



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%

بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالاصل



(B.E.Vog)

**SUSCEPTIBILITY OF THE INDIAN MEAL MOTH,
PLODIA INTERPUNCTELLA HB
(PYRALIDAE – LEPIDOPTERA)
TO ENTOMOPATHOGENIC BACTERIA
IN THE LABORATORY**

A THESIS SUBMITTED IN PARTIAL FULFILMENT FOR
THE M.Sc. DEGREE IN PREPARATION OF SCIENCE TEACHER
(ZOOLOGY)

BY

EMAN HASSAN ISMAIL ABDEL-RAZIK

B.Sc. & Ed. (1993)

General Diploma in Preparation of Science Teacher (Zoology 1994)

Special Diploma in Preparation of Science Teacher (Zoology 1995)

To

Faculty of Education – Ain Shams University

Supervised By

Prof. Dr. HASHIM ALI ABDEL-RAHMAN

Professor of Entomology

Faculty of Science - Ain Shams University

Dr. ABDEL-MOTY HASSANEIN M. HASSANEIN

Assistant Prof. of Entomology

Faculty of Education - Ain Shams University

Dr. NABAWY ABDEL-RAHMAN I. ELKATTAN

Lecturer of Entomology

Faculty of Education - Ain Shams University

BIOLOGICAL AND GEOLOGICAL SCIENCES DEPARTMENT

2000



B.E.V.09

**SUSCEPTIBILITY OF THE INDIAN MEAL MOTH,
PLODIA INTERPUNCTELLA HB
(PYRALIDAE – LEPIDOPTERA)
TO ENTOMOPATHOGENIC BACTERIA
IN THE LABORATORY**

A THESIS SUBMITTED IN PARTIAL FULFILMENT FOR
THE M.Sc. DEGREE IN PREPARATION OF SCIENCE TEACHER
(ZOOLOGY)

BY
EMAN HASSAN ISMAIL ABDEL-RAZIK

B.Sc. & Ed. (1993)
General Diploma in Preparation of Science Teacher (Zoology 1994)
Special Diploma in Preparation of Science Teacher (Zoology 1995)

To
Faculty of Education – Ain Shams University

Supervised By
Prof. Dr. HASHIM ALI ABDEL-RAHMAN

Professor of Entomology *Hashim*
Faculty of Science - Ain Shams University

Dr. ABDEL-MOTY HASSANEIN M. HASSANEIN

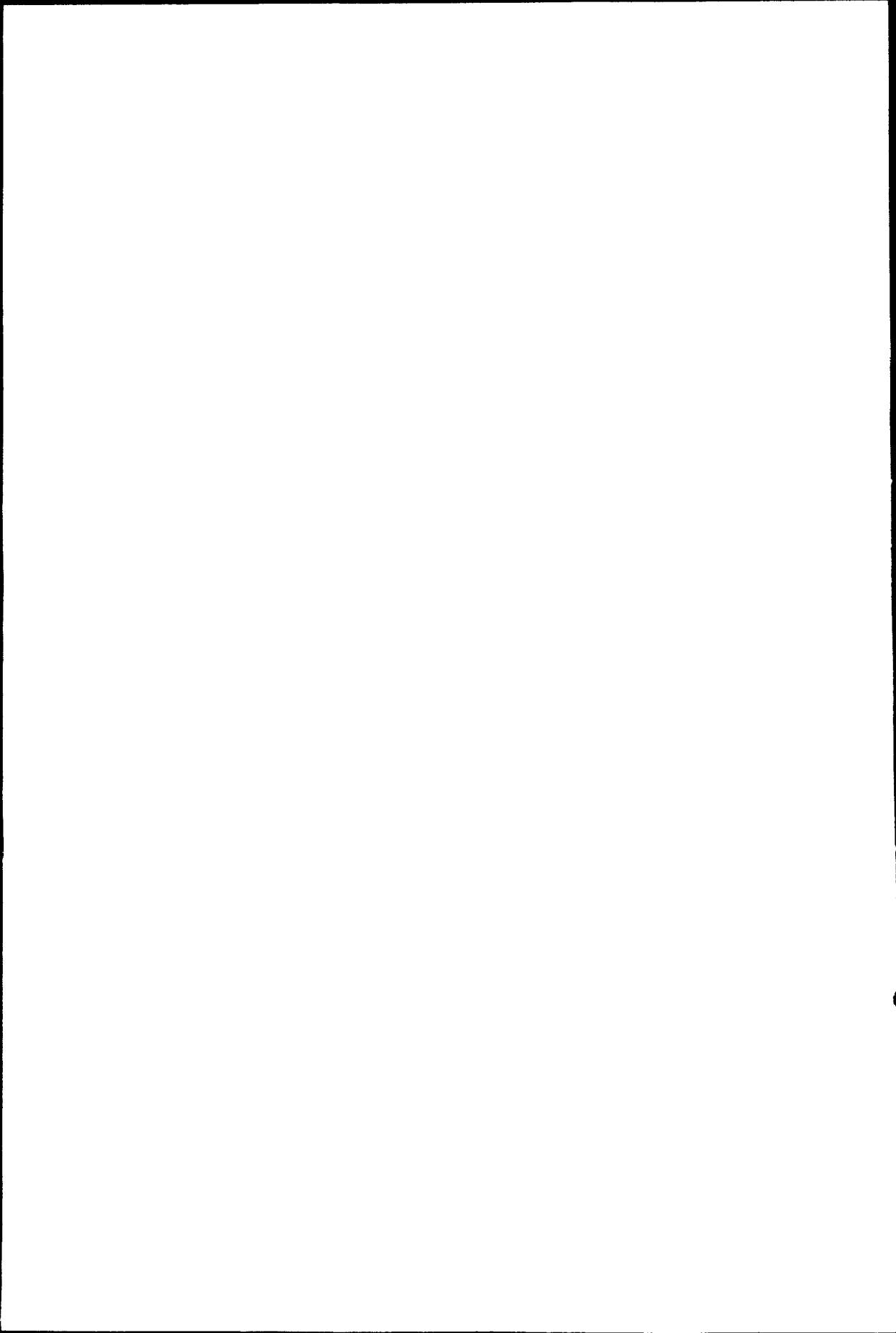
Assistant Prof. of Entomology *Hassanein*
Faculty of Education - Ain Shams University

Dr. NABAWY ABDEL-RAHMAN I. ELKATTAN

Lecturer of Entomology *N. Elkattan*
Faculty of Education - Ain Shams University

BIOLOGICAL AND GEOLOGICAL SCIENCES DEPARTMENT

2000



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

"قالوا سبحانك

لا علم لنا إلا ما علمتنا

إنك أنت العليم

الحكيم"

APPROVAL SHEET

Name: Eman Hassan Ismail Abdel-Razik.

Title: Susceptibility of the Indian meal moth, *Plodia interpunctella* HB. (Pyralidae - Lepidoptera) to entomopathogenic bacteria in the laboratory.

Supervisors

Approved

Prof. Dr. HASHIM ALI ABDEL-RAHMAN

Professor of Entomology

Entomology Department

Faculty of Science - Ain Shams University

Hashim

Dr. ABDEL-MOTY HASSANEIN M. HASSANEIN

Assistant Professor of Entomology

Biological and Geological Sciences Department

Faculty of Education- Ain Shams University

Hassanein

Dr. NABAWY ABDEL-RAHMAN I. ELKATTAN

Lecturer of Entomology

Biological and Geological Sciences Department

Faculty of Education - Ain Shams University

Elkattan

Head of

Biological and Geological Sciences Department

Prof. Dr. MOHAMED GHARIB IBRAHIM





ACKNOWLEDGMENT

First of all, cordial thanks to **ALLAH** who enabled me to overcome all the problems that faced me throughout the work.

I would like to express my deepest gratitude and my heartfelt thanks to **Prof. Dr. Hashim Ali Abdel-Rahman** Professor and former head of Entomology Department, Faculty of Science, Ain Shams University, for his encouragement and guidance throughout the period of study and for constructive critical reading of the manuscript.

