

تقييم المخاطر البيئية والتوصيف الجزيئي لبعض المستخلصات النباتية المستخدمة في مكافحة دودة ورق القطن.

رسالة مقدمة من

شيماء عيد عبد الغنى إبراهيم

بكالوريوس علوم زراعية (وراثة)، جامعة عين شمس 2002

لاستكمال متطلبات الحصول علي درجة الماجستير
في العلوم البيئية

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**ASSESSMENT OF ENVIRONMENTAL HAZARDOUS
AND MOLECULAR CHARACTERIZATION BY SOME
PLANT EXTRACTS FOR CONTROLLING OF
SPODOPTERA LITTORALIS (BOSID.).**

BY

SHIMAA EID ABDEL -GHANY IBRAHEEM

B.Sc. Agric. Sci. (Genetics.), Ain Shams University, 2002

**A Thesis Submitted in Partial Fulfillment
of
The Requirements for the Master Degree
in
Environmental Sciences**

**Department of Environmental Agricultural Sciences
Institute of Environmental Studies and Research
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2010

صفحة الموافقة على الرسالة

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قسم العلوم الزراعية

وقد تمت مناقشة الرسالة والموافقة عليها

الجنة

1- أ.د. / سندس عبد التواب محمد.

أستاذ الحشرات ورئيس قسم بحوث دودة ورق القطن، معهد بحوث وقاية النباتات.

2- أ.د. / على زين العابدين عبد السلام.

أستاذ الوراثة المتفرغ بكلية الزراعة، جامعة عين شمس

3- أ.د. / سعدية محمد عبد النبى البرماوى.

أستاذ فسيولوجيا الحشرات بكلية التربية جامعة عين شمس (مشرفاً)

4- أ.د. / سمير عبد العزيز إبراهيم

أستاذ ورئيس قسم الوراثة، كلية الزراعة، جامعة عين شمس (مشرفاً رئيسياً)

APPROVAL SHEET

ASSESSMENT OF ENVIRONMENTAL HAZARDOUS AND MOLECULAR CHARACTERIZATION BY SOME PLANT EXTRACTS FOR CONTROLLING OF *SPODOPTERA LITTORALIS* (BOSID.).

BY

SHIMAA EID ABDEL -GHANY IBRAHEEM

B.Sc. Agric. Sci. (Genetics.), Ain Shams University, 2002

**This thesis for M. Sc. degree in environmental science has been approved
by:**

Name:

Signature

Prof. Dr. Sondos Abdel-Tawab Mohamed.

Professor of Entomology and Chief of Cotton Leaf worm Department,
Plant Protection Research Institute, Agriculture Research Center.

Prof. Dr. Ali Z. E. Abdelsallam

Professor Emeritus of Genetic, Faculty of Agriculture, Ain Shams
University.

Prof. Dr. Saadya Mohamed El-Bermawy.

Professor of Insect physiology of the Department of Biology and
Geology, Faculty of Education, Ain Shams University.

Prof. Dr. Samir Abdel Aziz Ibraheem

Professor of Genetic and Head of the Department of Genetic,
Faculty of Agriculture, Ain Shams University.

2010

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رسالة مقدمة من

شيماء عيد عبد الغنى إبراهيم

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في العلوم البيئية

قسم العلوم الزراعية

تحت إشراف/

أ.د. سمير عبد العزيز إبراهيم

أستاذ ورئيس قسم الوراثة - كلية الزراعة-جامعة عين شمس.

أ.د/ سعدية محمد البرماوي.

أستاذ فسيولوجيا الحشرات, قسم العلوم البيولوجية والجيولوجية , كلية التربية, جامعة عين شمس.

أ.د./ إبراهيم أبو اليزيد إبراهيم.

أستاذ البيولوجيا الجزيئية والهندسة الوراثية بقسم التطبيقات البيولوجية, مركز البحوث النووية,

هيئة الطاقة الذرية, أنشاص.

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Under the supervision of:

1- Prof. Dr. Samir Abdel Aziz Ibraheem

Professor of Genetic and Head of the Department of Genetic,
Faculty of Agriculture, Ain Shams University.

2- Prof.Dr. Saadya Mohamed El-Bermawy.

Professor of Insect physiology of the Department of Biology and
Geology, Faculty of Education, Ain Shams University.

3- Prof.Dr. Ibrahim Abulyazid Ibrahim.

Professor of Molecular Biology and Genetic engineering,
Nuclear Research Center - Enshas.

2010

ABSTRACT

Shimaa Eid Abdel-Ghany Ibraheem. Assessment of environmental hazardous and molecular characterization by some plant extracts for controlling of *Spodoptera littoralis* (Bosid.). Unpublished M.Sc. thesis in Environmental Agricultural Sciences, Institute of Environmental Studies and Research, Ain Shams University, 2010.

This experiment was conducted on the 2nd larval instar of *Spodoptera littoralis* (Bosid), in order to investigate the effect of two botanical extracts (Castor oil and Gossypol) on different biological and biochemical aspects of the 2nd larval instar. The data obtained from the present study revealed that the Castor oil extract proved more effective on larval mortality, fecundity, egg hatching, adult emergency, pupation, and sex ratio when applied on the 2nd larval instar than Gossypol. Both of the two botanical extracts affected the sex ratio of the produced adults, where a shift to male side was recorded. It is worthy to note that the treatments with both botanical extracts have greatly influenced the genetic background of the resulted first generation individuals and henc malformations have been also noticed in the individuals of the second generation. The degree of malformation was higher in the first generation than that of the second one. Total protein, lipid and carbohydrate were affected in all the stages studied. The biochemical data showed a distinguishable pattern between treatments and control. Molecular genetic fingerprinting was carried out using 10 random primers. The obtained data suggested that the primer C13 was the most powerful primers in regarding generating specific unique band.

Key word

Spodoptera littoralis, Castor oil, Gossypol, biological and biochemical aspects, plant extracts, Molecular characterization, DNA.

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CONTENTS

	Page
I. INTRODUCTION	1
II. REVIEW OF LITERATURE	3
2.1. Biological effect of botanical extracts on insect	3
2.2. Biochemical effect of botanical extracts on insect.....	14
2.3. Molecular effect of on insect.....	20
III. MATERIALS AND METHODS	24
3.1. Rearing technique	24
3.2. Tested botanical extracts.....	25
3.3. Biological studies.....	26
3.4. Biochemical studies.....	26
3.4.1. Sample Preparation.....	26
3.4.2. Determination of total proteins.....	27
3.4.3. Preparation of protein reagent.....	27
3.4.4. Preparation of standard protein solution.....	27
3.4.4.1. Procedure.....	27
3.4.4.2. Calculation.....	28
3.4.5. Determination of total carbohydrates.....	29
3.4.5.1. Preparation of carbohydrate reagent.....	29
3.4.5.2. Preparation of standard glucose solution.....	30
3.4.5.2.1 Procedure.....	31
3.4.5.2.2 Calculation.....	31
3.4.6. Determination of total lipids.....	31
3.4.6.1. Preparation of lipid reagents.....	32
3.4.6.2. Preparation of standard lipid solution.....	32
3.4.6.2.1 Procedure.....	33
3.4.6.2.2 Calculation.....	33
3.4.7. Polyacrylamide Gel Electrophoresis.....	33
3.4.7.1. Non-denaturing polyacrylamide gel electrophore- sis.....	34
3.4.7.2. Native protein bands.....	38
3.4.7.3 Glycoprotein bands.....	38
3.4.7.4 Lipoprotein bands.....	39
3.4.7.5 SDS- PAGE.....	40
3.4.8. Isozymes Analysis.....	43
3.4.8.1. Esterases (α – and β Est).....	44
3.8.1.1. Reagents.....	44
3.8.1.2. Procedure.....	45
3.4.8.2. Molecular Studies.....	46
3.4.8.2.1 Random Amplified Polymorphic DNA (RAPD) analysis.....	46

3.4.8.2.2	Gel electrophoresis.....	47
3.5.	Statistical analysis	47
IV. RESULTS	49
4.1.	Biological studies	49
4.1.1	Effect of castor oil extract on some biological aspects on first generation.....	49
4.1.2	Effect of castor oil extract on some biological aspects on Second generation.....	53
4.1.3	Effect of gossypol on some biological aspects in first generation.....	56
4.1.4	Effect of gossypol on some biological aspects in second generation.....	59
4.1.5	Developmental events.....	62
4.2.	Biochemical studies.....	69
4.2.1.	Changes in the protein contents after treatment with botanical extracts.....	69
4.2.2.	Changes in the lipid contents after treatment with botanical extracts.....	72
4.2.3.	Changes in the total carbohydrate content after treatment with botanical extracts.....	75
4.2.4.	Separation of protein bands electrophoresis.....	78
4.2.4.1.	Native protein patterns.....	78
4.2.4.2.	Fractionation of protein patterns.....	87
4.2.5.	Isozymes patterns.....	97
4.2.5.1.	Esterase patterns by using (α -naphthyl - acetate as substrate.....	97
4.2.5.2.	Esterase patterns by using β -naphthyl acetate as substrate.....	106
4.2.5.3.	Lipoprotein patterns.....	115
4.2.5.4.	Glycoprotein pattern.....	124
4.3.	Molecular Studies.....	133
V. DISCUSSION	148
VI. SUMMARY	159
VII. REFERENCES	163
ARABIC SUMMARY		

LIST OF TABLES

Table No.		Page
(1)	Biological parameters for the cotton leaf moth <i>Spodoptera littoralis</i> after 2 nd larval instar treatments with different concentrations of Castor oil F1.....	51
(2)	Biological parameters for the cotton leaf moth <i>Spodoptera littoralis</i> after 2 nd larval instar treatments with different concentrations of Castor oil F2.....	54
(3)	Biological parameters for the cotton leaf moth <i>Spodoptera littoralis</i> after 2 nd larval instar treatments with different concentrations of Gossypol F1.....	57
(4)	Biological parameters for the cotton leaf moth <i>Spodoptera littoralis</i> after 2 nd larval instar treatments with different concentrations of Gossypol F2.....	60
(5)	Changes in total protein in different larval instars of <i>S. littoralis</i> after treatment of the 2 nd instar larvae with castor oil and gossypol.....	70
(6)	Changes in total lipid in different larval instars of <i>S. littoralis</i> after treatment of the 2 nd instar larvae with castor oil and gossypol.....	73
(7)	Changes in total carbohydrates in different larval instars of <i>S. littoralis</i> after treatment of the 2 nd instar larvae with castor oil and gossypol.....	76
(8)	Relative fragmentation (RF) and amount of Native protein pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S. littoralis</i> as revealed though PAGE.....	82
(9)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S. littoralis</i>	82
(10)	Relative fragmentation (RF) and amount of Native protein pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S. littoralis</i> as revealed though PAGE.....	84
(11)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S. littoralis</i>	84
(12)	Relative fragmentation (RF) and amount of Native protein pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S. littoralis</i> as revealed though PAGE.....	86

LIST OF TABLES: Cont'd

Table No.		Page
(13)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	86
(14)	Relative fragmentation (RF) and amount of SDS-protein pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S littoralis</i> as revealed though PAGE.....	92
(15)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i>	92
(16)	Relative fragmentation (RF) and amount of SDS-protein pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	94
(17)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	94
(18)	Relative fragmentation (RF) and amount of SDS-protein pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	96
(19)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	96
(20)	Relative fragmentation (RF) and amount of α -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S littoralis</i> as revealed though PAGE.....	101
(21)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i>	101
(22)	Relative fragmentation (RF) and amount of α -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	103
(23)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	103

LIST OF TABLES: Cont'd

Table No.		Page
(24)	Relative fragmentation (RF) and amount of α -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	105
(25)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	105
(26)	Relative fragmentation (RF) and amount of β -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S littoralis</i> as revealed though PAGE.....	110
(27)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i>	110
(28)	Relative fragmentation (RF) and amount of β -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	112
(29)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	112
(30)	Relative fragmentation (RF) and amount of β -Esterase pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	114
(31)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	114
(32)	Relative fragmentation (RF) and amount of Lipoprotein pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S littoralis</i> as revealed though PAGE.....	119
(33)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	119
(34)	Relative fragmentation (RF) and amount of Lipoprotein pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	121

LIST OF TABLES: Cont'd

Table No.		Page
(35)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	121
(36)	Relative fragmentation (RF) and amount of Lipoprotein pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	123
(37)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	123
(38)	Relative fragmentation (RF) and amount of Glycoprotein pattern for both Castor oil and Gossypol extract treated samples and control 2 nd larval instar of <i>S littoralis</i> as revealed though PAGE.....	128
(39)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i>	128
(40)	Relative fragmentation (RF) and amount of Glycoprotein pattern for both Castor oil and Gossypol extract treated samples and control 4 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	130
(41)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 4 th larval instar of <i>S littoralis</i>	130
(42)	Relative fragmentation (RF) and amount of Glycoprotein pattern for both Castor oil and Gossypol extract treated samples and control 6 th larval instar of <i>S littoralis</i> as revealed though PAGE.....	132
(43)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 6 th larval instar of <i>S littoralis</i>	132
(44)	RAPD-PCR Products in the 6 th instar larvae of <i>S. littoralis</i> after treatment with castor oil and gossypol compared control using random primers.....	138
(45)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (1).....	143

LIST OF TABLES: Cont'd

Table No.		Page
(46)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (2).....	143
(47)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (3)	144
(48)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (4)	144
(49)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (5)	145
(50)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (6)	145
(51)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (7)..	146
(52)	Similarity index (S.I.) and genetic distance (G.d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (8).....	146
(53)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (9).....	147
(54)	Similarity index (S.I.) and genetic distance (G. d.) between treated samples with Castor oil and Gossypol extract and untreated 2 nd larval instar of <i>S littoralis</i> in Primer (10)	147
(55)	Common band and unique band random PCR with ten primer.....	157