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**INVASION OF *CUSCUTA REFLEXA* ON DIFFERENT PLANT SPECIES IN DABANI  
SUBCOUNTY BUSIA DISTRICT, EASTERN UGANDA**

**BY**

**DERRICK WEJULI**

**BU/UP/2019/1627**

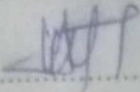
**[derrickwejuli72@gmail.com](mailto:derrickwejuli72@gmail.com)**



**A RESEARCH REPORT SUBMITTED TO THE DEPARTMENT OF BIOLOGY IN  
PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE  
BACHELOR OF SCIENCE EDUCATION DEGREE OF BUSITEMA UNIVERSITY**

DECLARATION

I WEJULI DERRICK Reg. No: BU/UP/2019/1627 do hereby declare that this report is original and has not been submitted by any other degree award to any other University

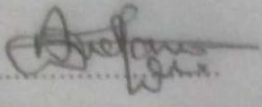
Sign.....

WEJULI DERRICK

Date.....23/05/2023

**Approval**

This research report was written, arranged and submitted by WEJULI DERRICK with registration number BU/UP/2019/1627 under the supervision of Dr. Andama Edward in the department of Biology for the partial fulfillment of the award of a Bachelor's Degree of Science and Education at Busitema University.

Sign.....

Date.....23/05/2023

Dr. Andama Edward

## **Dedication**

I dedicate this research to all my course mates, lecturers, parents and my friends who always supported me towards the completion of this research.

## **ACKNOWLEDGEMENT**

I thank God for the much He has done for me since the beginning of my study to the successful completion of this research project. I am indebted to some people who contributed to this research. I extend my sincere gratitude to my supervisor Dr. Andama Edward for the extreme support and guidance during this research. Also sincere thanks go to my mother Akuku Penina for their endless financial support and encouragement towards my study. Special thanks go to my great friend Sanya Moses for the technical assistance provided towards the success of this research and many thanks go to my LC1 chairpersons in Dabani Sub County who provided me a free research environment and always encouraged me towards the completion of this research. Some special thanks go to my course mates whom I have been continuously consulting and they have spent their valuable time discussing concepts necessary to this research. I also acknowledge assistance from my respondents who volunteered their time and information to enrich this study. Be blessed.

## Table of Contents

Dedication .....	iii
ACKNOWLEDGEMENT .....	v
ABSTRACT.....	vii
CHAPTER ONE .....	1
1.0 INTRODUCTION.....	1
1.1 Background .....	1
1.2. Statement of the problem: .....	1
1.3 Justification of the study.....	2
1.4 Objectives: - .....	2
1.5 Research Questions: .....	2
1.6 Significance of the study .....	2
CHAPTER TWO .....	4
2.0 LITERATURE REVIEW .....	4
2.1 Introduction to the parasite.....	4
2.3 Host Resistance .....	5
2. 4 Public Awareness on the existence and spread of <i>C. reflexa</i> .....	5
CHAPTER THREE .....	6
3.0 RESEARCH METHODOLOGY .....	6
3.1 Introduction .....	6
3.2 Research design .....	6
3.3 Study area. ....	6
3.4 Pilot study .....	7
3.5 Materials .....	7
3.6 Methods of data collection .....	7
3.7 Data presentation and analysis.....	7
CHAPATER 4 .....	9
4.0 RESULTS.....	9
Demographic characteristics of respondents in the five parishes of Dabani sub county.....	9
4.2. Perception on the <i>C. reflexa</i> . ....	9
4.3. Method of control of <i>C. reflexa</i> .....	11
4.4 The use of <i>C. reflexa</i> within the community. ....	11

4.5 Government interventions on the spread of <i>C. reflexa</i> .....	11
4.6 Susceptible host plants to <i>C. reflexa</i> .....	12
4.7 Distribution of <i>C. reflexa</i> on different families .....	16
4.8 Resistant plants to infestation by <i>C. reflexa</i> .....	16
4.9 Distribution of <i>C. reflexa</i> in the study area.....	17
CHAPTER 5 .....	18
5.1 DISCUSSIONS.....	18
5.1.1 People’s responses on the origin of <i>C. reflexa</i> .....	18
5.1.2 People’s responses on the method of dispersal of <i>C. reflexa</i> .....	18
5.1.3 Methods of control of <i>C. reflexa</i> .....	18
5.1.4 People’s responses about the use of <i>C. reflexa</i> .....	19
5.1.5 Government concern on the invasion of <i>C. reflexa</i> .....	19
5.1.6 Susceptible host plants of <i>C. reflexa</i> .....	20
5.1.7 Distribution of the <i>C. reflexa</i> weed onto different families.....	20
5.1.8 Resistance to the infection by <i>C. reflexa</i> .....	21
5.1.9 Distribution of <i>C. reflexa</i> in the study area .....	21
5.2 CONCLUSION.....	22
5.3 RECOMMENDATIONS.....	22
5.4 REFERENCES .....	22
Appendices.....	24

## ABSTRACT

The invasion of *Cuscuta reflexa* onto different plant species becomes a very straining factor to the ecosystem. Its control is still a burden to the public and environmentalists despite various

efforts by different scientists and government. This aroused the attention to conduct this study which aimed at providing baseline information for derivation of effective control measures. To achieve this, the study managed to determine the spread of the parasite in the study area, derived some interventions to manage the parasite and established public perceptions on the invasion of the parasite. The distribution of this parasitic weed, *C. reflexa* on susceptible and resistant hosts were studied across the entire sub county using quadrats placed at specific intervals on along transect of 1km in any two villages from each parish. The public, LC 1 chairpersons and agricultural officers were assessed on the knowledge about this parasitic weed through questionnaires and interviews and data obtained were grouped demographically and analyzed using Microsoft excel and presented in tables, pie charts and graphs. The result indicated the most affected plants as *Thevetia peruviana* (48.0%), *Duranta erecta* (44.0%), *Markhamia lutea* (42.0%) and least affected as *Alstonia boonei* (2.0%), family eupobiaceae had the highest susceptibility to *C. reflexa* infestation (17.76%). Most people (71.0%) were managing this parasite by removing it mechanically from the affected plants and while remaining population (29.0%) had no idea of control over the growth of this parasitic weed. This showed very little attention given to this weed by the government and public to control it. I recommend an urgent need to sensitize the public on the impacts and establish more effective mechanisms to control it from spreading more widely.



## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

*C. reflexa* has posed a big threat to farm lands in east Africa. Unfortunately, the parasite has been given less attention in Africa (masanga, 2021). Although several researches have been carried out on this parasite, there is no clear control measure to eradicate this parasite or development of resistant crop or plant varieties (Sandip S. Nikam, 2014) There has been research on host specificity and host range of *C. reflexa*, through its haustorial analysis (Johnsen, 2014) but all these left the parasite uncontrolled. This has been due to inadequate knowledge on the extend of infestation of the parasite onto different host plants and there is also very little awareness created on the impacts of *C reflexa* parasite infestation in the general public by the government (kagezi, 2 021). This research therefore focused on identifying susceptible and resistant crop and plant varieties, the public perception on the awareness and spread of the parasite was also assessed. This information provides a basis for deriving the management practices for control of the spread of the parasite.

#### 1.2. Statement of the problem:

In Uganda in the central and eastern regions *C. reflexa* has spread very widely and this s expanding at an alarming rate. In western Kenya the parasite has claimed lives of many plant species and seen as a big threat to the ecosystem (nunda, 2021)Although many guidelines were put up to control its spread the spread still continues unchecked (masanga, 2021)Most of the affected crops are those very important to the livelihoods of farmers. The fear is, if this parasite is not controlled, the region could suffer a great decline in food production and loss of valuable tree species within the next decade (nunda, 2021). So a great effort needed to be undertaken to eradicate this parasitic weed. Many control measures have been put across such as government policies of restricting its spread, mechanical and chemical methods but all these are not effective in the control of this weed. The failure has been as a result of inadequate information and knowledge about distribution and public awareness on parasite. This study was aimed at

## **5.2 CONCLUSION**

Based on the findings of this study, *C. reflexa* is a very rapid infesting parasite of almost all dicot families. In the field of study, the infected plants were seen drying up and yellowing of leaves, this shows how dangerous the parasite is to our environment. Results show very little interventions taken by the general public and no interventions taken by the government to control the parasitic weed. This puts the environment at a risk which may lead to low productivity, so let us wake up and protect our environment.

## **5.3 RECOMMENDATIONS**

Basing on data results obtained in chapter 4 much has to be done further to find effective interventions to control this parasitic weed. On this note therefore, we recommend the following as more ways for the Government, private sectors and Community as some of the actions to be taken.

1. The government should wake up and provide interventions to control this parasitic weed for example stipulation of policies against the spread of the weed by humans.
2. The general public should avoid random movement with the filaments of the parasite from place to place.
3. Control measures such as mechanical removal of the parasite from the infected plant and cutting and burning the infected plant as used by many people should be adopted to control this weed.
4. Research sectors should put in much effort in developing resistant plant varieties based on the genetics of the resistant plant species obtained in this research.
5. More funding should be done to the related research in determining genetic make-up of the resistant and susceptible host plants to the parasite.

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