ABSTRACT

SEASONAL POPULATION DYNAMICS AND INCIDENCE OF *XYLELLA FASTIDIOSA* IN POTENTIAL INSECT VECTORS OF ALMOND LEAF SCORCH DISEASE

In recent years, almond leaf scorch disease (ALSD), caused by *Xylella fastidiosa* (*Xf*), has reemerged as a serious threat to almond production areas throughout California's San Joaquin Valley. The primary vector(s) of ALSD, however, has not been well documented. The seasonal population dynamics of green sharpshooter (GSS) (*Draculacephala minerva* Ball), threecornered alfalfa hopper (*Spissistilus festinus* Say) and watercress leafhopper (*Acinopterus angulatus*) were monitored in permanent, irrigated pastures adjacent to almonds with a high incidence of ALSD. Green sharpshooters were observed to be the predominant known vector species collected in these habitats, with population peaks occurring during summer months (May-September). Threecornered alfalfa hopper and watercress leafhopper were present in comparatively low populations. DNA was extracted from collected insects and single nucleotide polymorphism based polymerase chain reaction was performed to determine the presence and strains of *Xf*. Infection rates recorded for all three species were relatively high (65-90%) with no seasonal changes.

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