Biology

Thesis and Dissertations

2020-12-15

EFFECTS OF SPACING BETWEEN ROWS ON GROWTH, YIELD AND YIELD COMPONENTS OF MAIZE (ZEA MAYS L.) VARTIETY BH-540., BAHIR DAR, ETHIOPIA.

Mekonen, Esubalew

http://hdl.handle.net/123456789/11738

Downloaded from DSpace Repository, DSpace Institution's institutional repository

BAHIRDAR UNIVERSITY COLLEGE OF SCIENCE DEPARTMENT OF BIOLOGY

EFFECTS OF PACING BETWEEN ROWSON GROWTH, YIELD AND YIELD COMPONENTS OF MAIZE ZEA MAYS L.) VARTIETY BH-540, BAHIR DAR, ETHIOPIA.

BY

EsubalewMekonen

July, 2020

Bahir Dar, Ethiopia

BAHIRDAR UNIVERSITY COLLEGE OF SCIENCE DEPARTMENT OF BIOLOGY

Effects of Spacing between Rowson Growth, Yield and Yield Components Maize (Zea mays). Variety BH-540.

A THESISSUBMITTED TO BAHIR DAR UNIVERSITY, DEPARTMENT OF BIOLOGY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE MASTER OF SCIENCE DEGREE IN BIOLOGY (BOTANCAL SCIENCE).

BY

Esubalew Mekonen

Advisor, Prof. Berhanu Abraha

July, 2020

BAHIR DAR

©2020 (Esubalew Mekonen)

DECLARATION

This is to certify that the thil V L V H Q W L WSDatciogbe (wheth Frow shows the Cord with, Yield and Yield Components of Maize Zea mays.) Variety BH-540., submitted to the department of biology, Bahir Dar Universitin partial fulfillment of the requirement for the Master of Science degree inbotanical science is naoriginal work carried out by me and hasever been submitted to any other institution for any other credential. The assistance and help received (Professor Berhanu Abraha Amhara Regional Aricultural Research Institute and farmers) during the course of the investigation have been dually knowledged.

Esubalew Mekonen		
Name of the student	Date	Place

Bahir Dar University College of Science Department of Biology

APPROVAL SHEET OF THESIS FOR DEFENSE

I hereby certify that have supervised, read, and evaluated this the distance of ITHF Work circles Rows on Growth, Yield and Yield Components of Maiz (The Components of Maiz (

Berhanu AbrahaProf)			
\$GYLVRU¶V QDPH	е	Date	6LJQDW

Bahir Dar University College of Science Department of Biology

APPROVAL OF THESIS FOR DEFENSE RESULT

As members of the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners, we examined with the HVLV Heter to the board of examiners and the board of the board of examiners and the board of examine

'by Esubalew MekonerWe hereby certify that the thesis is accepted for fulfilling the requirements for the award Master of Science degree Botanical Science.

Board of Examiners

External examine¶ N/ame	Signature	Date
Internal examine¶ Name	i g nature	Date
&KDLU SHUVRQ¶V	QDPH	6 L J Q D W X U F

DEDICATION

I dedicate this thesis to my father Mekonen Asnake and my whole family members for they have encouraged me with care and fondness and paved me the way towards $QutsuP \ PDVWHU\P$ degree thereby contributing enormously to the success of my study.

ACKNOWLEDGEMENTS

First and foremost, I would like to the mand glorify the Almighty Godwho gave me health and strength that required to complete this search and fulfiall aspirations of my life.

I would like to extend my heartfelt gitate to my advisor Pofessor Berhanu Ataha for his keen interest, valuable guidance, kindness, encouragements and constructive comments from the initial stage of their research proposal development to the completion of the worlde the thesis.

My heartfelt thanks also go to my father Mekonen Asnakkælw(ayslove you and youhave a place ofmy heart) and my mother Marie Dnesi, Mr. Girma Alemu, articls wife Ethiopia Birhani, her mother Tataye/ Habesha, my beloved brothers and sisters Samson Mekonen, Dagim Girma, Megnot Mekonen, Sebli Girma and those for the irraillind support, which I will never forget.

Lastly, but by no means least, I remain genuine, grateful indebted to mywife Hanamaryam Girma whose words of encouragement, affection and prayer served for me as a source of strength, inspiration and impetus throughout my study. It would not have been possible to carry out this work alone and I am inhebted to to to the field.

TABLE OF CONTENTS

Pages

DEDICATIONiv
ACKNOWLEDGEMENTSv
TABLE OF CONTENTSvi
LIST OF TABLESix
LIST OF FIGUREx
LIST OF APPENDICESxi
ABREVIATIONS AND ACRONYMSxii
ABSTRACTxiii
1. INTRODUCTION
1.1. Background of the study1
1.2. Objectives of the study
1.2.1.General objective3
1.2.2. Specific objectives
1.3. Significance of the study3
1.4. Research questions3
1.5. Hypotheses
2. REVIEW OF RELATED LITERATURE
2.1. Origin and distribution of maize4
2.2. Botanical description5
2.3. Ecology of maize5
2.4. Importance and production of maize in Ethiopia6
2.5. Health benefits of mize6
2.6. Phytochemical value of maize7
2.5. Effect of plant density on maize crop8
2.5.1. Effects of plant density on phenology of maize8
2.5.2. Effects of spacing and plant density on growth and development of maize9
2.5.3. Effects of spacing and plant density on yield and yield components of maize10
3. MATERIALS AND METHODS11
3.1. Description of the experimental site1.1
3.2. Description of experimental materials