



Tips For a Water Wise Garden

18 UTAH 47

Water is a precious resource, it's important to use water wisely. Water is the most critical part of home gardening. As water becomes scarce, we need to be more aware of conservation. When it comes to conserving water, small adjustments can have a big impact. The key is using water efficiently; not extravagantly.

"We'll never know the worth of water 'till the well goes dry." -- 18th century Scottish proverb

- 1. Irrigate in a way that saves water.** Water as much as necessary, but as little as possible. Adjust your water schedule according to the weather, the soil conditions, and the type or size of plant.
- 2. Avoid water logging the soil.** Water logging the soil prevents the air the roots need to breathe, from entering into the soil – the root cells drown without oxygen.
- 3. Water infrequently but water deeply and thoroughly.** This will encourage deep rooting and greater root tolerance in dry spells. Don't water every day.
- 4. Change your watering schedule according to the season.** Do not water plants the same in the spring and fall, as you do during the heat of summer. Adjust the timer for your automatic sprinkler system regularly; at least every 2-3 weeks. There is not one set method to determine how much to water all plants, all year long. Adjust your watering schedule as often as the conditions change: Daily; Weekly; or Monthly.
- 5. Water a plant evenly around the entire root zone.** Watering in only one area leads to one-sided root growth in the soil. Always water around the entire plant.
- 6. Install a drip irrigation system.** The slow watering system can save up to 60% of all water used in garden care.
Example: A plant needs 15 gallons of water. If One drip emitter allows 1 gallon per hour. One emitter would take 15 hours to water the plant, or 10 emitters would take 1.5 hours to water the plant. Make sure you use enough emitters, and allow enough time, for your drip system to apply the correct amount of water for each plant. Remember, not all plants need the same amount of water.
- 7. Water early in the day,** especially during the hot summer days.
- 8. Don't be a gutter flooder.** Turn off lawn sprinklers before water is wasted. You may need to water two times in one day to prevent runoff. Only use half of the required amount of water each time. Wait an hour or two between the applications (Don't just wait until later that night). However, DO NOT water every day. Let your lawn's roots search deeper for water.
- 9. Use a broom to clean the driveway or sidewalk** instead of washing it with the hose.
- 10. Use a shut-off nozzle on the end of your hose.** You use a lot of water moving a hose from one location to another. A shut-off nozzle is also very beneficial while washing your car.
- 11. Mulch the soil surface** to cut down on water loss due to evaporation. Add a two-inch layer of Fine Bark or Soil Pep. Grass clippings will also work. Apply mulch around shrubs, trees, flowers, vegetable gardens and even in patio containers.
- 12. Properly condition your soil.** Water does not easily penetrate clay soil, and water passes too quickly through sandy soil. Adding Soil Pep, Coconut Fiber, or Compost to the soil will help tremendously.
- 13. Use water holding agents or water penetrating additives.** Organic material holds water; use as much compost as practicable. Water In or Pene-Turf helps water soak into the soil faster (liquid dish soap also helps water soak in faster). Soil Moist is a crystal that actually holds water. Soil Moist keeps water from draining away too quickly. It acts like a tiny sponge to hold water until the plants use it. Use Soil Moist in hanging baskets, patio containers, after aerating your lawn, in flower and vegetable gardens, and when planting new shrubs and trees.
- 14. Discourage water competition from weeds.** Keep them pulled.
- 15. Group plants together having similar water requirements.** (Junipers and Pines, for example, don't need as much water as roses, hydrangeas and most broadleaf evergreens.)
- 16. Use your bath water to water your lawn or trees.** Soft water is not desirable for flowers and vegetables but in an emergency it can be useful. It generally won't hurt larger trees and shrubs when applied occasionally. (Soft water contains sodium, which can be harmful to tender plants.)
- 17. Fertilize in the spring and fall, but don't fertilize during the summer.** The more fertilizer you apply, the more water the plants need.
- 18. Plant shrubs and trees early in the spring, or late in the fall.** Trees will withstand drought better once they are rooted thoroughly.
- 19. Do not water older trees (fruit trees, pine trees, shade trees) early in the spring.** Wait until mid-June. Let the trees find and use the moisture already in the soil.
- 20. Water trees deeply once or twice a month from mid-summer until snow fall.** Water needs to reach the tree roots that may be 2' to 3' deep; not just the roots on the soil surface. Pines and junipers are very drought tolerant, and they don't need as much water as fruit trees and shade trees, so you should water them differently.

- 21. Water plants according to their requirements, not to a set schedule.** Not all plants have the same growing conditions, even in the same yard. Plants can have different soil types, drainage conditions, light and temperature variations, and even differing amounts of water and fertilizer - just two or three feet apart. Water may drain away quickly from one plant but may puddle and stay wet around another plant just a few feet away.
- 22. If your plants are used to a particular watering schedule you cannot just change your watering habits immediately - without causing stress.** Your plants may require two or three years to adjust to a 'waterwise' watering schedule. If you see signs of stress, you should supplement to meet your plant's needs.
- 23. Newly planted shrubs need to be observed more frequently and may require a more frequent watering schedule than the older, more established plants.** **As a rule of thumb** - Newly plants shrubs and trees should be watered once a day for the first week or two. After the first week, water them once or twice a week with a hose - do not rely on sprinklers to water newly planted shrubs. Water newly planted shrubs regularly for the first summer.
- 24. Raise the height of your lawn mower.** Keep your lawn at least two to three inches long during the summer. Longer blades of grass can mean going longer between waterings.
- 25. Measure how much water you apply to your lawn.** Place small cans in several different locations throughout your lawn. Measure how much water is applied to each area. Ideally turn on the sprinklers until your cans have about $\frac{1}{2}$ inch of water in most of the cans. You may be surprised the difference in each area. One area may only need to be watered 20 minutes while another area may need to be watered 45 to 60 minutes.
- 26. Aerate your lawns** to insure maximum water penetration. Spread $\frac{1}{8}$ " of peatmoss, Ferti Mulch, or add Soil Moist crystals over your lawn after aerating, and then rake it down into the holes. These types of products will help keep moisture in the soil for the lawn's roots to use.
- 27. Fix or adjust your sprinklers.** This can save thousands of gallons of water each year.
- 28. Hand Water smaller, dry areas.** Don't water the entire lawn if it does not need it. You will save a lot of water!
- 29. How Much Water? Rule of thumb.** A lawn usually needs 1" of water per week during the spring. During the early-summer the lawn needs 1-1/2" of water per week. During the hot summer weather your lawn needs 2" of water per week. Reduce the amount of water to 1-1/2" per week as soon as the weather starts to cool in the late-summer, and reduce the water in the fall to 1" of water per week. Remember: Rain is supplying some of this water so account for rainfall in your water schedule, especially in the spring and fall.

How do you know how much 1" of water is? How long does it take to apply 1" of water? Good Questions! A rule of thumb is to apply $\frac{1}{2}$ " of water each time you water your lawn. During the spring you should water your lawn 2 times a week to give it 1" of water, unless the rain provides some of this water for you. Water your lawn 3 times a week in the early-summer to give it 1-1/2" of water. Water your lawn 4 times a week during the hot weather to give it 2" of water. As you can see, you do not need to water your lawn longer during the summer, you need to water it more often.

Each lawn has a different sprinkler system; even from the front to back lawns of the same yard. One lawn may need to be watered 10 or 15 minutes to get $\frac{1}{2}$ " of water. Another lawn may need to be watered 45 to 60 minutes to get the same $\frac{1}{2}$ " of water.

You need to find out how long it takes your sprinklers to apply $\frac{1}{2}$ " of water to your lawn before you can determine how long to water your lawn. Set out several (10 to 15) tuna fish cans in different locations throughout your lawn, to measure the amount of water applied. Be sure to set a can in any suspiciously wet or obviously dry spot. Turn on the sprinklers until you have an average of $\frac{1}{2}$ " of water in all the cans. If you have very little water in one can, while you have a lot of water in another can, you know you have a sprinkler system problem. Take time to add a new sprinkler head, or two, or even three, if you have uneven water distribution patterns in your sprinkler system.

Do not water your entire lawn long enough to get $\frac{1}{2}$ " of water in all of the cans - change your sprinkler system to fix the uneven watering patterns.

If your lawn is flat, you will water your lawn differently than if your lawn is sloped. A flat lawn should be watered once or twice a week in April and early-May. Remember that as the temperature increases so should the number of times a week you water your lawn, not the length of time. Your lawn still needs $\frac{1}{2}$ " of water each time you water.

More often than not, lawns are watered too frequently. Frequent, shallow watering encourages shallow roots, and contributes to thatch accumulation, soil compaction, and even weed seed germination. Shallow roots also make your turf less healthy and more prone to disease, insect infestations, or damage from heat and cold. Deep watering produces deep roots, and healthier grass.

For a sloped lawn, you may need to cut the number of minutes in half, and water twice in one day (wait about an hour between waterings, so the water has a chance to soak in, before more water is applied.) Long watering times on slopes will just cause runoff, and waste a lot of water. Water running down the gutter is not doing anyone any good. Watering more frequently, for shorter periods of time, ensures water penetration, avoids runoff, and keeps a lawn healthy.

However, watering once in the morning, and once in the evening, causes shallow water penetration and actually increases the stresses on your grass, instead of helping with the water penetration problems. **If you are watering more than once a day, 'Schedule watering times one hour apart,' and remember, 'Do not water your lawn every day,' even in the hot summer weather.**

30. Green Lawn vs. Yellow Lawn vs. Brown Lawn

"Grass naturally goes dormant after two to three weeks without water, and most lawns can tolerate drought for four to six weeks, although they will turn brown. However, extended periods of hot, dry weather may kill the lawn.

With high temperatures, drying winds and drought conditions, many lawns, once lush and green, are looking more like hay fields. It is normal for traditional Utah grasses to struggle with the current heat and drought. Brown or golden patches may be forming and growing in lawns. The good news, though, is that these grasses possess the capability to recover from extreme weather conditions. Consider this information before giving up on your turf.

Dormancy is the physiological process grass uses to protect itself from heat and drought. Usually when grass appears to be dead this time of year, it is actually dormant. Dormancy is characterized by a complete cessation of growth along with brown or dead grass blades. Grass blades are less of a concern than the crown of the grass plant, which is at the soil surface and is the point from which the grass blades grow up and the roots grow down. As long as the crown remains alive, grass has the capability to recover when temperature and moisture conditions improve. By entering dormancy, grasses are protecting their crowns for future recovery.

When heat and drought reach a certain level, be aware that no amount of irrigation water will coax your grass out of dormancy. However, as temperatures drop and moisture conditions improve, the grass will recover naturally.

Though it may be tempting, completely giving up on grass irrigation is not recommended. You may want to cut back to a very small amount of irrigation — just enough to keep the crowns of the grass plants alive. This low amount of irrigation is known as survival watering. For the cool-season grasses traditionally grown in Utah, this can be as little as one inch of irrigation water per month. It can be disbursed in one application or split into two or three applications. It will not keep the grass from entering dormancy, but it will help the grass crowns survive and recover.

Dormancy is a helpful, protective process that should not be feared. Instead, be patient and recognize that it will help your grass recover in the fall.

For more information on drought-related issues, visit www.extension.usu.edu/drought. The site has information on landscape irrigation, agricultural water issues, indoor conservation, frequently asked questions and upcoming events."

By: Kelley Kopp - Jul. 22, 2004 Utah State University Extension

31. How much water do your trees and shrubs need?

As a rule, most older plants need 1 to 2 inches water a week. Apply 1 inch of water twice a week, perhaps a little more if it is hot and windy. This means watering your plants deeply enough to saturate the soil to the entire root level, once or twice a week, or whenever the soil dries too much. Newly planted plants need watering a little more frequently than older, established plants. Soil that drains too quickly may leave your plants struggling to survive, and may require more frequent watering. In extremely gravelly or sandy soil, this could mean watering more than once or twice a week.

Examples of How Much Water:

A. An older, 'low-water-need' plant (one that needs 1" of water per week) with a root system that is 5' wide needs about 15 gallons of water per week.

Calculation: (5'x5' root system) = 25 square feet x (1" water) = 2.08 cubic feet of water = 15 gallons of water.

1 cubic foot equals 7.48 gallons of water.

B. The same size, 'normal-water-need' plant (one that needs 2" of water per week) - needs about 30 gallons of water per week.

C. A Medium Sized Tree needs about 180 gallons of water per week.

(12'x12' root system) = 144 square feet x (2" water) = 24 cubic feet of water = 180 gallons of water per week.

How long does it take to water plants? Most garden hoses give 5 to 7 gallons of water per minute, but to be exact, you can do some math. Determine how long it takes to fill a 5 gallon bucket with your hose (make sure it is not a 4 or 4.5 gallon bucket). Divide 5 gallons by the seconds it took to fill it - then multiply by 60 seconds. This will give you the gallons per minute going through your hose.

Water Flow Example: 40 seconds to fill the 5 gallon bucket. $(5 \text{ gallons} \div 40 \text{ seconds} \times 60 \text{ seconds} = 7.5 \text{ gallons per minute})$ It will take 2 minutes (not 30 seconds) to give your low-water plant 15 gallons of water, or, 24 minutes (not 10 minutes) to give your tree 180 gallons of water.

32. Save your Trees and Shrubs rather than your lawn.

It is more important to water Trees and Shrubs rather than your Lawns and Flowers. It is better to sacrifice those plants that are easier to replace, and less essential for the yard.

Being "Water Wise" not only conserves water but actually helps you achieve a healthier garden.

Both your plants, and your neighbors, will appreciate you more!

More Resources

[https://extension.usu.edu/drought/in-the-landscape](http://extension.usu.edu/drought/in-the-landscape)

[https://slowtheflow.org/](http://slowtheflow.org/)

<http://weberbasin.com/conservation/>

<http://waterwiseutah.org/resources.htm>

<http://extension.usu.edu/waterquality/conservation/>

