

Insecticidal effect and repellency of *Pimpinella stocksii*, *Salsola imbricata* and *Pulicaria gnaphalodes* extracts on *Aphis gossypii*

Abstract

In the recent years, plant compounds have been suggested as alternative sources for insect control products because some are selective, biodegrade to nontoxic products, and have few effects on non-target organisms and the environment. In this study, Insecticidal and repellency effects of ethanol extracts of *Pimpinella stocksii*, *Salsola imbricata* and *Pulicaria gnaphalodes*, were examined on the one day old adults of *Aphis gossypii* at a temperature of 25 ° C. The results showed that mortality of examined insect, increased significantly after 24 hours of time exposure, with increasing concentration of the extract. Ethanol extract of the *Pulicaria gnaphalodes* revealed the highest contact toxicity with LC₅₀ level of 56.65 µg/cm². *Pimpinella stocksii* ethanol extract (LC₅₀= 82.57 µg/cm²) showed more toxicity than the *Salsola imbricata* ethanol extract (LC₅₀= 340.1 µg/cm²). In all plants tested, the upper repellency was generally observed in the lowest concentration tested and with increasing concentrations the percent repellency decreased no significantly. In all plants tested, attracting effect was observed in the upper concentration tested.

Keyword: Contact toxicity, Repellency, Botanical extract, *Aphis gossypii*, Bioassays



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