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# Irrigation Practices for Homelawns

*Clark Throssell and Zac Reicher*
*Purdue University Turfgrass Specialists*

To maintain a healthy, dense, green, actively growing turf, it is essential to water a lawn during dry periods. While most people think a lack of water will damage the lawn, overwatering may cause more damage. It is easy to overwater a turf area. Some potential consequences of overwatering include increased crabgrass pressure, increased disease incidence, shallow rooting, waste of a valuable resource, and higher water bills. When watering a lawn, it is best to err on the dry side rather than to be guilty of overwatering.

## Frequency of Watering

The frequency of watering will vary from site to site and should be determined by the appearance of the turf. This can be determined because the first signs of water stress in a turfgrass stand are a blueish-green color, and footprints remain in the turf after walking across it. Ideally, the turf should be watered at this point. Turfgrasses can easily withstand this much water stress without a decline in turf quality, and there is no real benefit to watering a turfgrass stand before this point.

As the degree of water stress increases the turf will wilt and have a grayish-green color. Turf that has wilted should be watered without delay. Wilted turf will recover very rapidly following watering. Severe drought stress will cause the turf plants to cease growing, and the leaves will turn brown and possibly die. Watering at this point will help the turfgrass plants survive, but it will take about two weeks until the turf produces new leaves and recovers completely.

Turf should not be watered by a set schedule. A set schedule does not take into account the needs of turfgrass plants and may lead to overwatering. For this reason, homeowners with automatic irrigation systems should not use the same irrigation program for the entire summer. The program should be changed according to the needs of the turfgrass plant. The automatic irrigation system should be set to start for a single irrigation cycle only and then shut off until the turf requires water again.

## Amount of Water to Apply

Most lawns in Indiana will need from 1 to 1-1/2 inches of water per week depending on weather, soil type, slope, etc. It is best to apply this amount of water in a single thorough soaking, or two equal applications of water three to four days apart rather than in light irrigations every day. The soil should be wetted to the depth of the deepest root. Daily, light irrigations promote shallow rooting, non-drought hardy turf, and encourage crabgrass.

Hose-end sprinklers usually apply small volumes of water to a turfgrass area. Therefore, most sprinklers should be left in one location for two to three hours to thoroughly wet the turfgrass rootzone. Automatic irrigation systems with spray heads that distribute water in all directions simultaneously are capable of applying a large volume of water in 10 to 15 minutes. Automatic irrigation systems with rotary sprinkler heads that have one stream of water are capable of applying the necessary water in 30 to 40 minutes.

To determine the amount of water being applied by any sprinkler, place shallow, straight-sided containers, such as empty tunafish cans, in a grid pattern around the sprinkler. Turn the sprinkler on for a specified length of time and then measure the water collected in the cans with a ruler. This can be used as a guide in determining the amount of water applied.

## Time of Day to Water

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The ideal time to irrigate a lawn is from 4:00 to 8:00 a.m. At this time water pressure is usually the highest, there is little distortion of the watering pattern by wind, and the amount of water lost to evaporation is negligible. Although the early morning hours are ideal for watering, this is not a convenient time for most people. The second best time to water is from 8:00 to 12:00 p.m. Usually distortion from the wind is not a problem at this time and loss from evaporation is slight. A major problem may be lack of water pressure for those using municipal water systems. A potential problem caused by watering in the early evening hours may be greater incidence of disease. This problem can be reduced by watering only when the turf needs water and by watering infrequently but deeply.

Watering an established turf during midday is not very effective. A large amount of water is lost through evaporation, making it difficult to thoroughly wet the soil. Although not recommended, midday watering does not cause the turf to burn.

## Watering Sloped or Compacted Areas

Slopes or areas with soil compaction are often difficult to irrigate without the water running off. On these areas it is important not to apply water faster than it can be absorbed. One possible method is to irrigate a slope for a period of time until the water just begins to run off and then stop. Allow the water to infiltrate into the soil and then water the area again until runoff just begins. Repeat this cycle several times until the soil is wet to a depth of six inches.

## Dormancy

In extended droughts where a lawn is not watered, the lawn will wilt and the leaves will turn brown. These lawns are not dead; the turf is in a dormant condition. Dormancy is a natural survival mechanism of the turf plants. The leaves are dead but the crown (growing point) and the root system remain alive. A turfgrass plant loses water through the leaves. When the leaves are dead, little water is lost which conserves water and allows the crown and root system to remain alive. Turf can survive four to six weeks in a dormant condition without a significant thinning of the turf upon the return of favorable moisture conditions. After four to six weeks of dry conditions, the dormant turf should be irrigated with 1 to 1-1/2 inches of water in one thorough irrigation. This irrigation will not cause the turf to green up but will provide moisture to help the crown and root system survive. If the dry weather persists, water dormant turf with 1 to 1-1/2 inches of water every four to six weeks. Following the onset of favorable moisture conditions, either through rainfall or irrigation, the turf will develop new leaves and begin to grow actively.

## New Seedings

A newly seeded lawn will need to be watered two to four times a day. The seed bed should be moistened to a depth of 1 to 2 inches but not saturated. As the seed germinates and seedlings begin to grow, it is essential that the new seedlings are not allowed to dry out. Continue to water the seedlings two to four times a day if the weather conditions are dry. When the seedlings reach two inches in height gradually start to reduce the frequency of watering and water more deeply. After the new turf has been mowed two or three times, deep, infrequent waterings are the best.

## New Sod

A newly sodded lawn will require water one or two times a day. Sod should be watered so that the sod strip is wet the entire thickness and the soil underneath is moist to a depth of one inch. Overwatering sod is a common mistake. Do not saturate the soil below the sod. This will inhibit roots from growing into the soil. As sod becomes established and roots penetrate and grow in the soil, gradually reduce the frequency of watering but wet the soil to a greater depth. After the sod has been mowed three or four times, deep, infrequent watering should be practiced.

***More information and mentioned publications are available at www.agry.purdue.edu/turf***



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