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The Nutritional Effects of Cinnamomum (Cinnamomum Zeylanicum) Thymus (Zataria multiflora), propolis and erythromycin Extracts on Biological Characteristics Honey Bee (Apis mellifera L.)

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Abstract

To evaluate the effects of feeding different levels of alcoholic extracts of thyme (500 , 1000 and 2000 mg/kg) , cinnamon (500 , 1000 and 2000 mg/kg) , propolis (25 , 50 and 75 mg/kg) , Erythromycin (100 , 200 and 300 mg/kg) and basal diet (control group) on biological characteristics (feed intake, life span, mortality) of honey bee, this experiment was carried out in a completely randomized design with 13 treatments and 4 replications in the incubator condition. Comparing mean treatments comparison indicated that most long half-life span (50 % mortality) belonged to control group (44 days) and the shortest half-life span belonged to 25 mg/kg alcoholic extract of propolis treatment which was equal to 21.75 days ($P < 0.05$). The lowest feed intake belonged to control group and 200 mg/kg erythromycin (27.79 and 27.18 g, respectively) and the highest feed intake belonged to 500 and 75 mg/kg ethanolic extract of thyme and propolis (47.00 and 40.95 g, respectively) ($p < 0.05$). Overall, the results showed that the use of alcoholic extract of propolis compared with the treatments (thyme, cinnamon and erythromycin) reduced mortality in bees.

Keywords: Honey bee , Cinnamon , Thyme , Propolis , Alcoholic extract , Erythromycin