RELATIONSHIP BETWEEN INSECT INFESTATIONS AND CERTAIN CUCUMBER CULTIVARS

By

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ABSTRACT

Cucurbits were considered an important part of vegetable crops which cultivated in wide areas either old or newly reclaimed lands in Egypt. Cucumber, *Cucumis sativus* L. is the most important economic vegetable crop cultivated in Egypt. The present study was carried out in experimental farm at Mansheyet Saqqara village, Giza governorate during the two successive late summer seasons 2015 and 2016. Five cucumber cultivars namely Hayl, Nems, Beit Alpha Zena, Bahi and Wafier were sown on the 11th August during both seasons. The objectives of this study were undertaken to shed light on the following: insect fauna diversity inhabiting some cucumber cultivars; population fluctuation of the common pests and its relation with some abiotic and biotic factors; susceptibility of the tested cucumber cultivars to these pest infestations and its relation with some morphological, anatomical and biochemical characters of leaves and biological studies on *B. tabaci* fed on two cucumber cultivars, Hayl and Beit Alpha Zena under normal conditions.

The present results was recorded that a total of 27 insect species. *Aphis gossypii* ranked the first dominance of the phytophagous pests infested all cucumber cultivars during the two tested seasons followed by *Bemisia tabac*i. The highest number of five tested common pests, *Aphis gossypii*, *Bemisia tabaci*, *Liriomyza trifolii*, *Empoasca decipiens* and *Thrips tabaci* occurred on September and October on the five tested cucumber cultivars. The population fluctuations of these common pests were affected by maximum, minimum temperatures and relative humidity. Data showed that the susceptibility degrees of the five investigated cucumber cultivars to five pests' infestations were classified into three groups: susceptible (s) cucumber cultivars, low resistant (LR) and moderate resistance (MR). Concerning the dissection and morphological structure of cucumber leaf, there were differences between the measurements of the four leaf layers of the tested cucumber cultivars. There were differences between numbers of stoma and trichomes in different cucumber cultivars. Also, the present work conducted that these pests infestations on different cucumber cultivar were related with Phenoloxidase, Peroxidase and Alpha esterase enzymes which related with plant resistance. The biological aspects of *B. tabaci* were significantly difference between Beit Alpha Zena and Hayl cultivars through two generations.

Key words: Cucumber, *Cucumis sativus*, fauna, insect pests, population fluctuation, susceptibility, morphology, anatomy, biochemistry, biology.

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