BUSITEMA UNIVERSITY
Pursuing Excellence

P.O.Box 236, Tororo
Gen:+256-454448842
Dir: +256-454448864
Mob: +256-782999874
Fax: +256-454436517
Email:ar@acadreg.busitema.ac.ug
Website:www.busitema.ac.ug

MILK YIELD AND *ASPERGILLUS FLAVUS* CONTAMINATION LOAD OF SELECTED DAIRY MEAL FROM MBALE AND SOROTI FED TO THE LACTATING COWS AT ARAPAI CAMPUS FARM SOROTI DISTRICT

BY

TUMWINE MARTIN

BU/UG/2017/95

tumwinemartin2017@gmail.com

0783097472/0705377207

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DECLARATION

I, Tumwine Martin hereby declare to the best of my knowledge that this dissertation is my original work and has never been submitted to any University or other institution in fulfillment of an academic award, publication or otherwise.

I hereby submit it for the award of the degree of animal production and management of Busitema University

Author

Signature..... Date.....

Tumwine Martin

The dissertation has been submitted with approval of the academic supervisor

Signature..... Date.....

Mr. Muyinda Robert

Senior Laboratory Technician

Department of Animal Prodution and Management

Faculty of Agriculyure and Animal Sciences of Busitema University.

DEDICATION

I dedicate this piece of work to the Almighty God and my lovely Parents Mr. Johnson Atoz and Mrs. Kemigisha Atoz for making me what I am today.

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LIST OF ABBREVIATIONS

AF: Aflatoxin

AFB1: Aflatoxin B1

AFM1: Aflatoxin M1

EU: European Union

HCC: Hepatocellular Carcinoma

IARC: International Agency for Research on Cancer

ALARA: As Low As Reasonable Achievable

FAO: Food and Agricultural Organization

US: United States

ELISA: Enzyme Linked Immunosorbent Assay

HPLC: High Performance Layer Chromatography

AOAC: Association of Official Agricultural Chemists

CFUs: Colony Forming Units

ABSTRACT

The objective of the study was to assess the milk yield and *Aspergillus flavus* load of dairy feeds from Mbale and Soroti Cities, the study was conducted at Arapai Campus Farm Arapai, Sub county Soroti District in Eastern Uganda between November and December 2020.

Milk yield was determined by feeding different dairy meals to different lactating cows and their respective milk production recorded on a daily basis and the level of *Aspergillus flavus* was assessed by culturing the feed samples on rose Bengal agar amended with ox tetracycline, after inoculation, the pour plates were kept in darkness for five days before colony counting took place.

The cows that fed on the dairy meal from Soroti had milk production of 3.0 liters maximum average and the cows that fed on the dairy meal from Mbale had a maximum average of 3.5liters and the cows that were not fed on any of the meals had the lowest milk yield with a maximum average of 2.0 liters. The composite feed samples from Soroti had higher *Aspergillus flavus* levels of 110, 125 and 168 colony forming units (all above the WHO limits) and the composite feed sample from Mbale had 23 and 19 colony forming units with 3 and 2 samples both out of four samples being positive for *Aspergillus flavus* from Soroti and Mbale respectively.

The study revealed that cow that fed on a dairy meal with higher *Aspergillus flavus* levels had lower milk yield and the cows that fed on a dairy meal with lower levels of *Aspergillus flavus* had higher milk yield hence farmers and feed sellers are called upon to observe all the measures needed to prevent the occurrence of *Aspergillus flavus* in animal feeds like proper drying and good storage of feeds and feed ingredients.