

Landscape Irrigation System Efficiency

There are two basic types of irrigation system sprinkler heads: pop-up spray and rotors.



POP-UP SPRAY

Pop-up spray heads deliver an average of 1.5 to 2 inches of water per hour in a fan-shaped spray, or sometimes a full circle spray.

Pop-up systems that spray a steady fan of water can provide water four times as fast as rotor systems. Most soils in the North Texas area can only absorb 0.08 inches of water per hour. If the application rate is more than the absorption rate, water will run off the landscape and be wasted. Specifically, running pop-up spray heads for an hour provides water too fast and increases waste. This costs you water and money!



ROTOR

Rotor heads, depending on nozzle selection, deliver an average of 0.5 inches of water per hour in a rotating jet of water.

Water amounts for North Texas grass growing seasons



Bermudagrass
Minimum of 1 inch each week



Zoysiagrass
Minimum of 1 inch each week but thrives in the shady conditions



St. Augustinegrass
Minimum of 2 inches each week

How Much Water Do I Apply?

Many factors go into determining how long you should water your lawn each week, some of them easy to understand and measure, others very technical. How well your soil absorbs water is a critical issue, for example, and dependent on things like soil composition and percentage of organic matter. Another obvious issue is the water pressure in your irrigation system, which may vary depending on neighborhood usage, number of taps open, or even someone taking a shower inside the house. Finally there is the question of grass type, which can cut or increase your water needs drastically. Bermudagrass, for example, needs only half the amount of water required to keep St. Augustine grass healthy. Zoysiagrass is just as drought-tolerant as Bermudagrass, but will thrive in shady conditions. On average, a Bermudagrass lawn requires a minimum of one inch of water per week in order to thrive in North Texas conditions during the growing season.

Most homeowners simply water too much because they don't know how much water they need or how much their irrigation systems deliver. Different plants have different needs and the best designed irrigation systems meet these requirements. To save money and water, you need to run the irrigation system to deliver only what's needed. The first step is to determine the output of each type of sprinkler in your system. Once you determine the output of the sprinklers, you can schedule the run times of your controller accordingly. For example, if you have a spray system that is determined to deliver two inches per hour, you would need 30 minutes of run time to provide one inch of water, however, you would have to split the run time in order to prevent the water from simply running off and down the street. It would be best to run the clock with a 7-8 minute run time, rest (spak for 30 minutes), then repeat. This would require two times a week with this schedule to deliver the one inch of water.



Measuring Sprinkler Head Output

Sprinkler output can vary depending on your system design and water pressure. Here's a simple and fun method to measure your sprinkler output. This is a great activity for kids!

Collect 6 to 8 shallow, flat-bottomed cans like tuna or cat food cans (clean). Spread the cans around one of your sprinkler "zones" 4 or 5 feet apart making sure they are placed between the distance of the sprinkler heads, not right near a head. Turn on the zone station for 5 minutes. Next, measure the depth of the water in each can. Record your numbers below, then add the measurements together and divide by the number of cans to get the average depth. This is your sprinkler number—the amount of water in inches that your sprinkler system applies in 5 minutes.

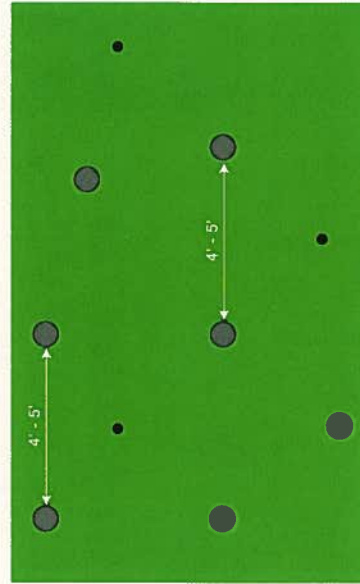
Write your numbers in the space provided below:

Amount of water in cans (tenths of an inch)

- Can 1 _____ Can 5 _____
- Can 2 _____ Can 6 _____
- Can 3 _____ Can 7 _____
- Can 4 _____ Can 8 _____

Total _____ divided by number of cans _____ = _____
 (Amount of water system applies in 5 minutes)

If you find after a five minute run time you have very little water in the cans, you could pour it all together in one can (if it will all fit) and measure once, then divide this number by the total number of cans you used in your measurement.



- Sprinkler head
- Empty can



Homeowner's Guide To WATER-EFFICIENT IRRIGATION SYSTEMS



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