

How to Calibrate Your Sprinkler System¹

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Knowing the amount of water your sprinkler system applies to your landscape is an important step in efficient water use. Most people irrigate their landscape for a given number of minutes without knowing how much water they are really applying. This may lead to over- or under-watering, neither of which will benefit the landscape nor the environment. Calibrating will help you to apply the correct amount of water to your landscape. Whether you have an in-ground system or a hose and a sprinkler, the following steps will calibrate your system:



Figure 1. Calibrating a Sprinkler System

1. Obtain several (5 to 10) coffee cans, tuna fish cans, or other straight-sided containers to catch the irrigation water. Containers need to be the same size and should be from 3 to 6 inches in diameter.
2. If you have an in-ground irrigation system, place the containers in one zone at a time. Scatter the cans at random within the zone (Figure 1). Repeat the entire procedure in every zone because there may be differences in the irrigation rates. If you use a hose-end sprinkler to water your landscape, place the containers in a straight line from the sprinkler to the edge of the watering pattern. Space the containers evenly.
3. Turn the water on for 15 minutes.
4. Use a ruler to measure the depth of water in each container. *Note:* The more precise the measurement, the better your calibration will be. For most cases, measurements to the nearest 1/8 inch are adequate.
5. Look for large differences in water amounts between cans. For example, if one has 1/2 inch or more and other cans are nearly empty, you

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know that your coverage is not uniform and your system needs to be inspected further.

6. Find the average depth of water collected in the containers (add up the depths and then divide by the number of containers).
7. To determine the irrigation rate in inches per hour, multiply the average depth of water times four. For example, if you collect an average of 1/4 inch in 15 minutes, and your target application rate is 1/2 inch, you will need to run your irrigation system for 30 minutes. Refer to Table 1 for additional calculations.

To calculate the time of irrigating for rates not listed in Table 1, use equation 1.

Calibration Pointers

- Calibrate the sprinkler system during the same time it is normally run, so that water pressure is similar.
- Low water pressure can significantly reduce the amount and coverage of water applied by a sprinkler system.
- Application rates normally should not exceed 1/2 to 3/4 inch of water per irrigation.
- Most irrigation controllers can be adjusted for accurate time settings. Consult your operating instructions or local sprinkler company for details.
- If you use a hose-end sprinkler, a mechanical timer and shut-off switch that attaches to the faucet will help make watering more efficient.
- Avoid mixing sprinkler head types within the same zone. Mist heads apply more water than impact or rotary heads. Match sprinkler heads for uniform coverage. Most rotary heads come with several different nozzles to choose from. Make sure that the nozzles are matched.
- Check the sprinkler system regularly. Replace broken sprinkler heads, clear clogged nozzles, and adjust the direction of spray as needed.

- Be sure that irrigation water is not thrown on driveways, sidewalks, or roadways.
- Use water efficiently; do not waste it.
- For more specific information on turf irrigation, see factsheet ENH 9, "Watering Your Florida Lawn."

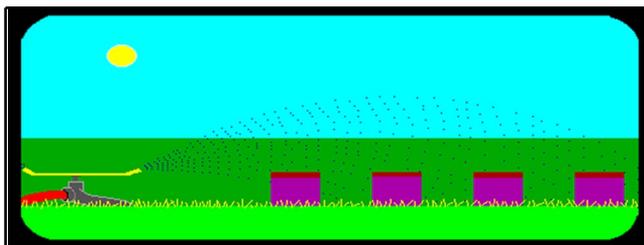


Figure 2. Hose-End Sprinkler

$$\text{Minutes required to run each zone} = \frac{\text{Amount of water to be applied} \times 60}{\text{Your calibrated irrigation rate}}$$

Equation 1. Use this equation to calculate the time required to apply water for rates not listed in Table 1.

Table 1. Time required to apply water for a given irrigation rate.

	Irrigation Rate (Amount of water applied per hour)			
	1/2"	1"	1 1/2"	2"
Total water to apply	Minutes to run each zone			
1/2"	60	30	20	15
3/4"	90	45	30	23