

عنوان مقاله:

Chemical composition, toxicity and physiological effects of essential oil of *Rosemarinus officinalis* on lesser mulberry (pyralid, *Glyphodes pyloalis* Walker (Lepidoptera: Pyralidae)

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نویسندگان:

.Elham Yazdani - *Department of Plant Protection, Faculty of Agriculture, University of Guilan, Rasht, Iran*

.Jalal Jalali Sendi - *Department of Plant Protection, Faculty of Agriculture, University of Guilan, Rasht, Iran*

.Alireza Aliakbar - *Department of Chemistry, Faculty of Basic Sciences, University of Guilan, Rasht, Iran*

خلاصه مقاله:

Mulberry pyralid, *Glyphodes pyloalis* Walker is an important pest on mulberry. The essential oil of Rosemary *Rosemarinus officinalis* L. (Lamiales: Lamiaceae) has been investigated on toxicity and physiological characteristics of this moth under controlled conditions. The major compounds of the oil were analyzed as 1, 8 Cineol (20.021%), Borneol (7.17%), Camphor (6.541%), Geraniol (6.281%), Camphene (5.623%), Linalool (4.993%) Alpha fenchyl acetate (4.222%) and Verbenone (4.147%). Lethal and sublethal concentrations (LC₁₀, LC₃₀ and LC₅₀) were estimated 0.77%, 1.18% and 1.59% (v/v) respectively. The essential oil affected the nutritional indices of fourth instar larvae of *G. pyloalis*. efficiency of conversion of ingested food (ECI), efficiency of conversion of digested food (ECD), relative consumption rate (RCR) and relative growth rate (RGR) were reduced in larvae treated with *R. officinalis* essential oil while approximate digestibility (AD) in treated larvae was significantly increased compared with the control. The essential oil affected the insect's some key metabolic compounds like; lipid, protein and carbohydrates. Similarly this effect was also significant in the activities of certain key enzymes like; alpha- amylase, lipase, protease, glutathione-s-transferase and esterases

کلمات کلیدی:

Glyphodes pyloalis, *Rosmarinus officinalis*, GC-MS, nutritional indices

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