

Lawn Management for Water Conservation

Water is a precious resource in Delaware. Several years of consecutive droughts have brought that message into every resident's home. Water emergency situations will come and go, but the fact remains -- we must learn to conserve water! Here are some ways you can manage your lawn to help conserve and protect this precious resource.

Turf is a high-maintenance ground cover. The lawn often takes up the largest square footage in the landscape because it is the easiest and least expensive ground cover to install. It is estimated that there are 20 million acres of lawn in the United States. Unfortunately turf is the most expensive ground cover to maintain and the most water-demanding part of the landscape.

When designing a landscape, consider alternatives to turf. Use attractive, low-maintenance ground covers, tree and shrub plantings and water-permeable paving. A major benefit of turf is that it will take traffic. Take advantage of that and install turf where it will be used as a play area

Reduce water use by:

- I. reducing the area of turf in the landscape
- II. using turf where it will be used as a play area.

Once you have chosen areas for turf, select the species or variety that best suits your location. Delaware is in the transition zone for grasses. Warm-season grasses do not survive our cold winters and cool-season grasses suffer during our hot, dry summers. Since Delaware is in the northern part of the transition zone, we must cope with cool-season grasses that do not perform well in the summer. Five grass species are recommended for Delaware--tall fescue, Kentucky bluegrass, fine fescue, perennial ryegrass and zoysia.

Kentucky bluegrass is considered the most desirable species for a fine, high-maintenance lawn. It has a narrow leaf blade, lush green color and good spreading ability. It also requires frequent mowing, higher rates of fertilization and tolerates drought poorly.

Fine fescue is often included in a mix for its shade tolerance. It is very fine-textured and does not perform well in the sun. Therefore, it should not be used alone.

Perennial ryegrass is also a common component of turfgrass mixtures. It is included for quick germination and rapid establishment.

Tall fescue 'K31' is an old standby that is often used for low-maintenance utility turf. It is extremely wear and drought tolerant. It is coarse-textured and considered undesirable as a lawn grass. Tall fescue is a bunch-type grower does not compete well with spreading Kentucky bluegrass. When the two are mixed, tall fescue ends up as coarse-textured "pie plates" spread throughout the lawn. New cultivars of tall fescue have been developed with finer leaf blades and almost as much drought tolerance as 'K31.' These turf-type tall fescues have become very popular for home lawns. They are drought-tolerant, wear-resistant and require less frequent mowing and fertilization as compared with Kentucky bluegrass.

The only drawback is that, like 'K31,' turf-type tall fescues perform best when they are the dominant species in a lawn. For best results, plant tall fescue in new lawns or after complete renovation of an existing lawn. It is possible to overseed tall fescue into an existing lawn, but since tall fescue is a clumpy grass, it will spread very slowly.

Another drought-tolerant turf is zoysia. Zoysia is a warm-season grass that will survive Delaware's winters. In addition to being drought-tolerant, zoysia requires less mowing and less fertilization than the cool-season grasses. It remains green in the summer when most other turf is dormant and brown. Since zoysia is a warm-season grass, it turns brown after the first frost and doesn't color up until the ground warms in May. For at least two-thirds of the year, zoysia is brown. Most people will not tolerate an unattractive lawn for the entire spring and fall, but zoysia may be a good choice for a vacation property that is only used during the summer.

I. Plant turf-type tall fescue for drought-tolerance wherever possible.

II. Use zoysia for a lawn if spring and fall dormancy is not a problem.

What happens to the lawn when it turns brown in the summer? The grass turns on its best defense mechanism against drought--it goes dormant. In most cases, as soon as fall rains come, the grass becomes green and lush again. Therefore, there is no need to water your grass all summer. In fact, summer watering is extremely wasteful. In a few cases, when the turf is already stressed, patches of lawn will not recover and do not green up in the fall. In these cases, it is best to rake out the dead patches and reseed between August 15 and September 30. Be sure to wait until the rest of the lawn turns green before you decide which patches have died.

There are two cases when you must water grass in order for it to survive--new sod and newly planted seed. When you do provide water, soak the ground to a depth of 4 to 6 inches. This 4 to 6 inch penetration can be accomplished with about 1 inch of water. Deep soakings will encourage deep rooting. Light surface watering will encourage shallow rooting and turf that is more susceptible to drought. Water the lawn when it is cool, to reduce evaporation loss. The morning is best, so the grass can dry during the day.

When watering the lawn, use a slow-watering technique, such as trickle irrigation or soaker hoses. Trickle irrigation is 90 percent efficient where as sprinklers are only 70 percent efficient. If you must use sprinklers, be sure to place them so you don't water sidewalks, driveways and

streets. Avoid watering on windy days. An alarm should be used to remind you to turn off sprinklers when you have applied enough water.

I. Do not water healthy, established grass during the summer--it is just dormant.

II. Do water newly planted seed or sod.

III. Water with deep soakings--1 inch of water.

IV. Water the lawn in the morning.

V. Water with trickle irrigation or soaker hoses.

VI. Do not water the sidewalks, driveways and streets.

VII. Avoid watering on windy days.

VIII. Time your sprinkler with an alarm.

The best way to reduce lawn watering needs is to maintain a healthy vigorous lawn. Healthy turf will bounce back from a summer drought with few, if any, problems. Take a soil test to determine the pH and fertilizer needs of your lawn. The ideal pH for turf is between 6.0 and 7.0. In Delaware, our soils tend to be acid, so regular applications of lime are often necessary. Control weeds in your lawn. Weeds reduce the quality of the turf and compete with desirable turf species for precious water. Cut the lawn no lower than 2 1/2 to 3 inches during the summer. This mowing height is less stressful to turf than closer mowing and longer turf shades the ground, conserving water. Avoid late spring fertilization. Excess nitrogen in late spring, promotes lush, succulent growth. The turf is then very susceptible to disease, insect and drought injury.

I. Take a soil test. Lime and fertilize accordingly.

II. Control weeds in the lawn.

III. Mow the lawn no lower than 2 1/2-3 inches during the summer.

IV. Do not fertilize between April 15 and August 15.

The lawn is an important part of the landscape. It can provide a wonderful play surface, a carpet for trees and shrubs and serve as the unifying feature for the entire landscape. In addition, the lawn controls soil erosion, moderates summer heat and acts as a filter for rainwater from roofs, downspouts and driveways. If managed properly, a lawn can be a successful component of a water-conserving landscape.

Credits: EPA, DNREC, New Castle-Kent-Sussex Conservation Districts, Delaware Nature Society, Delaware Cooperative Extension, University of Delaware.