

SUMMARY

The present study was carried out to obtain basic information on some ecological aspects on some important lepidopterous insect pests.

Results of these investigations could be summarized as follows :

I.a. The distribution of some economic lepidopterous insect pests in relation to cropping system :

Collected data during three successive seasons revealed that :

1. The cotton leafworm occurs and is active all the year round. The minimum number of moths captured was in Feb., while the maximum catch occurred in June.

Observations indicated that moths captured at Bahtim were higher than those obtained in both Kafr Shokr and Arab El-Ghadery.

2. In the case of Agrotis ipsilon (Hubn.) the number of captured moths was very low during Aug. and Sept. The first peak occurred during May at Arab El-Ghadery and Kafr Shokr. In Bahtim, however, it occurred in April.

3. The numbers of moths of Phytometra spp. captured showed evidences of moths activity all the year round.

The peak number at Arab El-Ghadery was higher than the same captured in both Kafr Shokr and Bahtim, respectively.

I.b. Population dynamics of some lepidopterous insect pests in relation to climatic factors :

This investigation was carried out in the three localities mentioned above :

1. Spodoptera littoralis :

Statistical analysis showed that the explained variances were 94 % and 83 % in 1984 season, 95 % and 84 % in 1985 season and 95 % in 1986 season at Arab El-Ghadery.

In Kafr Shokr locality, the explained variances were 95 % and 99 % in 1984 season, 95 % and 72 % in 1985 season and 98 % in the third season of 1986.

The results at Bahtim showed that the explained variances were 99 % and 90 % in 1984 season and 98 % and 99 % in 1985 season, while the explained variance was only 67 % in 1986 season.

2. Agrotis ipsilon :

The amount of variability taken under investigation were 98 % and 66 % in 1984-1985 and 1985-1986 seasons at Arab El-Ghadery, 89 % and 92 % in 84-85 and 85-86

seasons at Kafr Shokr, while 70 % and 86 % in both years in Bahtim locality.

3. Phytometra spp. :

The explained variances were 82 % in 1984 and 65 % and 96 % during the two period of activities in 1985, while it was 98 % in 1986 season at Arab El-Ghadery.

The amounts of variability at Kafr Shokr were 89 % and 99 % during the two first periods in 1984, 1985 seasons, but they were 79 % and 88 % in the second periods of activities in the same years. This amount was 98 % in 1986 season.

The values of explained variances at Bahtim were 78 %, 87 % at the 1st periods of 1984 and 1985 seasons. They were 80 % and 72 % at the 2nd periods of both years, and 99 % in 1986 season.

Generally, these results indicate that the amount of explained variance percentages emphasizes the importance of the role played by the weather factors investigated. It is probable that the remains of variances may be due to types of vegetation and successive cultivation in each area which in turn influence the biotic factors and survival potential against the changing environment.

II. Comparison between number of male moths of *S. littoralis* captured by Ultra-violet (U.V.) and sex pheromone traps during 1985 season :

The data collected indicated that the total male catch was nearly 15.2 times higher in the pheromone trap than that in the light trap during one complete year (Jan. - Dec., 1985).

III. Population density of egg-masses of *S. littoralis* at Bahtim region, Kaliobia governorate throughout 1985, 86 and 1987 seasons :

The number of egg-masses during three seasons showed that the summer broods of egg-masses occurred in cotton fields from the last week of May to the mid of August.

To compare the fluctuations and the relative sizes of the egg-mass populations, the numbers of egg-masses on "peak-weeks" were considered, as well as the weekly means of the whole brood period.

The results indicated that the second brood was the largest in the three seasons, and the third brood was the smallest.

IV. The variation between the number of immature stages of *Spodoptera littoralis*(Boisd.) in Berseem fields at different localities in Kaliobia governorate during 1984, 85 and 1986 seasons :

Results showed that there were highly significant differences in the immature stages of *S. littoralis* in different localities and at different times. Data revealed a higher number of immature stages collected from Kafr Shokr and Asniet compared to other parts of the governorate. Also the smallest numbers were collected from Toukh and Moshtohor. In March, Berseem harboured a small number of immature stages, but in May a higher number of immature stages were collected and recorded.