VI SUMMARY

The aim of this study was to use remote sensing technique for determination of infestation with cotton pests, and some other pests. For this purpose, insects were subjected to thermal infrared using AGA thermovision camera with a detector sensitive in the range of 2-5.5 micron.

From this study, the results indicated that all the stages of the cotton leaf worm can be detected from both sides of the leaf. The radiated temperature increased by the increase in the number of larvae on the infested leaf. The 4th larval instar of the greasy cutworm radiated very small energy when compared with the energy radiated from the 6th and 5th larval instars of the cotton leaf worms. There was a great difference in temperature radiated from different nymphal instars of the desert locust, Schistocerca gregaria. The radiated temperature increased by the increase of age and numbers. Also the head and the thorax radiated more temperature than did the abdomen in desert locust. The leaf area infested by the purple scale, Lepidosaphes beckii radiated lower temperature than did the infested area. However, in case of the cottony-cushion scale, Icerya purchasi heavy infestation radiated more temperature

than the light infestation. In case of the cotton bollworms the infestation decreased the temperature of the cotton bolls.

The use of remote sensing technique in pest control programmes will have the following advantages :

1- A rapid method to detect pest infestation .

2- A rapid and correct method to estimate the population density of these pests .

3- An economic method to avoid the indiscriminate use of pesticides and reducing the numbers of workers and technicians needed for the estimation of insect population.

4- Decreasing the quantity of applied pesticides and consequently reducing environmental pollution .

5- The exact fixing of the time of pest control .

6- The exact and rapid estimation of the percentage of infestation in case of the cotton bollworms .