Arthropod Pest Management in the Lower San Joaquin Valley

Project Leader: David Haviland
University of California Cooperative Extension, Kern County, 1031 S. Mount Vernon, Bakersfield, CA 93307
(661) 868-6215, dhaviland@ucdavis.edu

PROJECT SUMMARY

Objectives:

Provide overall improvements in arthropod integrated pest management (IPM) programs in almonds by:

- Screen new miticides for benefit in IPM programs aimed at Pacific spider mite
- Conduct screening trials at hullsplit to determine the efficacy of experimental and registered insecticides against navel orangeworm (NOW)
- Maintain two UC-based research and demonstration orchards in the southern San Joaquin Valley for almond pest management research

Background and Discussion

Pacific spider mite - continues to be one of the most common pests of almonds in the lower San Joaquin Valley. It is common for most orchards to receive one or two miticide applications per season. During the past several years we have conducted a wide range of miticide trials that have helped define the optimal use patterns of newer miticides such as Envidor, Zeal, Onager, Fujimite, Acramite, and Vigilant, as well as older products like those containing abamectin. Our data has also helped weed out many new miticides that had little to offer the almond industry.

In 2011 and 2012, in addition to screening new miticides, we expanded our research to look at the role of adjuvants in miticide efficacy. In particular, we are evaluating Vintre (a penetrating surfactant) as an alternative to the standard use of 415° oil, and the use of potassium nitrate as a foliar nutrient with potential to improve the efficacy of contact miticides. We have also been evaluating the effects of pyrethroids used against navel orangeworm, particularly at hull split, for their effects on spider mite population density.

Navel orangeworm - The current project is part of an ongoing program to conduct NOW-oriented screening trials of registered and experimental pesticides. It seeks to identify the compounds most likely to be of benefit in NOW management programs as well as to screen out newer products not worth evaluating in larger-scale trials. Products providing the best results were passed on to larger scale field trials for further evaluation.

In 2012 we conducted a trial at Westside Research and Extension Center and two trials (one second flight trial and one third flight trial) in Shafter. Each trial evaluated a wide range of pyrethroids, anthranilic diamides, other soft insecticides, and combinations of pyrethroids (as primarily adulticides) with soft materials (as primarily larvicides).

UC Research Orchards – We maintain two almond orchards for research at the UC Westside Research and Extension Center (Fresno Co.) and Shafter Research Farm (Kern Co.). These 5- and 7-acre orchards, respectively, are used primarily for the evaluation of unregistered and newly registered insecticides and herbicides. The goal of the orchards is to improve the quality of pest management research in almonds by allowing research to be done in sites with high pest density (much higher than would be allowed in a grower field) without causing risk to almond producers (such as using unregistered insecticides in a commercial orchard). In the past 2 years these orchards have hosted 19 research trials, most of which are in reported through Annual Report CDs and at the Almond Industry Conference.

Project Cooperators and Personnel: Stephanie Rill, UCCE- Kern County

For more details

- Poster location 48, Exhibit Hall A and B during conference; or on the web (after January 2013) at www.almond board.com/researchreports
- 2011.2012 Annual Report CD (11.ENTO6.Haviland); or on the web (after January 2013) at www.almondboard.com/researchreports
- Related projects: 12.ENTO7.Zalom; 12.ENTO11.Siegel/Walse