



Turfgrass IPM Advisory

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Turfgrass Integrated Pest Management

An integrative approach to the management of turfgrass insect pests, diseases and weeds is most effective. Prevention is the best strategy!

What to Watch For

This has been the driest year on record and now is the time to take proactive measures to ensure the health and vigor of turfgrasses. Fall fertilization is key!

Late Fall Fertilization of Turfgrasses

During the fall of the year, cool-season turfgrasses have a resurgence of growth in response to cooler temperatures. These grasses begin to recover from the typical stresses of summer heat, but may also begin to receive more traffic as temperatures become more favorable for outdoor activities. The application of fertilizers in the late fall can improve the vigor and recovery of grasses and may prolong green color into the early winter months. Most importantly, drought tolerance of the grasses the following spring is improved.

Late fall fertilization will also improve early spring color next year and may allow the early spring fertilization to be skipped altogether, though a mid to late spring fertilization may still be required to maintain vigor into the early summer months.

The mechanism through which late fall fertilization benefits turf is by increasing the plant's carbohydrate reserves in the stems and rhizomes. Carbohydrates both help the turf to resist winter injury and aid in stress resistance of the turf the following spring and summer. In addition, late fall fertilization does not force as much leaf growth in the spring as an equivalent amount of spring fertilizer would, so carbohydrate reserves are not exhausted as quickly.

Another potential benefit of late fall fertilization is an increase in rooting, though the precise mechanisms for this increase are not fully known. Some studies have shown that late fall fertilization allows more rooting than early spring applications.

When and What

Late fall fertilizer should be applied after leaf growth has stopped or slowed to the point that the turf no longer requires mowing. The grass should still be green and the soil should not be frozen. In northern Utah this typically occurs sometime in November. In southern Utah, this may occur in late November or even early December.

A fertilization rate of 1 - 1.5 lb. of mostly soluble nitrogen per 1000 sq. ft. is recommended to avoid nitrogen leaching or runoff as well as excessive growth in the spring. Consider slow-release fertilizers on sandy soils to reduce the potential for leaching and never apply fertilizers to frozen soils due to the potential for run off. Also, consider a potassium application in the late fall should soil test results indicate it's needed since potassium may enhance cold-hardiness, disease-resistance, and wear tolerance of turfgrasses.

Overseeding

Fall provides the ideal opportunity to seed new turfgrass areas or to over-seed areas that may have been damaged over the summer. The cool temperatures will promote germination and growth of cool season turf species such as Kentucky bluegrass, tall and fine fescues, and perennial ryegrass. Choose pest resistant or recommended turfgrass cultivars when possible.

Prior to any overseeding efforts, basic management practices should still occur including adequate fertilization, irrigation, aeration/cultivation and pest control practices. Soil conditions should be acceptable, thatch should not exceed 1/2 in., light should be adequate, and perennial weeds should be managed.

Timing

In Utah, there are two times of the year when overseeding is most successful: spring and late summer/fall. Of these, late summer/fall is better because the seedlings can establish adequate root systems before the following growing season. In addition, the pressure from annual weeds is less in the fall, reducing competition with newly emerging seedlings. Springtime is also an appropriate time for overseeding, but there is more annual weed pressure and more irrigation may be required than during a late summer/fall seeding.

Also keep in mind that overseeding into Kentucky bluegrass lawns that are dense and actively growing can be difficult with slowly germinating Kentucky bluegrass seed. If the turf has been damaged by disease or other stresses, however, overseeding is generally more successful.

Selecting Grass Seed

High quality grass seed is necessary for a successful overseeding effort. Once you have determined the species and variety of seed that you require, look for a purity level greater than

90%, a germination rate greater than 85%, less than 0.5% “other” crop seed, less than 0.3% weed seed, less than 8% inert matter, no noxious weeds and a germination test date within the last 9 months. Regarding cost, as with most things, cheaper does not necessarily mean better. The seeding rate and cost per pound are both components of the total cost of establishment.

Species	Rate
Kentucky bluegrass	1-3 lb/1000 sq. ft.
Bluegrass/Per. rye	3-6 lb/1000 sq. ft.
Perennial ryegrass	4-7 lb/1000 sq. ft.
Tall fescue	6-10 lb/1000 sq. ft.

Soil/Seed Contact

For successful overseeding, the seed must be in contact with the soil and there are several methods for accomplishing this. If the soil is exposed in damaged or dead areas, use a rake to roughen the surface. After raking and broadcasting seed, use the back of the rake or a stiff broom to work the seed into the soil. In larger areas, vertical mowers, slicers, core aerators, or slit-seeders may be needed. Vertical mowers should work the soil to a depth of 1/4 - 1/2 in. in two directions. Core aerifiers should pull at least 20 plugs per square foot. For both vertical mower and core techniques, work the broadcast seed into the soil by hand or by dragging a piece of chain-link fence or cocoa mat over the area. Slit seeders or mechanical overseeders automatically place the seed into the soil and often include rollers to firm up the seed bed.

Recommended Cultural Practices for Fall

Fertilization

Nitrogen is of primary concern in turfgrass fertilization. In the late summer, apply 1 pound of slow-release nitrogen (N) fertilizer per one thousand square feet of lawn area. This will help the grass to recover from summer damage and any stress that may have occurred. It will also be especially helpful for areas that have suffered damage due to diseases such as summer patch or necrotic ring spot. In a slow-release form, N fertilizer will provide a consistent source of nutrients as the turf begins actively growing again.

Irrigation

The irrigation season is nearly over in many parts of the state and this is particularly true in northern Utah. At this time of year, the decreasing temperatures and day length encourage grasses to go into dormancy. And dormant grasses are no longer taking up water or nutrients, so it's a good time to turn off irrigation clocks and blow the water out of irrigation systems. Of course, if you live in Washington County or other southern parts of the state, expect to keep irrigating turf areas for another 2 months.

Aeration

Fall is also an ideal time to aerate your lawn if the soil is compacted or there is a significant layer of thatch beneath the grass. If the thatch underneath your lawn is more than ½ inch thick, consider core aeration to stimulate the natural decomposition process. Likewise, if you have a very fine-textured soil, compaction may occur, particularly in high traffic areas. Core aeration will help to alleviate this compaction.

Relevant USU Extension Fact Sheets

[Northern Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[Southeast Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[Southwest Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

[St. George, Area Utah Turfgrass Management Calendar](#)

- Recommended scheduling of turfgrass management practices

***Precautionary Statement:** All pesticides have benefits and risks, however, following the label instructions will minimize the risk and maximize the benefit. Pay attention to the directions for use and follow precautionary statements. Pesticide labels are considered legal documents containing instructions and limitations. Inconsistent use of the product or disregarding the label is a violation of both federal and state laws. The pesticide applicator is legally responsible for proper use.

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