



Redwood Barn Nursery

1607 Fifth Street Davis, California

Watering questions!

One of my favorite recent exchanges:

“How are you watering?”

“Oh, I water it pretty good.”

Ok, perhaps I need to be more specific. What are you watering with? How long do you let it run? How often do you do that?

“I’m running my drip system for 10 to 15 minutes every day.”

Early in the season this might be sufficient. By now, it’s not wetting the root zone sufficiently. If you’re not running your drip system for at least two hours, you’re not really watering your plants’ roots. But you certainly don’t need to do that every day! Nothing needs water every day.

Our motto when it comes to watering: slowly, deeply, infrequently.

“My raised vegetable bed dries out really fast!”

Your vegetable garden is a relatively high water user. A 4 x 10 vegetable bed packed full of plants needs about 40 gallons of water a week. An established tomato plant needs about 7 – 10 gallons of water each week. Raised beds with loose soil drain out faster and may need the water applied in more frequent intervals.

Drip irrigation and soaker hoses put the water right at the base of the plant, minimizing waste. Mulch on the surface helps conserve water and can reduce how often you need to irrigate.

Even though the active growing part of your garden is a pretty high water user, much of your area is unplanted. So it’s still a water-saver to replace your lawn with a food garden! Most gardens I look at are 30 – 50% paths and open areas, which are unirrigated. Replace 1000 square feet of lawn with 50% vegetable planters and 50% paths, and you’ve cut your water use significantly. And you get fresh tomatoes.

“My hydrangeas don’t look good!”

Popular on the east coast, common garden hydrangeas (*Hydrangea macrophylla*) are very high water users. The lush, thick leaves burn along the edges with insufficient moisture, and the flowers don’t develop well. They need water at least twice a week in most soils, so if you’ve cut back on your overall irrigation you may need to do some hand watering to keep them attractive.

What are some of the other high-water plants in the garden that may need some special attention? Japanese maples, ferns, fuchsias, and baby’s tears ground cover are examples.

If you’ve reduced your irrigation schedule, these are the plants that may need to be watered by hand every few days. Or get a soaker hose to give them an extra deep watering once a week. In the long run, if you’re converting to low-water landscaping, consider replacing them. There are alternatives that use less water.



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“How can you tell how much water a plant needs? I’m getting confused by what I’m hearing. Some landscaper wants to put in an underground system and run it every day. You keep telling me to water for a long time, and then not water for a long time.”

To be specific: I advise watering for a long duration (“for a long time”) at infrequent intervals (“not for a long time”). A bunch of gallons per plant every week or so, even less often for many drought-tolerant plants. Once established.

Note: if your landscaper installs your plants and your watering system and guarantees the plants, you should follow your landscaper’s schedule.

At first, light frequent irrigation may be necessary to keep the new plants watered. Once established, most landscape plants can be watered much less often, as long as they get a good soaking each time.

That “once established” is the key phrase. The initial period of transplant, while the roots are pushing out into the surrounding soil, is a couple of weeks. During that period the plants should be checked daily and watered as needed. Typically they need water every 2 to 3 days at first, but if it’s hot or windy they may need it daily. Then there is a period of several weeks while the plant can take less frequent but deeper watering cycles.

Your landscaper may prefer to set the irrigation timer for frequent watering through the first summer. With guidance, you might be able to transition the plants to a reduced schedule even in the first season. Certainly by the second summer the plants can be watered less often, so long as they get deeper irrigation each time.

“Why is this so complicated? Just tell me how often to water, and for how long!”

It’s complicated because to answer your question I need to know:

- what is the plant or mix of plants? If it’s a tree, how big across is it?
- what is the site like? – sun, shade? Site exposure increases or decreases water use.
- what is the water use for the last week/next week? – current vs. average?
- what is your soil like? – how fast does water penetrate, and does it store water?
- how are you watering? – what devices are you using?

We really do want people to take control of their watering, to understand their sprinkler timers and systems and how all these variables come into play.

- get your plants identified, learn their respective water usages (landscape coefficients, to use the industry jargon).
- measure your water output.
- probe your soil to see how deep you’ve watered.
- a little more sophisticated: recognize your indicator plants, the ones that wilt without ill effect that can indicate when you need to water.



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- invest in soaker hoses and mulch.
- consider smart timers, water sensors, and low-gallonage sprinkler heads.
- start thinking about switching out the high water plants, or water them by hand at times.
- experiment a little:
 - try multiple watering cycles on one day to get a deeper soaking, then go longer before you water again; then
 - cut to once a week with that deeper watering; gradually reduce your frequency even more. You'll be surprised how long common landscape plants can go between waterings.

Finally, some practical notes for home gardeners.

- Pruning can reduce water use (reduces area of foliage). This is another benefit of summer pruning of fruit trees. Home orchard trees can use much less water than typical commercial orchard rates.
- Shaded areas use less water (as much as 50% lower ET); another benefit of shade trees.
- Your soil is key: does it store water? How fast does water penetrate, or does it run off? Soil maps are available online (<http://casoilresource.lawr.ucdavis.edu/gmap/>). North and west Davis have more clay in the soil than east or south parts of town. Learn how to manage your soil: soils with clay absorb water more slowly, and store water longer for plants.
- Mulch helps to conserve water. Apply 2 to 4 inches of mulch over the root zones (but not up against the trunks).
- "Controlled deficit irrigation" can be applied to home tree crops, grapes, and tomatoes: water gradually less often as the season goes along. This conserves water and can improve the fruit flavor.
- Tolerate some stressed appearance in your landscape shrubs and lawns.

Finally: please keep watering those higher-water trees that provide shade and value to your property and the environment. Birches, redwoods, maples, and magnolias need extra water every couple of weeks, especially if their roots are in your now-dry lawn areas. Young city street trees also need some special attention. Droughts don't last forever, and it doesn't take much water to keep young trees healthy.



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Young fruit trees can be trained with low branching and pruned in summer to keep them small. Reducing the size of the tree reduces its water use. Fruit is easier to pick, full size and high quality. These young peach trees will be kept at about 8 feet tall.



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Soaker hoses and drip irrigation systems are great for the vegetable garden. They put the water right at the base of the plant, watering efficiently and eliminating the evaporation that occurs with sprinklers. You need to run them for at least an hour or so to water the roots thoroughly!



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Indicator plants: experienced gardeners begin to notice that some flowering plants, such as the Japanese anemone shown here, droop before others do, but recover when watered without adverse effects. You can use these plants as guides for scheduling irrigation.



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Please give maple, magnolia, birch, and redwood trees some special attention during this drought! Burnt and scorched-looking leaves can be a sign of drought stress. It is



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likely that the tree's roots were getting water from your lawn, so if you've stopped watering your grass your tree may suffer! A good soaking every couple of weeks can keep them healthy.





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Please give your coast redwoods some special attention during this drought! Burnt and browning needles can be a sign of drought stress. It is likely that the tree's roots were getting water from your lawn, so if you've stopped watering your grass your tree may suffer! A good soaking every couple of weeks can keep them healthy.