



Turfgrass IPM Advisory

Quarterly Turfgrass Pest Update, USU Turfgrass Extension Vol. 19(2), Summer 2026

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

What a summer! Persistent high temperatures and drought resulted in challenging conditions for turfgrass managers throughout the state. And we're not quite through it yet! At a time of year when temperatures should be declining, they remain stubbornly high, delaying the turfgrass recovery we typically expect at this time of year.

Letter from the Editor

Dear Turfgrass Enthusiasts,

I hope your summer has gone well, even as Utah and much of the southwestern U.S. continue to navigate a difficult drought year. Record-low snowpack, widespread drought, and ongoing Colorado River Basin water concerns have made careful turfgrass management especially important. A recent rainy weekend in the state provided some welcome relief, but our water challenges remain.

Heat, drought stress, irrigation restrictions, and heavy use can reduce turfgrass quality, increase pest and disease vulnerability, and slow recovery. So, this is not the year for "business as usual" irrigation or aggressive management. Instead, it is a year to focus on careful observation, efficient water use, and practices that help turfgrass tolerate stress and recover well.

In this issue, we'll focus on end-of-drought-season strategies with an emphasis on turfgrass recovery, including distinguishing drought stress from pest, disease, or soil-related problems and seeding/over-seeding. We also have a special article on fungicide resistance by USU's Extension Plant Pathology Specialist, Dr. Claudia Nischwitz.

You'll also find links to additional USU Extension turfgrass resources on the last page of this advisory, including turfgrass management calendars and aerification resources. And I've added a new recurring feature called 'The Curious Lawn' in which I'll discuss turfgrass history, plant biology/evolution, and interesting turfgrass facts.

As we enter the end of the summer season, recall that the goal of integrated turfgrass pest management is not perfect turfgrass under imperfect conditions. Rather, the goal is functional, resilient turfgrass managed with realistic expectations and good science.

Wishing you all a smooth transition into fall and resilient turf,

Kelly Kopp, Editor and Contributor

USU Turfgrass IPM Advisories

The Curious Lawn

Lawns seem so familiar that it's easy to assume they've always surrounded our homes. But where did the American lawn come from? The residential lawn is actually the product of centuries of changing landscapes, technologies, and cultural traditions.

And the story begins long before the American suburb.

In Europe, short grassy areas developed around castles, villages, and estates, sometimes maintained by grazing sheep and other livestock. By the 17th and 18th centuries, expansive lawns became important elements of formal estates and landscape design. Maintaining them required considerable land and labor, so lawns could also be a visible sign of wealth.

One technological development helped change that perception was the lawn mower. English engineer Edwin Budding patented a mechanical reel mower in 1830 after observing machinery used to trim the surface of cloth. Suddenly, maintaining short grass lawns didn't have to depend entirely on grazing animals or labor-intensive hand cutting.

In the United States, lawns gradually became associated with parks, campuses, cemeteries, recreational spaces, and residential landscapes. During the late 19th and early 20th centuries, improved lawn mowers, municipal water systems, irrigation, turfgrass research, and readily available grass seed made lawns practical for more households.

Then came the enormous expansion of American suburbs following World War II. Houses surrounded by open yards became increasingly common, and the lawn became a familiar part of the residential landscape.

But lawns weren't adopted simply for appearance. Turfgrass provided durable surfaces for children, pets, sports, gathering, and recreation while covering and stabilizing soil around homes. And those functions remain important today.

The modern lawn, then, isn't one invention or one tradition. It's the result of agriculture, landscape design, recreation, technology, plant science, and changing ideas about how we use the spaces around our homes. And its story is still evolving as we develop turfgrasses and management practices suited to today's water, climate, and community needs.



Children at Greenbelt, Maryland, 1938. Greenbelt was one of the federally planned communities of the New Deal era, designed to integrate housing with parks, recreation, pedestrian spaces, and communal green areas. Photo by Marion Post Wolcott.

Fungicide Resistance

Chemicals have been successfully used for decades to control fungal pathogens. Currently there are fungicides on the market belonging over 40 different chemical groups. The chemical groups are classified based on what part of the fungal physiology they target. Some chemical groups target a fungus at multiple points in its physiology, others only at one point. Chemical groups that target a single aspect of the fungal physiology are typically highly effective but are also at high risk for resistance development.

Numerous fungi have developed resistance to chemical including those in the demethylation inhibitor group (DMI or triazoles, Group 3) and quinone outside inhibitors group (QoI or strobilurins, Group 11), making these fungicides less effective.

Fungicide resistance develops when fungicides from the same chemical group are used continuously without alternating to a fungicide from another chemical group. A mutation in the gene that codes for the fungicide target can alter the fungal metabolism allowing the fungus to continue its lifecycle without interruption after the fungicide was applied. By using chemicals from the same group over and over, fungal individuals with an immune-type mutation increase in population while the individuals without the mutation are killed. This may not be obvious initially, but over a couple of years the population of a specific fungus in a garden, field, or orchard will consist of nearly 100% resistant individuals.

Every year, I receive inquiries stating that the fungicides they used for necrotic ring spot in their lawns or powdery mildew in their fields did not provide control. These applicators have typically used fungicides from the same chemical group for several years, which could account for the poor control.

It is important to follow the recommendations on the pesticide label. Most fungicides include the chemical class on the first page of the label as well as the maximum number of sprays or material that can be applied per season. This information is provided to prevent the development of resistance. Following the label and alternating with fungicides from different chemical groups does not only benefit the applicator's farm. Fungal spores travel for miles and spores from resistant individuals can infect plants on neighboring farms. The owner of that farm may use a recommended fungicide without realizing that they already have resistance when it was not their fault.

To prevent fungicide resistance, it is essential to follow the instructions on the label and alternate between products from different chemical groups. If we lose the effectiveness of good fungicides due to resistance without alternative control strategies, millions of dollars in crop losses could be the result.

-Claudia Nischwitz, USU Extension Plant Pathology Specialist



Assessing Summer Turfgrass Damage

By late summer, many Utah lawns are showing the evidence of everything they've been through this year. Heat, drought, irrigation problems, foot traffic, insects, disease, and perhaps a few missed watering days may have resulted in brown and thin areas. This can be discouraging, but before reaching for fertilizer, seed, pesticides, or extra water, take some time to figure out what is actually happening.

First, determine whether the grass is dead or dormant. Cool-season grasses, particularly Kentucky bluegrass, can enter dormancy during hot, dry conditions and lose much of their green color while the crowns (primary growing points) remain alive. Check several plants at the boundary between green and brown turf. Look closely at the crown—the area near the soil surface where leaves and roots meet. Living crowns should be firm rather than dry and brittle. With cooler temperatures and adequate moisture, dormant turf is likely begin recovering on its own.

Next, look at the pattern of the damage. Patterns provide some of our best diagnostic clues. A sharply defined dry area may correspond to an irrigation zone, poorly adjusted sprinkler, clogged sprinkler nozzle, or blocked spray pattern. An arc-shaped brown area can practically draw you a picture of where sprinkler isn't adequate. Before assuming you have a disease or insect problem, run the irrigation system and watch it operate. Irrigation problems are extremely common and often much easier—and less expensive—to correct.

Check the soil, too. Compacted soils can limit rooting and water infiltration, particularly along sidewalks, driveways, play areas, and other heavily trafficked locations. Some soils can also develop localized dry spots where water has difficulty penetrating the soil. Check the soil in both healthy and damaged areas and compare moisture, rooting depth, and compaction.

THEN consider pests and diseases. Insect damage may appear as irregular patches of thinning or dead turf and is sometimes accompanied by turfgrass that pulls away easily

because roots have been damaged. Diseases can produce patches, rings, spots, or more diffuse thinning depending on the pathogen. But don't diagnose either insects or diseases based on color alone. Look for additional symptoms and signs, and correctly identify the problem before considering a pesticide treatment. [USU's Plant Pest Diagnostic Laboratory](#) is an excellent resource for this purpose.

Finally, consider **cumulative summer stress**. Turfgrass growing in compacted soil, receiving uneven or inefficient irrigation, mowed too short, or subjected to heavy traffic may simply have fewer resources available to tolerate heat and drought. Often there isn't one issue and several relatively small stresses have combined to produce the damage you may be seeing.

Late summer is an excellent time to make this assessment because the upcoming fall growing season provides a terrific opportunity for recovery. Correct irrigation problems first, relieve compaction where appropriate, and allow surviving turf to recover before deciding how much renovation is actually necessary. Areas that truly are dead can then be reseeded or otherwise repaired during the favorable establishment conditions of late summer and early fall.

Most importantly, **don't treat brown turfgrass as a diagnosis**. Figure out why the grass declined first. A little detective work now can prevent unnecessary water, fertilizer, pesticides, labor—and frustration—later.



Fall is for Fixing: Seeding, Over-seeding, and Renovation

Late summer and early fall are some of the best times of the year to repair a cool-season lawn. If summer heat, drought, irrigation problems, insects, disease, or traffic have left turf thin or damaged, the cooler temperatures of late summer and fall offer an excellent window for recovery.

Why fall? Warm soils encourage rapid seed germination, while cooler air temperatures reduce stress on young seedlings. Weed competition is also significantly less than it is during spring. Most importantly, turfgrass established in late summer or early fall has the fall growing season—and then another period of favorable growth the following spring—to develop before facing summer heat and drought. Late summer is the optimum seeding period for cool-season grasses in northern Utah. In southern Utah, waiting to seed until late September/October is more beneficial.

The amount of damage should determine your approach. If the existing turf is generally healthy but has become thin, overseeding may be all that's necessary. Small dead areas can be spot-seeded. In other areas where turfgrass has been severely damaged or the existing lawn is dominated by undesirable grasses or weeds, more extensive renovation and reestablishment may be appropriate. Before doing any of these, however, identify and correct the original cause of decline. Seeding into an area with poor sprinkler coverage, severe compaction, or an unresolved pest problem only sets the new grass up for the same problems.

Good seed-to-soil contact is essential. Seed scattered over an intact turf canopy or thatch layer is unlikely to establish well. Core aeration before overseeding can help create openings for seed, while slit or disk seeders place seed directly into the soil. Bare or heavily renovated areas should be prepared to provide a loose, firm seedbed with good soil contact.

Don't Wait Too Long. One of the biggest mistakes with fall seeding is waiting until it feels like fall. New turfgrass seed needs time to germinate, develop roots, and become established before freezing temperatures arrive. As a general guideline, seed cool-season grasses about 4 to 6 weeks before your area's average first fall freeze. And remember that Utah's first-freeze dates vary enormously with location and elevation. Utah Climate Center records show an average first fall freeze around September 28 at one Logan station, compared with October 20 at the Salt Lake City International Airport. Higher-elevation locations can experience freezing temperatures considerably earlier.



But those are averages—not deadlines. An early frost can arrive weeks ahead of the average, so build in some margin for error rather than seeding at the last possible moment. The [Utah Climate Center Freeze Dates resource](#) provides first-fall-freeze information for hundreds of locations in the state and is an excellent way to estimate the appropriate seeding window for a specific Utah site.

After seeding, keep the surface consistently moist during germination with light, frequent irrigation. As seedlings develop, gradually reduce irrigation frequency and increase the amount applied at each watering.

One final distinction is important: this advice applies primarily to cool-season grasses such as Kentucky bluegrass, perennial ryegrass, and the fescues. Warm-season grasses such as buffalograss and blue grama are better seeded in spring or early summer so they have warm temperatures and a full growing season in which to establish.

The bottom line: diagnose first, repair the underlying problem, choose the right seed, provide good seed-to-soil contact—and don't let the first frost beat you to it.

Recommended Management Practices for Late Summer

Seeding/Over-Seeding

Late summer provides the opportunity to seed new turfgrass areas or to over-seed areas that may have been damaged over the summer. The cooler temperatures will promote germination and growth of cool season turf species such as Kentucky bluegrass, tall and fine fescues, and perennial ryegrass. Annual weed pressure is also less at this time of year. Choose low water use, pest resistant, or otherwise recommended turfgrass cultivars when possible.

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 other stresses 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.

Aeration/Cultivation

Late summer/early 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 1/2 inch thick, consider core aeration to stimulate the natural decomposition process. Likewise, if you have a very fine-textured soil, compaction may occur over time, particularly in high traffic areas. Core aeration will help to alleviate compaction and will encourage turfgrass growth and recovery.

Timely USU Extension Fact Sheets

[Northern Utah Turfgrass Management Calendar](#)

[Turfgrass Cultivation \(Aerification\)](#)

[Southeast Utah Turfgrass Management Calendar](#)

[Preparing Soils for Turfgrass Establishment-Northern Utah](#)

[Southwest Utah Turfgrass Management Calendar](#)

[Preparing Soils for Turfgrass Establishment-Southern Utah](#)

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

***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.

Turfgrass IPM Advisory
is published quarterly by Utah State University Extension.

Editor: Kelly Kopp, kelly.kopp@usu.edu
Click [here](#) for archived advisories.

Utah State University is an affirmative action/equal opportunity institution.