

DEDICATION

To the soul of my father

To my mother

To my brothers and sisters

I affectionately dedicate this work

Rajaa

ACKNOWLEDGEMENTS

Appreciate and acknowledge the guidance of my
supervisor ,

Dr Awad khalafalla during the course of the study .

I also acknowledge and appreciate the help provided

by Prof,Asem A.Abd Elrahman,

The pathologists at Plant Protection Directorate,

K. North, especially

especial thanks to Us. Ishraga M. Elhassan for the

invaluable

help.

My sister Halima deserves special thanks for paying

the registration fees .

Contents

Dedication.....	I
Acknowledgment.....	II
Contents.....	III
List of tables.....	VI
List of figures.....	VII
List of plates.....	VIII
Abstract.....	IX
Arabic Abstract.....	X
CHAPTER ONE: INTRODUCTION.....	1
CHAPTER TWO: LITERATURE REVIEW.....	3
2-1 The house fly <i>Musca domestica</i> L.....	3
2-1-1 Classification	3
2-1-2 History	3
2-1-3 Life history of house fly	3
2-1-4 Influence of temperature on the life history	4
2-1-5 Breeding places of the house fly	5
2-1-6 Economic Importance of house fly	5
2-1-7 Control of the house fly	6
2-1-7-1 Mechanical methods	6
2-1-7-2 Sanitation	6
2-1-7-3 Chemical control	6
2-2 The fungus	7
2-2-1 Classification.....	7
2-2-2 Distribution	7
2-2-3 Mode of action.....	9
2-2-4 Invasion	10
2-2-5 Defense mechanism of insects	10
2-2-6 Enzymes	11
2-2-7 Host death	12
2-2-8 Toxins.....	12
2-2-9 Biotic and abiotic limitations.....	14
2-2-10 Formulation	14
2-3 Insecticides	15
2-3-1 Diazinon	15
CHAPTER THREE MATERIALS AND METHODS.....	
3-1 Collection and rearing of house fly	16
3-2 Fungal preparation	16
3-2-1 Myco-pesticides.....	16
3-3 Bioassay.....	19
3-3-1 Bioassay with house fly larvae	19
A- Contact method for larvae	19

B- Dipping method for larvae	19
3-3-2 Bioassay with House fly pupae.....	19
A- Contact method for pupae	19
B- Dipping method for pupae	20
3-3-3 The repellent effect of the fungus on the adult of house fly	20
3-4- Culture of the fungus <i>Metarhizium anisopliae</i>	20
3-4-1 Methods of inoculation	22
3-4-2 Methods of application	22
3-4-2-1 Topical application method on the larvae	22
3-4-2-2 The feeding method for the larvae	22
3-4-2-3 The repellent effect of pure fungus on the house fly adults...	23
3-5 Insecticide Diazinon	23
3-6 Statistical Analysis	23
CHAPTER FOUR: RESULTS.....	
4-1 The effect of <i>Metarhizium</i> (Myco-pesticide) on the larvae stage..	25
4-2 The effect of <i>Metarhizium</i> (Myco-pesticide) on the house fly pupae.....	27
4-3 The repellent effect of <i>Metarhizium</i> (Myco-pesticide) on the adult house flies.....	29
4-4 The effect of pure <i>Metarhizium</i> on the larvae using the topical application method.....	29
4-5 The effect of pure <i>Metarhizium</i> on the larvae when mixed with larval food	31
4-6 The repellent effect of the pure <i>Metarhizium</i> (culture) on the adult house flies.....	33
CHAPTER FIVE: DISCUSSION, CONCLUSION & RECOMMENDATION.....	34
REFERENCES.....	39
APPENDICES.....	47

List of Tables

Table No	Tables	page
1.	The percentage mortality of house fly larvae caused by <i>Metarhizium</i> mycopesticide after 24 hr.....	25
2.	The percentage mortality of house fly pupae treated with <i>Metarhizium</i> mycopesticide after 24 hr.....	27
3.	The percentage mortality of the pure <i>Metarhizium</i> on the house fly larvae after 24 , 48 and 72 hr.....	29
4.	The percentage mortality of the house fly larvae caused by the pure <i>Metarhizium</i> (larvae fed on baited food)after 72hr.....	31

List of Figures

Fig No	Figures	page
1.	The percentage mortality of house fly larvae caused by <i>Metarhizium</i> mycopesticide after 24 hr.....	26
2.	The percentage mortality of house fly pupae caused by <i>Metarhizium</i> mycopesticide after 24 hr	28
3.	The percentage mortality of the pure <i>Metarhizium</i> on the house fly larvae after 24 , 48 and 72 hr.....	30
4.	The percentage mortality of the pure <i>Metarhizium</i> on the house fly larvae (fed on baited food)after 72 hr.....	32

List of Plates

Plate		page
No		
1.	Glass gar containing cotton wool for house fly egg-laying..	17
2.	Larvae of house fly.....	17
3.	House fly larvae medium.....	18
4.	Myco-pesticide (Green Muscle).....	18
5.	Pure culture of <i>M. anisopliae var acridum</i>	21
6.	<i>M. anisopliae var acridum</i> (spores).....	21
7.	An automatic transfer micro pipette.....	24

ABSTRACT

The use of the synthetic pesticides for the control of agricultural crop pests since 1940 resulted in many disadvantages. These drawbacks include, mammalian toxicity, phytotoxicity to plants, insect resistance to pesticides, disturbance of natural balance and pesticides residues in the environment. These problems lead to the international search for more effective and more safe alternatives for pest control. Accordingly, many Biopesticides were chosen and investigated for their efficiency against agricultural and medical pests.

In this study, the fungus *Metarhizium anisopliae* (Metch) was chosen to be applied in the present trials. This fungus has been widely researched and applied against the desert locust, grasshoppers, termites and other insects and the results are promising.

Mixture of the fungus (Myco-pesticide: Green Muscle) and gasoline was applied topically, either by dipping or contact methods against immature stages (larvae and pupae) of house fly *M. domestica* under laboratory condition with the following concentrations 12.5% , 25% and 50%. The results showed that all concentrations applied by the two methods led to 100% mortality compared to untreated control.

When the pure fungus (culture) mixed with the cotton seed oil, in five concentrations, 1.2×10^2 , 1.2×10^3 , 1.2×10^4 1.2×10^5 , 1.2×10^6 spores/ml, and applied by contact or as a baits against the larvae it showed 20 – 30% mortality. The results also showed that the mixture of the Mycopesticide (Green Muscle) with the gasoline had a repellent effect against the adult of housefly, while the mixture of pure fungus (culture) with cotton seed oil did not record any repellent effects.

خلاصة الأطروحة

إن استعمال المبيدات الكيميائية لمكافحة الآفات الزراعية منذ عام 1940م أدى

إلى ظهور الكثير من المساوي والتي شملت التسمم للثدييات ، السمية الزائدة علي

النباتات ، ظهور المقاومة لدى الحشرات ضد المبيدات المستخدمة ، الإخلال بالتوازن

الطبيعي وظهور متبقيات المبيدات في البيئة. وقد أدت هذه المشاكل إلى الاهتمام العالمي

بالبحث عن بدائل تكون أكثر جودة وأكثر اماناً في مكافحة الآفات. لذلك تم اختيار

المبيدات البيولوجية لمكافحة الآفات الزراعية والصحية.

وفي هذه الدراسة تم اختيار فطر *Metarhizium anisopliae* الذي استخدم

بصورة واسعة في مكافحة الجراد والنطاط والأرضة وكانت جميع النتائج مشجعة .

تم استخدام مخلوط من فطر الميتاريزيوم (المبيد الفطري العضلة الخضراء)

والجازولين على الأطوار غير الكاملة للذبابة المنزلية (يرقة - عذراء) عن طريق المعاملة

السطحية بالغمر والملامسة بالتركيزات (12.5% ، 25% و 50%) تحت ظروف المعمل

وأوضحت النتائج أن جميع التركيزات التي استخدمت بالطريقتين احدثت نسبة موت

100% مقارنة مع الشاهد غير المعامل.

عند خلط الفطر النقي (الذي تمت زراعته في المعمل) مع زيت بذرة القطن في

خمسة تراكيز { 1.2×10^1 ، 1.2×10^2 ، 1.2×10^3 ، 1.2×10^4 ، 1.2×10^5 ، 1.2×10^6 }

جرثومة/مل } وطبق بطريقتي الملامسة والطعوم ضد يرقات الذبابة المنزلية، أدى إلى

نسبة موت تتراوح ما بين 20 - 30%. أوضحت النتائج أيضاً أن مخلوط المبيد

الفطري(العضلة الخضراء) مع الجازولين أعطى تأثيرا طارداً ضد الطور الكامل للذبابة المنزلية بينما الفطر النقي المخلوط مع زيت بذرة القطن لم يسجل أي تأثيرات طاردة.

THE EFFECT OF THE FUNGUS (*Metarhizium anisopliae var acridum*) (METSCH.) ON THE HOUSE FLY (*Musca domestica* L)

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A thesis submitted in partial fulfillment
of the requirements for the degree of
M. Sc. (plant Protection)

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May 2006