HOME AND GARDEN COLUMN

RAIN SENSORS AND IRRIGATION

With Central Florida's hot climate, it is often necessary to irrigate our landscapes. However, recently with all the wet weather we've been receiving, using an irrigation system is a waste of resources. Not only does unnecessary irrigation waste water, fertilizer, pesticides, and money, it can also drown out plants causing them to become diseased or even die. To eliminate over irrigation, a simple, inexpensive rain sensor can be attached to your system.

Irrigation systems consist of two basic components, a controller and a rain sensor. A controller is a timing device that controls the frequency and length of time watering occurs. A rain sensor, also called a rain shut-off device, prevents unnecessary irrigation during a rainfall and during periods soon after a rainfall. It interrupts the cycle of an automatic irrigation system controller when a specific amount of rainfall has occurred. They are small devices wired to the irrigation system controller and mounted in an open area where they are exposed to rainfall.

Florida is the only state in the nation with an overall rain sensor statute. Before 1991, a controller was the only component needed for an automatic sprinkler system. Since then, Florida Statute 373.662 states that "Any person who purchases and installs an automatic lawn sprinkler system after May 1, 1991, shall install, and must maintain and operate, a rain sensor device or switch that will override the irrigation cycle of the sprinkler system when adequate rainfall has occurred". If your system was installed after 1991, you need to have an operating rain sensor. It's the law.

Besides being a law, rain sensors provide many benefits. A rain sensor:

- Conserves water -- prevents irrigation after recent rain events.
- Saves money -- reduces utility bills by interrupting the irrigation system after adequate rainfall.
- Reduces wear on the irrigation system because the system runs only when necessary.
- Reduces disease damage by eliminating unnecessary irrigation events.
- Helps protect surface and groundwater by reducing the runoff and deep percolation that carries pollutants, such as fertilizers, into storm drains and groundwater.

Rain sensors are simple devices that operate by one of two methods. One type of shut-off device operates by either measuring or weighing the collected rainwater. Devices like these collect water and will shut-off irrigation systems based on a certain water weight or the sensing of the electrical conductivity of the water.

Another type of shut-off device measures the proportional expansion of a water-sensitive material, such as cork disks or leather straps. When enough water accumulates in the rain sensors, they shut off the irrigation systems. When the water evaporates from the rain sensors, the irrigation system will resume operation.

It is important to place the sensor where it can collect rainfall without being obstructed by overhangs or trees, not located in complete sun or shade, and is protected from wind. These guidelines will help keep the sensor more accurate.

Frequent monitoring and adjustment the irrigation system is also necessary for maximum irrigation efficiency. After a sufficient rainfall or watering, irrigation from November to March should be delayed for about four days, two days from April through July, and three days from August to October. If your irrigation system is properly calibrated and applying the correct amount of water to your landscape (½ to ¾inch per application), then your plants will survive these days without water.
To calibrate your automatic sprinkler system, you must determine how much water the system is applying. First, set cans or cups at various places within one watering zone and turn the sprinklers on for 15 minutes. Pour the water from all the containers into one container and measure the depth of the water to the nearest 1/8-inch. Divide that number by the number of containers used. That is the average amount of water applied to that zone during a 15-minute interval. Set the timer to irrigate the area only as long as it takes to apply ½ to ¾-inch of water. Repeat these steps for all the zones in your landscape.

Proper irrigation will allow your lawn and landscape plants to develop deeper roots, which are needed to help them become more drought tolerant during times of limited irrigation regulations. It will also keep them from developing "wet feet" and getting a disease or fungus problem. Over irrigation and frequent irrigation cause the plant roots to remain shallow, growing only near the surface of the soil.

The "set and forget" mentality of homeowners with automated irrigation systems must be abandoned. Excessive watering practices leach fertilizers and waste water and energy. Calibrate your irrigation system and get a rain sensor. They are available at your local home improvement centers. It's distressing to see water being wasted by sprinklers running during rainfalls and when the landscape is obviously already saturated from recent rainfalls. If the water is flowing straight off lawn and onto the sidewalk, the ground is beyond its saturation point and irrigation should be halted.

Information for this article was taken from the UF/IFAS publication Residential Irrigation System Rainfall Shutoff Devices". For a free copy of this publication or for answers to other gardening questions, please contact the Osceola County Master Gardeners at (321) 697-3000. They are available Monday thru Friday from 10am to 2pm.

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