

A field evaluation of pyrethrin effects on pistachio common psylla and its side effects on *Oenopia conglobata*

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Pistachio psylla, *Agonoscena pistaciae* Burckharat & Lauterer (Hem.: Psyllidae), is the most important pest of pistachio in Iran. The pest activity starts immediately after bud burst stage in the first days of spring and its population usually increases rapidly. This pest reduces the quantity and quality of the crop. Several different insecticides have been used to control psylla by farmers. The present study was carried out to evaluate new chemical insecticides namely pyrethrin (Offkiller[®], EW1.5%; 1500 & 2000 ppm), spirotetramate (Movento[®], SC10%; 500 ppm), acetamipride (Moospilan[®], SP20%; 250 ppm) and Kaolin (Sepidan[®], WP95%; 5% concentration) in the pistachio orchards of Rafsanjan, Kerman, Damghan and Kashmar regions in 2017. Moreover, their side effects was investigated on *Oenopia conglobata* larvae, a prevailed predator of the pest. The research was conducted using a randomized complete block design with 6 treatments and 4 replications. Samplings were carried out one day before and 3, 7, 14 and 21 days after spraying. At each sampling time, the total number of nymphs on 4 leaves (3 leaflets) was counted on different directions of a tree. Based on the field studies, the highest efficacy were recorded for acetamipride insecticide treatment within 3, 7, 14, and 21 days after application causing 76.0, 84.6, 81.3 and 68.8% pest mortality, respectively. Similar mortality rates for kaolin and pyrethrin treatments in the same time intervals were calculated as 72.6, 82.1, 87.7 and 87.9% and 70.4, 80.6, 85.1 and 72.6%, respectively. Treatments side effects on *O. conglobata* larvae showed that the pyrethrin (9.8% mortality) was placed in the toxic group being slightly harmful while the acetamipride (96.4% mortality) was found to be harmful on the predator. Therefore, it is concluded that pyrethrin as an effective compound on the pest and slightly harmful for its natural enemy could be recommended in integrated pest management program, as an alternative pesticide to control pistachio psylla.

Key words: Pistachio, Pistachio psylla, Pyrethrin, Offkiller, Control.