VI- SUMMARY

Tomato (*lycopersicom esculentum* mill.) is considered as one of the most important vegetable crops in Egypt (٠٠٠٫٠٥٤ feddan / year) the most important problem facing the Egyptian tomato growers is insect pests attacking this crop.

*Tuta absoluta* (Meyrick) (*Lepidoptera Gelechiidae*) is a devastating pest of tomato plants. This leaf miner is considered to be a serious threat to tomato production in the Mediterranean region, as well as other countries. In Egypt this pest invaded Marsa Matrouh from Libya in ٩٠٠٢ and became well established in all Governorates. Larvae of this moth attack leaves, stems and fruits of tomato as well as other Solanaceous plants.

Changes in climatic conditions could profoundly affect the population dynamics and the status of insect pests of crops. These effects could either be direct; through the influence that weather may have on the insects physiology and behavior. Seasonal changes might have a direct influence on insect activity and rate of development.

Therefore, the present work was concerned with the following aspects:

A- Seasonal fluctuations of two of the major insect pests; *Tuta absoluta* (Meyrick) and *Nesidiocoris tenuis*.

B- The influence of the major weather factors, temperature and relative Humidity on population activity of these two species.

C- Host preference of the *T. absoluta*. 
The results obtained could be summarized as follows:

A. Population Density of *T. absoluta* on Tomato:

1) Using phenomen traps, the population during ٢٠١١ Summer season totaled ٢٨٧٩٩ males which was higher than that in the Nili season with ٢٦٠٨٠ males. Also, in ٢٠١٢ the population ٢٦٠٨٠ higher males were higher than that Nili season ١٨٣٢١ males. Generally, the population in the first year was higher than that in the second year of study.

2) using leaf samples the population, as number of mines/ ٢٠ leafs) during ٢٠١١ summer season totaled ٢١١ mimes which was higher than that in the Nili season with ١٩٩ mimes. Also, in ٢٠١٢ the population ١٩٩ mines were higher than that Nili season ١٨٥ mines. The population during ٢٠١٣ Summer season totaled ١٣٩ mines which was higher than that in the Nili season١٣٥ mines.

Generally, the highest year was the third year than first year and the second year.

3) These insects had ٢-٣ peaks of activity during the season.

4) Relative humidity did not have any significant effect on the population of this insect.

5) Low temperature had a significant effect on insect population in Nili season ٢٠١١ only for the second year while, had no effect on the number of mines in the leaves or infestation rate. Contrarily for maximum temperature had no significant effect on population in traps collected either or in the number of mines, or in the infestation rate.
٨) There was a significant effect between the number of males in the trap and the infestation rate in the two seasons of ٢٠١١ and ٢٠١٢.

B. Population Insect on The Three Levels of The Plant:

- The second level the highest than the third and the first in the first ٢٠١١, second ٢٠١٢ and third season ٢٠١٣.

- There was a significant between the first level and the second and third in the first season in the first year and, in the first and second season in the second year, while in the second season in the first year there was a significant between the second and third level and there is no significant between the third and first levels.

C. Host Preference of The Tuta absoluta:

- The number of eggs on the plant was higher in tomato than potatoes.

- Attractions larvae to the tomato more than potatoes.

D. Nesidiocoris tenuis

٩) The total population of these insects during the first year in ٢٠١١ (٨٦٨ insect) above it for the third year in ٢٠١٣ (٨٩٥ insects) and for the second year in ٢٠١٢ (٨٣٤ insect).

٩) The period of highest activity of these insects stretched from late April until mid May.

٩) These insects had ٨-٩ peaks of activity during the season. ٩) The initial effect of relative humidity is not significant for ٢٠١١, ٢٠١٢ and ٢٠١٣.
Maximum temperature was of significant effect in ٢٠١١, a highly significant in ٢٠١٢, is not significant for the ٢٠١٣ with the population of insect for the network or whether the insect on the plant.

- Minimum temperature was of high significant in ٢٠١١, ٢٠١٢ and ٢٠١٣ with the population of insect for either the network or on the plant.

٦) The humidity and the degree of maximum and minimum temperature had a negative correlation with population either the network or on the plant.