



Sonoma County Water Agency PRESS RELEASE

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Vineyard Irrigation/Cooling Water Conservation Demonstration Breaks Ground

(Santa Rosa, CA) The Sonoma County Water Agency is sponsoring two unprecedented vineyard water conservation demonstration projects. The demonstration projects will utilize state-of-the-art irrigation and cooling technologies and best management practices to illustrate how water and energy can be conserved in vineyards. The demonstration projects will take place at Hoot Owl Creek/Alexander Valley Vineyards. Viticulture consultant Mark Greenspan of Advanced Viticulture, LLC will implement the demonstration projects.

For the third consecutive year, SCWA has issued a call for conservation from its contractors, municipalities, businesses and the agricultural community that rely on the Russian River for water supply. In April, 2009, SCWA was ordered by the State Water Resources Control Board to work with these entities to reduce water use by 25 percent in Sonoma County and 50 percent in Mendocino County. In the Russian River basin, agriculture, including vineyards, consumes approximately one-third of the water in the Russian River.

“It is essential to work with the agricultural community and demonstrate how using state-of-the-art technology and best management practices will yield water savings,” said Paul Kelley, SCWA director and Sonoma County supervisor. “Sonoma County has 60,000 acres of vineyards that bring more than \$400 million into our economy - just in wine grape sales – so it is pivotal to show conservation can support both our water supply and local economy.”

“The purpose of the demonstration projects is to provide a venue for both education and two-way communication on the subject of vineyard water use,” said Mark Greenspan, demonstration manager and owner/viticulturist of Advanced Viticulture, LLC. “We will show growers how they can easily save water, energy and money while still producing excellent wine grapes.”

“We are proud to be a partner in these demonstration projects because we believe conserving Russian River water is essential to our economy and environment,” said Mark Houser, vineyard manager, Hoot Owl Creek/Alexander Valley Vineyards.

The Demonstration will include two projects – the irrigation methods project and low-volume vineyard cooling project.

About the Irrigation Methods Project: This demonstration project will showcase some alternative strategies side-by-side with some commonly-used practices that are less water-use efficient. Soil moisture measurements will be made on a continuous basis using the latest technology for measurement and data telemetry. The following soil moisture data will be made available to the public in real-time via the internet:

- Side-by-side comparisons of two ½ gph emitters per vine and one 1 gph emitter per vine. Soil moisture devices to monitor wetting depths. Most vineyards would benefit from additional emitters at a lower flow rate, which creates a larger root zone.
- Comparison between a longer, less frequent versus a shorter, more frequent irrigation cycle. Soil moisture devices to monitor wetting depths and drying cycles between irrigation events. Remote switching of valves will be installed. It is likely to be shown that the shorter, more frequent irrigation practice is more water-use efficient than the alternative.
- Two levels of deficit irrigation will be applied to two side-by-side plots. Fruit will be sampled during ripening and its composition evaluated for Brix, pH, total acidity, malic acid, tartaric acid, total phenolics and color absorbance.
- Comparisons of daytime versus nighttime irrigation will be made.
- Optimal irrigation duration will be determined by backhoe pit observation of rooting depth and soil moisture monitoring of wetted zone.
- Vine water status will be monitored weekly throughout the season using pressure chamber and porometer instruments.
- Vine observations will be made throughout the project, including symptoms of vine stress and fruit characteristics.

About the Low-Volume Vineyard Cooling Project: This demonstration project will measure and identify techniques and technologies that use less water for cooling grapes during hot summer days. Over-vine misters will be used, along with an untreated control and a conventional high-volume overhead sprinkler system. The project will also include:

- The irrigation mechanism will be automated for turn-on at specified temperature thresholds, based on an algorithm. Manual control may also be used, but remote actuation will be provided using radio telemetry and SMS commands.
- Fruit and air temperatures will be monitored in the low-volume cooling, standard volume cooling, and for the untreated control treatment.
- Fruit chemistry will be measured at several times during the ripening process.

Formal demonstration events will be held on-site, for growers, the public and the media to attend. Dates of these events will be announced on SCWA's Web site. A summary report will be prepared documenting the measurements made, water consumed by the various treatments, and outreach efforts of the project. The Demonstration is expected to conclude at harvest in October, 2009. All Demonstration information and data will be posted on SCWA's Web site, www.sonomacountywater.org. For more information about the demonstration projects, please contact Mark Greenspan at 707-838-3805.

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Sonoma County Water Agency provides water supply, flood protection and sanitation services for portions of Sonoma and Marin counties. Visit us on the Web at www.sonomacountywater.org.