

Insecticidal and Antifeedant Activity of Rosemary's (Rosmarinus Officinalis L.) Different Extracts on Cotton Bollworm Helicoverpa Armigera Hubner

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Abstract : Considering undesirable effects of chemical insecticides on environment and human health, most studies focused on insecticidal effects of plant materials. Here, the insecticidal effects of methanol, ethylacetat and n-Hexan extracts of Rosmarinus officinalis L. on larval stage of the cotton bollworm were studied. From each extract, six concentrations, including 5, 10, 20, 40 and 60 mg/ml were prepared and added on larval artificial diet. Moreover, solution of distilled water and tween 2% considered as check treatment. All experiments were done in laboratory temperature of 25 ± 3 °C, RH = 50 ± 10 % and natural photoperiod during growing season. Each treatment had four replications and each replication carried out on 10 first instar larva with <24h age. Larval mortality was recorded 3 and 7 days after treat. Based on results, LC50 of methanol, ethylacetat and n-Hexan extracts of R. officinalis were 2.78, 15.87 and 15.70 ml/mg, respectively. On the other hand, antifeedant effect of methanol, ethylacetat and n-Hexan for R. officinalis estimated as 43.13%, 55.11% and 9.19%, respectively. All the obtained results revealed that methanol and ethylacetat extracts of R. officinalis are effective extracts for controlling the cotton bollworm population.

Keywords : Helocoverpa armigera, Rosemarinus officinalis, extract, methanol, ethylacetat, n-Hexan

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