EFFICIENCY AND BEHAVIOR OF CERTAIN PESTICIDES ON KEY PESTS INFESTING VEGETABLE CROPS UNDER DIFFERENT CLIMATIC CONDITIONS

By

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B.Sc. Agricultural Sciences (Plant Protection), Ain Shams University, 2009

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ABSTRACT

Badiaa Badr Mohamed Abd El-Aziz: Efficiency of Certain Insecticides Against Nymphs of *Bemisia tabaci* (Gennadius) Infesting Cucumber Cultivars under Different Climatic Conditions, Unpublished M.Sc. Thesis, Department of Plant Protection, Faculty of Agriculture, Ain Shams University, 2018.

The object of the present study is to investigate the effect of certain weather conditions on the impact of three insecticides used for the control of the cotton whitefly, *Bemisia tabaci* (Gennadius) nymphs on five cucumber cultivarsfor two summer and autumn seasons in 2015 and 2016 under unheated multi span plastic house and under open field conditions.. The aims of the plastic house experiment and open field experiment were to investigate the impact of certain climatic conditions (Temperature (C^o), Relative humidity (%) on different insecticides efficiencies used for whitefly control compared to untreated check (without any insecticide application) as well as the effect of climatic conditions on the peak of white fly during the studding season. The obtained results indicated that thiamethoxam insecticide recorded significantly the lowest nymph count on cucumber plants, followed by dinotefuran, However Bernastar was the highest significantly insecticide counts all over the spray tested times. This result was true after 1, 3, 7 and 10 days after spraying. Tested pesticides were more efficiency in reducing number of nymphs during autumn seasons compared to summer seasons.in addition, similar impact was found in relation between seasons of test (time during the year) and peak of white fly during the studying season.For the changes in the population density of *B. tabaci* nymphs infesting cucumber at Qalyubyia Governorate it was found ,that the three tested weather factors (maximum and minimum air temperature & average relative humidity) were responsible, as a group, to one week earlier. The explained variance was 49.9% in 2015 and 36.1% in 2016. The variance ratio was 3.33 and 2.32. These values were hardly significantduring summer seasons and the three

weather factors one week earlier were also highly responsible for the changes in the population density of *B. tabaci* nymphs infesting cucumber. The explained variance value in 2015 was 57.5%. In 2016, this value was 78%. The corresponding variance ratios were 4.16 and 9.51. The first value was significant at 5% level of probability and the other was highly significant and 1% of probabilityduring autumn seasons.

Key words: Climatic conditions, White fly, Thiamethoxam, Dinotefuran, Bernastar.

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