



Maintaining Tall Fescue Turfgrass in Urban Mojave Desert Landscapes

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Tall fescue turfgrass makes a suitable lawn for the middle and higher elevations of the Mojave Desert. It is currently the most popular grass for residential lawns. Its major advantages are its season long color through the summer and winter months, moderate to low maintenance requirements and relatively few pest problems. Since becoming popular as a lawn grass, pest problems have increased. Its major disadvantage is its very high water use compared to some other grasses; as much as 40 percent higher than bermudagrass (not overseeded) and perhaps 10 to 20 percent higher than other cool season turfgrasses.

Tall fescue surged in popularity during the 1970s with the development of turf-type tall fescue varieties. Prior to this, coarse textured tall fescue varieties used for pasture grasses, such as Kentucky 31 and Alta, were only available. These pasture types are still available and inexpensive but are not recommended for residential lawns due to their coarse textures when compared with turf-type varieties.

Fertilizer Applications

Tall fescue is moderate in its fertilizer requirement compared to hybrid bermudagrass and some other turfgrasses. Applying too much fertilizer too frequently is expensive, wasteful, potentially harmful to our environment and contributes to an unhealthy stand of turfgrass. Apply fertilizers no more than three to four times a year to tall fescue. Avoid, or apply half-rates during the hot summer months. If a mulching mower is used, one application per year of a high-quality fertilizer can be omitted.

Organic fertilizers, particularly manure based, may result in better color and vigor but are more expensive than mineral-based fertilizers. Fertilizers used for turfgrass maintenance are in a fertilizer ratio of 3:1:2 (examples: 15:5:10; 21:7:14) or 4:1:2 (examples: 20:5:10). Ideally, at least half of the nitrogen contained in the bag should be “slow release” nitrogen when using mulching mowers. Apply iron fertilizers once a year or as needed. Iron fertilizers may be contained in the fertilizer product, applied separately or applied as a liquid (foliar applied) product. All are effective but foliar applied fertilizers need to be applied more frequently.

Suggested times to apply fertilizer would be around Labor Day, Memorial Day and Thanksgiving. “Thanksgiving” applications of nitrogen, just prior to the cold winter months, are recommended for good winter color and early spring greenup. Tall fescue may turn brown if winter temperatures are too low and not fertilized late in the fall or early winter when still green.

Mowing

Tall fescue must be mowed at heights above 1½ inches. Mowing lower than 1½ inches results in an “open” stand of turfgrass and increased susceptibility to invasion by weeds. Line trimmers must not be used to “mow” around sprinkler heads when turfgrass interferes with adequate sprinkler coverage. Instead, change out or adjust the sprinkler for better coverage. Likewise, do not use line trimmers to provide a 45 degree angle (bevel cut) to the edge of the lawn abutting a sidewalk or driveway. The height of the grass growing in the bevel cut is too short to prevent weeds from invading and spreading through the rest of the lawn.

When lawn grasses are mowed higher, their root systems are capable of growing deeper. Deeper root systems translate to better drought and heat tolerance.

Recycling grass clippings into the turfgrass is highly recommended provided mulching mowers are used. Use of mulching mowers has nothing to do with the buildup of thatch. Mowing with a mulching mower and returning the clippings to the soil can substitute for one application of fertilizer per year.

Irrigation

A well-designed and correctly installed irrigation system is essential in the desert. A poorly designed, installed and managed irrigation system is the No. 1 reason for lawn failure in the desert. Precisely follow manufacturer's specifications when designing irrigation systems.

Make sure the water pressure of the irrigation system is adequate. Design the irrigation system for 100 percent overlap of water applied by the nozzles. A pressure regulator should be installed to maintain water pressure at the manufacturer's specifications for the irrigation system. If system pressures are too low, a booster pump will be required to keep water pressure within the proper range.

Irrigation sprinkler nozzles should "pop up" a minimum of 3 inches above the soil level if mowing at 1½ to 2 inches. Four-inch popups should be used if mowing height is above this (*Figure 1*). All nozzles should have the same precipitation rate when operating at the working pressure of the irrigation system.

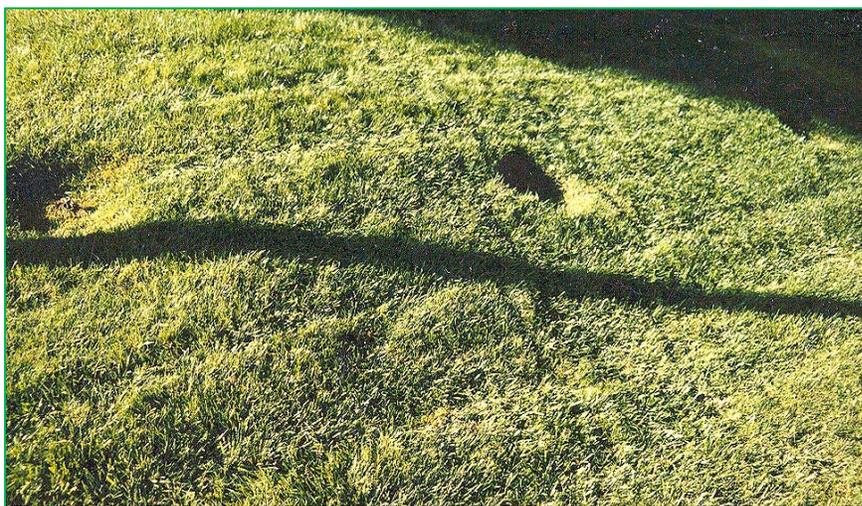


Figure 1. Depressions around 2 inch popup sprinklers made with a line trimmer. Cutting tall fescue this short allows for weed invasion into the lawn.

The irrigation controller determines the (1) *number of days* between irrigations, the (2) *time of day* the irrigation system should start its cycle, and the (3) *number of minutes* the irrigation cycle should "run." The total number of minutes can be subdivided into shorter cycles for slopes and other areas where puddling and runoff occur.

Irrigate lawns during the early morning hours but finish before sunrise to avoid, as much as possible, problems associated with wind. Schedule irrigations to avoid the icing of walkways during the coldest months.

The total number of minutes during an irrigation cycle, once determined, normally does not change throughout the year. This is because water is applied to replace water lost by the lawn since its last irrigation. Apply enough water during an irrigation cycle so that applied water penetrates the soil evenly to about 10 to 12 inches.

To encourage deeper rooting of the lawn and, as a consequence, more drought tolerance, it is best to allow as many days to elapse between irrigation cycles as possible. The number of days between irrigation cycles varies from lawn to lawn and decreases from winter to summer and increases from summer back to winter.

Aerifying and Dethatching

Aerifying and dethatching can increase the rooting depths of grasses which in turn improves drought tolerance. *Aerifying* can decrease water runoff, puddling and can lead to a substantial decrease in the overall applied water. Aerifying can be done any time of year when it is needed and focused primarily on slopes and areas experiencing heavy foot traffic. Unlike dethatching, "emergency" aerifying (observation of water runoff onto hardscapes and puddling) can be done anytime of the year. Aerate at least one month prior to the onset, or after, hot weather. It is difficult to recommend a frequency for aerifying but once per year should be adequate for most lawns. Plug or core aeration gives the best, long-lasting results.

Dethatching is the removal of dead or decomposing organic matter. Unlike grass clippings from mowers, thatch does not decompose rapidly and may have to be removed. Unnecessary and excessive fertilizer applications and over irrigation may increase the likelihood that thatch accumulates. Tall fescue, unlike bermudagrass, does not produce a lot of thatch and a tall fescue lawn may not require it very often, if at all. Dethatch only if the thatch layer accumulates to a depth of ½ inch or more. Dethatch turfgrass during the less stressful fall months of late September and October. This is also the time when most weeds are less likely to invade the lawn. Dethatching is stressful to a lawn and opens the turfgrass cover for the possibility of weed invasion. There should be enough good weather after this activity for the turfgrass to fully recover before cold weather.

Pest Management

Prevent or control pests by first using nonchemical means. Pesticide applications should be a last resort, not a first one. All pesticides must be applied according to label recommendations. Keep humans and pets off of treated areas for 24 hours or until the pesticide has “dried” or has been “watered in” and the surface is dry.

Weed Control

Weed control can be dramatically reduced by mowing at the proper height (this includes around sprinkler heads and edging) and irrigating and fertilizing the lawn to maintain a dense stand of turfgrass. Many weeds are poor competitors with turfgrass and can be kept from invading the lawn by improving the lawn’s density and thus keeping the soil surface shaded. Common weeds in tall fescue include crabgrass and goosegrass, spurge, purslane, knotweed, chickweed, plantain and several others. If the soil surface remains shaded, bermudagrass has a difficult time getting established in a tall fescue lawn. Once established, however, it is difficult to control.

Most weeds invade a lawn where its canopy has failed to shade the soil. Frequently these are damaged areas because of irrigation failure, diseases or insects, or poor cultural practices. Many weeds can be eliminated from an infested lawn by re-establishing good cultural practices and allowing the lawn a chance to compete more effectively. Before applying herbicides or weed killers, improve your lawn’s chances for effectively outcompeting weeds:

- Establish a proper mowing height;
- Improve the irrigation coverage;
- Apply the appropriate fertilizer in a timely fashion;
- Aerate;
- Dethatch if necessary;
- Replace 2-inch sprinklers with 4 inch;
- Prevent line trimmer damage to grass plants around sprinkler heads and at the edges of lawns; and
- Reduce infestations by eliminating nearby weeds.

Weeds must be correctly identified to determine which herbicide to use and the correct timing. Choosing the wrong herbicide or applying it at the wrong time leads to a lack of weed control, a waste of money and time and an unnecessary pesticide entering our environment. Spray herbicides on days, or the time of day, when winds are at a minimum to prevent damage to neighboring plants.

Disease Control. Because of our low humidity, disease problems are not as common here as they are in other parts of the country. However, the number of reported diseases affecting tall fescue in our desert environment has increased over the past two decades. This is most likely due, in part, to the increased planting of tall fescue and cultural practices that favor disease development.

Turfgrass diseases, like any other plant disease, require the right kind of grass to be present, the disease to be present and an environment suitable for a specific disease to develop. Most efforts to control a plant disease should be aimed at prevention. This means keeping turfgrass healthy through appropriate cultural management practices discussed earlier. In particular, avoid excessive amounts of nitrogen fertilizer, remove excessive amounts of thatch and aerate prior to hot weather. Excessive applications of fertilizers and water tends to make turfgrasses luxurious and less tolerant of disease. Some diseases, like fairy ring, are relatively easy to identify but others may need to be confirmed by a plant pathologist.

The major disease or disease complex affecting tall fescue in our desert environment is Summer Patch which may or may not be accompanied by Necrotic Ring Spot (*Figure 2*). This is a hot weather disease occurring during the months of June through September. It may coincide with summer rainfall and higher humidity during our so-called “monsoon season.” Initially it begins with yellow patches 6 to 12 inches in diameter, frequently circular or semi circular with green grass in the centers. In advanced stages the yellowing grass turns brown and dies. The dead grass coalesces leaving a network of brown grass interspersed with green grass 4 to 6 inches in diameter.

Insect Control. Insects are not a common problem on tall fescue growing in our climate. Some insects which do pose a threat include cutworms, armyworms, sod webworm and white grubs. All of these can be a problem but they are infrequent. White grubs can be particularly damaging to tall fescue lawns. If white grubs are found in populations of three or more per square feet, treat with recommended control measures. If white grub infestations are an annual event then it might be necessary to treat preventively.

Fixing Damaged Areas. Areas damaged by activity or pest problems can be repaired by seeding or sodding the area. Seeding is the least expensive method but can only be done during spring and fall. Sodding can be done nearly anytime. If seeding, use seed that “matches” your existing tall fescue. Avoid the use of grass seed which is coarse textured unless the existing tall fescue is very coarse textured. Keep activity off of the repaired areas until the grass has been mowed twice.



Figure 2. Summer patch disease in an early stage before dead grass coalesces into large patchy areas interspersed with bunches of green grass.

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