

FUMIGANT TOXICITY OF ESSENTIAL OILS FROM *Laurus nobilis* (L.) AND *Myrtus communis* (L.) AGAINST *Ephestia kuehniella* (Zeller)

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The objective of the current study was to determine the chemical constituents and fumigant toxicity of two essential oils that were isolated by hydrodistillation from dry leaves of *Laurus nobilis*(L.) and *Myrtus communis*(L.). The chemical composition of the essential oils *L. nobilis* and *M. communis* were identified by GC-MS. 1,8-Cineol (48.59%), α -Pinene (3.39-3.25%) and Sabinene (3.22%) and Terpinene-4 oil (4.25%) for *L. nobilis* and alpha-pinene (30.0-28.5%), 1-8-cineole (15.3-28.8%), Limonene (17.5-24.1%) for *M. communis* were determined to be the major constituents of the oils. The fumigant toxicity of the essential oils were tested against 1 day-old adults and third larval instars and 1day-old eggs of *Ephestia kuehniella* (Zeller) at 27 ± 1 °C and 60 ± 5 % R.H. in darkness conditions. The mortality of adults was tested at different concentrations *L. nobilis* ranging from 0.5 to 3.5 μ L/L air and different exposure times (2-40 h). The mortality of adults by *M. communis* was tested at different concentrations ranging from 0.2 to 2 μ L/L air and different exposure times (2-40 h). The mortality of third larval instars was tested at different concentrations of *L. nobilis* and *M. communis* ranging from 8.57 to 30 μ L/L air and 11.42 to 32.85 μ L/L air and different exposure times (2-40h). The results showed that the mortality was increased with increasing in concentration and exposure time. More than 50% mortality was observed at the concentrations of 1.5 μ L/L air after 10 h and was reached to 100% after 14-18 h. Data analysis of probit showed that *E. kuehniella* was more susceptible to *M. communis* (LC50=0.65152 μ L/L air) than to *L. nobilis* (LC50= 1.608 μ L/L air).

Keywords: toxicity, essential oils, *Laurus nobilis*, *Myrtus communis*, *Ephestia kuehniella*.
