

Irrigation Planning & Water Storage

- Develop an irrigation schedule based on CIMIS data and/or soil moisture monitoring.
- Learn to estimate your soil moisture by feel, or measure with tensiometers or matrix blocks. (see Irrrometer source below.) Schedule irrigations based on that information.
- Adjust your irrigation schedule based on the weather. Temperature, relative humidity, and wind are key determinants of plant water use.
- Plan for storage of water, whether in tanks or ponds. Ponds will need filtering.
- Consider harvesting and storing rainfall from your barn, farm building, or home roof.
- Plant a winter cover crop to increase soil organic matter. With a 1% increase in soil organic matter, soil water storage increases by 16,000 gallons per acre foot of soil.¹
- Replace inefficient irrigation with drip irrigation.

Conserving moisture and reducing crop stress

- Mulch 2-4" deep along vine rows, keeping mulch 4" away from trunks. This keeps roots cooler and reduces crop stress and moisture losses from the root zone.
- Use organic mulch materials such as pomace, lees, compost, composted horse manure, wood chips, rice hulls, etc.
- Starting in spring, mow vineyard cover as low as possible to reduce water use. Allow to dry down in summer.

Critical periods for Avoiding Drought Stress in Grapes

- Flowering and fruit set
- From fruit set to Veraison: too much stress reduces berry size & bud fruitfulness for the next year
- 4 to 6 weeks after Veraison stress can reduce berry size

Resources for Drought Management

CIMIS Irrigation Scheduling <http://www.cimis.water.ca.gov/cimis/infoIrrSchedule.jsp>

Foothill Farming Drought page : <http://ucanr.edu/pndrought>

Irrigation scheduling <http://www.wateright.org/>

Soil Moisture Monitoring Tools <http://www.irrometer.com/sensors.html>

UC Drought Management Website <http://ucmanagedrought.ucdavis.edu/index.cfm>

Wateright Irrigation Scheduling <http://www.wateright.org/>

¹ Scott, H.D., L.S. Wood, and W.M. Miley. 1986. Long-term effects of tillage on the retention and transport of soil water. Arkansas Water Resources Research Center. Publication Number 125. 39 p.

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