عنوان مقاله:

Synergistic Effects of Beauveria Bassiana, Diatomaceous Earth, and Insecticides on Mortality and Enzyme Activities of Spodoptera Frugiperda (J.E. (Smith

محل انتشار:

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خلاصه مقاله:

Fall armyworm (FAW), Spodoptera frugiperda (J.E. Smith) (Lepidoptera: Noctuidae), is one of the most destructive pests for many agricultural crops. Since quickly develops resistance in FAW to most classes of pesticides, more effective and safer biological ways to control the pest are needed. Laboratory studies investigated the interaction between the fungal entomopathogen Beauveria bassiana, diatomaceous earth (DE) with chlorantraniliprole or emamectin benzoate when applied to ۲nd instar FAW larvae. The biological parameters of B. bassiana (germination rate and average daily mycelia growth) were not inhibited by chlorantraniliprole and DE treatments, on the contrary the effect of emamectin benzoate. Interaction of B. bassiana (۱ × ۱۰۸ conidia/mL), chlorantraniliprole and DE exhibited maximum larval mortality (۵۵-۱۰۰%), while B. bassiana (۱ × ۱۰۴ conidia/mL) alone showed minimum larval mortality (۵-۲۹%) recorded at intervals ۲-۱۰ days. The results indicated the activities of mixed function oxidase (MFO), glutathione S-transferase (GST) and total esterase (EST) in FAW larvae were significantly lower than that of the control groups at different intervals post-treatment, indicating the .inhibitory effect of the all-treated applications. B. bassiana combined with chlorantraniliprole and DE had better inhibition effects than applications alone

کلمات کلیدی:

Beauveria bassania, Chlorantraniliprole, detoxification enzymes, emamectin benzoate, fall armyworm, Synergism