

Winter turfgrass diseases

Three major turf diseases are active in winter. Information in this article will help you identify the ones to look out for

By Peter H. Dernoeden, department of agronomy, University of Maryland—College Park
This article is reprinted with permission from *Grounds Maintenance magazine*

Snow protects dormant turfgrass plants from desiccation and frost. Unfortunately, it also creates a favorable microenvironment for low-temperature, pathogenic fungi development. There is no shortage of cold-weather fungal species, and many damage turf between late fall and early spring.

The most common low-temperature fungal diseases are pink snow mold and gray snow mold. Yellow patch is also common on putting greens during cool moist periods in late fall or early spring.

Snow mold fungi are remarkably active at temperatures slightly above freezing. They damage turf that is dormant or growing slowly because of low temperatures. Cold weather and dormancy prevent turfgrasses from defending themselves against fungal invasion.

Although known as snow molds, these fungi attack turf with or without snow cover. Cool to cold (32 to 60° F) temperatures and abundant surface moisture favor disease development.

Pink Snow Mold

Pathogen: *Microdochium nivale* (formerly called *Gerlachia nivalis* and *Fusarium nivale*)

Conditions: Several conditions encourage pink snow mold—low

to moderate temperatures, plenty of moisture, long-lasting deep snow, snow on unfrozen ground and alkaline soil. Turf stimulated by excess nitrogen applied late in the season is usually more susceptible.

In the absence of snow, this disease may be called *Microdochium* patch. Previously, it was called *Fusarium* patch. *Microdochium* patch is most severe during extended periods of 50 to 55°F temperatures and overcast, wet drizzly or foggy weather.

Machinery and foot traffic easily spread spores. The pathogen survives unfavorable environmental conditions as spores and as viable resting mycelia in plant debris.

Hosts: Most species that grow in heavy snowfall regions are susceptible, especially annual bluegrass and bentgrasses. In areas where heavy snow cover is uncommon, hosts are perennial ryegrass, Kentucky bluegrass and creeping red fescue.

Symptoms: Small (2- to 3-in.), water-soaked patches appear in the turf. These may grow to 1 or 2 feet in diameter, and several spots may join to form one large spot. Pinkish mycelia produce the pink color along the edges of the patches. The mycelia mats leaves, and plants eventually collapse and

die. The pathogen frequently invades crown tissues and kills turf.

Without snow, patches vary from 1/2 to 3 inches in diameter. At first, the patches are red or orange-brown. When the disease subsides, the dead patches turn gray.

Patches are larger (6 inches to 2 feet) at snow melt or under snow cover. When active, the outer edge of the patch is distinctively pink while the inner portion is usually tan or gray.

Signs: The pinkish mycelia at the edge of affected patches is a key diagnostic sign. Mycelia on the leaf blades produce fruiting bodies (sporodochia) that bear spores in large numbers. Through a microscope, you will see canoe-shaped spores.

Gray snow mold

Pathogen: *Typhula incarnata* or *Typhula ishikariensis*

Conditions: Gray snow mold, or *Typhula* blight, usually develops under snow cover or at snow melt. This disease can occur when there is no snow, but it is most damaging under deep, long-lasting snow. It can be particularly bad under a heavy snowfall on unfrozen ground.

Gray snow mold begins its disease cycle as a saprophyte

colonizing dead organic matter. Under snow, the fungus moves onto living leaves and sheaths. It may invade the crown. Normally, *Typhula* does not completely kill the crowns so plants recover in spring.

Hosts: Most species in heavy snowfall regions are susceptible, especially creeping bentgrass, annual bluegrass and Kentucky bluegrass. Where heavy snowfall is uncommon, hosts are perennial ryegrass, red fescue and tall fescue.

Symptoms: Light brown to gray, 2- to 4-in. patches mark the turf. These patches enlarge to 2-ft across and join to blight large areas.

Signs: When the disease is active, you will see grayish mycelia matting leaf tissues. In spring, distinctive chestnut-brown or black sclerotia develop on leaves or between leaf sheaths. Sclerotia are hard, compact masses of mycelia enclosed in a dark, protective rind. Sizes range from a speck to 1/8-inch in diameter. Sclerotia may be round or oblong. When cool, moist weather returns in late fall, sclerotia germinate. They produce either mycelia or a specialized fruiting body that bears spores. Both *Typhula* species that attack turf produce similar symptoms. Pathologists use sclerotial color to differentiate between the two.

Yellow Patch

Pathogen: *Rhizoctonia cerealis*

Conditions: Yellow patch, also called cool-temperature brown patch, occurs between late fall and late spring. It is most active during extended periods of late winter or spring when temperatures are 40 to 60°F and weather is wet, foggy or drizzly.

Hosts: Creeping bentgrass and annual bluegrass putting greens.

Occasional hosts: Kentucky bluegrass, perennial ryegrass.

Symptoms: This disease frequently attacks putting greens producing rusty-brown and yellow rings or patches. Size varies from a few inches to a foot or more in diameter. Damage is usually superficial. Thinning may occur if weather is wet and overcast for a prolonged period in late winter or early spring.

Signs: Mycelia are present during early morning hours if turf is moist. Mycelia may be difficult to see without a microscope.

Other winter diseases

Red thread, *Laetisaria fuciformis*, and leaf spot, *Drechslera* sp., may be active during winter or early spring. Temperatures above freezing and overcast, wet weather favor these diseases.

Other winter diseases occur in the mountainous regions of the United States, in the tier states along the Canadian border and in Canada. Among these are snow scald, *Myriosclerotinia borealis*, and Coprinus snow mold, *Coprinus psychromorbidus*, also called LTB or SLTB. Pathologists have isolated these diseases from the heavy snowfall regions of Minnesota and Canada, but the diseases undoubtedly exist in other areas.

Recently, there have been reports of *Pythium* species attacking putting greens in late winter or early spring. However, aerial mycelia, which develop in the field and are common *Pythium* blight indicators in summer, are missing from these observations. Researchers must learn more about the biology of the cool-temperature *Pythium* species involved and how best to control the diseases they cause.

Mid-Atlantic Newsletter Supporters

Continued from page 5

SEED CORPORATION OF AMERICA

7644 Hollins Ferry Rd, Baltimore, MD 21227
Over 100 varieties of turf seeds, fertilizers, mulch, lime.
Tracy Gosselin, Debbie Primanzon

Balt: 301-247-3000

Alan Rosoff Outside Md: 800- 482-4455

SHARE CORPORATION

Liquid turf maintenance products, equipment maintenance products. Milwaukee, WI 414-355-4000

Ed Howser Western Shore: 301- 465-8154

Ed Howser Jr. Eastern Shore: 301- 482-6929

Tom Howser Shenandoah Area: 301-729-1206

STOUT ENVIRONMENTAL, INC./ DELMARVA DRILLING COMPANY

Water well construction and service, pump installation, service and repair, under-ground storage tank, testing and removal, 24-hour emergency service.

William J. Jefferys 301-793-0219

R. Michael Collison De: 302-337-8254

SUMMIT HALL TURF FARM, INC.

Meyer Z-52 Zoysia (sod or plugs), premium Bluegrass blend (sod), improved Tall Fescue blend (sod), Penncross Bentgrass (sod), pelletized lime, Andgrow fertilizer products and custom blends, chemicals (herbicides, fungicides & insecticides) 60% WDG Pendi-methalin.

Brian K. Finger, Frank H. Wilmot 301-948-2900

SYDNOR HYDRODYNAMICS, INC.

Water system service. Sales, installation, service of pumps, motors, packaged pump stations, control valves & pump controls. Prevent. maintenance; 24-hr. emergency service. Water well construction & rehab.

Serving Md, Va, N.C. Richmond: 804-643-2725

Emergency after hrs: 804-257-7773

TERRY ASPHALT

P.O. Box 104, Glen Arm, MD 21057

Golf cart paths our specialty. Parking lot striping and lot clearing. 301-592-5343

TURF CENTER, INC.

Premium turf (Bluegrass, Tall Fescue, Bermuda Grass, Zoysia), grass seed & fertilizer.

Diana Patton, Emory Patton, Dave Van Kirk

301-384-6300

TURF EQUIPMENT AND SUPPLY, INC.

Toro turf equipment, Olathe, Chem Pro, SDI and Hahn sprayers, Billy Goat, Foley grinders, Toro irrigation, PSI and commercial pumps, Otterbine Aerators.

Lynn Matson, Ron Hawkins, Lance Ernst, Mike

Minard, Paul Standerfer, Todd Cowing, Marty

Haske, Mike Salamon

Balt: 301-796-5575

D.C. Area: 301-621-2975

VIGORO INDUSTRIES, INC

Par-Ex® slow release fertilizers for turf.

Woodace® slow release fertilizers for ornamentals.

R.A. "Dick" Dolye 813-294-2567