



DISEASES

Dollar Spot Disease of Turfgrass

no. 2.933

by C.E. Swift ¹

Quick Facts...

Dollar spot, a major turfgrass disease in Colorado, often is confused with *Ascochyta* leaf blight.

Turfgrass under stress is more susceptible to infection.

Proper lawn management, such as aeration, proper watering and fertilization, will reduce dollar spot problems.

Use fungicides only in situations with recurrent dollar spot problems.

Ensure nitrogen levels are sufficient to sustain a moderate rate of shoot growth.

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The fungus pathogen causing dollar spot was previously known as *Sclerotinia homoeocarpa*. Dollar spot fungi now are considered species of *Lanzia* and *Moellerodiscus*.

Dollar spot initially was a major concern on bentgrass where it forms spots the size of silver dollars, hence the name “dollar spot.” However, on Kentucky bluegrass lawns the fungi may infect large areas in just a few days. Infected areas 4 inches or larger may run together, causing large patches. Irregular patches to 12 feet wide are not uncommon on bluegrass lawns. In Colorado, this disease complex also can be a problem on annual bluegrass, bermudagrass, fine-leaf fescues, perennial ryegrass and zoysiagrass.

Dollar spot fungi may be spread by mowers, traveling sprinklers and other maintenance equipment. Maintaining clean equipment may help prevent spreading.

Strains of dollar spot fungi grow within a wide range of temperatures, so this turf disease may be active from late spring to late autumn. However, most problems occur when temperatures are moderately warm and change rapidly, as with warm days and cool nights.

Because this disease complex often is serious on bluegrass and other turf during hot weather, many homeowners feel the resulting bleached grass is caused by a lack of water. They don’t realize the problem is caused by fungi. Overwatering in an attempt to correct the supposed drought may make the disease get much worse.

Identification

At first, affected leaves show yellow-green blotches or bands that normally go undetected. These lesions gradually bleach to a white or straw color. On finer-textured turfgrasses, individual lesions on the leaves often span the width of the grass blade, producing a constricted area resembling an hourglass. On coarser grasses, the spots caused by dollar spot may not span the blade.

Leaves infected by *Ascochyta* usually start dying back from the tips. Lesions caused by *Ascochyta* leaf blight, which occur in the middle of a blade, usually do not have a hourglass shape or a border area between the white, dead tissue and the green, healthy tissue. See fact sheet 2.901, *Ascochyta Leaf Blight of Turf*, for more information on this disease.

Individual leaf blades may have a single lesion or many small lesions or be entirely blighted. Infected blades usually have a distinctive tan to purplish streak between the white and green portions of the blade. These white-banded blades are most evident between dead areas and green turf.

The tip of the leaf blade may show the characteristic lesion, or the lesion may be in the middle of the blade, leaving the leaf tip green. When grass is wet from early morning dew, a fine, white cobweb-like mycelial growth (strands



Figure 1: Dollar spot.



Figure 2: Ascochyta leaf blight.

Stress factors include:

- *Low nitrogen fertility*
- *Improper mowing*
- *Excessive salt*
- *Improper watering*
- *Insects*
- *High humidity*
- *Heavy thatch*

of fungus) may be visible on diseased leaves. As the grass dries, the mycelium disappears. Do not confuse this with spider webs or the downy seed tufts of cottonwood trees.

Stress Factors

Turfgrass under stress is more susceptible to dollar spot than is properly maintained turf. Low nitrogen fertility, improper mowing (frequency and height), excessive soluble salt (alkali) levels, and improper watering all make turf more susceptible to disease. Newly sodded or seeded lawns that receive heavy watering also are frequently attacked.

Infestations of white grubs, billbug grubs and other soil-inhabiting insects may stress grass by eating plant roots. Dollar-spot infected areas may mask the more serious insect problem. Always check infected lawns and treat for insect pests.

Because of root loss, turf damaged by white grubs or billbugs may need to be watered daily like newly laid sod. This type of treatment may increase the severity of dollar spot and require application of an appropriate fungicide.

Long periods of high humidity or free moisture within the foliar canopy may cause severe outbreaks. Watering turf at the wrong time may extend this susceptible period and increase the incidence of disease.

Heavy thatch layers may promote dollar spot because water, air and nutrients cannot penetrate to the underlying soil and grass roots. This results in shallow and poorly developed roots that are quite susceptible to drought stress. Thatch also ties up and reduces the effectiveness of pesticides.

Resistant Grasses

Seeding or sodding with two or more varieties of bluegrass may reduce the chance of losing the lawn to dollar spot. Bluegrass varieties demonstrate varying degrees of resistance.

The National Turfgrass Evaluation Program (NTEP) final report for 2000, NTEP No. 01-12, indicates Showcase, Moonlight, Award, Sidekick, Brilliant, American, Ascot, Envicta and Odyssey have the greatest dollar spot resistance of the cultivars examined. Additional research results can be found on the NTEP Web site at [http:// ntep.org](http://ntep.org).

Disease Management

Proper lawn management is the key to prevention and control. In some cases, this may mean aeration with a core-type aerator. This device pulls plugs from thatch and soil, which allows penetration of water, air and nutrients into the soil. This increases rooting depth of the turf. In other cases, proper watering and fertilizing may bring back a dollar-spot infected lawn.

Disease organisms are always present in the lawn, waiting for an opportunity to invade the grass. Most turf diseases (powdery mildew is an exception) require 14 or more hours of free moisture on a blade of grass for the organism to cause a problem. To avoid keeping the grass wet more than is normal, water between 9:00 p.m. and 8:00 a.m. Early morning watering (before sunrise) helps remove dew and plant exudates from the leaf surface and helps reduce the incidence and spread of dollar spot. Watering should not continue after sunrise. If turf is watered at 7:00 or 8:00 a.m. and the wet period is extended, disease may increase. Disease also may become more severe if the normal wet period is extended during the early evening. Visit www.coopext.colostate.edu/TRA/PLANTS/leafwet.html for a more extensive discussion of leaf wetness and disease potential of turf.

If you want to water during daylight, allow grass to dry for at least one hour before watering it. When watering late in the day, allow time for grass

blades to dry before nightfall.

In some cases, the interseeding of resistant varieties of the same type of grass into existing turf is in order. As disease kills susceptible varieties, resistant varieties fill in dead spots. In severe cases, it may be necessary to remove turf, prepare the soil with organic matter and nutrients as recommended by a soil test, and seed or sod with resistant varieties of grass.

Fungicides

If nitrogen fertility levels are properly managed, and other cultural stresses are reduced, the use of fungicides for dollar spot control in residential lawns is normally not required.

Dollar spot fungi have varying degrees of tolerance to common fungicides used to control them. Some fungicide-resistant strains of dollar spot have developed. A particular fungicide, therefore, may be effective at one time but not another. Also, fungicides may increase future insect and disease problems due to their effect on beneficial soil organisms (earthworms, microbes, etc.). Without these organisms, thatch does not decompose and the efficiency of pesticides is significantly reduced. Earthworms and other beneficial soil organisms, which help aerate soil and improve grass health, may be negatively affected by fungicides.

Use Fungicides ONLY as a last resort where there is an established history of recurrent disease. Fungicides labeled for use and found effective against dollar spot disease include but are not limited to iprodione (Chipco 26019 – prohibited at residential sites), chlorothalonil (Daconil Zn, Daconil Ultrex, Daconil Weather Stik - use of these products on home lawns is prohibited), fenarimol (Rubigan A.S. – for commercial use only), triadimefon (Bayleton 50), mancozeb (Fore) and propiconazole (Banner Maxx).

Always read and follow label directions when purchasing and using pesticides. Alternate among different fungicides to discourage chemically induced resistance of the fungi.

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Diagnosis of turf disease problems is available through Colorado State University Cooperative Extension county offices.

Additional Information

Additional information on proper lawn care is available from Colorado State University Cooperative Extension county offices. This includes the following fact sheets:

- 2.900, *Necrotic Ring Spot in Turfgrass.*
- 2.901, *Ascochyta Leaf Blight.*
- 2.908, *Fairy Ring in Turfgrass.*
- 2.909, *Leaf Spot and Melting Out Diseases.*
- 3.100, *Broadleaf Weed Control in Lawns.*
- 3.101, *Grassy Weed Control in Lawns.*
- 5.505, *Clover and Other Mites of Turfgrass.*
- 5.509, *Sod Webworms and Cutworms.*
- 5.516, *Billbugs and White Grubs.*
- 7.007, *Eliminate Grass Clipping Collection.*
- 7.202, *Lawn Care.*
- 7.227, *Growing Turf on Salt-Affected Sites.*

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