5 Things a Licensed Irrigator Wants You to Know About Watering Your Grass

One of the most frequent questions homeowners ask about maintaining their lawns is, "*How much water is enough?*" Traditionally, the answer has been that an inch of water a week -- by rainfall or irrigation -- is the right amount. Others argue that even that is more than is really needed to sustain Texas turf.

Local research – obtained through a series of residential irrigation system evaluations – has demonstrated unequivocally that homeowners over-water their grass; in fact, the evaluations revealed that most residential irrigation systems are set to run 3 days a week…or more. Homeowners, when asked about this, say they believe that their irrigation systems must run more than three days a week in order to sustain the desired landscape.

This mistaken opinion is contributing to a significant amount of water being wasted. Up to 80 percent of peak outdoor water use is to water residential lawn turf and landscaped areas, and experts point out that 50 percent or more of this water is wasted. In this scenario, a typical residential property of 80 ft, x 120 ft. will waste approximately 111 THOUSAND gallons of water a year. The good news is that this waste can be minimized or eliminated...and here is some important information from **Doug Goodwin**, a highly regarded, licensed expert, to help you evaluate the efficiency of your irrigation system.

1. Your yard probably needs less than half of the amount of water your system is applying. Let's start with one important fact...only water when necessary. Sounds too simple, right? Step on the grass. If it springs back up when you remove your foot...it isn't thirsty. If the blades of grass start to curl, however, it is probably time for a drink.

According to a study by the Sierra Club*, determining how much water to apply to a yardscape is complicated by plant selection, soil depth, and day-to-day variations in weather. However, a growing body of evidence suggests that even poorly adapted landscapes could get by with a lot less water than is typically applied, especially if plants are well established in adequate soil.

With at least six inches of soil, once a week watering is sufficient to maintain a lawn's appearance in Texas. During severe droughts, a lawn with St. Augustine grass on six inches of soil can survive with watering once every two weeks. More drought-tolerant turf varieties such as Bermuda, Buffalo, and Zoysia can go even longer without water because they are capable of entering a dormant-like state. Native flowering plants, shrubs, and trees are adapted to long stretches without water.

Here are another few tips to consider: Use a sprinkler that emits large drops of water that remain close to the ground instead of sprinklers that spray a fine mist that will quickly evaporate. Use drip irrigation for landscaped areas if you're installing a new system. Set the controller to water during the very early hours, as watering in the heat of the day can result in up to a 60 percent higher evaporation loss. To avoid peak demand for other household uses -- like showers, kitchen chores, and the use of laundry appliances -- set the timer to complete the cycle before 4:00 am.

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Irrigation Advice from an Expert

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Don't water on windy days, and make sure your sprinkler is set to water your lawn, not sidewalks and driveways. A rain sensor is also a great investment and will keep your lawn from being unnecessarily watered when Mother Nature has already done the job!

2. Why deep roots make a difference if your yard thrives in hot weather or during drought. Watering infrequently *and deeply* is the key to forcing grass and plants to grow deep roots. In doing so, you enable them to access water for a longer period of time so they will thrive through the long, hot summer. Experts say that homeowners who over-water are initiating a vicious cycle…shallow roots need more water. Why? Because water close to the surface evaporates long before the deeper moisture does. Air is forced out of the continually saturated soil and since roots need air they don't grow as deeply!

Here's a visual comparison of turf grass that has been overwatered (top) and some that has received water only once a week or when it was needed, "training" it to grow deeper roots. Obviously the deeper roots will allow the grass to survive periods of little water. This root base is not accomplished overnight, but results from a water-sparing irrigation approach and proper soil amendments.

3. It is 'when' and 'how' you water…not how much -- introducing the Cycle and Soak method. This method of irrigation applies water slowly so the soil actually absorbs all that is applied. Instead of running each sprinkler zone for 15 or 20 minutes each, run each zone only the amount of time that the soil can absorb the water (which means not running off onto the sidewalk or street). Depending on the slope of the yard, this could vary widely from zone to zone. You will have to visually test the zone run times to see when the water begins to run off.

Once you have determined the maximum amount of water each zone can take before runoff, split the total irrigation time into two or three parts. This involves irrigating the zone, shutting it off to allow time for the water to soak in and then watering a similar time to complete the process. Schedule the run times about one hour apart until the soil is moistened to a depth of 6-8 inches. Virtually all sprinkler system controllers can be programmed to automatically run the Cycle and Soak method.

You'll know that the lawn has been successfully watered during your test when about an hour after watering, you can push a soil probe (or a very long screwdriver) into the soil. It will slide easily through wet soil but will be impossible to push through dry clay. The landscape has been successfully watered when the probe easily slides to a depth of 6 – 8 inches.

By using the Cycle and Soak method, the plant's root system will reach for moisture deep within the ground and be well protected from the summer heat. It reduces the need to water frequently.

4. Take control of your system's controller – make seasonal changes to frequency and duration. There are a number of things around the house that function well under the instruction, "***set it and forget it***," but the irrigation system controller isn't one of them. A properly maintained irrigation system is key to reducing wasted water, reducing pollution from run-off, and improving plant health by applying the correct amount of water for maximum utilization by the landscape.

At a minimum, a check of the irrigation system should be performed seasonally. Once at the beginning of the season when the system is first turned on, then mid-summer, and again when you shut it down when the grass goes dormant. Consider using the old Daylight Saving Time adage – *"Spring forward, fall back"* -- to manage your irrigation system controller. When you move clocks back in the fall, turn OFF the system controller. Autumn is also a good time to confirm that your irrigation system is working properly, and to find and fix any leaks and broken sprinkler heads. In the spring, when you adjust for getting that extra hour back, turn the system back on…this pretty much coincides with the yardscape growing season in Houston.

Here are some basics of irrigation maintenance:

- Inspect the controller and make sure it's plugged in and functioning
- Update the time and date
- Check the connection on all of the wires – make sure that rain, wind, or soil moisture sensors are connected
- Change the battery for backup of the time display. This ensures the controller keeps the correct time in case of a power failure. It is found behind the display panel and is usually a 9-volt battery. It's good practice to use this biannual reminder to change the battery of the controller ***and*** your smoke detector at the same time.
- Change the schedule to reflect the current season and irrigation needs of the landscape
- Turn on each zone and look for system damage.

5. Routinely inspect your system for leaks and damaged heads. Broken sprinkler heads are often caused by pets, vehicle traffic, and perhaps poor installation. A visual inspection of the system should be done at least once a month through the growing season. With the system set to come on during the middle of the night, you may miss seeing leaks and broken system parts. Many of today's controllers have a test cycle built in that will allow you to run each station for as little as 2 minutes so it won't take you long during daylight hours to perform a test. Puddling, dry areas, low pressure, and runoff are all things that could be caused by a broken sprinkler.

Here's a good reason to perform the tests: ***a broken sprinkler head could be wasting as much as 6 gallons a minute. Undetected, that could possibly add up to 300 to 500 gallons per week!***

Nozzles, the part of a sprinkler head that actually emits the water, can become clogged or broken without damage to the sprinkler head itself. Sometimes, dogs have been known to chew on a sprinkler head sticking up in a flower bed, misdirecting or destroying it. Nozzles can also become clogged or damaged from weedeaters or other yard equipment, but nozzles can be unscrewed and replaced. A visual inspection of the system once a month during the growing season is the best method to ensure all parts of the system are working properly.

While you're at it, make sure the heads are only throwing water on the turf or bed areas -- NOT on driveways, sidewalks, fencing, or sides of buildings. Controller runtimes may often be lowered if more efficient coverage is attained.

MEET THE EXPERT…

Doug Goodwin earned a BS degree in Agricultural Economics from Texas A&M. He became a Texas Certified Nurseryman in 1983 and received his Texas Irrigator License in 1984. Doug became a Texas Commission on Environmental Quality (TCEQ) approved instructor for Basic Irrigation Training and Continuing Education classes, and is a Certified Texas Landscape Irrigation Auditor.

Doug served as President of the Houston Gulf Coast Irrigation Association in 1997, and was a member of the TCEQ Irrigation Advisory Council 2005 through 2010, and served as Chairman in 2009. He is one of the founders of the **W.I.S.E. Guys**, a company that evaluates the operation and efficiency of residential irrigation systems. To date, the company has provided over 16,500 evaluations.