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**Extraction and evaluation of some natural
chemical compounds for controlling some
piercing and sucking pests.**

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Abstract

The purpose of this work is to evaluate the effectively natural pesticides; especially those derived from plants, are promising elements for pest control and are considered on alternative to synthetic pesticides as it reduces the negative impacts on the human health and the environment. Also, the use of chemical pesticides is a cost-effective method of controlling insect pests. Essential oils and their derivatives are considered alternative means for controlling many harmful insects.

Sucking pest such as (Spider mite, Whitefly, Thrips and Jassid) was selected as foliage pests for this study which attack eggplant (*Solanum melongena* L.) crops, because of the severe damage they inflate on this crop.

A method for determination of Fenpyroximate (*Ortus*5%) residues in eggplant (*Solanum melongena* L.) by HPLC is described. The analysis was done using HPLC equipped with a UV-Vis detector at 254 nm. The degradation rate of Fenpyroximate was studied and the results indicated that final residue in eggplant reached 20.1% after 21 days which was considered safe for human and animal consumption, despite its insecticide effectively on eggplant pests.

Essential oil is very important botanicals that can act as a fumigants, insecticides, repellents, and anti-feedants. As well, their rapid degradation in the environment and increased specificity do not harm beneficial insects.

In this study, the effect of essential oil (Garlic oil, Jojoba oil and Neem oil) as bio pesticide on the economical production eggplant. After application, the residues of essential oil within the plant during crop production cycle were determined using GC/MS. Samples (leaves & fruits) were collected on the 1st, after 12nd days, after 24th days of spraying Garlic oil, Jojoba oil and Neem oil. Results revealed that it is important to use

selective acaricides which are highly effective in controlling the target pest and simultaneously, less harmful to human and environment.

Prior to use, the volatile and organic constituents of commercial applied essential oil and Fenpyroximate were identified using FT-IR analysis.

Keywords: essential oil, Fenpyroximate (*Ortus*), bio insecticides, residue, GC/MS, HPLC eggplant, acaricide.