CONTENTS

ABSTRACT

Rasha Ahmed Ahmed Seleem: Toxicological Effects of Some New Insecticides against Certain Insects on Tomatoes. Unpublished Ph.D. Thesis, Department of Plant Protection, Faculty of Agriculture, Ain Shams University, 2019.

The object of the present study is to through light on alternatives ways in pest management using novel insecticides with new mode of action such as (neonicotinoids, phenylpyrazoles, diamide, phenoxy-pyridaloxy derivative, and tetramic acid derivatives) in addition, study the role of nanotechnology as an innovative technology using recently in pest control. The five novel insecticides namely (clothianidin, fipronil, flubendiamide, pyridalyl and spirotetramat) and chemically prepared of silver nanoparticles using sodium citrate reduction method were evaluated in comparison with conventional insecticide pirimiphos-methyl against three insects attacking tomatoes cultivation under Egyptian conditions (*Bemisia tabaci*, *Spodoptera littoralis* and *Agrotis ipsilon*). The toxicological and compatibility effects and biochemical analysis were done against laboratory and field strains of target insects after 48 hours. The obtained results indicated that the most chosen insecticides and silver nanoparticles exhibited effective against different insects and were superior than conventional insecticide .The co-formulated mixture study between organophosphate and bio-insecticides at LC_{25} recorded a potentiation effect on two levels laboratory and field strain after 24&48 hours except the mixture between organophosphate and bio-insecticide azadirachtin. The novel insecticides and silver nanoparticles didn't show any resistance ratio to field strain except insecticide pyridalyl in Sharkia Governorate recorded high resistance against *S.littoralis*. The organophosphate insecticide pirimiphos-methyl recorded moderate and high resistance in case *B.tabaci* Qalubia strain and *S.littoralis* in Sharkia strain, respectively. Regarding, the biochemical study (acetylcholinesterase, adenosine triphosphatase, glutathione s-transferases

, phenoloxidase , total calcium ,and total protein) the results found differences in the enzymatic and non-enzymatic components activity on two levels laboratory and field strains.

Keywords: Novel insecticides, Nano insecticides, Co-formulated mixtures, Biochemical study, *B.tabaci*, *S.littoralis*, *A.ipsilon*, tomato.