

Refinery Sulfur as an Alternative Agent to Decrease Pesticide Exposure in Pistachio Orchards and Common Pistachio Psylla's Control

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Abstract : The common pistachio psylla, *Agonoscena pistaciae* Burckhardt and Lauterer (Hemiptera: Aphalaridae), as one of the most detrimental pests in all pistachio producing regions, causes great economic damages to pistachio trees. Nowadays, various pesticides are used to control the common pistachio psylla and robust pesticide exposure has occurred in orchards. In this study, field experiments were conducted during 2018-2021 to assess the effects of sulfur on *A. pistaciae*. This study compared sulfur with asafetida extract and pesticide (acetamiprid) on *A. pistaciae* based on complete randomized blocks with three replications. The analysis results of variance showed that the effect of treatments on egg ($F_{2,24} = 17.61$, $P = 0.00$) and nymphs ($F_{2,24} = 18.29$, $P = 0.00$) had a significant difference at a 1% level. The results demonstrated that sulfur had the highest measure of control on eggs and nymphs significantly compared to the plant extract and pesticide (negative control). These results provide support to the potential use of sulfur as an alternative pest management tool against *A. pistaciae*. The results clearly indicated that sulfur could control the common pistachio psylla population for six weeks at least.

Keywords : *Agonoscena pistaciae*, pesticide exposure, pistachio, sulfur

Conference Title : ICAP 2022 : International Conference on Applied Biology

Conference Location : London, United Kingdom

Conference Dates : April 21-22, 2022