

SPRING TIPS FOR SAVING WATER IN LANDSCAPE IRRIGATION

by John Karlik,

University of California Cooperative Extension

It seems spring has arrived, and with it the need for water in landscapes, orchards, and gardens. Almost all plant species need irrigation in Kern County landscapes, but too much irrigation can be as detrimental as too little. To maintain plant health and manage costs for outdoor water use, here are a few tips to consider.

It's helpful to walk through the irrigation system in spring, especially if it has been turned off for winter. We want to check for coverage, to prune back plants that may block nozzles, to see that all valves come on and turn off, and that sprinkler heads are operating. Sometimes a pop-up head will need to be readjusted for height, or a taller sprinkler head substituted. Sometimes dirt plugs the nozzle so cleaning is needed. Drip lines should be flushed out by opening the ends for a few minutes.

The best time to irrigate in most home situations is dawn, or about 4-6 a.m. That is when winds diminish and temperatures are lowest so water does not blow away or evaporate quickly. Evening irrigation can lead to leaf diseases if water is allowed to stand on foliage during the night. During exceptionally warm weather, it is certainly okay to irrigate in the afternoon to cool turfgrass or give plants extra water. Water droplets do not focus the sun's rays and cause leaf burn.

A rule-of-thumb is to irrigate to fill the root zone, and that implies water delivery sufficient to penetrate soil several inches to several feet, more easily accomplished in agriculture than in home landscapes. After irrigation, one can check water penetration with a screwdriver or a garden trowel or shovel. Frequent short irrigations can lead to shallow root systems with little capacity to withstand dry conditions. Keeping plants wet can lead to root rot in many woody species.

Irrigation scheduling is about frequency and duration, how often valves come on and the length of time each valve remains open. In general, it is best to set duration for each station so as to fill the root zone and then to add or subtract days depending on the season.

Home water bills often contain information, such as a bar chart, showing water use over the past year. Plant water needs in the southern San Joaquin Valley vary by about a factor of 10 during the year, with water needs almost zero in the winter months. If irrigation is turned off during winter, one can see what the indoor water use was during that period. If irrigation is matched to season there will be a climb in spring, highest water use in summer, and a decline in autumn. If the water bill shows the same amount of use for all 12 months, it is likely plants are being over-irrigated most of the year.

For the engineers among us, the baseline water use rate for plants in the Bakersfield area is about 0.15 inches per day in March—that's the average but daily use can be higher if temperatures are unseasonably warm or drying winds are present. That value does not imply that 0.15 inches of water need be applied every day, but it does allow us to estimate water needs over period of days or weeks. One can calculate the water needed by a landscape by measuring the square feet of the landscape and multiplying by water use as a depth, and then converting to volume with the appropriate unit conversions. By doing so and comparing with a water bill we can quickly see if we're about right in terms of water applied.