

Saving Water and Money in the Garden

By Rebecca Miller-Cripps

In light of recent publicity regarding local water issues, the time is right to talk about saving water and money. Half of California's water is used outdoors, especially for agriculture. It's also estimated that 50% (or more in some areas) of California's **residential** water is used outdoors—to water lawns, ornamental plantings, vegetable gardens and in swimming pools. Saving water outdoors will also save money in your budget. Here are some tips for saving water in your lawn and garden.

To help us become more aware of our watering practices, July is designated as Smart Irrigation Month. July is the month in the foothills when our plants typically use the most water. The Irrigation Association uses the phrase “saved water is money in the bank” to draw attention to the need to water our landscapes and gardens, our golf courses and shopping center plantings more efficiently.

Brad Lancaster, author of “Rainwater Harvesting for Drylands and Beyond, asks the question, “Why do we use treated drinking water to irrigate our landscapes?” The number one use of energy in California is to pump and move water. Any water we save on our landscapes is definitely money in the bank!

Water in the outdoors “disappears” by three methods. It soaks into the ground (infiltration), it evaporates into warm air or wind (evaporation), or plants take the water up through their roots, use it in metabolic processes, and release it as water vapor through their leaves (transpiration).

Infiltration: Water that soaks below the plant's root zone is lost to the plant's use. Don't pay for water your plants can't use. Check the depth of your watering. A long screwdriver blade will penetrate easily into damp soil. Use it to gauge how deeply you're watering. Deeper-rooted shrubs or flowers can be individually watered with a drip system or watering can.

Infiltration is affected by the type of soil you have. Clay, with a basic intake rate of 1/10 of an inch per hour will only be able to accept roughly the amount of water applied in the 10 minutes (twice per week) now being allowed by Tuolumne Utilities District to its customers. Loam absorbs water at a rate of 1/3 inch per hour, and sand can accept 2/3 of an inch per hour. Putting water on faster than the intake rate causes runoff and wasted water. Make sure that if you are watering your lawn, that your sprinklers do not apply more water than can be absorbed in 10 minutes.

To increase infiltration rates in clay soil and to help sandy soil retain water, add organic material to your soil. Compost, home-made or purchased, makes clay soils airy so they drain and gives sandy soils body to hold moisture. Compost also reduces water demands, controls soil erosion, and reduces plant stress from drought.

Evaporation: Factors such as air temperature, humidity, sunlight, and wind remove water from bare soil. To combat evaporation, plant closely enough that plants shade the soil. Another way to slow evaporation is to mulch, mulch, mulch, mulch! Partially broken-down compost makes great mulch and, as it continues to break down, adds nutrients to the soil. The addition of mulch to the surface can reduce your plant water needs by more than half.

Transpiration: Plants use water for three basic purposes—to carry dissolved minerals and nutrients, to maintain physical shape and growth, and to control leaf

temperature. The amount of water needed varies by species of plant, the time of year, the amount of sunlight, air temperature, etc. In the Sierra foothills, July is the month with the highest temperatures and the highest evapotranspiration rates.

Drought-tolerant plants adopt a number of strategies to reduce water loss—deep taproots to find water at greater soil depths; fine, silvery leaf hairs to reduce wind flow; or a waxy coating to reduce water evaporation from leaf surfaces. Consider replacing some of your plantings—or your lawn—with drought-tolerant natives when cooler fall temperatures arrive. Or consider converting your lawn to buffalograss which, when established, requires minimal watering and mowing.

And one last tip—if you are using sprinklers to water your lawn, check for leaks, broken heads, misaligned spray patterns and run-off. For more information, go to www.ipm.ucdavis.edu and click on “UC Guide to Healthy Lawns” to learn more about irrigating your lawn. Or check the California Garden Web for more drought gardening tips at <http://cagardenweb.ucanr.edu/>

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