

ABSTRACT

POPULATION DYNAMICS AND INSECTICIDAL CONTROL OF THE BLACK WIDOW SPIDER *LATRODECTUS* *HESPERUS* (ARANEAE: THERIIDIDAE) FROM CALIFORNIA'S SAN JOAQUIN VALLEY TABLE GRAPE VINEYARDS

Monthly field evaluations were conducted in four table grape vineyards to study the population dynamics and location preference on the vine of the black widow spider *Latrodectus hesperus*. Seven pesticides were also tested against the spider by direct and indirect exposure to evaluate their toxicity. The black widow spider was present in table grape vineyards all year and a major factor affecting population fluctuations was the application of insecticide sprays. The spider preferred building its web at the base, mid-trunk and the cordon area of the vine. Of the tested pesticides, methomyl, fenpropathrin, and chlorpyrifos provided 100% control of adult male and female black widows by direct exposure. Only chlorpyrifos and fenpropathrin provided control of adult females 10 days post treatment when the spiders were exposed to treated vine bark. Methomyl was the most toxic to adult females while fenpropathrin was the most toxic chemical to the immature stages.

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May 2006