

**BUSITEMA
UNIVERSITY**
Pursuing Excellence

FACULTY OF AGRICULTURE AND ANIMAL SCIENCES

DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT

**PREVALENCE OF SALMONELLA AND ESCHERICHIA COLI BACTERIA IN
BROILER MEAT SOLD IN KALERWE MARKET IN KAMPALA DISTRICT IN
UGANDA**

BY

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FOR THE AWARD OF BACHELOR'S DEGREE IN ANIMAL PRODUCTION
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
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DECLARATION

This dissertation contains my own work and has never been submitted to any institution for any assistance or award of academic credit or qualification.

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APPROVAL

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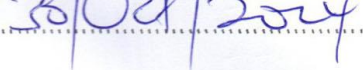
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DEDICATION

I dedicate this research report to Mr. Zorome Kenneth Tumaine for the unwavering support both financially and physically. I cannot leave out my fellow students for all the advice upon the whole course since 2020.

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ABBREVIATIONS

V.T.E.C	Veteroxin-producing-E-coli
T.V.C	Total Volume Count
T.C.C	Total coliform Count
T.F.C	Total Fecal Count
PC	Presumptive coliform
ENT	Enterobacteriaceae
SD	Standard deviation
OIE	Office International des Epizooties
TPC	Total plate count

ABSTRACT

The prevalence of *Salmonella* and *E. coli* bacteria in broiler meat, has become a pressing issue in recent years due to the potential health risks causing public health problems, like gastrointestinal infections which manifest with the symptoms like diarrhea, abdominal cramps, The purpose of this research was to determine how common salmonella, E.coli, and the total coliform count are in the broiler meat that is being sold at kalerwe market.

Using random sampling tool, 50 chicken broiler carcasses were collected from three different chicken abattoirs at Kalerwe market A, B and C, sterile sampling tools were used for example forceps, scissors, labeling materials like markers, cooling equipments like ice packs and insulated container were also used, the gloves, lab coat were also used as the protective equipments and after the experiment the colony counter was used to count the number of coliform colonies and E.coli colonies on the plates in the laboratory.

This study identified that Kalerwe market is highly contaminated with E.coli in the fresh broiler meat than *salmonella*; overall mean *E. coli* count was 1616.67 ± 7.4^a cfu/g while the mean *E. coli* count from the three different chicken abattoirs A, B, C was 786.67 ± 8.58 , 310.00 ± 9.40 and 1560.0 ± 4.22 cfu/g respectively. Out of the 50 samples, no salmonella was found, and the highest count of E. coli was 1560.0 cfu/g, with a detection rate of 37.8%. This study suggests that there is a higher prevalence of E. coli than salmonella in the broiler meat at Kalerwe market.

Therefore the authority in charge of the abattoir should install necessary standard equipment's and major functional facilities in the chicken abattoir. Proper hygiene should be maintained within the slaughter houses and surroundings.

CHAPTER ONE: INTRODUCTION

1.0. Background of the study

Broiler meat is one of the most consumed worldwide due to its easy digestibility but the meat has also been found to be contaminated with food pathogens in most cases(Hidayat *et al.*, 2021).

In many countries, one of the primary causes of foodborne illness, including Brazil, is Salmonella spp. The most frequent food items implicated in human salmonellosis outbreaks are those derived from poultry, such as meat and eggs. (Borges and others, 2018)

The World Health Organization (WHO) has identified salmonella and E. coli as the two most common causes of foodborne illnesses worldwide, making their prevalence in broiler meat a serious food safety concern. (Hanafy, Samir, and others, 2015) Because microorganisms can be pathogenic and because bacterial strains like Salmonella and E. Coli are becoming more resistant to antibiotics, the microbiological contamination of food poses a risk to public health. (Courrol & Vallim, 2021).

Salmonella and E. coli are highly prevalent in broiler meat in Africa; studies have found that the ranges for E. coli and salmonella are 10.6% to 71% and 17% to 38%, respectively. Studies have shown that E. coli and salmonella are highly resistant to common antibiotics, raising concerns about their prevalence. (Juma and others, 2017)

There is little information on the frequency of E. coli and salmonella in Ugandan broiler meat. But according to a study in the Journal of Food Protection, 58% of chicken samples gathered from Kampala markets, Uganda, were contaminated with E.coli. Kalerwe being among the biggest market for chicken meat in Uganda especially broiler meat with more than 3 abattoirs for broiler meat, there's an increasing incidence of food born pathogen diseases in areas around Kalerwe market according to peak clinic center report, found in kalerwe opposite Aloysius tower along Gayaza road. (Kakooza *et al.*, 2021)

The purpose of this study was to determine how common Salmonella and E. Coli were in the broiler meat sold at kalerwe market in Kampala district, Uganda.

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