



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية 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 %



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بعض الوثائق الأصلية تالفة



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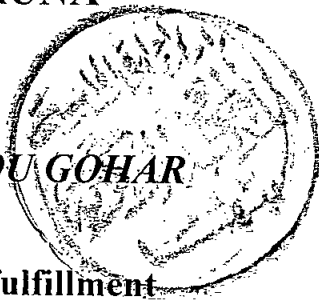


بالرسالة صفحات
لم ترد بالأصل

**THE RELATIONSHIPS BETWEEN PLANT
PARASITIC NEMTODES OF SUGARBEET
AND OTHER SOIL FAUNA**

By

IBRAHIM MOHAMED ABDOU GOHAR



A Thesis submitted in partial fulfillment

Of

The requirements for the degree of

DOCTOR OF PHILOSOPHY

In

Agriculture Science

(Agricultural Zoology- Nematology)

Department of Plant Protection

Faculty of Agriculture

Zagazig University, Banha Branch

2003

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ACKNOWLEDGEMENT

I wish to express my deepest gratitude and sincere appreciation to Prof. Dr Mohamed Fathy Maareg, Professor and Head of Plant Protection Department, Sugar Crops Research Institute, Agriculture Research Center for his useful criticism, directing and supervising the present work and for revising the manuscript. The achievement of this investigation was mainly based on his efforts which deserve my thanks and indebtedness.

I feel deeply indebted to Prof, Dr. Gad Hamada Rady Professor of Agricultural Zoology , Dept. Of plant Protection, Faculty of Agriculture, Moshtohor, Zagazig University, and the Councilor of Egyptian culture council in Federal Russia, for his Super vision, encouragement, generous cooperation, valuable advice.

My thanks are also due to Prof. Dr. M. M. Kandil Professor Emeritus of Agricultural Zoology, Dept. Of plant Protection, Faculty of Agriculture, Moshtohor, Zagazig University, for his interest in the progress of this study, for his kindness and encouragement.

Sincere thanks are due to Prof. Dr. M. A. Hassanein, Senior Researcher, Dept. of Plant Protection, Sugar Crops Research Institute, Agriculture Research Center, for his technical assistance in the microbiological work of this

study, for critically reading the manuscript and for helpful suggestions.

During the statistical analysis of the obtained results the invaluable advice and suggestions offered by Prof. Dr. A. M. Ebieda, Chief Researcher, Dept. of Plant Protection, Sugar Crops Research Institute, Agriculture Research Center, were helpful and considerable value.

Finally, the author owe much indebted to all colleagues for their great help during the course of this study and for Sugar Crops Research Institute for all facilities supported during the present study.

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Title of the thesis: Relationship between plant parasitic nematode of sugarbeet plant and other soil fauna.

ABSTRACT

The soil arthropod and nematode fauna and microorganisms groups associated with sugarbeet fields at the Ten-thousand faddans, West Nubaria, were identified and surveyed. Also, the relationship among plant parasitic nematode, soil microorganisms and soil animals were studied. Results proved the follows:-

Nematode fauna is constituted about 86.15 % of the total animal fauna. The plant parasitic nematode formed 68.75 % of the total nematode fauna. Population of *Meloidogyne incognita* nematode progressively increased and reached its maximum value at 180 days. This species also, was found in high occurrence rate and had the highest "Importance and Prominence values". The rest of the plant parasitic nematode species varied between them for the aforementioned values.

Seven species of predacious soil mites were evaluated for their predacious activity; the highest predation rate on juvenile of *M. incognita* was achieved by *Cheyletus molaccensis*. While, the mite species, *Macrocheles monchaolska* was ranked in the first in predation of both juvenile and egg-masses of *M. incognita* nematode.

Ten soil nematode-antagonistic fungi and seven species of soil bacteria were isolated, the most effective fungi against *M. incognita* were *Verticillium chlamydosporium*, *Aspergillus niger* and *Trichoderma harzianum* (separately) that showed significant suppression on *M. incognita*. While, the soil bacteria (*Bacillus cereus*, *Serratia odorifera*, *Pseudomonas fluorescens* and *Streptomyces sp.* caused relatively high mortality rate to the tested juvenile of *M. incognita*. The density of *Arthrobotrys conoides* significantly increased in the presence of predator nematode, *Diplogaster sp.* or *M. incognita* by 18.9 or 24.0 %, respectively. Also, results showed that broiler chicken and layer chicken are the best substrates for rearing and carrying six of nematode- parasitic fungi.

Varieties, Emma and Marathon (Monogerm) and Kawemira and Sultan (Polygerm) were the most resistant. (Polygerm). There is a negative correlation between soil contamination extent by *M. incognita* and yield of sugarbeet. Also, tolerance limit for Chems variety (Polygerm) was determined.

The Direct Supervisor:

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