

## Brown Patch Disease of Turfgrass

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Causes, symptoms and management of brown patch disease in turfgrass. This is one in a series of NebGuides on managing turfgrass diseases.

### Introduction

Brown patch is a common disease found mostly in tall fescue although it can affect all types of turf. Cultural practices are the first line of defense in managing brown patch; however, fungicides also effectively control this disease. The following information describes the disease and how to identify and manage it.

### Cause, Hosts, and Occurrence

**Cause:** *Rhizoctonia solani*

**Principal hosts:** Ryegrasses, tall fescue, creeping bentgrass, Kentucky bluegrass

**Occurrence:** July – September

### Key Symptoms

**Tall-cut turf:** Roughly circular patches of blighted grass with a reddish-tan color. Long, irregularly shaped leaf lesions surrounded by a dark brown margin (*Figure 1*).

**Greens and fairway height:** Diffuse, roughly circular, reddish brown patches up to 2 feet in diameter. Patches may have a smokey-gray outer ring.

### Recommended Cultural/Maintenance Practices

- Avoid high nitrogen fertilizer applications during the summer. Feed turf with low rates of nitrogen to maintain moderate growth and good recovery from disease.
- Perform maintenance to improve air circulation across the turf.
- Avoid night irrigations.
- Reseed or overseed with turf species with higher tolerance.



Figure 1. Brown patch lesions on tall fescue leaves. Note the irregular margin that does not extend across the grass blade.

### Fungicide Program

**Golf Courses:** On bentgrass greens use the most effective products from early July through mid-August. Curative treatments should include a strobilurin or carboxamid product.

**Home Lawn and Other Turfs:** Use high label rates of propiconazole or thiophanate methyl to provide three to four weeks of protection. Treat areas prone to brown patch with a preventative when night temperatures are going to be above 75°F; other areas can be treated curatively as needed.

Fungicides for brown patch management are presented in *Table I*. An example product is listed for each active ingredient; other products also may be available. Homeowner and commercial product labels will list active ingredients. While the active ingredient may be in combination with others, users should look for a specific active ingredient with or without other chemistry modes of action.

**Table I. Fungicides for brown patch control in turf<sup>1</sup>**

<i>Fungicide</i>	<i>Fungicide Class</i>	<i>Application Interval (days)</i>	<i>Efficacy<sup>2</sup></i>	<i>Product</i>
Azoxystrobin	Strobilurin	14-28	4/3	Heritage
Captan	Phthalimide	7-10	L	Captan
Chloroneb	AH <sup>4</sup>	10	L	Terraneb SP
Chlorothalonil	Chloronitrile	7-14	3	Daconil Ultrex <sup>3</sup>
Copper hydroxide + mancozeb	Inorganic + dithiocarbamate	7-14	L	Junction
Fenarimol	DMI <sup>4</sup>	7-14	2	Rubigan
Fludioxonil	Phenylpyrroles	7	3+	Medallion
Fluoxastrobin	Strobilurin	14-28	3+	Disarm
Flutolanil	Carboxamide	14-21	3+	Prostar
Hydrogen dioxide		7	1	Zerotol
Iprodione	Dicarboxamide	14-28	3	Chipco 26019 <sup>3</sup>
Mancozeb	Dithiocarbamate	7	3	Fore <sup>3</sup>
Myclobutanil	DMI	10-21	2+	Eagle
PCNB	AH	7-10	2	Cleary's PCNB <sup>3</sup>
Polyoxin D	Polyoxin	7-14	3+	Endorse
Propiconazole	DMI	10-21	2+	Banner MAXX <sup>3</sup>
Pyraclostrobin	Strobilurin	14-28	4	Insignia
Thiophanate-methyl	MBC <sup>4</sup>	10-14	2+	Cleary's 3336 <sup>3</sup>
Thiram	Dithiocarbamate	7-10	2	Spotrete <sup>3</sup>
Triadimefon	DMI	14-30	2	Bayleton <sup>3</sup>
Trifloxystrobin	Strobilurin	14-21	4	Compass
Triticonazole	DMI	14-28	3	Trinity
Vinclozolin	Dicarboxamide	14-28	1	Curalan <sup>3</sup>

<sup>1</sup>Fungicide active ingredients, class and efficacy ratings for products labeled for the control of brown patch. Table adapted from *Chemical Control of Turfgrass Diseases 2008*, P. Vincelli and A.J. Powell, University of Kentucky Cooperative Extension Service.

<sup>2</sup>Rating system: 4 = excellent control; 3 = good to excellent control; 2 = fair to good control; 1 = control is inconsistent but good in some instances; + = intermediate between two efficacy ratings; L = limited data.

<sup>3</sup>Other products with the same active ingredient may be available.

<sup>4</sup>DMI = demethylation inhibitor (triazole fungicide)

AH = aromatic hydrocarbon

MBC = methyl benzimidazole carbamate

**This publication has been peer reviewed.**

**Disclaimer**

Fungicides listed represent the best information available. No criticism is intended of products not listed, nor is endorsement by the University of Nebraska–Lincoln given to those listed. Read and follow all product label directions for mixing and application.

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Issued February 2009

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