

## عنوان مقاله:

Toxicity of Insecticides against Tomato Leaf Miner, *Tuta absoluta*, and Its Predators and Determination of Their Residue Dissipation in Tomato Fruits

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## خلاصه مقاله:

Tomatoes are an important vegetable crop in different parts of the world, where they are grown year-round. Currently, the most important problem facing tomato growers in the world is the devastating damage caused by the invasive tomato leaf miner, *Tuta absoluta* Meyrick (Gelechiidae: Lepidoptera). In this study, the efficacy of three bioinsecticides (*Bacillus thuringiensis* formulations, spinosad and emamectin benzoate, and two chemical insecticides (indoxacarb and chlorpyrifos) against *T. absoluta* and their adverse effects on predators were conducted in two different governorates in Egypt, based on recommended doses of the tested insecticides. In addition, the residue dissipation of the tested insecticides was determined in tomato fruits. Results indicated that emamectin benzoate was the most effective insecticide, exhibiting the highest reduction in *T. absoluta* density of 78.05 and 87.11% in Giza and Qalybia governorates, respectively, followed by indoxacarb (77.01%) in Giza and spinosad (80.44%) in Qalybia. In addition, our finding proved that the tested biopesticide formulations, especially Bt formulations, are environmentally friendly to two of the most important predators in tomato cultivation: *Nesidiocoris tenuis* and *Macrolophus pygmaeus* Reuter. Moreover, the analysis of insecticide residues on tomato fruits revealed that bioinsecticide residues dissipated faster than conventional insecticide (chlorpyrifos). The results of this research suggested that bioinsecticides could be used for the management of *T. absoluta* under field conditions.

## کلمات کلیدی:

Bioinsecticides, *Macrolophus pygmaeus*, *Nesidiocoris tenuis*, Residue, *Tuta absoluta*

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