

Summer Lawn Management: Watering the Lawn

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Why water the lawn?

Water composes from 75 percent to 85 percent of the weight of a healthy grass plant. It is essential for seed germination, tissue formation, plant cooling, food manufacture, and nutrient absorption and transport. A grass plant loses the most water under conditions of high light intensity, high temperature, low relative humidity, and windy conditions. Without adequate water, the grass plant can't cool itself and becomes susceptible to wilting, desiccation, and death.

Are some grasses more drought tolerant?

Yes, grasses differ in both their need for water and their drought tolerance. Also seedling or recently established lawns (less than 12 months old) have little drought tolerance. You must consider the proper planting time for the various grasses in order to successfully establish a lawn. Some mature grasses develop deep roots and require less water. However, the most drought-tolerant grasses may not be suitable for all regions of Virginia. Consult your local Extension agent for specific information for your area.

Tall fescue when properly managed develops a deep root system and can be very drought tolerant. However, this advantage is lost if grown on shallow or extremely compacted soils.

Kentucky bluegrass can survive extended drought periods by gradually slowing growth, turning straw colored and entering summer dormancy. Once water becomes available again, it can initiate new growth from the crown of each plant.

Perennial ryegrasses have little tolerance to dry conditions and usually do not persist well in non-irrigated areas.

Fine fescues such as creeping red, chewings fescue, and hard fescue tolerate dry periods quite well due to their low water requirements.

Warm-season grasses such as bermudagrass, zoysia-grass, St. Augustinegrass, and centipedegrass actually prefer warm conditions and can tolerate most drought conditions due to their deep and extensive root systems.

How much water does my lawn need?

This varies somewhat depending on grass type. In general, applying one inch of water per week is the recommendation when there is insufficient rainfall during summer drought. An inch of water can be measured by marking the side of a tuna or pet food can placed in the lawn. Remember that if nature provides water by rainfall, irrigation may not be needed. Nothing is more wasteful (and sure to attract attention for all the wrong reasons) than seeing irrigation running in the rain! Pay attention to current weather conditions and forecasts in order to use water more responsibly.

What about too much or too little water?

Over-watered lawns frequently lead to excess blade growth, summer fungal diseases, and more frequent mowing. Excessive watering also wastes water and increases the risk of fertilizer and pesticide runoff from the lawn to paved surfaces. This could negatively impact local water quality.

Lawns that receive little to no water from irrigation or rainfall during summer months will go dormant. Grass blade coloring will lighten. Most lawns will recover when water returns. During a severe drought, cool season grasses (ryegrasses, fescues, or bluegrasses) may die and require reseeding in the fall. This may be acceptable to those looking to conserve water during summer months, or may be necessary because of water-use restrictions during a drought. Again, where warm-season grasses are adapted within the state, consider using them because they can better withstand most drought conditions.

How can I tell if my lawn needs water?

A “thirsty” lawn turns from the normal green color to a purple-bluish color. In these areas the grass blades will not spring back if you walk across the lawn and your footprints will be visible. This is the first sign of “wilt” and indicates a need for water.

Tips for better watering

- Deep and infrequent watering maintains a healthy root system and reduces weed infestation (as opposed



to light and frequent irrigation, which promotes shallow roots and germination of weed seeds).

- Applying one inch of water is often difficult to achieve in a single watering given the slow infiltration rate on most Virginia soils. Therefore, smaller amounts of water applied every three to four days may be required to allow water to enter the soil without causing runoff.

- Water is best applied early in the day (5:00 to 10:00 a.m.) when evaporation loss is lowest. Afternoon watering is acceptable but wind may affect uniformity. Night watering minimizes evaporation, but may increase fungal diseases. Consider that numerous automatic sprinklers all running during periods of high household use (early morning) may place extreme demands on a community's water system.
- Water the lawn, not driveways, sidewalks, or roads, by adjusting sprinkler heads.
- Mow your grass at the right height during the summer. Longer grass blades increase the depth of the root system, shade the soil, and help drought tolerance (see following table).

Mowing Heights in Inches for Grass to Improve Drought Tolerance in Virginia

1 to 1.5"	2 to 2.5"	2.5 to 3"
bermudagrass	centipedegrass	tall fescue
zoysiagrass		Kentucky bluegrass
		perennial ryegrass
		fineleaf fescues
		St. Augustinegrass

- If your current grass is not drought tolerant, consider replacing it with one that is.
- Precondition your cool-season lawn for summer by applying fertilizer in the late summer or early fall, avoiding large spring applications of nitrogen-containing fertilizers. This favors root growth and better drought tolerance. Lush, over fertilized lawns require more water.
- Remember that newly sodded or seeded lawns require more frequent watering (for the first three to four weeks) than do well-established lawns, those older than 12 months.
- Keep your mower blade sharp.
- Annual core aeration can loosen compacted soil and allow water to infiltrate deeper into the ground.

What about sprinklers?

If you want an in-ground irrigation system, a reputable irrigation consultant will help you design the appropriate system for your lawn and landscape, and will see that you choose the appropriate components to create an efficient and effective irrigation system. If you are selecting



portable, above-ground sprinklers, look for sprinklers that keep water close to the ground rather than sending a fine mist or spray high into the air. This will help reduce evaporation as well as keep the water on the lawn.

Check for uniform water distribution and overlap with any irrigation system by placing five broad, wide-mouthed cans diagonal to the sprinkler at distances of approximately 20, 40, 60, 80, and 100 percent of the maximum throw of the sprinkler(s). Collect the output, note how long you ran the system, and the average depth of water collected in the cans. This test will do several things for you. First, it will help you diagnose and prevent either dry or saturated areas that can lead to an unhealthy turf. Second, it will allow you to determine irrigation application rates so that you will know how long you can (or want) to run your irrigation to deliver a desired amount of water to your lawn.

For instance, assume you have determined, (or your Extension agent has recommended) that it is necessary for your turf to receive one inch of water per week to perform its best during the hottest, driest months of the year. By using the can collection system described above, you have determined that you need to run your system 60 minutes to deliver one inch of water. However, you also notice that at about 30 minutes into the irrigation event, there is significant puddling on your lawn, telling you that your soil is not accepting the water as quickly as it is being applied.

By knowing what your system is capable of delivering, and paying attention to how the soil accepts the applied water, you can develop a responsible irrigation program in which you run your sprinklers for no longer than 30 minutes per irrigation event in order to avoid puddling and the undesired loss of water due to surface drainage. This will provide a half inch of water and you can now schedule two irrigation events during the week in order to deliver the desired volume of water. Such a strategy maximizes the efficiency of water use and promotes a healthy turfgrass system at the same time.

Anything else I can do?

Remember that what we do to our lawns and landscapes affects local water quality and that of the Chesapeake Bay. Contact your local Virginia Cooperative Extension office and speak with an Extension agent or Master Gardener volunteer for more advice and information on upcoming lawn and landscape classes and seminars in your area.

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