

Common Diseases of Turfgrass in the San Joaquin Valley

SYMPTOMS - descriptions from UC IPM Pest Management Guidelines for Turfgrass www.ipm.ucdavis.edu



Fairy Ring

Lawn Diseases

Any time of year

ALL GRASSES

Cultural practices
Aerate, water deeply, fertilize, dethatch.

Fungicides
Few work and these are not readily available to homeowner. Better to manage culturally.

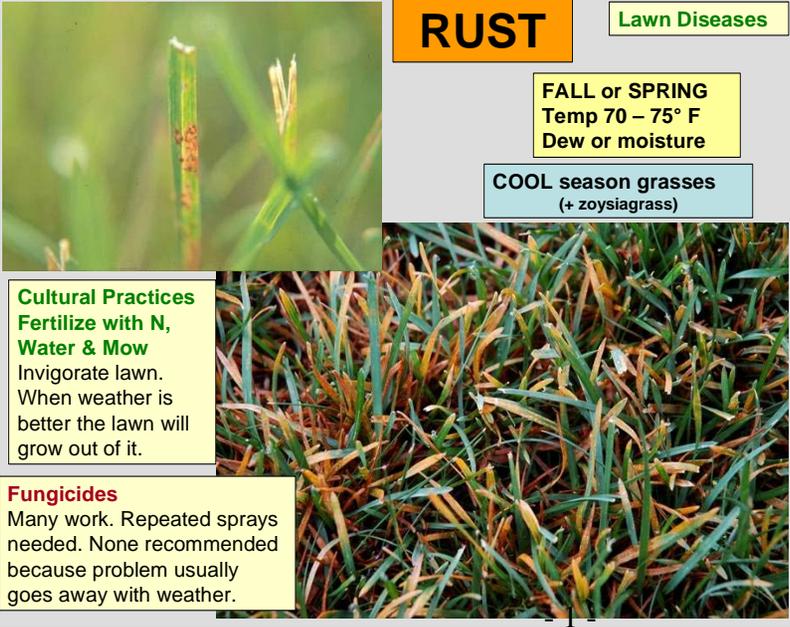
FAIRY RING Fairy rings are circular or semi-circular and can range in size from a few inches up to many feet in diameter. Symptoms can be variable, depending on the species of fungi, and include:

- dark green rings with no dead turf;
- dark green rings with a thin ring of dying or dead turf inside or outside the green ring;
- rings of dying and dead turf with a hardened hydrophobic layer of soil that is difficult to irrigate; and
- rings of mushrooms without a visible effect on the turf.

There are two types of fairy rings, **non-superficial** or **superficial**.

1) **Non-superficial rings** (edaphic) are generally formed by **fungi that inhabit the soil** underneath the turf. These frequently cause a hardened hydrophobic layer of soil above the areas of their active growth that prevents water penetration into the soil and often causes plant death. **Brown rings of dead turf are frequently associated with this type.**

2) **Superficial rings** (lectophillic) are caused by **fungi that inhabit the thatch layer** and decomposed plant debris, litter, and old thatch. These rings are characterized by a slight depression of the affected areas surrounded by **dark green rings of turfgrass** where the fungi are breaking down plant material and releasing nitrogen. A hard hydrophobic soil layer is not associated with this fairy ring type.



RUST

Lawn Diseases

FALL or SPRING
Temp 70 – 75° F
Dew or moisture

COOL season grasses
(+ zoysiagrass)

Cultural Practices
Fertilize with N, Water & Mow
Invigorate lawn. When weather is better the lawn will grow out of it.

Fungicides
Many work. Repeated sprays needed. None recommended because problem usually goes away with weather.

RUST

Rust begins as small yellow spots on leaves and stems that form elongated, reddish brown or orange pustules. Shoes and clothes are often stained orange by the spores when walking through infested areas. Rust kills leaves and debilitates plants when it is severe.

Lawn Diseases



Pink Snow Mold

Microdochium Patch (M. nivale)
sometimes called Fusarium Patch

WINTER - cool to cold & wet
32° – 65° F

COOL season grasses

Cultural Practices
Avoid High N - Aerify
Disease goes away above 70°

Fungicides
Many. Apply before disease appears,
IF a persistent problem.



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PINK SNOW MOLD

The disease appears as small, circular dead spots (up to several inches in diameter) that have a pinkish color. Often white to pink mycelia are evident in affected areas in the early morning.

SPRING DEAD SPOT

Spring dead spot appears as circular areas of dead grass, 6 to 12 inches in diameter when turf resumes growth in spring. Sometimes, the symptoms are not evident until 2 or more years after the establishment of the disease. Spring dead spot is spread by sclerotia (tiny hard resting bodies - sort of like a clump of spores) and infected plant parts, as well as through infested sod.

Lawn Diseases



Spring Dead Spot

Ophiosphaerella korrae & O. namari

SPRING - Cold weather disease
observed in spring

BERMUDAGRASS only

Cultural Practices
Avoid late fall N application
Grow healthy, strong bermuda in summer months.
Disease usually becomes less of a problem over time.

Fungicides
Unsure. Difficult to manage with fungicides. Several lawns in Visalia have chronic problem. Make application in Fall. Spring is TOO late, won't help.



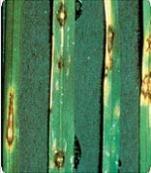
Lawn Diseases

Helminthosporium Leaf Spot

Dreschlera and Bipolaris fungi

Warm & Humid - Temp 75 – 95° F

COOL season grasses






Cultural Practices
Mow high. Avoid prolonged leaf wetness. Reduce shade, improve soil aeration, and water drainage.

Fungicides
Many. Not usually severe enough to warrant application, except maybe in really warm, rainy springs.

LEAF SPOT

Leaf spot occurs on leaf blades, sheaths, and stems as circular to elongated purplish or brown spots with brown colored centers and purplish to dark brown borders. Spots may be found on turfgrass leaves throughout the site, indicating spread by windborne spores. Helminthosporium is the fungus that causes the majority of leaf spot on turfgrasses in our area. Recently plant pathologists have divided Helminthosporium into different species: Dreschlera and Bipolaris. There is a Bipolaris leaf blotch that gets on bermudagrass, but that is rarely, if ever, seen here.

RHIZOCTONIA BROWN PATCH

Brown patch affects cool-season grasses during periods of hot weather. On closely mowed turf, patches of blighted turf will often have a purplish edge or smoke ring appearance in the early morning hours. Initial patches may first appear purplish-green and turn brown as the disease progresses. On taller turf plantings, patches will appear as blighted turf that turns dull tan to brown. The fungus causes dull tan lesions on leaves that may develop a reddish brown margin. Plants killed by the fungus will often have a light brown color, and turn brittle, but will not have a wet, greasy appearance that is characteristic of Pythium blight.

Lawn Diseases

Rhizoctonia Brown Patch

Rhizoctonia solani

Warm & Humid - Temp 75 – 95° F

COOL & WARM season grasses

Smoke Rings – Purplish edge





Cultural Practices
Grow healthy turf in fall and spring. Avoid overwatering in summer. Reduce irrigation frequency; keep surface dry; improve drainage. Don't fertilize fescue in summer months.

Fungicides
Many. Apply after first sign of disease, if chronic problem.

COOL & WARM season grasses
ALL Turfgrasses can get some form of Rhizoctonia Brown patch plus there are several other patch diseases (yellow patch, brown ring patch), but these are not common here.

Lawn Diseases

Pythium Blight

GREASE SPOT

SUMMER - hot temps.
day > 85°
night > 68°

ALL Grasses – especially cool season lawns in summer

Cultural Practices
Avoid overwatering. Reduce irrigation frequency; keep surface dry. Don't fertilize fescue in summer months.

Fungicides
Aliette, Subdue are systemic. Fore is by contact. Apply before disease is seen, if chronic problem.




PYTHIUM Blight (Grease Spot)

Pythium blight, also known as grease spot, kills turf in small, roughly circular spots (2 to 6 inches) that tend to run together. Blackened leaf blades rapidly wither and turn reddish brown. Leaf blades tend to lie flat, stick together, and appear greasy. Roots may be brown and rotten.

SOUTHERN BLIGHT

Sclerotium blight affects circular areas of turf, enlarging up to 9 feet in diameter; some plants may remain alive in the centers of these areas. Sometimes only partial circles or crescent-shaped areas of affected turf are seen. The turfgrass turns reddish brown as it dies. Infected plants appear completely necrotic. As the fungus advances, abundant white mycelia appear on the turfgrass. Light to dark brown sclerotia, which are tiny, hard, resting bodies that resemble mustard seeds, develop at the base of the stems and may help identify this disease.

Lawn Diseases

Southern Blight

Sclerotium rolfsii

SUMMER - warm to hot days > 85°
likes high moisture in thatch

COOL season grasses

Cultural Practices
Disease can come in on new sod. Sclerotia can be spread by lawn mowers, aerifiers, verticutters.

Fungicides
If a chronic problem may want to hire a professional to apply fungicide before or at first sign of disease. Homeowner can use products containing triadimefon.





Trade names and Registrations change frequently. Always consult the label for directions for use.

Fungicides Labeled for Turfgrass Diseases in California										
Common name	Professional Trade name*	Homeowner Trade name**	Fairy Ring <i>many</i>	Leaf Spot <i>Helminthosporium</i>	Pink Snow Mold <i>Microdochium nivale</i>	Pythium Blight <i>Pythium sp.</i>	Brown Patch <i>Rhizoctonia solani</i>	Rust <i>Puccinia sp.</i>	Southern Blight <i>Sclerotium rolfsii</i>	Spring Dead Spot <i>Ophiosphaerella sp.</i>
azoxystrobin	Heritage		X	X	X	X	X	X	X	X
chlorothalonil	Daconil, Concorde	Bravado, Daconil, Frt/Veg/Orn Fungi		X	X		X	X		
fenarimol	Rubigan, Patchwork				X		X			X
fludioxonil	Medallion			X	X		X			
flutolanil	ProStar		X				X		X	
fosetyl-al	Aliette	Aliette				X				
iprodione	Chipco 26019	Chipco 26019		X	X		X			
mancozeb	Dithane, Formec	Fore		X	X	X	X	X		
mefenoxam	Subdue Maxx	Subdue				X				
myclobutanil	Eagle	Immunox		X	X		X	X		X
PCNB	Terrachlor, Turfcide	?			X		X			
propiconazole	Banner Maxx	Fungi Fighter		X	X		X	X		X
thiophanate-methyl	Cavalier, Fungo, Cleary's	Clearys 3336, Fungo		X	X		X	X		
triadimefon	Bayleton, Accost	Fungus Control Lawns, Fung-Away					X	X	X	
trifloxystrobin	Compass			X	X		X	X		
vinclozolin	Curalan, Touché			X	X					

* Only the most popular trade name is listed here. There are more brand names available for the professional.
 ** There may be other trade names.

*** prepared by Michelle Le Strange, UCCE, March 2007