et al.*, 2016). Increasing human population coupled with low production

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## **Appendix**