



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



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# بعض الوثائق الأصلية تالفة



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بالرسالة صفحات

لم ترد بالأصل

B 1.198

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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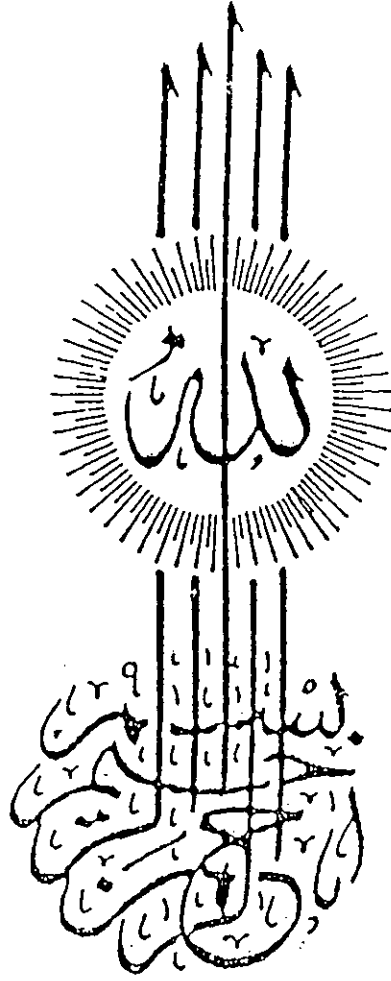
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1997



قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا  
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ  
سَدَقَ اللَّهُ تَعَالَى  
البقرة - ٢٢ -

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# CONTENTS

	Page
<b>I- INTRODUCTION .....</b>	<b>1</b>
<b>II- REVIEW OF THE LITERATURE .....</b>	<b>2</b>
1- BIOLOGICAL STUDIES .....	2
2- TOXICOLOGICAL STUDIES .....	4
A- Effects of insect growth regulators (IGR's) on lepidopterous insects .....	4
B- Effects of organophosphorus compounds on lepidopterous insects .....	8
C- Effects of synthetic pyrethroid compounds on lepidopterous insects .....	9
D- Malformations caused by insecticides applications .....	13
3- BIOCHEMICAL STUDIES .....	16
Effects of insecticides on .....	16
A- Fat content .....	16
B- Protein content .....	17
C- Amino acids content .....	19
D- Carbohydrate content .....	21
E- Phosphorous content .....	22
F- Blood cells (haemocytes) .....	23
4- HISTOPATHOLOGICAL STUDIES .....	27
Effects of different insecticides on .....	27
A- Midgut .....	27
B- Body wall .....	29
C- Gonads (testis and ovary) .....	31
<b>III- MATERIALS AND METHODS .....</b>	<b>34</b>
1- REARING TECHNIQUE .....	34
2- INSECTICIDES USED .....	34
3- TOXICOLOGICAL STUDIES .....	36
4- HISTOPATHOLOGICAL STUDIES .....	37
5- BIOCHEMICAL STUDIES .....	37
A- Preparation of blood film .....	37
B- Method of blood counting .....	38
C- Determination of total lipids .....	39
D- Total proteins .....	41
E- Total free amino acids .....	45
F- Total carbohydrates .....	47
G- Total phosphorus .....	50
<b>IV- RESULTS AND DISCUSSION .....</b>	<b>52</b>
1- TOXICOLOGICAL STUDIES .....	52

	Page
A- Effects of Dimilin (Insect growth regulator) on <i>Spodoptera exigua</i> .....	52
a- Effects on larval, pupal durations and percentage of malformations .....	52
b- Effects on larval mortality, percentage of pupation, adult emergence and sex ratio .....	54
B- Effects of Malathion (organophosphorus compound) on <i>S. exigua</i> .....	56
a- Effects on larval, pupal durations and percentage of malformations .....	56
b- Effects on larval mortality, percentage of pupation, adult emergence and sex ratio .....	59
C- Effects of Cypermethrin (synthetic pyrethroid) on <i>S. exigua</i> .....	61
a- Effects on larval, pupal durations and percentage of malformations .....	61
b- Effects on larval mortality, percentage of pupation, adult emergence and sex ratio .....	64
D- Malformations caused by insecticides application .....	71
2- BIOCHEMICAL STUDIES .....	81
A- Effects of insecticides on total lipids .....	81
a- Effects of Dimilin .....	81
b- Effects of Malathion .....	81
c- Effects of Cypermethrin .....	83
B- Effects of insecticides on protein content .....	89
a- Effects of Dimilin .....	89
b- Effects of Malathion .....	91
c- Effects of Cypermethrin .....	93
C- Effects of insecticides on total amino acids .....	98
a- Effects of Dimilin .....	98
b- Effects of Malathion .....	98
c- Effects of Cypermethrin .....	100
D- Effects of insecticides on total carbohydrates .....	106
a- Effects of Dimilin .....	106
b- Effects of Malathion .....	108
c- Effects of Cypermethrin .....	108
E- Effects of insecticides on phosphorus content .....	114
a- Effects of Dimilin .....	114
b- Effects of Malathion .....	116
c- Effects of Cypermethrin .....	116
F- Effects of insecticides on haemocytes of <i>S. exigua</i> .....	122
a- Effects of Dimilin, Malathion and Cypermethrin on the total haemocytes counts (THCs) .....	124
b- Determination of differential haemocyte counts (DHCs) .....	127
1- Effects of Dimilin .....	127
2- Effects of Malathion .....	129

	Page
3- Effects of Cypermethrin .....	131
c- Effects of insecticides on the morphological features of haemocytes .....	133
3- HISTOPATHOLOGICAL STUDIES .....	148
A- Effects of Dimilin, Malathion and Cypermethrin on the larval midgut .....	148
B- Effects of Dimilin, Malathion and Cypermethrin on the integument (body wall) .....	153
C- Effects of Dimilin, Malathion and Cypermethrin on the testis .....	159
D- Effects of Dimilin, Malathion and Cypermethrin on the ovary .....	169
<b>V- SUMMRY</b> .....	176
1- BIOLOGICAL STUDIES .....	176
2- BIOCHEMICAL STUDIES .....	177
3- HISTOPATHOLOGICAL STUDIES .....	179
<b>VI- REFERENCES</b> .....	181
<b>VII- ARABIC SUMMARY</b>	

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## I - INTRODUCTION

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## 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*.

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## II - REVIEW OF THE LITERATURE

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

## II - Review of the Literature

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.

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