Turfgrass IPM Advisory

Quarterly Turfgrass Pest Update, USU Turfgrass Extension Vol. 19(1), Spring 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 winter! So far it's been really underwhelming so let's hope that we've got more precipitation on the way. In the meantime, it's not too early to start thinking about getting turfgrass areas in shape for the coming spring and summer months.

Letter from the Editor

Dear Turfgrass Enthusiasts,

I hope that you enjoyed winter despite the sparse snowpack in many locations. And hopefully, you're starting to think about the management practices that will help your turfgrass begin the growing season ready to play.

As I've traveled the state speaking at various conferences this spring, I've had lots of questions about what to expect this year. You may also be wondering how turfgrasses will be effected by our warm winter temperatures and lack of snow, in which case read on!

Perhaps you'll come out of winter with turfgrass damage from snow mold (yes, even without snow cover), in which case read on!

Perhaps you are thinking about how hungry your grass is after its long winter nap, in which case read on!

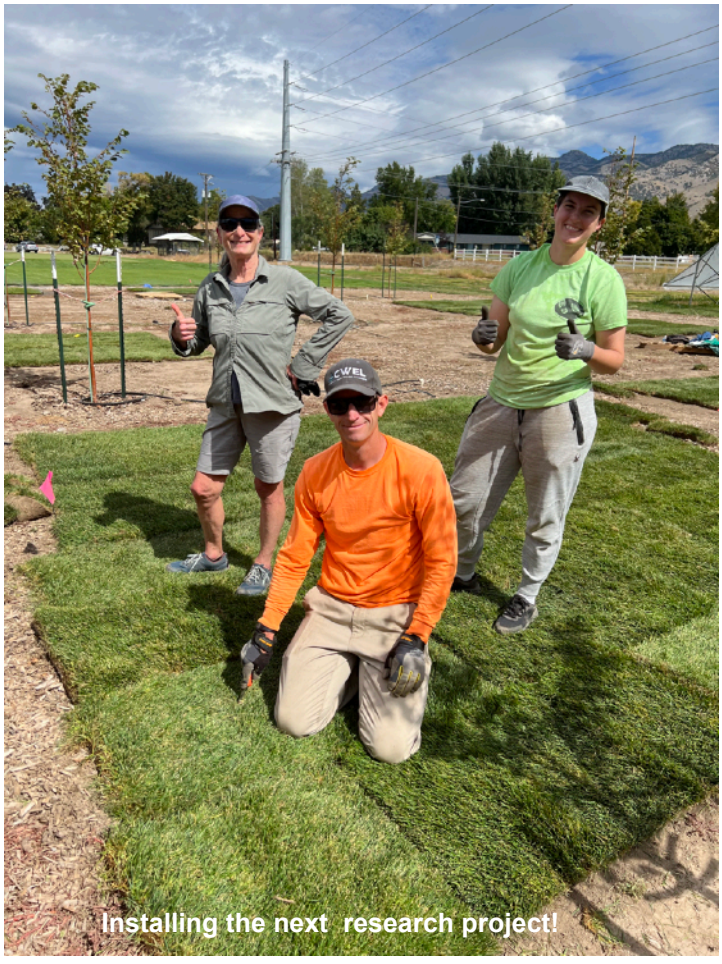
USU recently hired a new Extension Entomology Specialist, Dr. Subodh Adhikari. In this issue, we asked him about his background and new role at USU, so please read on! LOL.

Lastly, as always, there are links to additional USU Extension turfgrass resources on the last page of this advisory including turfgrass management calendars.

Wishing you all a happy spring and healthy turf!

Kelly Kopp, Editor, Turfgrass IPM Advisories

"Spring is a time of plans and projects!"-Leo Tolstoy



Installing the next research project!

What to Expect from Lawns After a Warm, Dry Winter

Lawns emerging from a warm, dry winter in a climate like Utah's often display delayed or uneven spring recovery. Although some may interpret these symptoms as winterkill, research and Extension observations indicate that most injury following dry winters is associated with plant water stress rather than low-temperature damage alone.

Under normal winter conditions, persistent snow cover functions as an insulating layer that moderates soil temperature fluctuations and helps maintain moisture within the turfgrass root zone. When snowfall and winter precipitation are limited, turfgrass plants remain exposed to wind, solar radiation, and repeated freeze–thaw cycles.

In addition, because frozen soils restrict water uptake, turfgrass leaves and crowns can lose moisture faster than it can be replenished, resulting in winter desiccation. This form of dehydration injury commonly produces straw-colored turf, thinning stands, and delayed spring green-up, particularly on exposed sites, slopes, and areas subject to wind or reflected heat.

Warm winter periods may further increase injury risk by disrupting cold acclimation processes in cool-season grasses. Turfgrass species gradually develop freezing tolerance during autumn; however, extended midwinter warm spells can temporarily reduce this hardiness. Subsequent return to freezing temperatures may then damage crown tissues, contributing to patchy turf loss observed in early spring. Research from multiple Extension turfgrass programs has shown that fluctuating winter temperatures combined with low soil moisture frequently result in irregular green-up patterns rather than widespread mortality.

Importantly, most lawns affected by dry winter conditions remain viable and will recover. Turfgrass plants often retain living crowns and root systems even when aboveground foliage appears dormant or damaged. As soil temperatures increase and precipitation (hopefully) resumes, recovery typically occurs through renewed leaf, tiller, shoot, and root growth. However, stressed turf may exhibit reduced density early in the season, increasing susceptibility to weed encroachment and early-season drought stress.

Management should emphasize recovery rather than aggressive intervention. Allow sufficient time for regrowth before making any decisions about reseeding. Practices that will promote gradual recovery include maintaining adequate spring soil moisture, avoiding excessive early fertilization, and minimizing traffic on weakened/stressed turf. In most cases, established cool-season lawns regain density as environmental conditions stabilize into spring and summer.

In most cold-climate regions, homeowners should wait until **late spring** to fully evaluate winter injury. As soils warm, healthy turfgrass plants begin producing new shoots (tillers) that gradually fill in thin areas. What initially appears to be severe damage often improves significantly within several weeks of favorable growing conditions.

Reseeding may be necessary when areas when areas remain bare after surrounding turf has fully greened up or when more than 40-50% of the lawn surface shows no signs of recovery. Before reseeding, lightly rake or loosen the soil to improve seed-to-soil contact and select grass species adapted to local climate conditions.

Avoid heavy fertilization immediately following winter stress, as excessive early nitrogen can favor weeds rather than turf recovery. Instead, focus first on proper irrigation and allowing existing turf to recover naturally.

Patience is often the most effective first step. Many lawns that look damaged in early spring recover successfully without extensive renovation once consistent moisture and moderate temperatures return.

Good News!

- Most lawns are still alive (viable crowns and shoots)
- Recovery occurs naturally (warmer temperatures)

Management Priorities

- Focus on recovery, not rapid renovation
- Maintain adequate soil moisture
- Minimize traffic on stressed turf
- Avoid heavy early fertilization (can favor weeds and wilting)

Snow Mold

A good snowpack can mean high risk for snow mold damage in turfgrass but snow cover is not absolutely necessary. Snow molds are cold-loving fungi that attack turfgrass under snow cover, or during persistent cold and wet conditions. Snow mold development most commonly occurs in late winter/early spring, but can also occur in fall under favorable conditions for the pathogen. Extensive damage caused by snow mold is common in areas with deep snowpack and shaded areas where snow remains for longer periods. Snow mold disease can largely be managed with cultural practices and, in most cases, the turf will recover as conditions warm and dry.

Description

There are several snow mold fungi. Two of the most common in Utah are pink snow mold (also known as Microdochium patch) and gray snow mold (also known as Typhula blight). Both diseases cause patches of matted grass blades and may occur together on the same plant. Light fuzzy mycelium growth is often observed near receding snow cover in the spring.

Pink snow mold (*Michrodochium nivale*) symptoms include pink, grey, or tan colored patches of dead and matted leaf blades, often including a visible outer ring of copper-colored grass. Patches can range from 2 to 10 inches in diameter and be larger if they merge together. Clusters of pink spores develop on the surface of leaf blades under prolonged periods of leaf wetness.

Gray snow mold (*Typhula ishikariensis*) symptoms are similar to pink snow mold. Patches of grey snow mold can range from a few inches to several feet in diameter. When conditions remain favorable for pathogen growth, patches can expand and coalesce, creating larger areas of damaged turf. As the fungus spreads, initially infected grass in the center of the patch begins to recover and re-grow while the newly infected grass blades turn grey or tan, causing a ring-like or “frog eye” appearance.

Figure 1. Mycelium growth caused by snow mold near receding snow (PCs: Helen Muntz).

Management

Snow mold usually can be managed without the use of fungicides, particularly in residential settings. Rather than focusing on fungicides in these areas, employ cultural (management) practices to reduce severity of snow mold damage and facilitate recovery.

Snow Mold (cont'd)

Cultural Control Options

- Avoid and/or remove high, long-lasting snowbanks.
- Apply only moderate or low amounts of nitrogen fertilizers during fall fertilizer applications.
- In fall at last cutting, gradually reduce turf height to avoid matting under snow.
- Avoid extreme thatch build-up through annual core aeration.
- Rake and remove dead turf blades to encourage dryer conditions and reduce spread of snow mold.
- Apply a light application of nitrogen fertilizer in early spring to help promote new growth.
- Fungicide treatment is not recommended for snow mold treatment on home lawns.

Commercial Treatment Options

- Prioritize cultural control options listed.
- Preventative fungicide* use may be warranted on golf courses, sod farms, and some sports fields.
- Fungicide application should be made roughly 2 weeks prior to snowfall. Late winter or early spring fungicide applications may also be necessary depending on severity of disease.

Figure 3. Reddish-brown sclerotia of grey mold (PC: Helen Muntz).

Figure 2. Dead, matted grass blades effected by snow mold with signs of fungal bodies (PC: Helen Muntz).

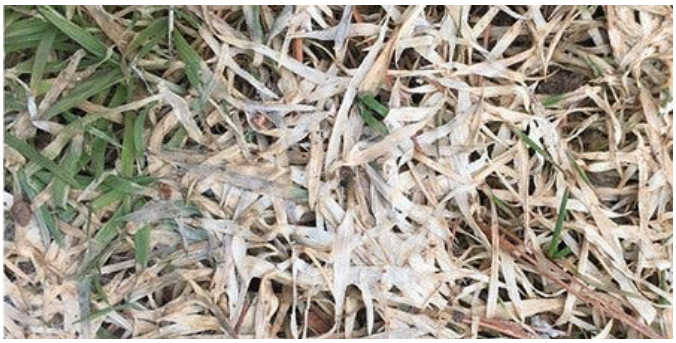


Figure 4. Matted and bleached leaves due to gray snow mold (PC: Peter Landschoot).

Active Ingredient*	Fungicide class, FRAC code, and plant mobility classification
metconazole	DMI, 3, acropetal penetrant
iprodione	Dicarboximide, 2, local penetrant
fludioxonil	Signal transduction, 12, local penetrant
chlorothalonil	Chloronitrile, M5, contact
PCMB (quitozene)	Aromatic hydrocarbon, 14, contact

Turfgrass Fertilization

Turfgrass quality is directly affected by the ability of the grass to look and function as needed. That quality may be described in terms of visual appearance and/or functionality. Visual quality is determined by the combination of turfgrass color, density, uniformity, growth habit, and smoothness. Functional quality is determined by resilience, recuperative capacity, rooting, rigidity, and elasticity. *In either case, fertilization is the management practice with the most potential for improving turfgrass quality.*

Similarly to humans, nutrients perform specific roles in turfgrass growth, development, and stress tolerance. For example, turfgrass fertilizers often include nitrogen (N) which can improve color (darker green, more chlorophyll), density, root growth, stress tolerance, and recuperative potential. Turfgrass response to phosphorus (P) fertilizer includes improved root growth and branching, drought tolerance, water use efficiency, and seedling establishment. Adequate potassium (K) fertility increases disease resistance, cold and heat tolerance, and improves overall ability to endure and recover from stressful conditions. Turfgrass responses to these nutrients demonstrate that proper nutrition can have a strong impact on turf quality and performance.

In Utah, we most often focus on N fertilization of turfgrasses because our soils tend to be adequate in P and K. However, it is always good practice to test your soil to determine actual nutrient status as well as other important soil characteristics like soil texture, pH, and organic matter content. If you indicate on a soil sample submission form that the soil is being tested for an existing turfgrass area or that it will be planted with turfgrass, your soil test report will include guidance on recommended turfgrass N fertilization rates and timing.

Grass Species

The nutrient requirements of different turf species are widely variable and are also affected by environmental conditions. Generally, the more you'd like the grass to grow, the more fertilization, particularly with N, will be required. To a point. Over-fertilization is also to be avoided due to the potential for environmental contamination. Table 1 provides N fertilization recommendations for the cool- and warm-season grasses most commonly grown in Utah.

Environmental Conditions

Soil. Soil characteristics have a big impact on best fertilization practices of turf. Sandy soils are usually more infertile and require more intensive nutrient management than loamy or clayey soils. Soil testing should be used to guide turf management and fertilization decisions. For example, many Utah soils have adequate P and K and will therefore require less P or K from fertilizer.

Water and Irrigation. Turfgrass growth requires proper irrigation and/or adequate rainfall which also increases turfgrass nutrient requirements. On the other hand, excessive rainfall can cause N leaching, may contribute to undesirable N loss in runoff, and may also result in turf N deficiency.

Shade. Shaded areas should generally not be fertilized as much as non-shaded areas. Grass in shaded areas usually has a lower rate of growth and therefore lower nutrient requirements. Also, turf in shaded areas tends to have a weaker root system and to be more succulent.

Clipping Management

Whether or not clippings are left behind is an important consideration. Where lawn clippings are removed, fertilizer requirements will be higher since nutrients are being removed with each mowing. Consider that the concentration range in healthy turfgrass shoot tissue is 2.8 to 3.5% N, 0.20 to 0.55% P, and 1.5 to 3.0% K. In some cases, half or more of seasonal N needs can be met by returning clippings.

Lawn Age

A new lawn will usually require more fertilizer, and a different analysis of fertilizer than an established lawn. Soil testing is especially important to guide the type of fertilizer needed for new lawns.

Table 1. Nitrogen requirements for cool-season and warm-season turfgrasses per growing month			
	N Requirement (Pounds N per 1000 ft^2 per Growing Month*)		
Cool-Season Grasses			
Common Name	General Turfgrass**	Recreational Turfgrass**	N Requirement
Kentucky bluegrass			
*Common	0.1 - 0.3	0.2 - 0.6	Low - Medium
*Improved	0.3 - 0.4	0.4 - 0.8	Medium
Tall fescue	0.2 - 0.4	0.3 - 0.7	Low - Medium
Perennial ryegrass	0.2 - 0.4	0.4 - 0.7	Low - Medium
Fine fescues	0.2 - 0.4	0.3 - 0.5	Low
Creeping bentgrass	0.3 - 0.6	0.3 - 1.0	Low - High
Wheatgrasses	0.1 - 0.2	0.2 - 0.5	Low
Warm-Season Grasses			
Buffalograss	0 - 0.2	0.2 - 0.4	Very Low
Blue grama	0 - 0.2	0.2 - 0.4	Very Low
Zoysiagrass	0.2 - 0.3	0.3 - 0.6	Low - Medium
Bermudagrass			
*Hybrid types	0.4 - 0.6	0.6 - 1.5	Medium - high
Buffalograss	0 - 0.2	0.2 - 0.4	Very Low
Blue grama	0 - 0.2	0.2 - 0.4	Very Low
Zoysiagrass	0.2 - 0.3	0.3 - 0.6	Low - Medium

*Growing months are months in which the grass is actively growing and not dormant or semi-dormant.

**Nitrogen requirement rates per month are for determining total N needs based on the number of growing months per year. General turf refers to lawns, amenity turfgrass areas, and general grounds. Recreational turfgrasses are grasses used for golf courses and other sports.

Soil Testing Information

Utah State University's Analytical Laboratory offers testing and analysis of soils that can help guide turfgrass fertilization programs. Soil testing quantifies the nutrients that are available in the soil and also reveals what nutrients are present in excess amounts that should NOT be added. Applying nutrients needlessly results in soil chemical imbalance and plant problems. Excessively applied nutrients may also contaminate water, adversely affecting public health and the environment. A routine soil test is typically all that's required to help guide turfgrass fertilization, but there many other soil test options available through the laboratory that may be of interest depending on your particular situation.

-Adapted from Best Management Practices for Turf and Lawn Fertilization by Dr. Mike Stewart, International Plant Nutrition Institute

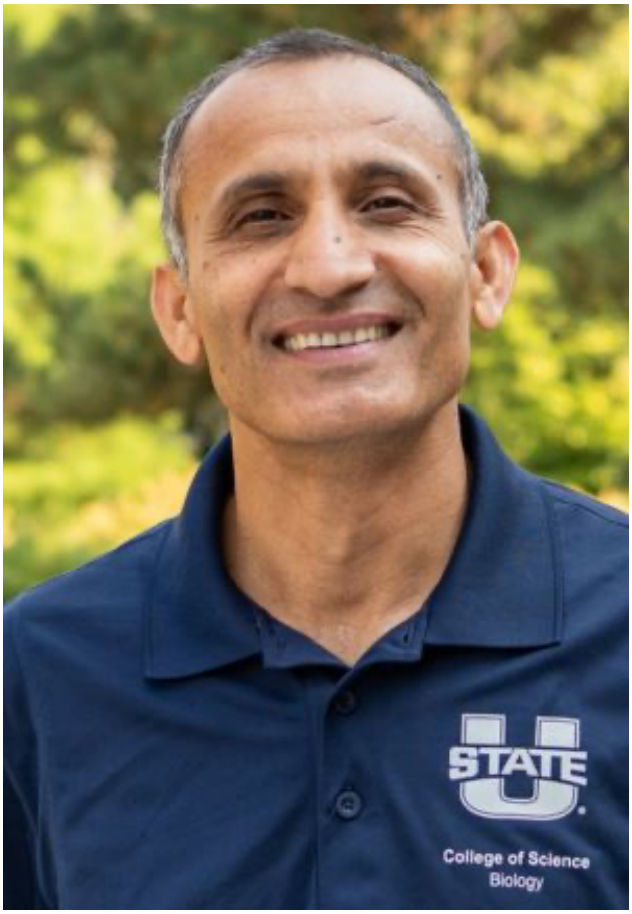
New Turgrass Entomologist Arrives at USU!!

What excites you most about joining Extension and working with turfgrass professionals in this state? What I love about Extension is the chance to work directly with people and help solve real problems. Turfgrass is everywhere in Utah, and how we manage pests affects everything from aesthetics to water use and ecosystem health. I'm excited to collaborate with professionals to develop practical, research-based IPM strategies.

From your perspective, what are some of the most important insect pests turf managers should be paying attention to right now? Some of the main ones are white grubs, billbugs, and chinch bugs—especially during warm, dry periods. Keeping an eye on these pests and catching issues early can make a big difference.

What are some common misconceptions about turfgrass insect management that you often encounter? A big one is the idea that pesticides are a quick fix. In reality, they're just one tool—and usually a reactive one. Healthy turf, supported by good mowing, irrigation, and fertility practices, is the best defense. Also, not all turf damage is caused by insects, so proper diagnosis really matters.

How do you approach balancing effective pest control with environmental stewardship and integrated pest management?
It really comes down to IPM—focusing on prevention, monitoring, and using treatments only when necessary. I emphasize cultural practices first, and when intervention is needed, choosing targeted, lower-impact options that protect beneficial insects.



Dr. Subodh Adhikari joined Utah State University in August 2025.

What are the most important things turf managers can do to prevent insect problems before they become severe?
Start with the basics: proper mowing, irrigation, fertilization, and overall soil health. Pair that with regular monitoring so you can catch problems early and avoid unnecessary treatments.

What trends are you seeing in turfgrass insect management, such as resistance, new pests, or changing management strategies? We're seeing a shift toward more preventive and data-driven approaches. There's also growing attention to pollinator-friendly practices, resistance management, and better use of monitoring tools and decision support.

What types of research or outreach programs do you hope to develop to support turfgrass professionals in the state?
I'm interested in developing region-specific research and Extension programs that provide practical IPM guidance—helping turf managers reduce inputs while maintaining healthy, resilient systems.

If you could eliminate one turfgrass insect pest forever, which one would it be and why?
If I had to pick one, it would be the bluegrass billbug because of how much damage it can cause and how easy it is to misdiagnose. That said, the goal isn't elimination—it's managing pest systems effectively.

What's one insect fact that always surprises people when you share it?
Most insects in turfgrass systems aren't pests at all—fewer than 3%. The vast majority are beneficial or neutral and actually help keep things in balance.

Recommended Management Practices for Spring

Seeding/Over-seeding

Spring provides the opportunity to seed new turfgrass areas or to over-seed areas that may have been damaged over the winter. The cool temperatures will promote germination and growth of cool season turf species such as Kentucky bluegrass, tall and fine fescues, and perennial ryegrass. Be aware, that there will be also be annual weed pressure at this time of year and consider your weed control options. Choose pest resistant or recommended turfgrass cultivars when possible.

Irrigation Maintenance

Spring is an ideal time to turn on your irrigation system and identify any obvious problems and repairs. Over the winter, sprinkler heads may have become tilted, sunken or clogged and these should all be repaired to optimize irrigation efficiency. Do a short test run through each zone on your system and locate those sprinkler heads that could use some adjustment. Also consider performing a distribution uniformity check to help refine your irrigation schedule.

Aeration/Cultivation

Spring 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, particularly in high traffic areas. Core aeration will help to alleviate compaction and will encourage turfgrass growth and recovery.

Relevant USU Extension Fact Sheets

Northern Utah Turfgrass Management Calendar

- Recommended scheduling of turfgrass management practices

Southeast Utah Turfgrass Management Calendar

Southwest Utah Turfgrass Management Calendar

St. George, Area Utah Turfgrass Management Calendar

Snow Mold in Turfgrass

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