شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

HISTOPATHOLOGICAL AND BIOCHEMICAL EFFECTS OF SOME INSECTICIDES ON THE LESSER COTTON LEAFWORM *SPODOPTERA EXIGUA* HB. (LEPIDOPTERA : NOCTUIDAE)

THESIS

Presented to the Faculty of Science, Menoufia University

for the award of the Ph.D. Degree in Entomology

By

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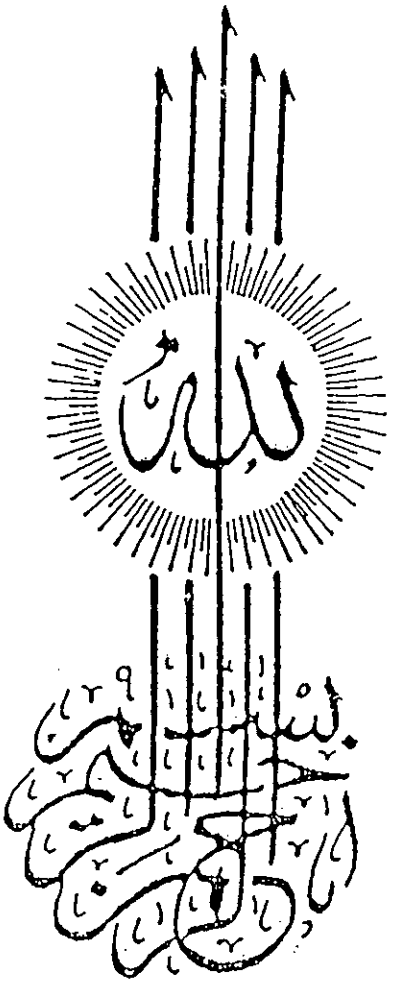
1997



قالوا سبحانك لا علم لنا إلا ما
علمتنا إنك أنت العليم الحكيم.

صدق الله العظيم
البقرة - ٣٢ -

ACKNOWLEDGMENT

I am deeply thankful to my *God*; that I have been able to accomplish this work.

The author wishes to express her deepest appreciation to ***Prof. Dr. M.W.F. Younes***, Professor of Entomology and Head of Zoology Department, Faculty of Science, Menoufia University, for suggesting the problem, direct supervision, constructive criticism, continuous guidance during the course of this study, offering all facilities throughout the work and for reviewing the manuscript till it reached the final form.

I would like to express my gratitude and appreciation to ***Prof. Dr. R.G. Abo-El-Ella***, Professor of Entomology and Head of Entomology Department, Faculty of Science, Cairo University, for his generosity in guidance, incomparable supervision, continuous encouragement and for valuable help throughout the present work.

CONTENTS

I - INTRODUCTION

I - Introduction

The lesser cotton leafworm, *Spodoptera exigua* (Hb.) is one of the most important and abundant species of Noctuidae in Egypt. The insect has become widely spread in recent years and its various ravages against field crops have been steadily increased. It is one of the major pests causing damage to field and vegetable crops such as cotton, corn, tomatoes, potatoes, onions and peas. The severe infestations of cotton plants, in the last few years, showed that this pest can attack the cotton plants from seedling stage until harvesting time.

The distribution of this species, at all events in the north temperate regions of the old world, may change seasonally as a result of long-distance migration. According to these migrations, *Spodoptera exigua* (Hb.) occurs throughout the year in the tropical, subtropical and temperate regions.

Few detailed studies have been previously carried out on insecticide-sensitivity of *S. exigua* (Hb.). The aim of the present work is to investigate the effect of different groups of insecticides, such as insect growth regulators, organophosphorus compounds and synthetic pyrethroids, on biological, histopathological and biochemical aspects of *S. exigua*.

II - REVIEW OF THE LITERATURE

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The literature pertaining to the present study on the lesser cotton leafworm, *Spodoptera exigua* (Hb.) is so voluminous that it would be convenient to classify it under separate headings:-

1 - Biological studies

Lapazaran (1923) in Spain, found that the egg stage of *S. exigua* lasts 2-3 days, the larval stage 11-12 days, the pupal stage 10 days and the adult stage 3-5 days so that the complete life cycle occupies 26-30 days.

Campbell and Duran (1929) in California, elucidated that the time required for development of *Laphygma exigua* (Hb.) was as follows: eggs 5-13 days; larvae 16-26 days; prepupa 1-4 days; pupae 9-19 days and adult 8-24 days.

Rota (1953) reported that the larval duration lasted 13-15 days; the pupal stage 12-18 days and the complete life cycle was 28-30 days. He also found that the adult emergence in the driest soil ranged from 7-8 days and 11-12 days at 22°C and 28°C, respectively, while in the wettest soil, emergence required from 6-7 days and 9-10 days at 22°C and 28°C, respectively.

Abd El-Maksoud (1974) in Egypt, mentioned that the females laid their eggs in masses of various sizes on either lower or upper surfaces of the leaves. The number of eggs was 6-226 eggs according to their sizes. He recorded the developmental periods as follows: eggs development 2-8 days; larvae 11-42 days; pupae 5-18 days; preoviposition period 1-6 days; oviposition period 1-8 days; postoviposition period 0-4 days and total life cycle 18-78 days.