

## **Investigating the Insecticidal Effects of the Hexanic Extracts of *Thymus* spp. and *Eucalyptus* spp. on Cotton Bollworm, *Helicoverpa armigera* (Hübner) (Lepidoptera: Noctuidae)**

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**Abstract :** Considering the effectiveness of plant pesticides in pest control, this group of pesticides can provide an efficient way to reduce the damage caused by pests in agriculture and maintain environmental health. Plant pesticides allow farmers to cultivate their crops by lowering the use of chemical pesticides and help improve the quality of agricultural products. In this research, various plant compounds were extracted from two different sources, thyme and eucalyptus, by using n-hexane solvent and investigated to control cotton bollworm in laboratory conditions. The mortality rates of cotton bollworm (*Helicoverpa armigera*) caused by different concentrations of hexanic extract formulations were evaluated. The results showed that the varied concentrations of the hexanic extract formulations of thyme and eucalyptus had significant effects on the mortality rates of cotton bollworm larvae during a 24-h exposure period. The hexanic extract of thyme as a plant pesticide can be an effective alternative in agriculture and plant pest control. The use of pesticides in agriculture can help the environment and reduce the problems related to chemical toxins. Also, this research revealed that the types and compounds of plant pesticides can be effective in pest control and help to develop more efficient agricultural strategies.

**Keywords :** cotton bollworm, thyme, eucalyptus, extract formulation, toxicity

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