

Irrigating Your Texas Lawn With Water Conservation In Mind

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Late spring and early summer drought conditions occurred over much of Texas but have been especially more severe in East Texas. In recent weeks periodic rainfall has lessened the immediacy of the problem in some areas. However good water conservation strategies should be front and center in the minds of those maintaining fine turf as home and commercial lawns, sports fields, parks and golf courses. Water has always been a limited resource in the State of Texas and in times of drought, the water supply can become so depleted that cities are required to initiate rationing programs. Water conservation will certainly continue to be a part of our lives as the Texas population grows. Yet the public should be pro-active in conserving water used on lawns and landscapes. Too many people still think that all you need to grow grass is lots of water. That concept contributes to the waste of billions of gallons of water in Texas, alone, each day during the hot summer months.

Much has been assembled for ordinances that put in place “stages” of water rationing/conservation as drought conditions worsen. The higher numbered stage the more severe the conservation measures.

Each stage contains the following restrictions:

Stage 1: Alternate day watering, restricted hours of water use, or every five-day use.

Stage 2: Landscape watering between 8PM and 10AM restricted to once per week

Stage 3: All outdoor water usage prohibited except by handheld hoses

Stage 4: All outdoor water usage is prohibited.

While the stages of water conservation reduce water consumption, the consumer typically does not understand how their own personal watering habits impact the overall picture for the greater good of all of Texas. Let’s look at some basic watering concepts that can help you use water wisely whether under drought restrictions or not!

First, when establishing a lawn, plant the most adapted drought tolerant turfgrass for your location and landscape. Secondly, use best management practices to produce the healthiest lawn possible. This includes factors such as basing fertility program on soil test report, not over or under applying nitrogen, mowing at the proper height and frequency and applying supplemental water (irrigation) only when the turfgrass is showing signs of needing water.

How grasses use water!

Water is lost from turf though evaporation from the soil and transpirational cooling by the grass plant (water is taken in by the roots and transports nutrients to where needed and then leaves the plant through tiny openings in the leaves called stomata). As the water evaporates from the leaf surface the plant cools itself. Water loss from plants is usually measured by potential evapotranspiration (abbreviated as PET). This measurement is in inches. The Texas A&M Irrigation Technology Center has a PET Network (<http://texaset.tamu.edu/>) available through the internet.

- With deep root systems grass plants can typically go for longer periods between irrigation cycles if the practice is to water deeply and infrequently.
- Shallow root systems or compacted soils often require more frequent irrigation (but less water per irrigation cycle).

How much water is enough when I do water?

Water should be applied in measured amounts. Yet the measurements used are not seen as being related to each other (sprinkler operating time, inches, and gallons). During summer, in the absence

of rainfall, turfgrasses might need to be irrigated with 1 to 1.5 inches of water per week.

- Weekly watering amounts are best split up into irrigation cycles. Lawns will differ in need due to soil type/depth, grass type and management. The longer you can extend the time between irrigations the better the conservation.
 - Wait for the lawn to tell you it needs water. Dry spots will show up in certain areas of the lawn and they can be used as “indicator areas” that the whole lawn will eventually need water.
 - Water these indicator areas with a hose and small sprinkler or hose spray nozzle. Try and avoid watering the whole lawn when only a few spots are showing a need.
 - As the other parts of the lawn dries down further then it too will show signs of moisture stress (turning off color bluish green, leaf rolling or slight browning off). Then the whole lawn should again be watered.
 - At this point it is a good time to water your lawn until the point that water begins to run off the lawn. Note how long this takes and never water longer than that period of time. Runoff wastes water. Lawns will greatly differ in how long it takes before water runs off. Don’t send water down the street or under the fence into your neighbors yard!
- Placing shallow cans or containers between your sprinklers, and collecting water for a period of time for each zone, will tell you how long the water needs to run to apply a portion of the weekly water the lawn needs.
 - Collecting 1/2 inch in 20 minutes gives you the knowledge that 1-hour of watering will apply 1.5 inches of water.
 - Adjust your timer on your sprinkler to apply water at a measured rate per week – likely to rarely ever need to apply greater than 1.5 inches
- Water costs money if you are on a regulated water system.
 - Water is usually billed by the 1000 gallons used.
 - One inch of water provides 0.6 gallon for each square foot of lawn area.
 - For each 1,000 square feet of lawn irrigated at 1 inch of water per week in a drought would require 600 gallons of water!
 - The more irrigated lawn area, or the more water you apply that is not really needed, the more your water bill will be!
 - Water conservation always saves you money and is worth the effort in learning about how to be “Water Wise”!

Grasses vary in their ability to tolerate and recover from drought injury. If you never see your lawn show signs of water stress then you may indeed be applying too much water. Spend some time and learn how to best water your lawn. You will be able to conserve water and save money on your water bill at the same time!

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