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5- SUMMARY

1- Field studies:

I-cotton crop:

Sucking pests: the common red spider mite, *Tetranychus arabicus* Attiah, *Thrips tabaci* (Lind), *Aphis gossypii* Glover, *Bemesia tabaci* (Genn.) and *Empoasca lypica* are considered the economic sap sucking pests of cotton plants at present. Arthropods predators of insects, mites and the spiders are considered the important elements for minimizing the population of different pests infesting cotton.

The present work was carried out at three locations of Gharbia Governorate during the two seasons 1999 and 2000.

Population fluctuation of the above mentioned sucking pests and their associated natural enemies of insects, mites and the spiders as well as the effect of climatic factors such as temperature and relative humidity were studied and recorded.

Results obtained could be summarized as follow:

- 1- In both growing cotton seasons 1999 & 2000, the population of common red spider mite *T. arabicus* has two peaks of abundance during seedling and flowering stages climatic factors affected on mite.
- 2- The infestation of cotton with thrips, *Thrips tabaci* started heavily as soon as the cotton seedling appeared after three weeks of sowing date.
- 3- The population of cotton aphid *Aphis gossypii* recorded two peaks of abundance in May & August for the first season and in August and September for the second season.
- 4- Population of whitefly *B. tabaci* regarding two or three peaks depend on locality and growing cotton season.
- 5- Population fluctuation of predator mites, insects and the spiders were investigated in three different localities during growing cotton seasons 1999-2000. Five predacious mites and six predator insects were recorded associated with pests infesting cotton,

II-Soybean crop. (*Glycine max* L.):

Relative susceptibility of six soybean varieties were evaluated to spider mite *T. arabicus*, whitefly *B. tabaci* and aphid *Aphis gossypii* infestation during two seasons 1999 & 2000 obtained data revealed that Giza 35 variety was susceptible to spider mite *T. arabicus* and aphid *A. gossypii*, while Giza 82 variety was susceptible to whitefly *B. tabaci*.

On the other hand, Giza 22 was less soybean varieties infestation with spider mites while Crawford with aphid insects and Giza 83 less infestation with whitefly.

III- Faba bean crop (*Vicia faba* L.):

Six faba bean varieties were evaluated to their relative susceptibility to spider mite infestation during the two seasons 1998 - 1999 and 1999 - 2000. Obtained results showed that the level of infestation of spider mites during second season was high than the first one. Previous results lead to conclusion that Giza 643 and Giza 461 were susceptible varieties to mite infestation, while Giza 714 and Giza 716 were resistant in their relative susceptibility to

spider mite infestation. On the other hand the variety Giza 714 is resistant to mite infestation.

2- Laboratory studies:

I - Biological studies on spider mite *Tetranychus arabicus*

Attiah:

Biological studies were carried out on spider mite *T. arabicus*, where it fed on six soybean varieties at 27°C and 65% R.H.

Obtained data cleared that active larva, protonymph and deutonymph lasted 1.5, 1.8 and 1.5 days when mite fed on Giza 35 variety while they 3.05, 3.0 and 2.4 days when it fed on Giza 22 variety.

Total immature stages durated 6.6, 8.3, 9.92, 10.7, 11.7 and 12.2 days when spider mite fed on six soybean varieties Giza 35, Crawford, Giza 83, Giza 21, Giza 82 and Giza 22.

Female longevity and fecundity was affected by soybean varieties as a different hosts whereas oviposition period lasted 4.8, 5.3, 5.8, 6.2, 6.7 and 7.2 days when female fed on the above mentioned varieties respectively.

Female fecundity was affected by different hosts whereby the total number of deposited eggs/female increased twice on Giza 35 than Giza 22 variety.

II. Biological studies on predator insect *Stethorus punctillum*:

Biological control becomes the natural substitute to save the serious pollution side – effects that pesticides cause today .

Stethorus punctillum as one of the dominant insect predator . Experiments were done to study the effect of prey types (eggs,immatures and adults) of *T. arabicus* at 28 °C ,on biological developmental stages and feeding capacity of the predator *Stethorus punctillum* .Data showed that the predator *Stethorus punctillum* consumed greater egg of the mite than immature and adult stage.

Result obtained in this study confirm that the spider mite *T.arabicus* proceed to the most dadequation as a results were obtained in this respect.