WASHINGTON STATE UNIVERSITY
BENTON COUNTY EXTENSION

HOW TO WATER YOUR LAWN

If a lawn is irrigated with a set sprinkler system on a timer, the typical practice in this area is to have each set to run for 15 minutes every day. Usually this only provides a light sprinkling. Light sprinkling encourages root development near the surface. The resulting limited root system will require more frequent watering, setting up a vicious cycle of needing to keep the surface wet. This situation is also very favorable for the development of weeds and diseases.

Watering properly, deeply and infrequently, encourages deep root growth, maximizing watering efficiency and your lawn's quality. Lawns with deep root systems are able to draw upon a larger volume of soil for water and nutrients and are less subject to drought stress and other stresses.

When to water?

If you have a choice, early morning (4 a.m. to 8 a.m.) Is the best time to water. At this time the least demand for water is placed on municipal systems, wind and evaporative losses are low, and application efficiency is the greatest. Midday watering, while not harmful to the lawn, is highly inefficient. Early evening or night watering is not encouraged because it leaves the blades and thatch wet going into the evening, creating great potential for disease activity. Also, night watering favors dew formation that is heavier and longer lasting, creating an even greater potential for the development of disease.

How often?

How often should a lawn be watered? This is not an easy question to answer. A set watering program, such as fifteen minutes every day, can not and should not be applied to lawns. Watering frequency depends on many factors including the depth of the turfgrass roots, the type of grass, the vigor of the turf, the amount of thatch, the structure and texture of the soil, the slope of the ground, soil compaction, exposure, and the weather.

Yes, but how often should a lawn be watered? A little investigative work, some simple math exercises, and experience can help you determine when and how often to water your lawn. Start by measuring the amount of water you apply to your lawn in an hour. You can do this by setting straight-sided tin cans, such as soup or vegetable cans, or rain gauges at varying distances within one sprinkler's or one sprinkler set's coverage pattern. Run the sprinklers for 15 minutes and then measure the amounts (depth of water collected) in the cans. Next, to obtain the average, total these amounts and divide by the number of cans used. If you have a set sprinkler system, repeat this for each station. When you finish, you should know the average amount of water delivered in 15 minutes. Multiplying this average by four will give you the amount of water that you apply in one hour.

So what? Well, by knowing how much water you are applying within a given time, you can more efficiently replace water being lost from the soil. You do this by monitoring the atmospheric demand on water loss. Sounds pretty technical, huh? Not really, since the U.S. Weather Bureau does most of the work for us. The rate of evaporation from an open pan is monitored, just like other weather data. They publish this data in the paper.

What you want to do is replace only the water lost through evaporation from the soil and from transpiration through the grass plants. Turfgrass experts are continually trying to perfect a "watering formula" based on evaporation and transpiration. As you can imagine this formula depends on many factors, so experts have come up with a variety of formulas. However, lawn experts generally indicate that the evapo-transpiration (ET) rate, or the rate at which water is lost through evaporation and through transpiration of the grass plants, is about 50 to 70% of the open pan evaporation rate.

But how often?

Finally, to determine how often you need to water your lawn, start with a lawn that has been watered well enough so that the soil is moist to a depth of 8 to 12 inches. Monitor the open pan evaporation rate each day. When the accumulative amount of pan evaporation reaches one inch, its time to apply three-quarters to one inch of irrigation water, to replace the water lost from the lawn. You'll know how long to run your system based on the little test and math exercises you did earlier.

However, lawns are not perfect systems. The amount of water "stored" in the soil depends on the depth, structure, and texture of the soil. Sandy soils can't store as much water as a clay soil. If grass roots are shallow, the plants can't make use of soil moisture even if it's there. A shallow root system may be due to compacted soil, thick thatch, past watering practices, as well as other factors. Your lawn may run out of water sooner than the "formula" and your calculations have indicated.

When you first start using this method to schedule your lawn irrigation, look for signs of your grass wilting. A blue-green color and footprints remaining after walking on the turf are both signs that the lawn needs water. When these conditions occur, water the lawn as thoroughly as possible without causing water runoff or puddling. Decrease the accumulated amount of open pan evaporation to three-quarter's inch before you water again. Monitor the lawn for wilting and adjust your "formulas" for rewatering accordingly. That's simple enough.

For answers to your questions about watering your lawn and lawn care, call the WSU Extension office at 735-3551.