DISEASES

Dollar spot disease of turfgrass no. 2.933

by C.E. Swift[1]

Quick Facts...

Dollar spot is a major turfgrass disease in Colorado.

Dollar spot causes silver-dollar-size spots in short cut bentgrass, but affects larger areas in Kentucky bluegrass turf; spots are small on annual bluegrass.

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.

The fungus pathogen causing dollar spot has, until recently, been known as *Sclerotinia homeocarpa*. 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.

Since strains of dollar spot fungi grow within a wide range of temperatures, this turf disease may be active from late spring to late autumn. However, most problems occur when temperatures are moderately warm and when rapid temperature changes with warm days and cool nights are common.

Since this disease complex often is serious on bluegrass and other turf during periods of 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. If turf is over watered in an attempt to correct the supposed drought, the disease may 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 may not span the blade.

Individual leaf blades may have a single lesion, many small lesions, or may 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 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.

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Stress Factors

Turfgrass under stress is more susceptible to dollar spot than 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 dollar spot infected lawns always and treat for insect pests.

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

When conditions favor long periods of high humidity or free moisture within the foliar canopy, disease outbreaks may be severe. Watering turf at the wrong time may extend this susceptible period and increase the incidence of disease.

Heavy thatch layers may promote dollar spot due to lack of water penetration, air and nutrients 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 applied to control diseases, insects, or other pests.

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. National Kentucky Bluegrass tests reveal that Lofts 1757, Eclipse, 239 (Suffolk), America, Bristol, and Somerset have the greatest dollar spot resistance of varieties tested thus far. Varieties found most susceptible include Ram-1, Bar VB 577, WW AG 491, Monopoly, Merit and Sydsport. Mixing other grasses such as turf-type perennial ryegrass and turf-type tall fescues with bluegrass also is recommended as a means of controlling the severity of dollar spot. One variety or type of grass may be susceptible and another resistant. The first may be lost to disease while the second fills in vacancies left by the first.

Disease Management

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

Disease organisms continually are present in the lawn waiting for an opportunity to invade the grass. Most turf diseases (powdery mildew is an exception) require 14 to 16 hours of free moisture on a blade of grass for the organism to cause a problem. To avoid the problem of keeping the grass wet 14 to 16 hours, water between 9:00 p.m. and 8:00 a.m. 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.

Gardeners who wish to water during the day should allow grass to dry for at least one hour before irrigating. When watering late in the day, allow time for grass blades to dry before nightfall.

In some cases, the interseeding of resistant varieties of grass into existing turf is in order. As disease kills susceptible varieties, resistant varieties fill in dead

spots. In severe cases, turf removal, proper soil preparation using the necessary organic matter and nutrients as recommended by a soil test, and seeding or sodding of the lawn with resistant varieties of grass may be necessary.

Fungicide Use

Dollar spot fungi have varying degrees of tolerance to common fungicides used to control this problem. The use of a particular fungicide may be effective at one time, but not at another. In addition, the use of fungicides to control turf diseases may increase future insect and disease problems due to the effect of beneficial soil organisms (earth worms, microbes, etc.) Without these organisms, thatch is not decomposed and the efficiency of pesticides applied is significantly reduced. Earth worms and other beneficial soil organisms also assist in aeration of soil, which helps keep grass roots alive.

Use fungicides **ONLY** as a last resort where an established history of recurrent disease development occurs. Fungicides labeled for use and found effective against dollar spot disease include but are not limited to iprodione (Chipco 26019), chlorothalonil (Daconil 2787), anilazine (Dyrene), mancozeb (Fore), fenarimol (Rubigan), triadimefon (Bayleton), propiconazole (Banner), thiophanate-ethyl (Cleary's 3336) and methyl thiophanate (Fungo 50). Always read and follow label directions when purchasing and using pesticides. When fungicides are used, alternate between different kinds of fungicide to discourage chemically induced resistance of the fungi.

Additional information on proper lawn care is available from county Colorado State University Cooperative Extension offices. This includes the following fact sheets: 7.202, *Lawn care,* and 7.227, *Growing turf on salt-affected (alkali) sites*.

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

[1]*C.E. Swift, Colorado State University Cooperative Extension area horticulture agent.*

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