

عنوان مقاله:

Effect of some botanical compounds on pistachio psylla *Agonoscena pistaciae* (Hemiptera: Psyllidae) under laboratory and field conditions

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نویسندگان:

Azadeh Mahdavian - Department of Entomology, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran

Ahmad Dezianian - Plant Protection Research Department, Semnan (Shahrood) Agricultural and Natural Resources Research and Education Centre (AREEO), Shahrood, Iran

Saeid Moharramipour - Department of Entomology, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran

خلاصه مقاله:

Pistachio psylla, *Agonoscena pistaciae* Burkhardt & Lauterer (Hem.: Psyllidae) is one of the most important pests of pistachio orchards in Iran. The application of chemical pesticides early in the growing season until harvest has affected farmers' and consumers' health. In this research, the efficacy of arugula *Eruca sativa* cold press seed oil, methanolic spinach *Spinacia oleracea* seed extract, and dayabon® (SL ۱۰%) was studied against nymphs and adults of pistachio psylla in a laboratory at 26 ± 2 °C, 65 ± 5 % RH, and photoperiod of ۱۶: ۸ (L: D) h. LC_{50} values of nanoemulsion formulation (NEF) of spinach seed extract and its nonformulated extract on the early nymphal stage were ۴۶۸ and ۴۳۸۱ mg/l, respectively. In contrast, the LC_{50} value of arugula seed oil and dayabon was ۲۲۸۱ and ۴۳۸۰ mg/l, respectively. NEF of spinach seed extract ($LC_{50} = ۱۲۴$ mg/l) was significantly more toxic than other compounds against the ۵th nymphal stage. There was no significant difference in nonformulated spinach seed extract ($LC_{50} = ۳۹۴۶$ mg/l), arugula seed oil ($LC_{50} = ۳۱۸۹$ mg/l) and dayabon ($LC_{50} = ۳۹۳۰$ mg/l) against ۵th instars. The efficiency of dayabon and arugula seed oil and a chemical pesticide fenitrothion was studied in the field located in Dehmolla County, Shahrood, Iran. Sampling was carried out before and after treatment. There were no significant differences between days after treatments. It means that the botanicals were effective until ۲۱ days after treatment. Findings indicated that botanical pesticides used in this study could be effective against pistachio psylla.

کلمات کلیدی:

Agonoscena pistaciae, nanoemulsion, spinach extract, dayabon, arugula oil

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