

65 Mitchell Blvd., Ste. A, San Rafael, CA 94903 • (866) 453-9701 • www.winesandvines.com

Tips on Drip Irrigation

Drip – or trickle – irrigation is based on the concept that the best vine performance comes from preventing rather than relieving moisture stress. During dry summers, yields can be increased for some varieties by as much as 40%, and studies on double curtain systems with adequate fruit exposure have shown that irrigation significantly increased yields with no sacrifice in fruit quality, although the harvest date was delayed on the higher yielding plots. Moreover, the effects of irrigating or not irrigating carry over to subsequent years. In the southeastern states, sprinkler irrigation is favored because the system is used for frost protection as well as irrigation. Drip irrigation costs less to install and operate, uses less water, permits fertilization through the system and doesn't wash off sprays. Water is applied at frequent intervals in measured quantities under low pressure (15 pounds per square inch or less) at slow rates (up to 1½ gallons per hour).

One of the essential requirements for an efficient and reliable system is good quality water. Since unfiltered water tends to plug emitters, the right filtration system must be chosen.

Because every irrigation situation is unique and requires proper design, it will usually pay to consult an irrigation engineer on the design of a total system. For an estimated 40-acre vineyard, the following assumptions would apply to the irrigation system:

- 1. A diesel, two-cycle, 80-cubic-inch engine is the pump power source (20 hp manufacturer's rating).
- 2. Pumping head is 80 psi with water flow rate of 300 gal/min.
- 3. Pump efficiency is rated at 60% with a 14-year life for the pumping system with zero salvage value. With proper maintenance the delivery system can be expected to last 10 years.
- 4. Emitters in the trickle system operate at 15 psi.
- 5. The irrigation laterals are suspended 18 inches above the ground by #11 wire with emitters placed every 4 feet. (Studies are currently underway to evaluate subsurface irrigation by burying the drip lines.)