شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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

بالرسالة صفحات

لم ترد بالأصـــل

بعض الوثائق الأصلية تالفة

ECOLOGICAL STUDIES ON THE BLACK CUTWORM *AGROTIS IPSILON* (Hüfn.) IN COTTON FIELDS

By

AYMAN ABOUL-HOSSIN ABDEL-HALEM HAMOUDA
B.Sc. (Plant Protection) Menoufyia University, 1990

A thesis submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE

in

Agricultural Science
(Entomology)

Department of Plant Protection
Faculty of Agriculture
Ain Shams University

2001

APPROVAL SHEET

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Date of Examination: 3 / 5 /2001

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ABSTRACT

Ayman Aboul-Hossin Abdel-Halem Hamouda. Ecological studies on the black cutworm *A. ipsilon* (Hüfn.) in cotton fields. Unpublished Master of Science Thesis, Ain Shams University, Faculty of Agriculture, Department of Plant Protection, 2001.

The black cutworm ***Agrotis ipsilon*** (Hüfn.) is one of the most destructive insect pests in Egypt. The present study consists field and laboratory trails, indicates that the rate of larval development decreased from 76.7 days on 15°C to 18.01 at 30°C. For the pupal stage, it required 51.73, 24.79, 6.3 and 21.1 days at 15, 20, 25 and 30°C, respectively. In general the total generation duration from egg to adult stage varied greatly from 193.78, 69.7, 44.04 and 32.8 days when rearing at 15, 20, 25, and 30°C, respectively. The zero (threshold) of development for the black cutworm was estimated as 10.4°C on an average. The accumulated heat units required for completing one generation when estimated it yielded was 643 day-degree units. For the field studied, on the other hand monitoring the changes in the population density expressed as weekly number of captured moths was carried for three successive years (1996-1999). The integration of the data reveals the presence of reliable occurrence during March, April, February, January and December, respectively. It appears, in general, that winter and autumn harbor the highest population densities.

When the relationship between the physical factors i.e. the corresponding maximum and the night minimum temperature yielded significant "r" values indicating that 23°C and 10°C they consist together. The preferendum zone in which the highest figures of population activity took place the corresponding relative humidity (RH. %) however varied between 63-65 % and seems to be the favorable.

The approximated number of ***Agrotis ipsilon*** (Hüfn.) field generations of moths was achieved. It appears from the data that ***A. ipsilon*** (Hüfn.) completed three distinct generations of moth in Shalakan, while two generations were estimated for Sers El Lian based on counting the thermal heat units, during the cotton growing season.

Certain agricultural practices namely, sowing dates, tilling cotton seedlings and irrigation of cotton fields with and without gasoline diluted in water. It appears from the careful examination of the data that these agricultural practices when adopted govern the changes in the larval population densities up (+) and below (-) the economic threshold levels.

Key words: Black cutworm, Agrotis ipsilon (Hüfn.), ecology, thermal heat units, agronomic practices

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