



# Turfgrass IPM Advisory

Quarterly Turfgrass Pest Update, USU Turfgrass Extension Vol. 16(1), Spring 2023

## **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! The focus should now be on recovery from damage due to winterkill and other turfgrass diseases, such as snow mold.

## Letter from the Editor

Dear Turfgrass Enthusiasts,

What an incredible winter we've had! And after two of the driest and hottest years on record, it's *truly* a relief. I'm now looking forward to our turfgrass areas entering spring in better shape than in many past years, at least in terms of soil moisture and water requirements. :)

Of course, all that snow and cold does present some concerns for our turfgrass areas and those will be addressed in this issue of the Advisory. For example, freeze injury is a distinct possibility during late winter and early spring because of the natural freeze/thaw cycles that occur at this time of the year.

Freeze smothering—intermittent ice formation—on golf course greens and fairways may also be an issue this year. This is especially true where *Poa annua* is the primary turfgrass species.

Though our snow was abundant this year, that is not the case in every location. Those locations that had open, semi-dormant turfgrass areas exposed to wind and reduced humidity this year



may observe turfgrass death due to winter desiccation. Fortunately, this typically only effects turfgrass leaves and not the crown or whole plant.

I'm also anticipating a banner year for snow mold disease in the state. Related, our turfgrass IPM team is working on developing new and updated Extension fact sheets with the latest information on this complex of diseases and their management.

Wishing you all a very happy spring!

Kelly Kopp, Editor, Turfgrass IPM Advisories

# Winterkill of Turfgrasses

When turfgrasses die over the winter months, it may generally be described as “winterkill” (Figs. 1 and 2). The term covers a multitude of causes of turfgrass death in the winter, which may include snow mold, low temperatures, desiccation and crown hydration.



Figure 1. Winterkill symptoms in turfgrass.

## Crown Hydration and Desiccation

Crown hydration is of most concern during the warmer days of late winter/early spring when there is the potential for warm daytime temperatures followed by a hard freeze. Turfgrass may start to take up water as temperatures warm and then re-freeze rapidly. As a result, ice crystals may form in the crown of the plant, rupturing cells and causing death.

During the winter when turfgrass plants are dormant or semi-dormant, drying of the leaves or plants (desiccation) may cause death. Desiccation is typically only a factor on elevated or extremely exposed or windy sites, and areas where surface runoff is rapid.

## Low-Temperature Kill

Different turfgrass species are naturally more or less hardy in cold temperatures. In addition, the rates of freezing and thawing, the number of times frozen, and post-thawing treatment of the turf also affect low-temperature injury to grasses. Of greater concern than air temperature for low-temperature kill of turf

is soil temperature, since the crowns of the plants reside within the soil.

## Recovery from Winterkill

Confirmation of winterkill is necessary before going to the trouble and expense of reestablishment. If you suspect winterkill, take samples of the damaged area and place them in a warm area to see if the turf greens up. Allow two weeks of recovery time before deciding on reestablishment practices.

If reestablishment is indeed warranted, seeding or sodding may be necessary to facilitate recovery. Well-defined areas of damage may be stripped of dead turf and re-sodded. Areas of more scattered damage may be more easily reestablished by seeding. It will also be critical to divert traffic from newly seeded or sodded areas, and to provide light fertilizer applications to stimulate growth. Appropriate irrigation during the reestablishment period will also ensure that the seedbed or sod stays moist.



Figure 2. Winterkill on a golf course putting green exacerbated by cross-country skiing.

-Adapted from Michigan State University's Fact Sheet Winterkill of Turfgrass (E0019TURF) by Dr. Kevin Frank

# Snow Mold

Heavy snowpack this year means a high risk for snow mold damage in turfgrass. 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 (*Microdochium 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 3. 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.



Figure 4. Dead, matted grass blades effected by snow mold with signs of fungal bodies (PC: Helen Muntz).

### 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 be also be necessary depending on severity of disease.



Figure 5. Reddish-brown sclerotia of grey mold (PC: Helen Muntz).

Active Ingredient*	Fungicide class, FRAC code, and plant mobility classification
metconazole	DMI, 3, acropetal penetrant
iprodione	Dicarboximide, 2, local penetrant
fludioxonil	Signal transduction, I2, local penetrant
chlorothalonil	Chloronitrile, M5, contact
PCMB (quitozene)	Aromatic hydrocarbon, I4, contact

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# Recommended Cultural 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.

## 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 1/2 in. 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](#)

- Recommended scheduling of turfgrass management practices

### [Southwest Utah Turfgrass Management Calendar](#)

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

### [Snow Mold in Turfgrass](#)

- Symptoms, diagnosis, and management

**\*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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