



**BUSITEMA  
UNIVERSITY**  
*Pursuing Excellence*

**FACULTY OF ENGINEERING**

**DEPARTMENT OF CHEMICAL AND PROCESS ENGINEERING**

**FINAL YEAR PROJECT**

**PROJECT TITLE:**

**DEVELOPMENT OF AN ELECTRO-MECHANICAL  
MOISTURE METER FOR MAIZE**

**2019/2020 ACADEMIC YEAR**

**BY**

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## **Abstract**

Water content is key to grain stability during harvest, handling, storage, and shipment, and is typically referred to as the “grain moisture content.” The moisture content affects the grain’s physical properties, chemical properties, dielectric characteristics, grain quantity and biological processes, as well as “storability”: wet grain deteriorates faster than dry grain, due to the growth of mold.

The grain losses in the stores is approximated to be 13% out of 30% the total post harvest losses encountered in The handling of the grains. The existing Primary methods of moisture and temperature determination using dry oven and Karl Fischer methods are time consuming. Destructive in the way that sample used cannot be altered to its initial state, and be used for its intended purpose, require use of chemical reagents that are expensive to buy and disposal

The purpose of this project was to make a friendly and time saving and non destructive device that can detect both moisture and weight of Maize grains with a minimum skills to operate. So the development of electromechanical moisture meter for maize requires.

Identification of suitable components, assembling and coding of the prototype,, and testing of the prototype of the project.

**Declaration**

I **Ocaya Emmanuel Felix** declare that this report is as a result of my tireless effort to the best of my knowledge and it has never been submitted or presented to any University, College or any other Institution for any academic award.

**Ocaya Emmanuel Felix**

Date: .....

Signature: .....

**Approval**

This project has been submitted to the department of Agro-Processing Engineering of Busitema University with approval of my University Supervisor.

MR KILAMA GEORGE

Signature.....

Date.....

**Dedication**

This report is dedicated to my beloved parents Mr Pier Paul Ocaya, and my mother Mrs Margaret Auma Ocaya in appreciation for their selfless care and support provided to me since childhood, and for the mentorship of hard work and determination delivered to me, which attributes I have cherished with firmness and passion and have transformed me to this level.

## **Acknowledgement**

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Above all Almighty God, for the gift of life, protection and provision whenever defeated, May you continue blessing me!

## Table of Contents

Abstract.....	i
Declaration.....	ii
Approval.....	iii
Dedication.....	iv
Acknowledgement.....	v
CHAPTER ONE.....	1
1.0 Introduction.....	1
1.1 Background.....	1
1.2 Problem statement.....	3
1.3 Objectives of the study.....	3
1.3.1 Main objective.....	3
1.3.2 Specific Objectives.....	3
1.4 Justification.....	3
1.5 Scope of the study.....	4
1.5.1 Conceptual scope.....	4
1.5.2 Time scope.....	4
CHAPTER TWO.....	5
2.0 LITERATURE REVIEW.....	5
2.1 Review of literature on existing moisture content measurement methods.....	5
2.1.1 Direct measurement methods:.....	5
2.1.2 An air oven method.....	6
2.1.4 Microwave radiation technique:.....	7
2.1.6 Distillation:.....	8
2.1.7 Gravimetric method.....	8
2.2.0 Chemical methods.....	8
2.2.1 Karl Fischer titration method.....	8
2.2.2. Colorimetric titration method.....	9
2.3 Indirect methods.....	9
2.3.1 Capacitance methods:.....	10
2.3.2 Resistance methods:.....	10
2.3.4 Optical methods.....	10
2.3.5. Infrared spectroscopy.....	11
2.3.6. Infrared (IR) thermography.....	11
2.3.7. Hyper spectral imaging (HSI).....	12
2.3.8 Dielectric methods.....	13

2.3.9. Electrical conductivity. ....	13
2.4.0. Microwave method. ....	14
2.4.1. Radio frequency (RF) method.....	16
2.4.2 Nuclear methods .....	16
2.4.2.1. Hydrogen nuclear magnetic resonance (NMR). ....	16
2.4.2.2Hygrometric methods.....	16
2.4.2.3. Equilibrium relative humidity (ERH).....	16
2.5 Limitations and advantages of the existing moisture content measurement methods .....	17
2.6 The Developed system.....	18
METHODOLOGY .....	19
3.0.1 Equipment used.....	19
3.1SPECIFIC OBJECTIVE ONE: TO IDENTIFY THE SYSTEM REQUIREMENTS AND COMPONENTS .....	20
3.1.1 Functional requirement of the electromechanical moisture meter .....	20
3.1.2 Non- functional Requirements.....	20
3.1.3 Design considerations .....	21
3.1.4 1 ATMEGA328P-PU MCU: .....	21
3.1.4.2 Load cell.....	2
3.1.4 .2 LCD Display .....	2
3.1.4.3 Voltage regulator (9 DC power supply). ....	3
3.1.4.3 TCS3200 COLOR SENSOR.....	3
3.1.4.4 High current Active Alarm buzzer.....	4
3.2 SPECIFIC OBJECTIVE TWO: TO ASSEMBLE AND CODE THE PROTOTYPE .....	5
3.3 SPECIFIC OBJECTIVE THREE: TO TEST THE PERFORMANCE OF THE PROTOTYPE.....	2
3.3.1 Unit testing.....	2
3.3.2 Integration testing .....	2
3.3.3 System testing .....	2
3.3.3 Hardware components/Tools .....	2
3.3.4 Software tools.....	3
3.4 SPECIFIC OBJECTIVE 4: TO CARRY OUT ECONOMIC ANALYSIS OF THE PROTOTYPE. ....	4
4.0 CHAPTERFOUR.....	4
RESULTS AND DISCUSSION .....	4
To carry out the economic analysis of the prototype.....	5
Conclusion .....	6



Recommendations.....	6
APPENDIX.....	7

**TABLE OF FIGURES**

Figure 1: Classification of existing moisture content measurement methods for solids. ....	5
Table 1 Showing the equipment used .....	20
Figure 2 showing ATMEGA328P 28-DIP Top-view .....	2
Figure 3: 7805 TOP VIEW .....	3
Figure 4: Amplifier .....	3
Figure 5: Showing the necessary codes used to program the microcontroller .....	5
Figure 6 showing System Block diagram .....	3
Figure 7 showing Operation algorithm of the electromechanical moisture meter.....	4
Table 2 showing results obtained.....	4
Table 3 Showing Budget.....	6
Figure 8 showing Electrical circuit diagram .....	7
Figure 9 showing detailed Electrical circuit diagram .....	7
Figure 10 showing Electromechanical moisture meter for maize .....	7