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Impact of Voletile Oils of *Mentha piperita* on *Bruchus pisorum* (coleoptera, Bruchidae)

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The control of store pests in storage system mainly dependents on fumigants, such as methyl bromide or phosphine. However, methyl bromide was banned in many countries starting in 2004 bacause of it is ozone depleting properties. Many alternatives have been tested to replace methyl bromide fumigation for stored product and quarantine use. There is an urgent need to develop safe alternative that have potential to replace the toxic fumigant, yet are effective, economical and conveinient to use. Many spices and herbs and their extracts and essential oils, are known to possess insecticidal properties that are frequently present in the essential oil. The objective of the current study was to determine the fumigant toxicity of essential oils of *Mentha piperita* (0.9, 1.5, 2.5, 4.5, 6.9 µL L-1) on *Bruchus pisorum* (coleoptera, Bruchidae) separate on male and femal. In order to test 10 adults were applied on a filter –paper that was attached to the lower side of the petri dish (9 cm long by 1 cm in diameter). All experiment have been done at in an incubator that was set at 30±2 ^{o}c, RH (65%) and photoperiod D:L , 8:16 and mortality were recorded until 72 hours. Pretests and final tests were done in factorical experiment of completely randomized design with five replications. The increasing doses of essential oils caused a significant increase in the mortality. Probit analysis showed that Lc_{50} values of *M. piperita* was 7.31 µL L^{-1} for male and 11.55 µL L^{-1} for female. So the high activity of this compound could make it a potential substitute for methyl bromide in various use in stored product control.
Key words: Voletile oil, fumigant toxicity, *Bruchus pisorum*, *Mentha piperita.*