INTRODUCTION

The deciduous fruit trees including apples, peach, pears and grapevine are considered to be among the most important fruit crops in Egypt. Peach is one of the popular fruits in Egypt where, it has been ground for many centuries and it still among the most important trees. Peach was the most favorable of the plants tested (Guyot and Qiulici, 1987) .

The favorable climatic in Egypt are quite to cultivate peach allover the country. However, peach trees are grow in different parts. The area under cultivation with peach trees in Egypt has been estimated in (2001) was about 78494 Feddans, of which about 1016 Feddans are distributed in many location at Dakahliya Governorate (Anonymous, 2001) .

Peach trees are subject to attack by several insects pest, especially scale insects and mealy bugs. They attach themselves to the trees, usually on the tender shoots, twigs and branches, where they suck the vital sap of the plant. The affected plants lose their vitality, cease to grow, their leaves turn yellow and they may ever die. Result is a poor crop of poor quality and quantity, consequently, the costs of production thus goes up .

The white peach scale insect ; *Pseudaulacaspis pentagona* (Targioni-Tozzelti 1886) is the most injury peach insect. Belonging to order : Homoptera, Suborder : Hemiptera, Super family : Coccoidea, Family : Diaspididae Ezzat & Nada (1986) .

P. pentagona (Targioni) attack branches and twigs. It sucks great amount of sap causing dry branches and defoliation. Twigs are killed and peach fruits are disfigure .

The present work was initiated the aim of contributing some of the necessary information to achieve implementing successful integrated pest management for peach pests. The scope of the study included two parts as follows :

Part I- Ecological studies : including

1- Seasonal abundance of *P. pentagona* (Targioni) different stages as well as total population, in relation to the abiotic and biotic factors at Meet-Ghamer, Dakahliya Governorate from early Feb. 1997 till mid Jan. 1999 .

- Monthly variation (V.) of this pest during the two studied years .

- The number of generation throughout the two years of investigation .

2- Relationship between abiotic and biotic factors on the fluctuation of *P. pentagona* (Targioni) population and number of annual generations .

Part II- Toxicological studies : includes two experiments

- The first experiment ; to evaluate the natural residual efficacy of certain mineral oils [Summer (Miscible) & winter (Mayonnaise) oils] on *P. pentagona* (Targioni) different stages and total population in addition to there effect on the main associated parasitoid ; *Aphytis* sp. in winter season .

- The second experiment ; to evaluate the toxicity of certain pesticides against the different stages of *P. pentagona* (Targioni) and its population. In addition to there toxic effect on the parasitoid ; *Aphytis* sp. in winter season