

PISTACHIO IRRIGATION MONITORING AND SCHEDULING DEMONSTRATION 2019-2020
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California pistachio acreage has expanded by more than ¼ million acres in the last 10 years. Most of this expansion has occurred on marginal soils unsuited to other permanent crops but manageable for pistachios due to the high degree of salt tolerance of these trees. Production experience farming orchards on these soils and even non-saline soils has shown that real water use for these orchards is often less than that predicted by using the ET crop coefficients (Kc) developed by Dave Goldhamer from a study done on the Westside with Bob Beede in the mid 1980's. Using the average "normal year" potential ET for the SJV the Goldhamer numbers predict a 45-48" seasonal water use for pistachios. A recent Pistachio Research Board and CA DWR project by Daniele Zaccaria (Understanding the impacts of soil-water salinity on water uptake and consumptive use of mature pistachio orchards grown in the San Joaquin Valley with micro-irrigation) using state of the art energy flux monitoring indicates a reduced water use by as much as 50% in mature pistachios as salinity increases. Combine the impact of salinity and soil structure on pistachio ET with the protracted juvenility of orchard development (taking 6 to 9 years to reach just 50-60% cover), recurring droughts and reduced groundwater pumping under the Sustainable Groundwater Management Act (SGMA), it is imperative that pistachio growers have the capability for real-time soil and tree water status monitoring to do optimal irrigation scheduling. Growers are aware of this and eager to find the best options to monitor their orchards to insure optimal growth, yield and efficiency. However, there is a dizzying and expensive array of technology out there that leaves most growers confused. This project is trying to clear the fog and help growers evaluate for themselves what technology would help most for their particular orchard setting. With this goal in mind, we are using state of the art soil and plant monitoring technology in three mature pistachio production fields (Kerman/UCB1) from eastside to westside with increasing salinity to provide real data for irrigation monitoring and training by attempting to achieve the following:

PROJECT OBJECTIVES

- Showing/comparing real-time web-based and field data for optimal irrigation scheduling
- Showing the impact of salinity on monitoring and ET
- Provide traditional workshops, field meetings, newsletters and an open-access website for training
- Provide an on-line real-time BLOG for comments/explanation/training

SEE LINK BELOW FOR DETAILS

[Pistachio Irrigation Monitoring and Scheduling Demonstration 2019-2020](#)