Field Evaluation of Almond Varieties

Project Leader: Bruce Lampinen
Department of Plant Sciences, University of California, Davis, One Shields Ave., Davis, CA 95616
(530) 752-2588, bdlampinen@ucdavis.edu

PROJECT SUMMARY

Objectives:

To assess the characteristics of the most promising almond varieties developed in the almond breeding program in the orchard.

- Continue to collect a final year of data on bloom, maturity, and harvest at the Billings Ranch, near McFarland in eastern Kern County, the site of almond regional variety trial planted in 2004.
- Continue to analyze and summarize the data collected from the McFarland trial, so that the information can be prepared for dissemination.
- Begin collecting data on the next round of almond Regional Variety Trials (planted in the winter of 2014).

Background and Discussion:

Regional almond variety trials provide both almond growers and researchers with a valuable information resource.

This ongoing research project, conducted at McFarland and now expanded to three other newly planted sites, involves the long-term evaluation on an annual basis of newer almond varieties compared to industry standards in a commercial setting.

The ongoing McFarland trial, planted in 2004, includes eight varieties and eight Nonpareil clones, with replications of each. The trial is designed to look closely at time of bloom and hull-split, yield potential, nut quality characteristics, and tree growth. It also ascertains susceptibility to noninfectious bud failure and pests and diseases, including hull rot.

Studies are also relating yield and production efficiency by using new technology and equipment (light bar) that measures light intercepted by tree canopies. This allows separation of the effect of rate of growth from the amount of productivity per unit light intercepted.

Yields at the McFarland trial continue to be quite high averaging just above 3000 kernel pounds per acre for the past 5 years. There are also differences in Nonpareil clone yields developing over time. The pollinizers with the highest cumulative yield in this trial are selection 2-19e and Winters. The yields per unit canopy light intercepted in this trial are the highest among any of the trials measured by light bar.

The next generation almond variety trials were planted in the spring of 2014 in Butte, Stanislaus and Madera Counties. The Butte, Stanislaus and Madera trials were planted on Krymsk86, Nemaguard and Hansen536 rootstocks, respectively. In the current generation trials there are four replications of each of 30 pollinizers – an experimental improvement initiated with the current McFarland plot. Nonpareil is planted in every other row. Many of the pollinizer test varieties from the University of California, USDA Agricultural Research Service, and commercial nurseries, are self-compatible. In 2015, missing trees were replanted. Data collection for bloom, hullsplit and harvest will be undertaken in 2016.

Project Cooperators and Personnel: Gurreet Brar, UCCE - Fresno/Madera Counties, Joseph H. Connell, UCCE - Butte County; Dani Lightle, UCCE - Butte/Glenn/Tehama Counties, Roger Duncan, UCCE - Stanislaus County; David Haviland and Mario Viveros, UCCE - Kern County; Tom Gradziel, Mary Ann Thorpe, Sam Metcalf and William Stewart, University of California, Davis; Craig Ledbetter, USDA/ARS, SJVASC, Parlier; Commercial Nurseries

For More Details, Visit

- Poster location 55, Exhibit Hall A + B during the Almond Conference; or on the web (after January 2016) at Almonds.com/ResearchDatabase
- 2014 - 2015 Annual Reports CD (14-HORT2-Lampinen); or on the web (after January 2016) at Almonds.com/ResearchDatabase
- Related projects: 15-HORT1-Gradziel; 15-HORT13-Lampinen