THE UNIVERSITY OF ZAMBIA

LEVEL OF BACTERIAL CONTAMINATION OF RAW MILK PRODUCED
UNDER DIFFERENT MILKING ENVIRONMENTS IN SMALLHOLDER
DAIRIES OF MAGOYE

BY

MATTHEW PELEKAMOYO ZULU (26126401)

A RESEARCH PROJECT REPORT SUBMITTED TO THE SCHOOL OF
AGRICULTURAL SCIENCES IN PARTIAL FULFILLMENT OF THE
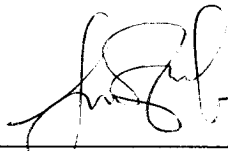REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE
(AGRICULTURE)

DEPARTMENT OF ANIMAL SCIENCE

UNZA, LUSAKA

MAY, 2011

DECLARATION

This research project report has been compiled by myself and has not been accepted in any previous application for a degree. The work in this report has been done by me and all sources of information have been acknowledged by means of references.

MATTHEW PELEKAMOYO ZULU

MAY, 2010

DEDICATION

I dedicate this project report to my ever inspiring mother Jenipher Miti and my late father Godfrey "Kambwili" Zulu.

ABSTRACT

The level of bacterial contamination of raw milk produced under different milking environments in smallholder dairies of Magoye was studied. The milking environments examined were housed parlours with soil floor, housed milking area with concrete floor, structureless milking area with soil floor and structureless milking area with concrete floor. Sixteen (16) smallholder farmers (members of the Magoye Smallholder Dairy Cooperative) were selected for the study representing 10% of the farmers delivering milk to the Milk Collection Centre in Magoye at the time the study was carried out. The results showed a strong negative correlation (r) of -0.587 ($p<0.05$) between the milking environment and bacterial contamination. The least level of bacteria contamination (44,333 cfu/ml, Grade AA milk) was found among farmers milking their animals in housed parlours with concrete floors whereas farmers producing milk in structureless milking areas that have soil floors had the highest with 234,583 cfu/ml (Grade C milk). Farmers producing Grades A and B lose K250 while those producing Grade C lose K450 per litre of milk. It was concluded that the environment under which milking was done had a significant effect on the level of bacterial contamination of the milk.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS