

Lawn management during heat and drought

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The first heat wave of the summer is almost always accompanied by a sudden decline in cool-season lawn quality and a rapid increase in growth rate of warm-season grasses (both lawn grasses and weeds like crabgrass). Cool-season turfgrasses that thrive in temperatures of 60 to 75 degrees suddenly face regular temperatures in the 85 to 95 degree range that are often accompanied by prolonged periods of dry weather. What steps can be taken to help cool-season grasses survive these suboptimal growing conditions and use water most efficiently?

What are signs that water is needed? Since water is one of our most precious commodities (both in terms of availability and cost), if it is to be used for irrigation, it should be used wisely. The turf provides visual signals if it is water deficient. Loss of leaf color is an obvious sign and if turf turns dark blue to light gray, it is telling you that water is needed immediately or grass will likely die. Supplemental irrigation under these conditions is crucial to turf survival on new lawns established either this spring or last fall. A fully mature turf will usually turn straw-colored as part of entering dormancy (discussed later) and in this case you may or may not decide to irrigate without fear of massive turf loss. Another visual sign to look for is “footprinting” on the turf. Grass under severe moisture stress won’t spring back when walked upon and your footprints will visibly remain after stepping on the turf due to lack of water in the plant.

Irrigate effectively OR don’t irrigate at all. If you decide to water the lawn, then consider effective irrigation to really be an all or nothing proposition regardless if you have a portable lawn sprinkler or a state-of-the-art automated in-ground system. As a rule of thumb, most cool-season grasses require approximately 1 inch of water per week to maintain active growth and suitable turf quality. This water can be supplied either by rainfall events or through supplemental irrigation. If irrigating, use a **deep and infrequent** irrigation strategy where you deliver thorough soakings of water that your soil can readily accept (i.e. don’t apply so much water that it pools and/or possibly moves off site) on an infrequent basis (very often every 3rd day, sometimes as frequent as every other day). The concept is to moisten the root zone in the top 3 to 4 inches of the soil to nurture and sustain roots that can extract water from deeper in the soil. Light and frequent irrigation encourages roots to remain near the top of the soil and the turf quickly stresses under drying conditions.

While the convenience of automatic irrigation systems makes them a great tool in lawn and landscape management, often times they are mis- or overused. All systems require periodic audits to evaluate sprinkler efficiency and delivery patterns. You can check distribution and patterns by catching water in small cups strategically placed around your lawn during timed irrigation events. Adjust or replace heads that are malfunctioning. Rain sensors are standard options on newer systems (and possible additions to older systems) and can greatly improve water use efficiency by keeping systems off when water is not needed.

Timing of irrigation is also important in optimizing water use efficiency and turf health. Whenever possible, irrigate in the early morning hours (just before or at sunrise) so that leaf wetness duration and potential wind disruption of the irrigation pattern are minimized. This strategy optimizes irrigation distribution, plant uptake, and reduces disease pressure.

Finally, if you have a well established turf, another option in water management to promote turf survival is to simply let the turf go dormant during prolonged drought. Under moisture stress, a grass plant stops producing new leaves and greatly reduces growth as a means of surviving extended heat and drought. Note that this recommendation is for **established** turf, not newly planted grasses. Mature bluegrass and fescue lawns typically weather hot and dry periods by way of summer dormancy and resume active growth when the weather breaks.

Raise the mowing height. Another tip that promotes summer health and performance of cool-season lawn grasses is to simply raise the cutting heights of cool-season grasses. Whereas fescues and bluegrasses thrive at mowing heights of 2-3 inches during the fall and early spring, for summer the best strategy is to mow at a 3-4 inch height (or even taller). Raise the cutting deck to its highest setting when it needs clipping and don't feel compelled to get the mower out at all if the grass is not growing. If the grass has a "white" cast after mowing (likely accompanied by piles of clippings too) then you know that you have violated the 1/3rd mowing rule (i.e. never remove more than 1/3rd of the leaf blade at any mowing event). Mowing tall promotes a deeper root system and improves turf competition against crabgrass and other warm-season weeds.

If you are interested in further information regarding successful lawn management strategies, be sure to contact your local Virginia Cooperative Extension agent or consult the VCE webpage at www.ext.vt.edu.