

Comparison toxicity of some botanical and chemical pesticides on greenhouse whitefly (*Trialeurodes vaporariorum*) in laboratory and greenhouse and semi-field condition

A. Moazeni^{1*}, M. R. Bagheri², B. Amiri-Besheli¹, M. R. Shamsavari²

1- Respectively Master's degree and Assistant Professor, Sari Agricultural Sciences and Natural Resources University, Sari, Iran

2- Respectively Lecturer and Assistant professor, Agricultural and Natural Resource Research Institute of Isfahan, Isfahan, Iran

Abstract

The effect of three botanical insecticides (sirinol, palizin and tondexir) and one chemical insecticide (imidacloprid) on *Trialeurodes vaporariorum* has been investigated in laboratory and greenhouse conditions. The four insecticides were used with different doses of 0.5, 0.9, 1.8 and 3 ml/lit respectively. The leaf-dip assay for nymph and glass tube assay for adult were used. Also the effect of these insecticide on tomato plants in green house was studied. There were significant differences among used insecticides and interaction between doses and insecticides on all nymphal stages and adults of the greenhouse whitefly (GW). The mortality rate increases with increasing doses and decreases with increasing nymphal age. There were not significant differences among different doses of Imidicloprid and Tondexir (3 ml/l) on the first, second and third instar nymph of GW in leaf-dip assay. The imidicloprid (3 ml/l) had the highest mortality on fourth instar nymph of GW and was categorized in separate group. Also in pot experiment the highest mortality in all of nymphal instars was for Imidicloprid 3 ml/l, however the tondexir 3ml/l had similar affect on second instar nymph. The highest mortality in adults (with no significant differences) occurred using Imidicloprid was obtained with Imidicloprid (3 ml/l), Tondexir (3 ml/l), Palizin (3 ml/l), Imidicloprid (1.8 ml/l) and Sirinol (3 ml/l) with 98.03, 96.07, 96.07, 96.07 and 94.11 % mortality respectively.

Key words: Greenhouse whitefly, Sirinol, Palizin, Tondexir and imidacloprid

* Corresponding Author, E-mail: moazeni_amir@yahoo.com

Received: 28 Jan. 2015– Accepted: 14 May 2016