BUSITEMA UNIVERSITY
Pursuing Excellence

FACULTY OF AGRICULTURE AND ANIMAL SCIENCES,

DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT,

ASSESSMENT OF CLEANLINESS EFFICIENCY OF SELECTED SLAUGHTER SLABS AND MBALE CITY ABATTOIR.

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This final year project report is submitted to the Department of Animal Production and Management in partial fulfillment of the requirements for award of the Degree of Bachelor of Science in Animal production and management of Busitema University

FEBUARY, 2023

Abstract

The study was conducted from July 2022 to February 2023 to assess cleanliness efficiency of selected slaughter slabs and Mbale city abattoir. A cross-sectional study involving a structured questionnaire survey was used to record unhygienic practices for both slaughter slabs and the city abattoir on purposively selected respondents (60). Furthermore 16 swab samples from floor water and clothes of the workers in the study area were aseptically collected and analysed for microbial load at Busitema University, Arapai laboratory. The aim of the study was to assess the cleanliness efficiency of selected slaughter slabs and Mbale city abattoir. Whose specific objectives were to determine the factors affecting hygiene in slaughter slabs and Mbale city abattoir and lastly to enumerate the bacterial load in the slaughter slabs and Mbale city abattoir? Key findings revealed that microbial load of *Staphylococcus aureus* was not exceeding the minimum recommended standard of $< 5 \log_{10}$ cfu/cm^2 while that of *Escheria* coli was above the recommended standard of $< 1.8 \log_{10}$ cfu/cm^2. This literally translates that there was a lot of faecal contamination in the selected slaughter slabs and the city abattoir meaning that the hygienic practices were poor. There was more *E coli* compared to *staph aureus*. I recommend further studies be conducted on Microbial load of the meat supplied and consumed in the nearby local restaurants.

Declaration

I NABUSAKI JANE, hereby declare that this work was out of my personal effort and has never been submitted to any institution for any academic award.

Nabusaki

9 / 05 / 2023

Approval

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Dedication

I dedicate this work first to the almighty God for blessing me with life and to my family members especially my husband, Mr. Mutsaka Peter Maira , for his financial, social support towards reaching this final stage as it was not easy at all.

Acknowledgement

I would like to acknowledge the endless efforts accorded by the following people during the time of this research project. The staff of Busitema University especially Animal Department, with high regard to MR MBOGUA JOSEPH and DR MATOVU HENRY for all their efforts to ensure this piece of work was accomplished within scheduled time. MR MUYINDA ROBERT who was my Academic supervisor who continuously guided whenever I could encounter any challenge from the beginning until the end and Mr IBRAHIM who offered technical laboratory guidance. To my family members, thank you a lot for standing in together with me towards reaching to this successful journey of academia. Finally I extend my sincere gratitude's to my colleague's moreso MR NANGOLI JOSHUA for his guidance towards accomplishing this piece of work.

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List of abbreviations

GDP**:**   Gross domestic product.

ARB**:**   Anti-microbial Resistant Bacteria.

WHO**:**   World health organisation.

FAO**:**   Food and Agricultural Organisation.

E. coli**:**   *Escherichia coli.*

S. aureus**:**   *Staphylococcus aureus.*

SPP**:**   Species.

ASFs**:**   Animal source foods.

APC**:**   Aerobic plate count.

FAAS**:**   Faculty of Agriculture and Animal sciences.

BAPM**:**   Bachelor of Animal Production and Management.

CAC**:**   Codex Alimentarious Commission.

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CHAPTER ONE: INTRODUCTION.

1.0 Background.

The Hygiene Performance Rating scheme has been used in various countries such as Norway, South western Nigeria for the last 10 years to evaluate and document each operation on the slaughter line, hence assessing the factors that can affect the slaughter hygiene (Rotterud *et al.*, 2020). Animal food is always microbiologically contaminated by organisms living in it naturally or entering it from the surrounding, such as those resulting from processing operations *(*Akinro *et al.*, 2009). Lack of appropriate slaughter facilities with poor slaughtering techniques often contaminate meat making it hazardous to human health (Rajpal *et al.*, 2022). Hygiene in slaughter places and meat sale are wanting with very low standard in slaughter facilities, no reliable water source, hot water, toilet, hand washing, poor drainage, lighting and waste management (Of *et al.*, 2009).

Handling of beef by actors in the chain from slaughter to butcheries is critical due to cross contamination by microorganism (Kyayesimira *et al.,* 1962). Bacteria such as *Staphylococcus aureus* (S. aureus), *Listeria* monocytogens, *Campylobacter* spp. and *Escherichia* coli (E. coli) 0157:H7, have been implicated in a number of food borne illnesses (Nouichi & Hamdi, 2009). Contamination of meat could be by contact with contaminated surfaces and equipment in the meat sale outlets. Many researchers have reported the detection and prevalence of Anti-microbial Resistant Bacteria (ARB) in retail meat samples (Okubo *et al.*, 2020; Johnson *et al.,* 2009; Eyi & Arslan, 2012; Zhao *et al.*, 2012; Martinez- Va´zquez *et al.*, 2018).

Uganda being one of the sub-Saharan country has continuously failed to supply meat to more lucrative markets in Europe, the Middle East, and China because of quality and safety issues (Jeffer *et al.*, 2021). It should be noted that meat is perishable food and impacts a health risk if handled improperly as it favours growth of pathogens and spoilage micro- organisms when exposed to unhygienic conditions (Kyayesimira *et al.*, 2019).

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