

Summer Patch of Bluegrass

Summer patch is a root disease of several cool-season turfgrasses. In Kansas, it occurs in Kentucky bluegrass lawns, fairways, roughs, and ballfields. The disease also develops in putting greens, especially annual bluegrass.

Pathogen and symptoms

The pathogen (a fungus, *Magnaporthe poae*) is active in spring and colonizes the roots. However, the symptoms usually do not appear until later in the summer when the turf is stressed by heat and drought. Symptoms appear in June through August as patches a few inches to 1 to 2 feet across. The foliage turns dull reddish brown, then tan, then light straw in color. Often the center of the patch remains green, leading to a ring shape of the affected turf, and because of this the disease is sometimes called “frog-eye patch.” The pathogen can survive several years in the soil and cause repeat damage in the same location.

If you see symptoms and suspect summer patch and would like a diagnosis from a diagnostic lab, send a plug of turf that is at least 4 to 5 inches in diameter and 4 to 5 inches deep. For this disease, it is critical to have a good sample of roots. Take the sample at the boundary between healthy and affected turf. If possible, include digital photos to show the pattern and extent of damage and write down notes on the sizes of the patches, when they first appeared, and if the problem was visible last year.

Management: Cultural practices

Cultural practices are key to preventing and managing summer patch. Avoid excessive nitrogen fertilization in the spring. A good rule of thumb for Kentucky bluegrass is to apply 75 percent of nitrogen in the fall, 25 percent in the spring. The spring fertilizer should be a slow-release formulation. Acidifying nitrogen sources such as ammonium sulfate can reduce disease severity, but if your water pH is high, be aware that it can counter the acid in the fertilizer. Keep mowing height at least 2 inches tall on lawns. Thatch reduction is also important. Lawns with a history of summer patch should be dethatched or core-aerated each year. If turf does become affected, watering during the afternoon can cool the plants and alleviate the stress.

Management: Varieties

Some of the common types of Kentucky bluegrass (Park, Kenblue, South Dakota Certified, Ginger, Alene, Greenley) are known to be susceptible. The older cultivars Adelphi, Admiral, America, Baron, Bristol, Challenge,



Figure 1. Circular patches and rings, Kentucky bluegrass. Photo by M. Kennelly.



Figure 2. Doughnut-shaped patches in Kentucky bluegrass. Photo courtesy N. Tisserat.

Columbia, Eclipse, Majestic, and Monopoly have moderate resistance. Data are lacking for many new cultivars. The National Turfgrass Evaluation Program (NTEP) provides cultivar information at www.ntep.org.

Management: Fungicides

Chemical control is not completely effective but it can reduce disease if used in combination with the cultural practices outlined above. Chemicals should be applied first when 2-inch soil temperatures are consistently above 65 degrees Fahrenheit, with a second application as recommended on the fungicide label. This is a root pathogen, so use enough water to get the fungicide into the rootzone,

following any label instructions. One possible source for finding 2-inch soil temperatures is the K-State Mesonet: mesonet.k-state.edu. Choose a station near you and select 2-inch soil temperatures.

Additional references

Identification and management of turfgrass diseases by B. Corwin, N. Tisserat and B. Fresenburg. 2007. Available online at: ipm.missouri.edu.



Figure 3. Patches can coalesce to cover large areas. Photo courtesy N. Tisserat.

Table 1.

Active ingredient	Fungicide group	Efficacy*	Typical application interval (days)	Examples of products
azoxystrobin	QoI/strobilurin	4	14-28	Heritage
fenarimol	DMI	2	1-2 apps	Rubigan
fludioxonil	Phenylpyrrole	L	14	Medallion
fluoxastrobin	QoI/strobilurin	L	14-28	Disarm
fluxapyroxad	SDHI	L	14-28	Xzemplar
hydrogen dioxide	Oxidizing agent	L	7	Zerotol
metconazole	DMI	L	14	Tourney
myclobutanil	DMI	3	28	Eagle
propiconazole	DMI	3	14-28	BannerMAXX, Spectator
pyraclostrobin	QoI/strobilurin	L	14-28	Insignia
tebuconazole	DMI	L	28	Torque
thiophanate-methyl	benzimidazole	2.5	10-21	Cleary's 3336, Fungo, Systec 1998, Cavalier, T-Storm
triadimefon	DMI	3	30	Bayleton
trifloxystrobin	QoI/strobilurin	3	21-28	Compass
triticonazole	DMI	L	14-28	Trinity, Triton

*4=consistently good to excellent control in published experiments; 3=good to excellent control in most experiments; 2=fair to good control in most experiments; 1=control is inconsistent between experiments but performs well in some instances; N=no efficacy; L=limited published data available.

Table used with permission from *Chemical Control of Turfgrass Diseases 2015* by Paul Vincelli and Gregg Munshaw, University of Kentucky.

Megan Kennelly
Plant Pathologist
Kansas State University

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. Persons using such products assume responsibility for their use in accordance with current label directions of the manufacturer.

Publications from Kansas State University are available at: www.ksre.ksu.edu.

Publications are reviewed or revised annually by appropriate faculty to reflect current research and practice. Date shown is that of publication or last revision. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Megan Kennelly, *Summer Patch of Bluegrass*, Kansas State University, July 2015.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF3239

July 2015

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, John D. Floros, Director.