Almond Pest Management Alliance

Project No.: 03-ML-01

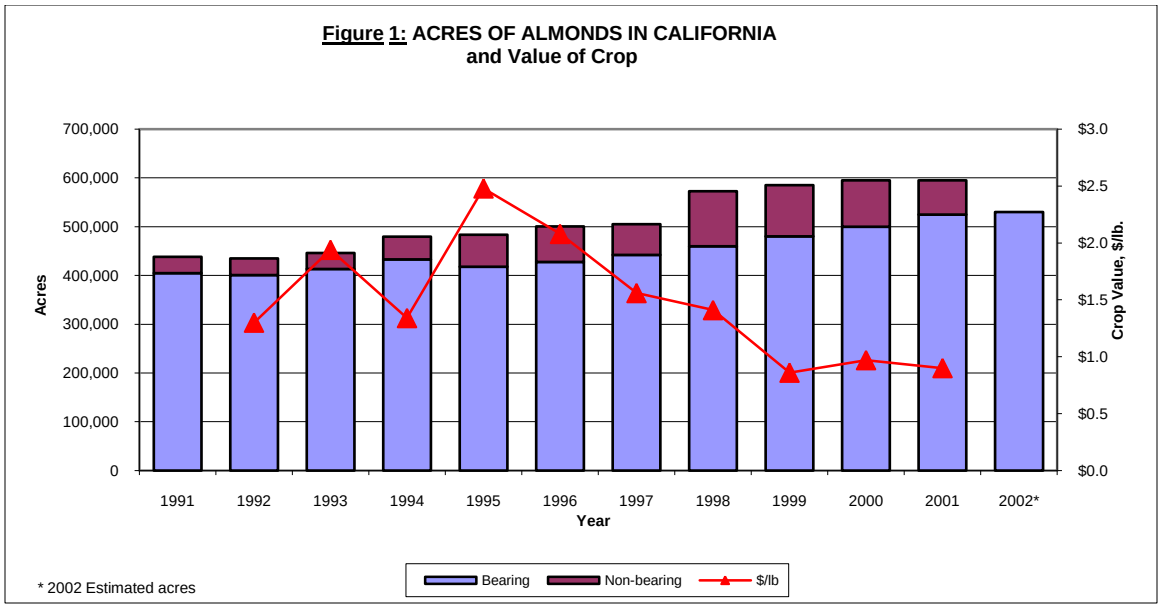
Project Leader: Mark Looker, PMA Contract Manager

Executive Summary

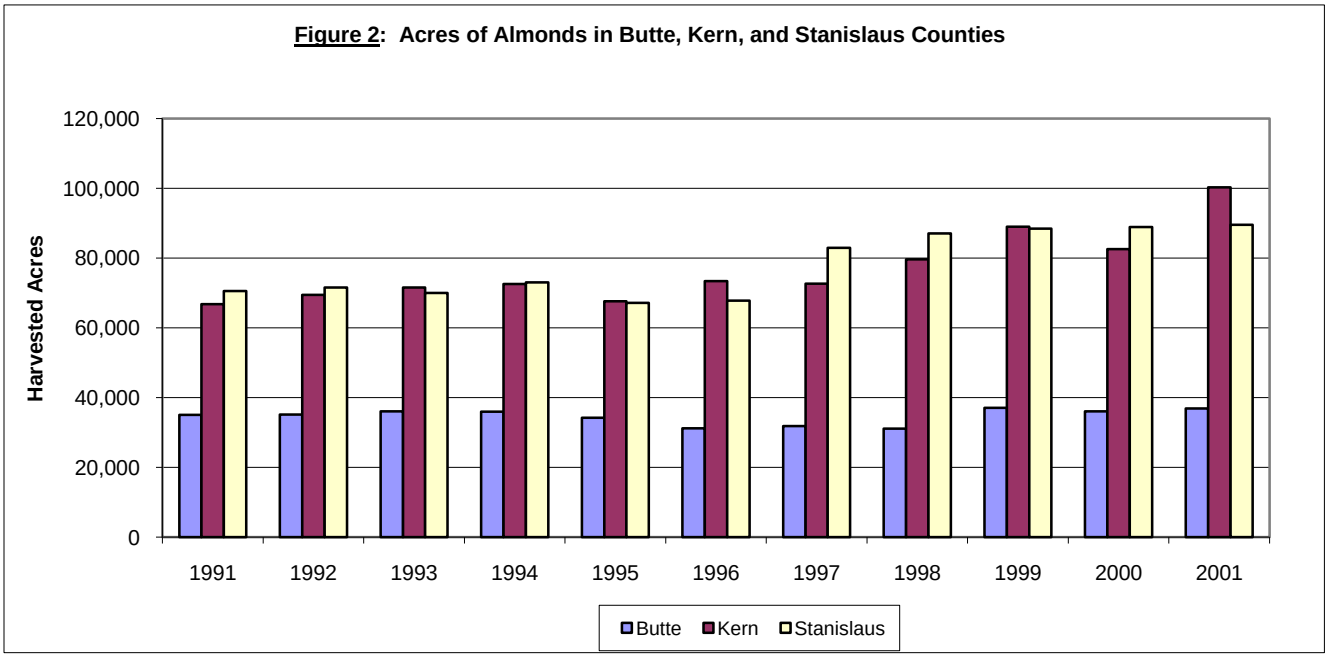
The Almond Pest Management Alliance (PMA) was initiated by the Almond Board of California in 1998 to evaluate the possibility of reducing the pesticide inputs in California Almonds. To date the Almond Board has received just less than $.5M from the State of California, Department of Pesticide Regulation, to fund this project. Though State of California funding is now unavailable, the management group continues to seek and obtain non-handler funding from state and federal grants to augment this worthwhile activity.

Working closely with the Almond Hullers and Processors Association, the University of California Statewide IPM Project, and University of California Cooperative Extension, an alliance was formed to study reduced risk practices in California almonds. This collaborative approach grew out of two major concerns. Those two concerns are the implementation of the Food Quality Protection Act (FQPA) with possible loss of some traditional crop protection tools and growing public concern over water quality standards in the San Joaquin River and Sacramento River watersheds, with possible links to pesticides used by almond growers. The Almond PMA project has completed its fourth year of successful reduced risk research and demonstration, which shows a true commitment by the Almond industry, the University, and the almond growers. During this time, the California almond industry has reduced its use of pesticides by almost 6 million pounds. Yields and quality have remained high, with production in 2002 being estimated at a record 940 million pounds.

Because of the enormous scope of the California almond industry which encompasses approximately 595,000 acres (Fig. 1), ranging from Bakersfield to Chico, and the wide range of pests and regional variables, the PMA set up and continues to use the three regional projects. These projects are located in the Northern Sacramento Valley (Butte County), the Central San Joaquin Valley (Stanislaus County) and the Southern San Joaquin Valley (Kern County). Each project consists of an orchard that is divided into conventional practice treatment blocks and various reduced risk treatment blocks. Each project is directed by the local UCCE farm advisor and addresses regional pest concerns and growing conditions that would be relevant to local growers. Acreage of harvested almonds for the three counties represented in the PMA is found in Figure 2.



The advisors employ a field scout who performs the extensive monitoring required .The target pests addressed across all three projects continue to be navel orangeworm (NOW), peach twig borer (PTB), San Jose scale, mites, and ants. Diseases, cover crops, and fertilizer applications are studied on a regional basis. Smaller satellite projects compliment the PMA orchard demonstration sites by providing research about



regional issues.

Other aspects of the Almond PMA include working closely with the Advisory team to stay abreast of current industry issues throughout the year, and to define research needs as they arise. In addition, pesticide use reports are summarized each year to determine the almond industry's contribution to the total pesticide load in the three regions of the project as well as the whole state. However, a key component of the project is to communicate to growers the most current information on pest and orchard management through field meetings and newsletters.

Overall, we can conclude that outreach is critical regarding adoption and implementation of reduced risk practices. The University of California involvement is important to ensure scientific credibility. The success of the PMA project essentially rests on the proactive growers who are willing to be innovative and take risks in order to give reduced risk practices validity. Future goals of the Almond PMA are to:

1. Involve more PCA's and growers in monitoring during the crop season and through the dormant season.

2. Implement smaller, more frequent, more regionally based field meetings regarding reduced risk practices.

3. Create guidelines or protocols for reduced risk pest management in almonds based on what has been learned in the PMA project.

In conclusion, the Almond PMA has demonstrated the following:

- Extensive orchard monitoring is the key to the success of a reduced risk approach to orchard management.
- Reduced risk practices appear to be controlling the pests below economic damage levels.
- Other pests may begin to build populations due to the altering of spray programs.
- Growers are interested in reduced risk practices and continue to be proactive.