FACTORS INFLUENCING CERTAIN CUCUMBER CULTIVARS TO THE INFESTATION WITH PESTS AND THE OCCURRENCE OF NATURAL ENEMIES

BY

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B.Sc. Agric. Sc. (Entomology), Ain Shams University, 2004

M.Sc. Agric. Sc. (Economic Entomology), Ain Shams University, 2009

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ABSTRACT

Marwa Abd-Elmonem Mohamed Abd-Allah: Factors Influencing Certain Cucumber Cultivars to The Infestation With Pests and The Occurrence of Natural Enemies. Unpublished Ph.D. Thesis, Department of Plant Protection, Faculty of Agriculture, Ain Shams University, 2015.

Survey of pests and their associated natural enemies was studied on seven cucumber cultivars (Fahd, PX 03648585, Bahi, CBA-911264 F1, Dora, CBA 910747 F1 and Nemsse) at Wardan, Giza Governorate during two successive growing seasons, 2012 and 2013. The results indicated that thirty species belonging to twenty eight genera and nineteen families of ten orders were recorded. In addition, seasonal abundance of certain pests, *Thrips tabaci* lind., *Bemisia tabaci* Genn., aphids (*Aphis gossypii* L. and *Myzus persicae*) and *Tetranychus urticae* Koch was studied. The peaks of activities of these pests changed in number according to the tested cultivars in both years. The relation between the temperature (maximum, mean and minimum) and relative humidity as abiotic factors and predators as a biotic factor were also studied. The relations between these factors and mean numbers of the different pests differed among the different cultivars from no relation to positive or negative relations. In addition, the combined effect of all the studied factors also differed from strong effect to low effect on the population density of the studied pests among the different cultivars. Meanwhile, the seasonal abundance of predators associated with these pests showed low activity of these predators through the studied seasons on seven tested cucumber cultivars.

The rate of infestation with the pests to seven cultivars during vegetative, flowering and fruiting stages varied during two successive

growing seasons (2012 and 2013). The population density of *T. tabaci, B. tabaci,* aphids (*Aphis gossypii* and *Myzus persicae*) and *T. urticae* was significantly increased during flowering stage in both studied seasons.

According to the susceptibility of seven cucumber cultivars to infestation with the considered pests, it could be concluded that generally PX 03648585 was the less susceptible cultivar to infestation with the four studied pests in both seasons and Bahi was the highest susceptible one.

The relation between the mean numbers of tested pests infested investigated cultivars and the mean number and length of hairs (Trichomes) was also studied. The results showed relationship between the population densities and mean number and length of hairs leaves of on all cucumber cultivars.

Also, the determination of the content of some chemical components in the uninfested dry leaves of seven cucumber cultivars was studied only for the summer season, 2013 to explain the differences in susceptibility of tested cultivars. The high susceptible cultivars, which presented the highest number of studied pests were correlated with high content of protein, carbohydrate, lipid, reduced sugar, total amino acid and total phenol while the higher tolerant cultivars contained mid or low amounts.

Keywords: Survey, Seasonal abundance, Susceptibility of cucumber, *Thrips tabaci, Bemisia tabaci, Aphis gossypii, Myzus persicae, Tetranychus urticae,* Predators, Protein, Carbohydrate, Lipid, reduced sugar, Total amino acid, Total phenol.

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