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Healthy Garden Tips
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DROUGHT STRATEGIES FOR HOME LANDSCAPES

By Jane Callier, Master Gardener 2011

Established plants

During a drought, it might seem to be a good time to remove all your thirsty plants and put in drought-resistant native plants, but remember no native or commonly used landscape plant is drought-resistant until it becomes established. All plants require a steady supply of moisture for a year or more after they are first planted. Once they become woody, mediterranean landscape plants are established and have a deep root system, they won't need much, if any, summer water during non-drought conditions.

Less water may be okay

Field research studies indicate that most established landscape trees, shrubs, and groundcovers, regardless of the species planted, perform acceptably with 20 to 40 percent less irrigation than they are typically given. These include many of the plant species commonly grown in existing landscapes. Most commonly planted tree and shrub species along with many ornamental groundcovers and vines have at least some degree of drought resistance. These types of plants can live in a landscape with much less water than they are typically given once they are established.

Save high value trees

In a worst case scenario, the choice homeowners have to make is to use their water allotment to save high value mature landscape ornamentals and fruit trees. If roots are deep, mature trees can usually survive the season with only one or two deep waterings during the spring and summer, but be aware your fruit trees may not set much fruit. Two seasons without enough water can result in severe drought stress and even death of your trees.

Solarize the soil

Solarizing your soil is great idea during a drought. If your planting beds have been used over and over, especially with the same crops planted in them, they will benefit from solarization. Soil solarization is a nonchemical method for controlling soilborne pests using high temperatures produced by capturing radiant energy from the sun. The method involves heating the soil by covering it with a clear plastic tarp for 4 to 6 weeks during the hottest period of the year, July and August, when the soil will receive the most direct sunlight. When properly done, the top 6 inches of the soil will heat up to as high as 140°F, depending on the location. The plastic sheets allow the sun's radiant energy to be trapped in the soil, heating the top 12 to 18 inches and killing a wide range of soilborne pests, such as weeds, pathogens, nematodes, and insects. Solarization leaves no chemical residues and is a simple method appropriate for

the home gardener or the large scale farmer. It can improve soil structure by increasing the availability of nitrogen and other essential nutrients for growing healthy plants, as well as controlling a range of soil pests.

Water-saving irrigation techniques

Following are some steps to preserve your valued landscape while conserving precious water. Examine your irrigation system with an eye to making it as efficient as possible. Drip irrigation is ideal in the vegetable garden, reducing water usage by as much as 50%. While expensive to install, drip irrigation using individual emitters will apply water directly to single plants without wasting a drop of water. The soaker hose is probably the least expensive and easiest to use in a vegetable garden setting. It allows water to seep out all along its length at a slow rate. Place soaker hoses or drip irrigation under mulch to minimize evaporation. Another option is a simple 'hose bubbler' which is a hose end attachment to irrigate the base of a plant. Early spring is the time to check your irrigation system before you need it. Drip emitters and sprinklers can clog in just a few seasons. Take the ends off of the runs to flush the tubing. Timing sprinklers to run in the very early morning is a good idea to conserve water and reduce evaporation, but audit your sprinklers throughout the season to ensure sprayers are aimed correctly, sprayers haven't popped off to become "geysers" and emitters are still placed correctly as the plant they are watering grows.

Don't overwater

Simple, useful methods can be used to determine when to water. Check soil moisture regularly to avoid over-application. Squeeze soil in your hand; if it sticks together, it is moist and irrigation should be delayed. If the soil has dried out to a depth of 2-4 inches, plan to water. This is especially important if using mulch, where water can be held in the soil for longer periods of time. Wilting or folded leaves, dull or gray-green foliage, leaf drop, and new leaves that are smaller than usual are signs that plants are under water stress, too dry, and should be watered immediately. Plants lose water through tiny pores in the undersides of leaves in a process called transpiration, and the amount lost increases with hot, sunny, and windy days. This water must be replaced to maintain a healthy plant.

Plants vary widely in their water needs and rooting ability, but a general principle for watering the garden, landscape plants, and fruit trees is to water deeply and infrequently. Frequent, shallow watering does not encourage to roots to go deeper, causes excess soil evaporation, may result in salt buildup, and provides optimal conditions for certain plant diseases.

Remove the lawn

If you have a lawn, consider removing it. The City of Napa offers water customers an incentive to replace their thirsty lawns with water-efficient landscaping. Do not replace with gravel or rock mulch; doing so would create a heat island and make overall drought conditions worse. The program offers $1.00 per square foot to replace eligible lawn areas with low-water-use, climate-appropriate plants, permeable hardscape, or artificial grass. Check their website for more information about the program.

Plant short season crops

With these water-saving and frost-warning caveats in mind, what plants might work for you in an early spring garden? Part of a water-saving strategy might be to plant shorter season crops and fewer crops.

Vegetable seeds that can be sown directly in the soil in early spring are carrots, lettuce, peas, potatoes, radishes, beets, and spinach. Set out seedlings of broccoli, cabbage, Brussels sprouts, cauliflower, and kohlrabi. Plant leek and onion starts. Consider planting in blocks, rather than rows. This creates shade for roots and reduces evaporation. Weeds compete with the vegetables for the water supply, so pull them out. Also, you can use containers or plant vertically to reduce the soil area that needs irrigation. As a rule of thumb, water is most critical during the first few weeks of development, immediately after transplanting, and during flowering and fruit production. Prepare your soil and amend it with organic matter to increase its water holding capacity. Tomatoes, beans, and root crops such as carrots require regular water and don't tolerant long, dry periods. Squash and zucchini aren't as fussy and can be watered less often.

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