

عنوان مقاله:

Toxicity of emamectin benzoate and cypermethrin on biological parameters of cotton bollworm, *Helicoverpa armigera* (Hübner) in laboratory conditions

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خلاصه مقاله:

Cotton bollworm, *Helicoverpa armigera* (Hübner) is one of the most destructive insect pests on many crops in the world that has been found to develop resistance against conventional insecticides. Using insecticides with different modes of action may result in appropriate control of the pest and delay insecticide resistance development. In this study, lethal and sublethal effects of emamectin benzoate and cypermethrin insecticides were investigated on third instar larvae of *H. armigera* by residue contact methods at 26 ± 1 °C, 70 ± 5 % RH and a photoperiod of 16:8 h (L: D) under laboratory conditions. LC_{50} values, on larval stage of the pest, of emamectin benzoate and cypermethrin were 1.75 and 127.74 $\mu\text{g a.i./ml}$, respectively. According to the findings, the larvae that were exposed to the LC_{30} of emamectin benzoate and cypermethrin exhibited lower pupal weight and increased larval and pupal developmental times compared with control. The longevity and fecundity of adults were significantly affected by the insecticides. Emamectin benzoate and cypermethrin reduced fecundity by 53.1% and 50.5%, respectively compared to control. The LC_{30} values of emamectin benzoate and cypermethrin reduced egg hatching by 62.06% and 37.9%, respectively. It is predicted that these insecticides, especially emamectin benzoate, may induce significant effects on population of *H. armigera*.

کلمات کلیدی:

Cotton bollworm, lethal and sublethal effects, longevity, Fecundity

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