



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



HANAA ALY



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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**STUDIES ON RESISTANCE OF CERTAIN FIELD STRAINS OF
THE MEDITERRANEAN FRUIT FLY, *CERATITIS CAPITATA*
(WIED.) (DIPTERA: TEPHRITIDAE) AGAINST SOME
ENVIRONMENTALLY-SAFE BIOPESTICIDES
AND CONTEMPORARY PESTICIDES**

Submitted By

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Cooperation, 2002

Diploma in Environmental Sciences, Institute of Environmental Studies
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**A Thesis Submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences**

**Department of Environmental Agricultural Sciences
Institute of Environmental Studies and Research
Ain Shams University**

2021

APPROVAL SHEET

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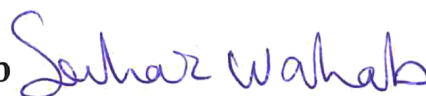


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ACKNOWLEDGEMENT

First of all, I do thank **Allah** for the gifts he has given me.

Sincere thanks are due to **Prof. Dr. Kadry Weshahy Mahmoud** Professor Emiretus of Pesticides chemistry and Toxicology, Faculty of Agriculture, Ain Shams University for giving me the honor to do this work under his supervision and I would like to express my deepest thanks and appreciation for his valuable scientific advice, guidance and criticizing the manuscript.

Deepest thanks and appreciation are extended to **Prof. Dr. Nazmi Abd El-Hamid** Vice-President of Ain Shams University, Professor of Pomology, Faculty of Agriculture, Ain Shams University for his guidance, continuous support and assistance during the phases of study as well as her valuable scientific advice and criticizing the manuscript.

There are no sufficient words to thank **Prof. Dr. Ahmed Mahmoud Zaki Mosallam** Research Professor Emiritus, Horticultural Insects Research Department, Plant Protection Research Institute, Agricultural Research Center, Ministry of Agriculture and Land Reclamation for his keen revision of this manuscript, non-ending support and precious time. Also, he provided helpful information and he kindly dedicated to carry out this work.

There are no sufficient words to thank **Dr. Faten Attwa Akl** Associate Research Professor in Horticultural Insects Department, Plant Protection Research Institute, Agricultural Research Center,

Ministry of Agriculture and Land Reclamation for his non-ending support and precious time. Also, she provided helpful information and he kindly dedicated to carry out this work.

Lastly, thanks are also due to my family specially **my Parents (Father and Mother), my Brothers and Sisters** and the entire members, colleagues (**Mai Kamal Daif and Taher Mahmoud Amara**) and technicians at both Departments of Horticulture Insects, Plant Protection Research Institute, Agricultural Research Center and Department of Agricultural Science, Institute of Environmental Studies & Research, Ain Shams University for their sincere cooperation to carry out this work.

ABSTRACT

In this work toxicity and development of resistance as well as biochemical effects of certain pesticides {Spinosad (Conserve 0.024% CB), Spinosad (Tracer 24 % SC), Spintoram (Radiant 12% SC), Malathion (Malatox 57% EC), Lambda-cyhalothrin (Karilot gold 5% EC) and Dimethoate (Dimetox 40% EC)} to both males and females of Mediterranean Fruit fly, *Ceratitis capitata* (Wied.) collected from three governorates (Qalubia, Sharkia and Behira) were studied. Karilot gold 5% EC was the most potent for males and females of *C. capitata* according to LC₂₀, LC₅₀, LC₉₀ and LC₉₉ values, but Conserve 0.024% CB was the lowest toxic pesticide. Dimetox 40% EC was the most effective compound showing the lowest values of % resistance for males of *C. capitata* of the three tested strains. Males of the Mediterranean fruit fly of Qalubia strain were completely resistance to Tracer 24% SC and Karilot gold 5% EC 100%. Females of *C. capitata* of Qalubia colony were completely resistant to Tracer 24 % SC, Radiant 12% SC, Malatox 57% EC and Karilot gold 5% EC recording 100% resistance for each. The same individuals showed 79.79 and 49.49% resistance to Conserve 0.024% CB and Dimetox 40% EC, respectively. Males and females of the field strains showed remarked higher levels of the biochemical aspects than in the laboratory strain. The flies collected from (Qalubia, Behira and Sharkia) governorates showed the highest levels of the acid and alkaline phosphatase, acetylcholine esterase and total protein compared to laboratory strain. There were positive correlation between resistance levels in different field strains and the levels of the biochemical aspects in these strains.

Keywords:

- Mediterranean fruit fly, *Ceratitis capitata*, Pesticides, Biopesticides, Resistance, Discriminating, Biochemical, Spinosad, Spintoram, Malathion, Lambda-cyhalothrin, Dimethoate.

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