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The Nitty-Gritty on Lawn Sprinklers

Making the lawn irrigation system effective and efficient.

Maybe you've never given much thought about lawn sprinklers and the different types commonly used in lawns. If you're thinking that as long as water gets sprayed around and gets all the grass wet then the irrigation system must be OK. If so, you may be in for a few, helpful surprises. Read on.

For efficient water application, lawn irrigation systems must apply water uniformly over the entire irrigated surface. This means that all parts of the lawn receive about the same amount of water. Uneven water application causes dry areas to show in a recently irrigated lawn. (A **calibration test** will reveal uniformity conditions plus it will accurately determine sprinkler run times for each zone. See the info box for details.) This usually results in more irrigation applied which over waters some places but still leaves dry spots, a subtle cause of lawn decline, wasted water and high water bills. Lawn sprinkler spacing and selection plays a key role in the efficient, uniform application of water.

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Sprinkler Calibration Test

For finding uneven watering patterns and zone run times:

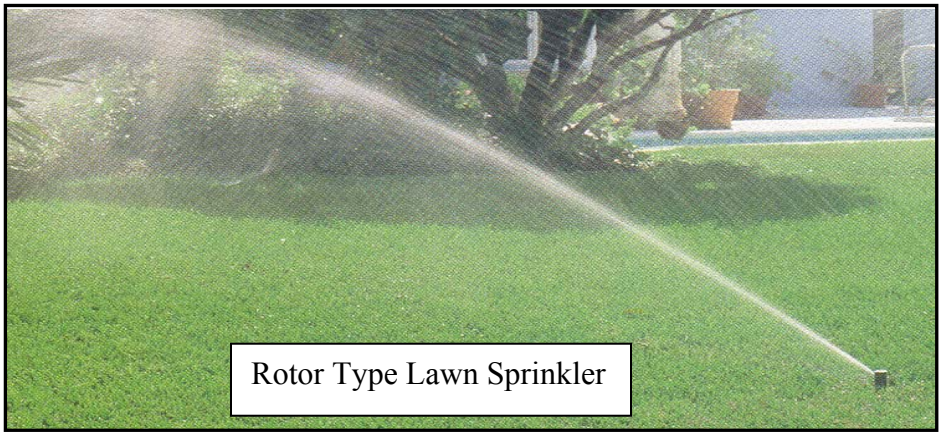
1. Position 6 to 10 empty, open top tuna or pet food cans randomly within irrigation zone 1.
2. Operate sprinklers until an *average* of ¾" water is collected in the cans. Note: empty or low cans indicate dry areas; look for clogged strainers, improper spacing, low pressure, etc. Repair and repeat.
3. Note the minutes needed for collecting the ¾" water in step 2; set the irrigation controller for that.
4. Repeat the process for the other zones.

Lawn Sprinkler Spacing: The water distribution pattern of a sprinkler is commonly a circle or part circle. Regardless of the sprinkler pattern the rate of water application from a sprinkler is typically greater near the sprinkler and lower farther from the sprinkler. This poses a major potential for uneven watering since the area near the sprinkler will receive more water than the area near the outer edges. However, if sprinklers are spaced so their wetted patterns overlap to the extent that the spray from one sprinkler touches its neighbor sprinkler, the uneven application within the pattern is largely resolved. This is termed "head-to-head spacing". Many sprinkler systems are compromised by improper sprinkler spacing from lack of knowledge or from cost cutting attempts by spacing sprinklers too far apart.

Lawn Sprinkler Types: Lawn sprinklers fall into one of two different types; sprayers or rotors. Sprayers apply water in a fixed, non-rotating solid pattern of a circle, part circle or strip with a radius from 8 feet up to17 feet. They operate best at a water pressure of about 30 pounds per square inch (PSI). Higher pressures will cause excessive misting and wasteful evaporation. An easily interchangeable nozzle at its top controls the size and shape of the spray pattern. (The nozzle is the part of a sprinkler where the water comes out.) A small, cone shaped strainer is installed just below the nozzle and should be checked for clogging periodically, especially if the spray pattern seems smaller than normal. A small screw in the top center of the nozzle can be adjusted to trim the pattern size. When buying or replacing sprayers be sure to select a nozzle with the correct size and pattern shape for the specific installation. Sprayers water at a relatively fast rate, usually taking about 20 to 30 minutes to apply the recommended ¾-inch of water on most Florida lawns. To adjust the edge of a part circle pattern against a sidewalk, building, etc. to prevent overspray, the sprayer body can be gripped firmly and rotated left or right slightly. Since sprayers are available with a wide variety of pattern shapes and sizes they lend themselves well to small, irregularly shaped lawn areas.

Sprayer Type Lawn Sprinklers

Rotors are for larger lawn areas and use water pressure of 40 PSI or more to disperse water in an arching stream in a back and forth or circular motion within a radius from about 15 feet to over 80 feet depending upon the rotor size and nozzle. It too has interchangeable nozzles to match the performance to the location. The adjustment of rotor sprinklers varies among manufacturers and for the specifics it is best to review the product instructions, consult the dealer or the website for your brand and model. Since rotors cover larger, open spaces they need a longer time to apply the recommended ¾-inch of water, usually 60 minutes or more. Therefore, do not install rotor type sprinklers in the same watering zone with sprayer sprinklers that need only a third or half the time to do their job; the area near the sprayers would be flooded before the rotors finished their 60 minute or longer run. This is another opportunity to eliminate uneven watering; don't mix rotors and sprayers in the same irrigation zone.



Rotor Type Lawn Sprinkler

Additional tips for improving landscape irrigation systems are available for the asking or can be downloaded at http://manatee.ifas.ufl.edu. Rebates may be available for Manatee County Utilities customers to help cover the cost of installing a rain sensor, repairing the irrigation system, improving landscaping and more.

Free Landscape & Irrigation Evaluation

Need help? The University of Florida / Manatee County Extension Service offers a free irrigation and landscape evaluation for Manatee County residents and businesses with automatic lawn sprinkler systems. No adjustments or repairs will be made but a detailed study of your irrigation system and landscape will be done. Recommendations to make your system water efficient will be developed and mailed to you without cost or obligation. For more information or to schedule an appointment call Bob or Elissa at (941) 722-4524 or visit our website: http://manatee.ifas.ufl.edu .

Manatee County Extension Service fact sheet written September 18, 2008 by Jack Tichenor, Extension Agent, Manatee County Extension Service, 1303 17th Street W, Palmetto, FL 34221