



**BUSITEMA  
UNIVERSITY**  
*Pursuing Excellence*

49  
-----  
60

P.O. Box 236, Tororo, Uganda  
Gen: +256 - 45 444 8838  
Fax: +256 - 45 4436517  
Email: [info@adm.busitema.ac.ug](mailto:info@adm.busitema.ac.ug)

[www.busitema.ac.ug](http://www.busitema.ac.ug)

A REPORT OF INDUSTRIAL TRAINING CARRIED-OUT AT MAKERERE UNIVERSITY  
AGRICULTURAL RESEARCH INSTITUTE KABANYOLO (MUARIK)

P.O. Box 7062, Kampala, Uganda

Director: +256 782 324841 | Farm Manager: +256 751 180238

Email: [muarik@caes.mak.ac.ug](mailto:muarik@caes.mak.ac.ug)

FROM 20<sup>TH</sup> MAY TO 26<sup>TH</sup> JULY 2019

COMPILED BY:

NAME: ADIKIN BRIDGET

REG NO: BU /UG/2018/4194

CONTACT: 07050444430/0777279849

SIGN..........

COURSE CODE: DCP 1208

COURSE MODULE: INDUSTRIAL TRAINING

COURSE: DIPLOMA IN CROP PRODUCTION AND MANAGEMENT

REPORT SUBMITTED TO THE FACULTY OF AGRICULTURE AND ANIMAL SCIENCES  
FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE  
DIPLOMA IN CROP PRODUCTION AND MANAGEMENT OF BUSITEMA UNIVERSITY

AUGUST 2019

**DECLARATION**

I ~~Adikin~~ Bridgetdo here declare to the best of my knowledge and with utmost sincerity that the work published in this book is original. Other work has been dully acknowledged; this work has never been submitted for academic award in any other institution of learning.

Sign..... *[Signature]*

Date: 19<sup>th</sup> July 2019



**FARM MANAGER OF MAKERERE UNIVERSITY AGRICULTURAL RESEARCH  
INSTITUTE KABANYOLO**

NAME..... *Meyanku C*

SIGNATURE..... *[Signature]* DATE..... *20/7/2019*

**ACADEMIC SUPERVISOR**

NAME.....

SIGNATURE..... DATE.....



## DEDICATION

This project bears a fourfold dedication.

First, to my darling parents who gave me a life of love, secondly to all my brothers, sisters, niece, nephew for the love of life you gave me, third to my crop friends who gave me a life of love and fourth to the world around me to which I have brought a love of empowerments.

Parents you are so dear to me. Your all round investment in me gives me no choice but to be in debted to you for life. Relax because this is just one brain child from your child. Throughtit, I hope to pay my first debt instalment at least in kind. To my brothers, sisters, niece, and nephew for the financial support, guidance, knowledge and encouragement you rendered to me during the study and forgetting Mr.Tweyambe Chrysostom the farm manager of MUARIK may the almighty God bless all the work of your hand.

To my friends that have given me a life of love. Your line is as long as the Nile River, but allow me to salute Warom Claudius who is still leading it, remember in our journey toward success, we are all bound to fall, but we gather the energy and rise again when everyone is looking on but not forgetting the following Nalukwata Bridget, Okello Charles.

May the good Lord reward them abundantly.

(1)

## ACKNOWLEDGEMENTS

The demands for academic work are all too overwhelming. Thus, the accomplishment of this study would not have been a success with exclusion of support and contribution of others, therefore.

With respect and humbly honour to thank God for allowing me to complete my training when am healthy, happy and alive.

I extend my sincere thanks to the academic staff of BUSITEMA UNIVERSITY who sent me for this field attachment to acquire hands on experience to enhance my academic excellence. I sincerely thank the management of Makerere University Agricultural Research Institute Kabanyolo (MUARIK) for accepting me to do my training on their farm, Mr. FWEYAMBE CHRYSOSTOM the training coordinator, Mr. Taremwa precious the head of livestock and all the section workers who tirelessly worked with me during the whole period and gave their attention to me to learn more about the Dairy enterprise, Crop section and all other fields as reported in this farm.

MAY THE ALMIGHTY GOD BLESS YOU ABUNDANTLY



## TABLE OF CONTENTS



DECLARATION .....	i
DEDICATION .....	ii
ACKNOWLEDGEMENTS .....	iii
TABLE OF CONTENTS .....	iv
LIST OF ABBREVIATION .....	vii
LIST OF TABLES .....	ix
ABSTRACT .....	x
CHAPTER ONE .....	1
INTRODUCTION .....	1
1.0 Background .....	1
1.1 General Objective .....	2
1.2 Specific Objectives .....	2
1.3 Purpose for the study .....	2
1.4 Specific objective .....	3
1.5 Objectives of the internship .....	3
1.6 Intern questions .....	3
1.7 Methodology and approaches used during internship .....	3
CHAPTER TWO: DESCRIPTION OF THE ATTACHMENT .....	4
CROP SECTION .....	4
2.1 Cereal crops .....	4
2.1.1 Maize ( <i>Zea mays</i> ) .....	4
2.2 Leguminous crops .....	5
2.2.1 Soy Bean ( <i>Glycine max</i> ) .....	5
2.2.2 Agronomy of soy bean .....	5
2.2.3 Land preparation involves .....	6
2.2.4 Harvesting .....	6
2.2.5 Storage .....	6
2.3 Horticultural Crops .....	7

2.3.1 Tomato [ <i>Lycopersicum esculenta</i> ]	7
2.3.2 Cabbage [ <i>Brassica oleracea</i> ]	7
2.4 Perennial crop	7
2.4.1 Banana [ <i>Musa spp</i> ]	7
2.4.2 Coffee Plant	8
2.5 Entomological activities	9
2.3 Pathological	10
2.7 Animal section	11
2.7.1 Aquaculture	11
2.7.2 Apiculture	11
2.7.3 Dairy	12
2.7.4 Poultry	13
2.7.5 Piggery	13
2.7.6 Compost vermi-culture	14
2.8Mechanization	15
2.8.1 Tillage implements	15
2.8.2 Planting implement	15
2.8.3 Crop protecting implement	16
2.8.4 Harvester machine	16
2.9Farm structure	17
2.9.1 Silo	17
2.9.2 Store	17
2.9.3 Garage	17
2.10 Green House	18
<b>CHAPTER THREE: IMPACT OF ATTACHMENT</b>	<b>19</b>
3.1 Skills gained	19
3.2 Responsibilities undertaken in different attachment	19
3.3 Influence of attachment to my future career plans	19
3.4 Correlation of the activities carried out with the class room knowledge	20
<b>CHAPTER FOUR: CHALLENGES, CONCLUSIONS AND RECOMMENDATIONS</b>	<b>21</b>
Challenges	21

Conclusions .....	21
Recommendations .....	21
APPENDICES II. SHOWING THE MAP OF MUARIK .....	26
REFERENCE .....	28

### LIST OF ABBREVIATION

ARDC.....	Agricultural Research and Development Centre
DSIP.....	Development strategy and investment plan
IMO.....	Integrated pest management.
NAADS.....	National Agricultural Advisory Services
NAGRIC and DB.....	National Animal Genetics Research Centre
NARO.....	National Agricultural Research Organization
NDP.....	National development plan
OPM.....	Office of the prime minister
OWC.....	Operation wealth creation
PMA.....	Plan for modernization of agriculture
MUARIK.....	Makerere University Agricultural Research Institute Kabanyolo
N.D.....	Newcastle Disease
FMD.....	Foot and Mouth Disease
ECF.....	East Coast Fever





## LIST OF FIGURES

Figure 1. Showing the Administrative Structure of Makerere University Agricultural Research institute Kabanyolo .....	2
Figure 2 showing the location of MUARIK in Gayaza .....	26
Figure 3 Showing milking the cow and cleaning in calf barn .....	27
Figure 4 Showing hand weeding in banana plantation garden .....	27
Figure 5 Showing coffee harvesting by hand picking .....	27

D

## LIST OF TABLES

Table 1: A table showing common maize varieties grown .....	5
Table 2 Showing the Different between Robusta and Arabica coffee .....	9
Table 3: A table showing some pests in maize production, their damages and control measures .....	9
Table 4 Showing pests of tomato, cabbage, banana and coffee .....	9
Table 5: A table showing pests in soybean production, their damages and control measures .....	10
Table 6: A table showing diseases in maize .....	10
Table 7 Showing the disease for Tomato, Cabbage, Banana and Coffee .....	10
Table 8 Showing the vaccination and treatment schedule carried out to different types of birds at different stages of growth .....	13
Table 9 Showing activities carried out on layers at the same time .....	13
Table 10 Showing work plan .....	22

## ABSTRACT

Industrial training (IT) programme started on 20<sup>th</sup> /05/2019 and ended 26<sup>th</sup> 07.2019 which has been a busy period for me at Makerere University Agricultural institute Kabanyolo (MUARIK) for the purpose of the industrial training.

During the period, I carried the following activities; orientation, soy bean, aquaculture as a lecture, apiary as a lecture, soil lecture dairy management practices. We also carried out activities like deworming pigs, maize harvesting, vaccinating layer birds, banana, piggery unit, feed milling lecture, compost vermi-culture, goats and coffee management.

Chapter one presents introduction information, historical background, how the farm started, mission and vision statements of the farm, and the organization structure of the farm.

Chapter two presents description of the attachment as to the activities carried out during the attachment.

Chapter three presents' impacts of the attachment as to the skills and qualifying I have under taken during the attachment period, the attachment influence towards my future career plans and the attachment activities in correlation with my classroom knowledge.

Chapter four presents a summary of conclusions and Recommendations.

Appendices of the attachment showing the work plan, Map of MUARIK, Photo and references.



## CHAPTER ONE INTRODUCTION

3

### 1.0 Background

Makerere University Agricultural Research Institute Kabanyolo (MUARIK) is located north of Kampala at Gayaza, Zirebwe Road. It's found in Kabanyolo village, Nanyabo sub county, Wakiso District. Approximately 19Km away from Kampala Town. This Research Institute was started in 1953 during the colonial rule, and since that time it has undergone through reforms or changes. At the beginning, the centre was known as **University College**, but in early 1970s after independence, the name was changed from University College to **University Farm Kabanyolo** under the Government of General **IDDI AMIN DADA** who was the president during that particular period of time.

Consequently in 1996, the institution attained the present name/identity known as **Makerere University Agricultural Research Institute Kabanyolo (MUARIK)** and it is under the Ministry of Education and Sports.

The Institution covers the total land area of 650 Acres and this land have been partitioned into three ridges as they are **Kabanyolo Ridge, Kyetume Ridge and Naryamagonja Ridge.**

At MUARIK, mixed farming is being practiced as there are animals being reared and crops growing, and both enterprises have got different sections such as Calf rearing and management, Animal Health, Milk storage/preservation, Piggery, Poultry, Rabbitary, Cattle and Goats units, Apiary section and Fish farming as for Animal Enterprise.

For crop enterprise, perennial crops like Banana and Coffee plantations have been established as the Banana plantation cover 4.4 acres while coffee plantation covers over 5 acres of land. Also, Annual crops such as maize and Soya beans are grown purposely for formulating animal feeds, but they also aid in maintaining soil aeration by adding nitrogen as their roots possess root nodules which have got nitrogen fixing bacteria in them.

Furthermore, Horticultural crops such as Tomatoes and green pepper are also grown under Green House. Practices like Grafting, Layering and Budding which are used in improving plants fruit yields are also being done. There is also pasture bank where animals' feeds are formulated and preserved before storage for example Hay and Silage. Tree/Ago- forestry project and Wood Lots particularly for Eucalyptus and pine trees are also in existence at the University Research Institute Also, sweet crops like sugar cane, passion fruits and also managed