

ADVANCES IN ON-FARM WATER MANAGEMENT

Tuesday, May 22, 2018 – Almond focus

PURPOSE: Uncertain weather patterns and variable growing conditions pose challenges and risks to growing almonds and walnuts in the northern Sacramento Valley. These field days will present information and technologies aimed to help manage extreme growing conditions and sustain production.

ITINERARY – ALMOND FIELD DAY, MAY 22, 2018

9:00 a.m to 1:00 p.m.

Host Farm: California Almond Packers and Exporters (CAPEX)
Headquarters Address: 21275 Simpson Rd, Corning, CA 96021
Contact: Matt Esteve (530) 824-3836

- 9:00 – 9:10 **Welcome and Introductions**
- 9:10 – 9:30 **Almond production responses to deficit irrigation**
Three almond varieties were irrigated at four different levels ranging from 70 to over 100 percent ET from 2013 through 2017. We will discuss the production responses and its implications on managing drought. We will also discuss how these results relate to other deficit irrigation experiments in almond. (Presenter: Allan Fulton, UC Cooperative Extension)
- 9:30 – 9:50 **Experiences with aerial imagery**
Aerial images were taken by Ceres Imaging routinely during the 2015 and 2016 seasons of the irrigation experiment described above. We will discuss the types of images taken and how they related to ground measurements of N levels in plant tissue, applied water, tree water stress, and production. (Joint presentation: Allan Fulton, UC Cooperative Extension and Dan Urban, Ceres Imaging)
- 9:50 – 10:00 **Travel to second orchard**
- 10:00 - 10:30 **Applying irrigation water uniformly and efficiently**
Knowing the hourly water application rate of an irrigation system and understanding how uniformly water is applied are critical pieces of information that influence water and nitrogen fertilizer use efficiency. Methods of evaluating how well an irrigation system is performing and ways of improving it will be discussed. (Presenter: Kevin Greer, Mobile Irrigation Lab, RCD of Tehama County)
- 10:30 – 10:45 **Break, refreshments, and travel to third orchard site**
- 10:45 – 11:15 **Chemigation to maintain high irrigation system performance**
Drip and microsprinkler are the principle methods of irrigating almonds. Distribution of applied water is generally high with these systems but can decline as the systems age. We will discuss equipment needs and information to help with chemigation. (Joint

presentation: Luke Peterson, Ranch Manager, CAPEX and Allan Fulton, UC Cooperative Extension)

11:15 - 12:30 Managing soil variability

Orchard production has expanded into soils with more variability in water holding capacity, water infiltration, and drainage capabilities. These conditions present more challenges to manage water and nutrients efficiently. We will discuss zone irrigation concepts as a way to manage these challenges and sustain production. Whole ranch and individual orchard perspectives will be considered. (Joint presentation: Matt Esteve, Owner CAPEX, Luke Peterson, Ranch Manager CAPEX, Brian Bassett, H2O Optimizer, and Guiillermo Valenzuela, Wiseconn)

12:30 – 1:00 Lunch and departure