PHYSIOLOGICAL AND MORPHOLOGICAL STUDIES ON PROXIMAL AND DISTAL ENDS OF TUBEROUS ROOTS IN *Ipomoea batatas*.

By

Saiyed

MOHAMED EL-SAID ABDO EL-NAGAR

A thesis submitted in partial fulfillment

of

the requirements for the degree of

MASTER OF SCIENCE

in

Agriculture

(Plant Physiology)

Department of Agric. Botany

Faculty of Agriculture

Ain Shams University

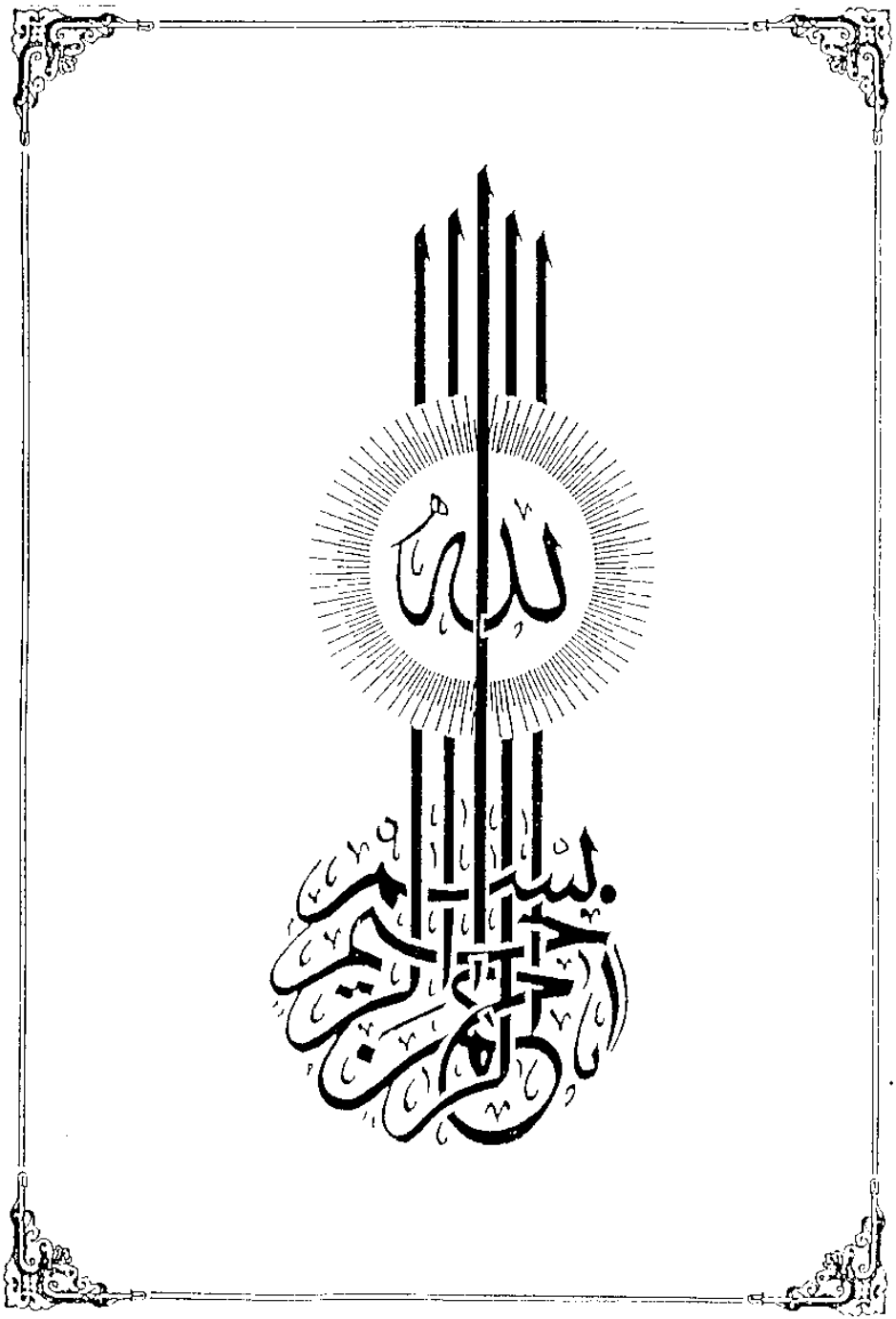
1994

بسم الله الرحمن الرحيم

اقرأ وربك الأكرم . الذي علم بالقلم .
علم الإنسان ما لم يعلم .

صدق الله العظيم

سورة العلق الآيات (٣ - ٥)



APPROVAL SHEET

PHYSIOLOGICAL AND MORPHOLOGICAL STUDIES ON PROXIMAL AND DISTAL ENDS OF TUBEROUS ROOTS IN *Ipomoea batatas*.

By

MOHAMED EL-SAID ABDO EL-NAGAR

B.Sc. (Agric. Biochemistry), Ain Shames Univ.,1986

his thesis for M. Sc.degree has been Approved by:

Prof. Dr. Abd El- Ghany I. O. Baz.....

Head and prof. of Agric. Botany, Suez Canal Univ.

Prof Dr.Hussein Aly Tawfik.....

Prof of Agric .Botany, Ain Shams Univ.

Prof. Dr . Mohamed A. Abd El-Halim.....

Prof.of Plant Physiology, Ain Shams Univ.
(Supervisor)

ate of examination: / /1994

PHYSIOLOGICAL AND MORPHOLOGICAL STUDIES ON PROXIMAL AND DISTAL ENDS OF TUBEROUS ROOTS IN *Ipomoea batatas*.

By

MOHAMED EL-SAID ABDO EL-NAGAR

B.Sc. (Agric .Biochemistry), Ain Shams Univ.,1986

Under the supervision of:

Prof. Dr . Mohamed A. Abd El-Halim
Prof.of Plant Physiology, Ain Shams Univ.

Dr. Mahmoud M. Mahmoud
Associate Prof. of Plant Physiology, Ain Shams Univ.

ABSTRACT

Sweet potato tubers were treated with IAA:GA (1:1 and 1:3) and IAA:BA (1:1 and 1:3) under different culturing positions. These treatments showed early sprouting and increased number and length of sprouts as compared to control. However, opposite trend was mostly observed in case of rooting. In general the endogenous hormonal balance was correlated to differentiation in both the proximal and the distal ends of sweet potato tuber. Gibberellin treatments showed positive auxin and their inhibitors relationship specially in the shooting zone.

KEYWORD:

GROWTH REGULATORS - HORMONES - SWEET POTATO TUBER

CULTURING POSITIONS

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

The author wishes to express his great appreciation and gratitude to Dr. M. A. Abd El-Halim, professor of Plant Physiology of Agric. Botany Department, Ain Shams University for suggesting the problem, drawing the plan of the work, for his supervision during the progress of the work and preparation of the manuscript.

Sincere thanks are also due to Dr. Mahmoud M. Mahmoud, Associate professor of Plant Physiology of Agric. Botany Department, Ain Shams University and Dr. M. Riad, lecturer of Agricultural Botany Department, Ain Shams University for supervision and assistance in preparing the manuscript and their invaluable help in the interpretation of results.

I wish also to express my deep gratitude and sincere appreciation to all members of the Agricultural Botany Department, for their help during the course of this study.

LIST OF CONTENTS

Page

LIST OF TABLES

No. Page

No. Page

List of figures and plates

No. page

No. page

No. page

No. page