Effect of commercial neem extract NeemAzal-T/S on controlling leafminer *Liriomyza sativae* Blanchard (Diptera: Agromyzidae) in comparison with common synthetic insecticides

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Abstract

Serpentine leaf miner is one of the serious pests of vegetable crops in greenhouse and open fields, especially on cucumber and tomato. Reduction of synthetic insecticides' use in order to minimize pesticide residues on these crops is an important basis of food safety. Application of bio-insecticides, especially neem products' oil, is a very important alternative. Investigation on the efficacy of the commercial neem extract formulation with different concentrations was experimented on cucumber under greenhouse conditions. In the first year, experiments were performed in a completely randomized blocks design with six treatments and three replications. Five treatments included various concentrations of NeemAzal-T/S including 0.25, 0.5, 0.75, 1 and 1.5 ml/m^2 and the sixth one was control without any chemicals. The results showed that on the third and seventh day of the treatment with concentrations of 0.75, 1 and 1.5 ml/m^2, more than 80% mortality was observed, which shows a significant difference with 0.25 and 0.5 ml/m^2 treatments. In the second year, the efficiency of two concentrations (1 and 1.5 ml/m^2) of NeemAzal-T/S was evaluated in comparison with chlorpyrifos, abamectin and permethrin. Results revealed that efficiency of the two neem concentrations had no significant difference compared with chlorpirophos and abamectin. Therefore, it could be concluded that NeemAzal-T/S could be successfully recommended to replace the chemical insecticides.

Keywords: Greenhouse cucumber, NeemAzal-T/S, Permethrin, Abamectin, Chlorpyrifos.

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