

**EFFECT OF LATE BLIGHT DISEASE ON THE PRODUCTION  
OF TOMATOES IN BUDONDO SUB COUNTY, JINJA  
DISTRICT**

BULUBA BALATI

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**RESEARCH REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE  
EDUCATION OF BUSITEMA UNIVERSITY**

**DECLARATION**

I BULUBA BALATI declare that this research report is my original work and to the best of my knowledge it has not been presented for an award of degree or diploma in any other institution.

Signature.......... Date..29.10.1.2023.....

**APPROVAL**

I hereby certify that the above report is original and individual work of BULUBA BALATI a student of Busitema university faculty of science and education Registration number BU/UP /2018/4218.

Signature.....

Date.....01/06/2023.....

**MR. OGUZU EVANS (SUPERVISOR)**

## **DEDICATION**

I dedicate this research to my beloved Mother, brothers, sisters and my beloved aunt Babirye for their endless support and always being there for me in terms of financial, moral and spiritual support towards the success of this course.

## **ACKNOWLEDGEMENT**

In the first place, I thank the Almighty God for giving me life, strength, knowledge, wisdom, and ability to carry out this research.

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May the Almighty God bless you all abundantly, Amen.

## **ABSTRACT**

Tomato is the fastest growing major crop in Budondo Sub County with important economic impact on many resource-poor farming families. Many factors limit production and profitability, with hundreds of millions of dollars spent yearly on fungicides alone, but little is known about direct losses, with experts agreeing that they are variable and frequently significant. Late blight is most severe in the lower areas of the sub county where weather conditions are favorable for disease. Variable topography and continuous production of tomato and other late blight hosts, including tomatoes make prediction of disease initiation or severity difficult. New and potentially more aggressive pathogen populations have been introduced into Budondo Sub County and both mating types are present in a number of Budondo villages. There is not yet clear evidence for the role of sexual recombination or oospores in nature in Budondo, nor has it been established that new populations have made disease management more difficult. However, this can probably be inferred from what has happened in other sub counties.

The study was conducted on the effect of late blight disease on the production of tomatoes in budondo sub-county, Jinja district. The study design was a cross sectional research design and a sample size of 115 respondents was adopted using purposive sampling technique. Data was collected using questionnaire that was designed for both farmers and stakeholders and presented in form of frequency tables and charts both pie charts and graphs The findings revealed that there are clear effects of late blight disease on the production of tomatoes. However, effects of late blight disease on the production of tomatoes included yield losses, low quality of tomato products, inhibits tomato growth, and leads to price fluctuation of tomatoes. It was concluded that, efficient late blight management in a near future can only be achieved with effective farmers' education as a foundation. The lack of knowledge about plant diseases and limited

education levels of farmers in developing countries impose major constraints on the understanding of plant disease management. Technology transfer and implementation are not easily accomplished. Thus, educational programs aiming at better late blight management in Budondo Sub County should be a priority for funding agencies and research institutions. . It was recommended that, further research is recommended to determine the effect of host tolerance on foliar late blight severity, diseases development and progression selected tomato varieties. This recommendation comes from the findings that late blight is common and infected tomato varieties differed significantly in the Sub County. This was mainly contributed by susceptible tomatoes varieties, high humidity and wet conditions which were favorable for *Phytophthora* infestations survival. Therefore, the protectant fungicides available are not effective in the control of late blight and this calls for tomatoes which are tolerant to the pathogen.

There is need by the government through the ministry of agriculture together with Non-Government Organizations (NGO) to provide equipment's to the farmers to use in the control of late blight and also to sensitize them on the use of integration method which is more effective.

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## A LIST OF ACRONYMS

**ITC:** international tomato center

**CSA:** central statistical agency

**PNG:** Papua New Guinea

**IDM:** Integrated disease management

**NGO:** Non-government organization

# CHAPTER ONE: INTRODUCTION

## 1.0 Introduction

This chapter involves the background information of the study, the statement of the problem, objectives of the study, the scope of the study and the conceptual framework.

## 1.1 Background.

Late blight is thought to have originated from central Mexico before appearing in the United States and Europe in the 1840s. By the beginning of the twentieth century, the disease had spread worldwide.

The first symptoms of late blight on tomato is; leaves are irregularly shaped, water-soaked lesions, often with a lighter halo or ring around them, these lesions are typically found on the younger, more succulent leaves in the top portion of the plant canopy. During high humidity, white cottony growth may be visible on underside of the leaf where sporangia form and Spots are visible on both sides of the leaves. As the disease progresses, lesions enlarge causing leaves to brown, shrivel and die. Late blight can also attack tomato fruit in all stages of development. Rotted fruit are typically firm with greasy spots that eventually become leathery and chocolate brown in color. These spots can enlarge to the point of encompassing the entire fruit.

“Look alike” disease: Other species of Phytophthora, specifically *P. Nicotiane* and *P. Capsici*, can also cause lesions on tomato and tomato fruit similar to those caused by late blight.

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