

Turfgrass Pest Management

The management of turfgrass insect pests and diseases is most effective when an integrative approach is taken. Oftentimes, cultural practices will help grasses to resist and recover from pest damage. Resistant turfgrass varieties may also be available.

News/What to Watch For

Diagnosed insect pests in the spring of the year have included billbugs and sod webworms. The diseases seen most often during the spring include necrotic ring spot, pink and gray snow mold and fairy ring.

Insect and Disease Activity and Information

Necrotic Ring Spot (*Ophiosphaerella korrae*)



Favorable Conditions: cool (40-60°F) and moist conditions, may be compounded by drought and compaction.

NOTE: Necrotic ring spot has been identified in Salt Lake County this spring.

Necrotic ring spot (NRS) primarily infects Kentucky bluegrass, though it may also be seen in annual bluegrass and tall fescue. The disease damages the roots and crowns of the grass plants and the first

symptoms are small, light green patches of turf that get larger over time. Frequently the turf will survive the infection and re-grow in the center of the patches, giving them a ring-like (“frog eye”) appearance.

Cultural Practices

Maintain the highest mowing height possible and follow recommended irrigation practices to prevent drought stress. Core aerate once annually to reduce thatch and avoid over application of N fertilizers.

Resistant Turfgrass Varieties

Kentucky bluegrass: Adelphi, Eclipse, Midnight, Majestic, Wabash, Monte Carlo, Baron, Blue-Tastic, Unique, Voyager, Beyond, Eagleton, Cabernet, Abbey, Award, Brooklawn.

*Fungicide Options**

Azoxystrobin (Heritage), myclobutanil (Eagle), propiconazole (Banner MAXX, Propiconazole Pro, Fertilome Liquid Systemic Fungicide), and azoxystrobin + propiconazole (Headway).

Pink Snow Mold (*Microdochium nivale*)



Favorable Conditions: cool (40-60°F) and moist conditions, neutral to alkaline soils, high N applications in the fall.

Pink snow mold (PSM) can affect all cool-season turfgrasses, but damages bentgrass and annual bluegrass most severely. Snow cover is not necessary for PSM to occur, so it may be seen in the fall, but is more prevalent in the spring. Where recurrence is severe, preventative fungicide applications may be made in the fall. Symptoms include well-defined, circular patch clusters and white-pink mycelium on infected leaf blades. Patches of dead, matted leaf blades may also be visible.

Cultural Practices

The last mowing of the season should be short (1 ½ to 2 inches) and the clippings should be removed. If there is PSM damage in the spring, recovery will be quickened by raking and/or mowing to aerate the matted turf.

Resistant Turfgrass Varieties

Perennial ryegrass: Delray; Chewings fescue: Atlanta, Ruby; Red fescue: Dawson.

*Fungicide Options**

Tetrachloroisophthalonitrile (Daconil®), azoxystrobin (Heritage®), PCNB, or combination products (Instrata®).

Gray Snow Mold (*Typhula incarnata*)



Favorable conditions: cool (50-75°F) and moist conditions, shade, heavy thatch, high N applications in the fall.

NOTE: Gray snow mold has been identified in Salt Lake County this spring.

Gray snow mold (GSM) primarily affects tall fescue, bentgrass, and annual bluegrass. Circular patches of matted gray, tan or white grass may range from a few inches to several feet in diameter. Pin head-sized black or rust-colored dots may also be seen on the grass blades near patch edges.

Cultural Practices

Avoid heavy, late season nitrogen applications. Improve air and soil drainage. Remove excess thatch and prevent soil compaction with aeration. Rake and remove tree leaves from lawn before snowfall.

Resistant Turfgrass Varieties

Kentucky bluegrass: Adelphi, Baron, Bonnieblue, Galaxie, Glade, and Monopoly. In general, the fine fescues are more resistant to GSM than Kentucky bluegrass and bentgrass.

*Fungicide Options**

Fungicides are rarely needed to control GSM. However, if the disease has occurred repeatedly in the same areas over a number of years, a fungicide may be warranted. Banner®, Bayleton®, Rubigan®, azoxystrobin (Heritage®), or PCNB.



Billbug (*Sphenophorus* spp.)

Life Cycle: one generation per year for the most part, overwintering in the adult stage.

Billbug (BB) damage is inflicted by the larvae of the bugs which feed on turfgrass stems, crowns and roots. Initial damage resembles drought stress and may include small brown patches. Blades of grass infested with BB can easily be pulled away from the crown.

Cultural Practices

Properly irrigating and fertilizing turfgrass will help the grass to resist and recover from BB damage. Overly irrigating and/or fertilizing will predispose the grass to insect outbreaks.

Resistant Turfgrass Varieties

Endophyte-enhanced perennial ryegrasses and fescues show some resistance to BB.

*Insecticidal Products**

Imidacloprid (Merit®), *Steinernema carpocapsae* (Biosafe®, Biovector®, Exhibit®), *Beauveria bassiana* (Naturalis®).



Sod Webworm (*multiple species*)

Life Cycle: two generations per year for the most part, though one to four are possible depending on species.

Sod webworm (SW) damage is inflicted by the larvae of the moths which feed on turfgrass blades. Blades are chewed off just above the crown. General thinning may be followed by brown patches in the area. Heavy infestations can kill grass, with peak damage occurring in summer and early fall.

Cultural Practices

Properly irrigating and fertilizing turfgrass will help the grass to resist and recover from SW damage. Overly irrigating and/or fertilizing will predispose the grass to insect outbreaks.

Resistant Turfgrass Varieties

Endophyte enhanced perennial ryegrasses and fescues show some resistance to SW.

*Insecticidal Products**

Spinosad (Conserve), *Bacillus thuringiensis* (Bt, Deliver), *Steinernema carpocapsae* (Biosafe, Biovector, Exhibit), azadirachtin (Ornazin).

Recommended Cultural Practices for Spring

Mowing

As a rule, regular mowing height should be 2 – 3 ½ inches to promote root growth and stress tolerance of turfgrasses in the spring. Turfgrass will be growing very quickly in the spring, so mow regularly to avoid removing more than 1/3 of the desired leaf length at any one time. Clippings should also be recycled back into the lawn as a source of nutrients and organic matter. Consider raking turfgrass areas to remove any residual clippings and encourage upright growth of the leaves after a long winter under snow cover.

Fertilization

Nitrogen is of primary concern in turfgrass fertilization. In the spring, 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 winter 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 pink and gray snow mold. In a slow-release form, N fertilizer will provide a consistent source of nutrients as the growing season begins.

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 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.

Seeding & Over-seeding

Spring also 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. Choose pest resistant or recommended turfgrass cultivars when possible.

Focus On: Earthworms

In the spring, bumpy and rough lawns may be the result of earthworm activity. In such cases, it is the movement of earthworms in the soil and the castings that they leave behind on the soil surface that cause the roughness. Castings are the result of the ingestion and excretion of soil and plant litter by the worms. This activity may be particularly noticeable in the spring when soil moisture conditions and temperatures are conducive to their activity.

The problem of earthworm “damage” to turfgrass areas is a complex one. On one hand, a population of earthworms is a good indicator of a very healthy turfgrass system. On the other hand, the bumps that sometimes occur as a result of earthworm activity can make it difficult to mow turfgrasses without scalping the bumpy areas. These spots may also be a safety concern in high traffic areas.

In turf, earthworms work as natural aerators. They turn over the soil in a steady and methodical manner without any real disruption to the turfgrass. Their holes improve the movement of water and nutrients into the soil and make them more available to the lawn. In addition, they are some of the best decomposer organisms that exist in the soil. Earthworms decompose thatch and, by doing so, help recycle nutrients and make them available to the turf again.

Generally speaking, it is desirable to have a healthy population of earthworms in turfgrass areas. If earthworm activities become problematic, however, there are ways to address them.

Following best turfgrass management practices is a good start. These practices include following a regular fertilization schedule, aeration of the lawn, and over-seeding to fill in thin patches. Topdressing and over-seeding may also be helpful for moderately bumpy turf after years of casting build-up. When over-seeding, remember that you will need to keep the soil surface evenly moist to encourage germination. As the turf becomes healthier and thicker, the surface will be less bumpy because of the cushion that healthy turfgrass provides. A light roller may also be helpful in improving the bumpiness of a lawn, but avoid the use of heavy rollers that can compact the soil.

Another basic lawn care practice that can help control the bumpiness caused by earthworms is proper irrigation. Generally, earthworms only become a nuisance when the soil is extremely moist and they must surface for air. This is why they are often seen in the spring as the soil thaws and moisture is high. Irrigating less frequently and deeply during the growing season will keep earthworm populations deeper in the soil profile, so that they are not creating bumps and castings on the surface. Frequent and shallow irrigations can encourage earthworms to stay near the surface.

It is also important to keep in mind that earthworm populations are harmed by the use of certain lawn care pesticides and there is not any pesticide product labeled for their control.

-Kelly Kopp

Relevant USU Extension Fact Sheets

Turfgrass Management

http://extension.usu.edu/files/publications/publication/HG_517.pdf

http://extension.usu.edu/files/publications/publication/HG_Grass_2004_01.pdf

Insect Pests

<http://extension.usu.edu/files/publications/factsheet/billbug07.pdf>

<http://extension.usu.edu/files/publications/factsheet/sod-webworm07.pdf>

Diseases

<http://extension.usu.edu/files/publications/factsheet/snowmold-turf08.pdf>

<http://utahpests.usu.edu/plantdiseases/files/uploads/PDFs/necrotic-ring-spot08.pdf>

***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 seasonally by Utah State University Extension.

Editor: Kelly Kopp, kelly.kopp@usu.edu
click here [<http://www.utahpests.usu.edu/ipm/>] for archived advisories.

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