

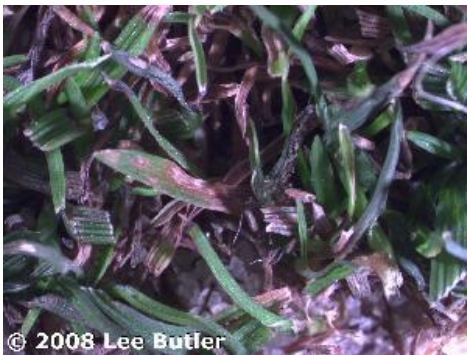
Red Leaf Spot

[*Drechslera erythrospila*]



SYMPTOMS

Red leaf spot is a disease that occurs on creeping bentgrass during warm and wet weather in the spring, summer, or fall. Red leaf spot is a 'Helminthosporium' disease, which is a complex of diseases caused by fungi that produce large, cigar-shaped spores. Symptoms of red leaf spot appear in spots or irregular patches that are red or reddish-brown. On individual plants, symptoms appear as small, red or reddish-brown leaf spots with a tan center. As the lesions expand and coalesce, the turfgrass leaves become blighted and collapse to the ground.



red leaf spot plant symptoms

Characteristic	Description
Host Grass Species	creeping bentgrass
Month(s) with symptoms	April to October
Stand Symptoms	spots, patches (4 to 12 inches)
Foliar Symptoms - Location/Shape	oval leaf spots
Foliar Symptoms - Color	small, red or reddish-brown leaf spots with a tan center
Root/Crown Symptoms	none
Fungal Signs	none

Note: Still not sure if this is the right disease? The [Turfgrass Disease Identification](#) program may be helpful. Or consult the experts at the [Turf Diagnostics Lab](#). Check the TurfFiles [glossary](#) for definitions of unfamiliar terms.

FACTORS AFFECTING DISEASE DEVELOPMENT

Red leaf spot is one of several Helminthosporium pathogens that survive in the thatch during periods that are unfavorable for disease development. The red leaf spot pathogen is most active during warm, wet weather in the late spring, summer, or early fall.

Red leaf spot is most severe on turf that is growing slowly due to adverse weather conditions or improper management practices. Shaded areas with little or no air movement result in weak turf and extended periods of leaf wetness that favor disease development and plant infection. Deficient or excessive nitrogen, excessive thatch, extended periods of leaf wetness, drought stress, and low mowing heights are factors that encourage the development of Helminthosporium diseases.

Certain cultivars of turfgrasses are very susceptible to injury from Helminthosporium diseases while many of the newly released cultivars have exhibited good resistance.

CULTURAL CONTROL

Fertilize to meet the nutritional needs of the turf but avoid over-stimulation and the development of lush, succulent growth. Do not apply more than one pound of nitrogen per 1000 ft² in a single application.

Creeping bentgrass should be mowed at heights between 0.110” and 0.125” during fall, winter, and spring and between 0.125” and 0.15” during summer. Keep the mower blades sharp to prevent open wounds through which the fungus can enter.

Reduce extended periods of leaf wetness with deep and infrequent irrigation, wetting the entire root zone then re-applying when the root zone becomes dry. Do not irrigate just before or after sunrise and remove dew in the morning to shorten leaf wetness periods. Remove unwanted vegetation that impedes air movement and prune trees to increase light penetration. Regular aeration and topdressing is needed to reduce thatch accumulations and minimize pathogen survival.

CHEMICAL CONTROL

Red leaf spot can be controlled on a preventative or curative basis. Where the disease has been a persistent problem, apply an effective fungicide every 14 to 21 days when conditions are favorable for infection. Once the symptoms of red leaf spot appear, tank-mixtures of contact and systemic fungicides are recommended for curative control.

Fungicide	Efficacy ⁽¹⁾	Resistance Risk ⁽²⁾	Class ⁽³⁾	Products ⁽⁴⁾
iprodione + thiophanate-methyl**	++++	6	benzimidazole	26/36, Dovetail, Fluid Fungicide
iprodione**	++++	4	dicarboxamide	26GT, IPro, Iprodione Pro, Raven
vinclozolin**	++++	4	dicarboxamide	Curalan, Touche
mancozeb**	++++	2	dithiocarbamate	Fore, 4 Flowable Mancozeb, Dithane, Mancozeb DG, Pentathlon, Protect, Wingman
mancozeb + myclobutanil**	++++	3	dithiocarbamate + DMI	Manhandle
mancozeb + copper hydroxide**	++++	2	dithiocarbamate + inorganic	Junction
azoxystrobin + propiconazole	++++	6	DMI + QoI	Headway
azoxystrobin	++++	6	QoI	Heritage
chlorothalonil + thiophanate-methyl**	+++	4	benzimidazole + nitrile	Spectro, ConSyst, Peregrine, Tee-1-Up, TM/C
chlorothalonil + propiconazole**	+++	3	DMI + nitrile	Concert
chlorothalonil + propiconazole + fludioxonil**	+++	3	DMI + nitrile + phenylpyrrole	Instrata
chlorothalonil**	+++	2	nitrile	Daconil, Chlorostar, Chlorothalonil, Echo, Legend, Manicure, Pegasus
pyraclostrobin	+++	6	QoI	Insignia
thiram**	++	2	dithiocarbamate	Spotrete
propiconazole	++	4	DMI	Banner MAXX, Kestrel, Kestrel MEX, ProPensity, Propiconazole, Propiconazole G-Pro, Propiconazole Pro, Savvi, Spectator, Strider
myclobutanil	+	4	DMI	Eagle, Myclobutanil

Fungicide	Efficacy ⁽¹⁾	Resistance Risk ⁽²⁾	Class ⁽³⁾	Products ⁽⁴⁾
thiophanate-methyl	?	6	benzimidazole	3336, Fungo, Systec, T-Bird, T-Storm, Tee-Off, TM
flutolanil + thiophanate-methyl	?	6	benzimidazole + carboxamide	SysStar
tebuconazole**	?	4	DMI	Torque
triticonazole	?	4	DMI	Trinity, Triton
triadimefon + trifloxystrobin	?	6	DMI + QoI	Armada, Tartan
fludioxonil	?	2	phenylpyrrole	Medallion
fluoxastrobin	?	6	QoI	Disarm, Disarm G
trifloxystrobin	?	6	QoI	Compass

** Not for application to residential lawns.

Footnotes:

(1) **Efficacy Codes:**

++++	excellent control when conditions are highly favorable for disease development
+++	good control when disease pressure is high, or excellent control when disease pressure is moderate
++	good control when disease pressure is moderate, excellent control when disease pressure is low
+	good control when disease pressure is low
0	does not provide adequate control under any conditions
?	cannot be rated due to insufficient data

(2) **Resistance Risk:**

- 1 Rotating and tank-mixing not necessary, but recommended to avoid potential side effects from continuous use of same chemical class.
- 2 Rotate to different chemical class after 3-4 applications; tank-mixing not necessary.
- 3 Rotate to different chemical class after 2-3 applications; tank-mixing not necessary.
- 4 Rotate to different chemical class after 1-2 applications; tank-mixing not necessary.
- 6 Rotate to different chemical class after 1-2 applications; tank-mixing with low or moderate risk product recommended.
- 9 Rotate to different chemical class after EVERY application; tank-mix with low or moderate risk product for EVERY application.

(3) Continual use of fungicides with similar control mechanisms (modes of action) can result in fungi that are resistant to some chemicals. Poor or ineffective disease control can be expected when this occurs. Managers can reduce the chances of this happening by mixing or alternating fungicides belonging to different chemical classes.

(4) Recommendations of specific chemicals are based upon information on the manufacturer's label and performance in a limited number of trials. Because environmental conditions and methods of application may vary widely, performance of the chemical will not always conform to the safety and pest control standards indicated by experimental data. When more than one brand name exists for an agricultural chemical, the name of brand that first came onto the market is listed first. Otherwise, brand names are listed in alphabetical order. The order in which brand names are given is not an indication of a recommendation or criticism.

Recommendations for the use of agricultural chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services does not imply endorsement by North Carolina State University or discrimination against similar products or services not mentioned. Other brand names may be labeled for use on turfgrasses. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact your county's Cooperative Extension agent.

Useful links:

Glossary: <http://www.turffiles.ncsu.edu/Glossary.aspx>

Turf Diagnostics Lab: <http://ncstateturfdiagnostics.com/TDL/Home.html>

Turfgrass Disease Identification Program: <http://www.turffiles.ncsu.edu/diseaseID/>

Turfgrass Disease Management Program: <http://www.turffiles.ncsu.edu/diseasemgmt/>

Turf Irrigation Management System: <http://www.turffiles.ncsu.edu/tims/>

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