Abstract

Black Bean aphid (*Aphis faba*) is an important pest of greenhouse and crops with broad domain hosting that with the feeding of the plant SAP and transmit viral diseases causing damage. We have to control this pest, mainly chemical methods used with regard to the importance of human health and the environment and the natural enemies of the pests, reducing the consumption of chemical pesticides in pest containment is essential. Therefore, in this study investigated lethal and sublethal effects of *Lippia citriodora* and *Teucricum polium* essential oils on a one-day adult insect black bean aphid fumigant method in laboratory conditions. Determination of essential oils by using cleveger device by water distillation method. Test results showed that the mortality rate of test case insects in the 24 hours after treatment by increasing the concentration of essential oils increase significantly. The value of 50% lethal concentration of *L. citriodora* and *T. polium* essential oils was obtained 0/45 and 3/98 µl/l air respectively. that *L. citriodora* essential oil to a greater toxicity reaction in comparison with *T. polium* essential on black bean aphid. The sublethal effect of *L. citriodora* and *T. polium* essential oil on black bean aphid in two sublethal concentrations of 20 and 40% of each essential oil in vitro was studied on the leaves for cucumber and growth population parameters were estimated to approach Jack naif. Based on the results achieved, in control patients with distilled water and treatment acetone obtained net reproductive rate (R0) to arrange 43.56 and 49.64 article/article. in concentration sublethal 20 % *L. citriodora* and *T. polium* essential oil net reproductive rates in the order 40.48, 30.15 article/article, as well as the intrinsic rate of population increase (rm) at sublethal concentration of 20%, *L. citriodora, T. polium* essential oil to, control patients with distilled water and stone equal 0.3084, 0.2894, 0.3298 and 0/3285 article/article/day and the finite rate of population increase (λ) equal to 1.3609, 1.335, 1.3911 and 1/3891article/article/day was calculated. The mean generation time (T) is equal to 12.02, 11.81, 11.46 and ١١/٩١ day. The parameters of the population growth reviews in sublethal concentrations 40% *L. citriodora* and *T. polium* net reproductive rates (R0) to arrange 24.94 and 29/41article/article, the intrinsic rate of population increase (rm) against 0/286 and 0.2706article/article/day, the finite rate of increase (λ) equal to 1.3111 and1/3309 articl/article/day and the mean generation time (T) is equal to 11/95 and 11/85 days. The results of this study showed that view the significant reduction in population growth parameters black bean aphid in sublethal essential oil concentrations in for two plant in comparision of control.

Key words: *: Aphis faba*, Essential oil, Fumigant toxicity, sublethal

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The Thesis Submitted for the Degree of M.Sc (in the field of Agricultural Entomology)

Lethal and sublethal effect of *Lippia citriodora* and *Teucricum polium* essential oils on bean aphid, *Aphis faba* Scopoli (Hemiptera: Aphididae)

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Novambr 2016