Cairo University

Faculty of Veterinary Medicine
Department of Food Hygiene and Control

Quality of Native and Imported Meat in The Egyptians Markets

Thesis Presented By

Alyaa Sayed Osman Sayed Ahmed

B. V. Sc. Cairo University (2009)

For the degree of M. V. Sc.

Hygiene and Control of Meat and its Products

Under the supervision of

Dr. Adel M. Ibrahim

Professor of Meat Hygiene and control
Faculty of Veterinary Medicine
Cairo University

Dr. Osama A. Attala

Professor of Meat Hygiene and control
Faculty of Vet. Medicine
Cairo University

Dr. Khalid Sh. Tolba

Chief Researcher of Food Hygiene
Animal Health Research Institute,
Dokki - Giza

2015

Faculty of Veterinary Medicine
Department of Food Hygiene and Control

Supervision Sheet

Dr. Adel M. Ibrahim

Professor of Meat Hygiene and control
Faculty of Veterinary Medicine
Cairo University

Dr. Osama A. Attala

Professor of Meat Hygiene and control
Faculty of Vet. Medicine
Cairo University

Dr. Khalid Sh. Tolba

Chief Researcher of Food Hygiene
Animal Health Research Institute,
Dokki - Giza

Dedication

To my father

To my mother

To my husbad

To my lovely Retag

To my sisters

To my brohers

Acknowledgement

First of all, my gratitude and prayerful to **ALLAH** who gives me the power not only to carry out this work but also during my whole life.

I am greatly indebted to ***Prof. Dr. Adel Mohammed Ibrahim,*** Professor of Meat Hygiene Faculty of Veterinary Medicine, Cairo University for his valuable guidance, continuous help, fruitful advice, and for very kindly spring his valuable time to complete this work. Moreover, giving me extraordinary experiences throughout the work. Above all and the most needed, he provided me unflinching encouragement and support in various ways. His truly scientist intuition has made him as a constant oasis of ideas and passions in science, which exceptionally inspire and enrich my growth as a student and a researcher want to be.

I would like to express my thanks to ***Prof. Dr. Osama Ali Attala,*** Professor of Meat Hygiene Faculty of Veterinary Medicine, Cairo University for his continuous help, advice, guidance throughout this study.

I wish to express my sincere gratitude to ***Dr. Khalid Showay Tolba,*** Chief Researched of Food Hygiene, Animal Health Research Institute Dokki – Giza for his stimulating supervision, guidance, continuous help and interest during supervising this work.

Finally, I would like to thank ***Dr. Abdel Salam Atef Abdel Salam,*** Assistant Lecturer of Meat Hygiene Faculty of Veterinary Medicine, Cairo University and everybody who was important to the successful realization of thesis, as well as expressing my apology that I could not mention personally one be one.

Contents

List of Tables

List of Figures

INTRODUCTION

Meat is not considered as only highly nutritious and highly desirable food, but also a highly susceptible to be spoiled due to the action of different spoilage organisms and it also frequently implicated in spreading of food borne pathogens.

Meat is an excellent source of protein in human diet and is highly susceptible to microbial contaminations, which can cause its spoilage and foodborne infections in human, resulting in economic losses and health risk (***Komba, et al., 2012***). Although muscles of healthy animals do not contain microorganisms, meat tissues get contamination during the various stages of slaughter and transportation (***Ercolini, et al., 2006***). A great diversity of microbes inhabit fresh meat generally, but different types may become dominant depending on pH, composition, textures, storage temperature, and transportation means of raw meat (***Ercolini, et al., 2006***).

Buffalo is the only potential animal that can boost meat industry. Buffaloes have a unique ability to utilize coarse feeds, straws and crop residues converting them into protein rich lean meat. Moreover, Buffalo meat is the healthiest meat among red meats known for human consumption because it is low in calories and cholesterol. It has almost 2-3 folds cost advantage over mutton and goat meat. In India, meat is consumed either in curry form with high spices or as processed meat products. Only 2% of the meat is processed in India (***APEDA, 2008***), the remaining meat is sold in fresh or frozen form. Despite vast