

## Make Every Drop Count With Efficient Irrigation

By Rachel Oppedahl

Gone are the days when we could water our gardens and lawns with sprinklers and sprayers that shot six feet into the air, and flooded the driveway and street gutters. These days, we know we need to conserve, and that means employing irrigation methods that deliver water directly to the soil around the plants that need it, and to minimize, or completely eliminate, water loss to evaporation or runoff.

Here are some examples of efficient irrigation products for the garden, and the pros and cons of each:

**Soaker Hoses** are made from a porous material that delivers water slowly and evenly along the length of the hose—as long as the ground is relatively flat. If placed on a steep incline, gravity and the force of flow will result in more of the water being delivered at the downhill end of the hose. On level ground, the spread of water is typically only a few inches from the hose, so they are best used in very narrow beds or a line of individual plants. The biggest advantages of soaker hoses are that they are inexpensive and easy to set up in the garden.

There are several disadvantages of soaker hoses. They are not the best choice for beds that have widely spaced plants, because you end up watering the empty spaces (or weeds) in between. If your water is relatively high in minerals, the life of a soaker hose will be short, maybe a season or two, as the microscopic holes clog easily.

Similar to a soaker hose is drip tape, a more lightweight product that works well for row crops and raised beds.

**Drip Systems** are the classic 1/4" to 1/2" black tubing into which you attach emitters, pressure regulators, backflow devices, filter screens, and timers if you want them. As a matter of fact, if you want to get your geek on in the garden, a drip system is the way to go because there is a mind-boggling selection of components available to choose from. A basic emitter head will precisely water the soil around an individual plant. "Shrubber" and "bubbler" emitters deliver water in a wider radius, perfect for shrubs and trees. "Micro-jet" heads let you adjust the low-level spray to a quarter, half or full circle for more dense plantings or ground covers. And "turbulent" emitters are said to minimize clogging by the self-cleaning action of the head design.

The disadvantages of drip systems are setup and maintenance, and depending on the size of your garden, cost. Emitter heads are notorious for clogging and have to be either cleaned or replaced periodically.

**Adjustable Sprayers** can cover a radius of up to 12 feet or more. They can be installed in a drip system on risers, or, as with "rain birds" or other high-performance sprayers, attached to a PVC pipe or even a hose end. These sprayers lose a little more water to evaporation than do basic drip emitters, but they are more effective at watering lawns and large, dense plantings of ground covers and ornamentals. Plus, if like me, spider mites are the bane of your gardening existence,

these taller, far-reaching sprayers (used in the early morning) help minimize spider mites' favorite conditions: hot, dry and dusty.

Here are some basic tips to increase the effectiveness and durability of any of the watering systems mentioned above:

- Bury tubing and hoses under mulch to slow damage from direct sun and extreme temperatures.
- Choose emitters that are ideal for the plants/areas you need to water.
- If you want to set up a drip system on an incline, consider purchasing the pressure regulators and emitters that will produce an even flow of water.

If you would like more specific advice about efficient watering systems in your landscape, call the Tuolumne County Master Gardener Hotline, 533-5912, or complete the "Ask a Master Gardener" form online at [http://ucanr.edu/sites/Tuolumne\\_County\\_Master\\_Gardeners](http://ucanr.edu/sites/Tuolumne_County_Master_Gardeners).

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