



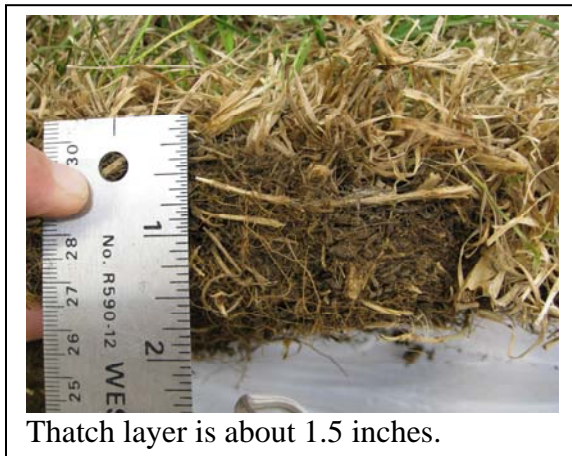
K-State Turf May 1 2008 (Wow, I can't believe it is May)

### Recent Diseases:

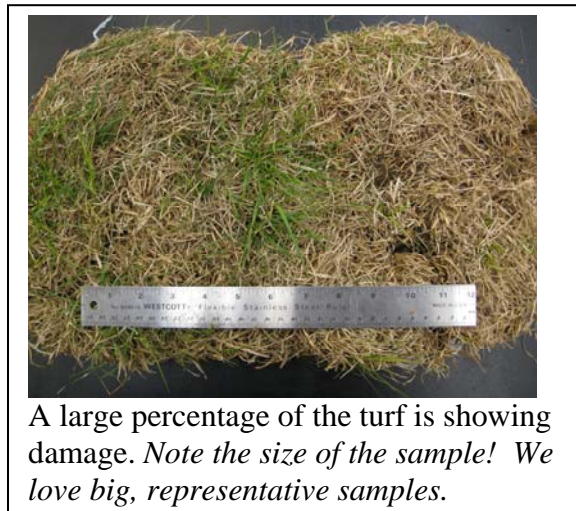
I've been hearing some more reports of large patch of zoysia starting to fire up around the state. A few people are finding some powdery mildew of bluegrass in shaded areas, like the north sides of buildings and fences. And, with the recent cold nights there has been a bit of frost damage out there.

### Thatch and winterkill:

I had an interesting sample come in where thick thatch had led to winter kill. Usually I think about thatch as more of a summer problem. But, thick thatch elevates the crown above the ground, leaving it more susceptible to cold, desiccating winter winds. The photos are from this bluegrass lawn in NW Kansas.



Thatch layer is about 1.5 inches.



A large percentage of the turf is showing damage. *Note the size of the sample! We love big, representative samples.*

### Thinking ahead for summer patch:

If you have a history of summer patch, now is the time to start thinking about it again (even though you can't see it yet). Summer patch is a disease of Kentucky bluegrass, annual bluegrass, and fine fescues. We find it in Kentucky bluegrass lawns, fairways, roughs, and ballfields. In putting greens we see it in stands of annual bluegrass, or in mixed stands where you'll see a pattern of the disease hitting the annual bluegrass and leaving the bentgrass alone.

The pathogen (a fungus) becomes active in spring and colonizes the roots. However, the symptoms usually don't show up 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 1-2 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 donut shape of the affected turf, and because of this the disease is sometimes called "frogeye patch." The pathogen can survive several years in the soil and cause repeat damage in the same location.

There are chemical controls for summer patch but it is essential to include cultural management. Avoid excessive nitrogen fertilization in the spring. A good rule of thumb for Kentucky bluegrass is to apply 75% of nitrogen in the fall, 25% in the spring. The spring fertilizer should be a slow release formulation. Careful nitrogen management will prevent a susceptible flush of new growth during the hot months. 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 heights 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.

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 temps are consistently above 65F, with a second application as recommended on the fungicide label. Remember this is a root pathogen, so use enough water to get the fungicide down where it needs to go. Or, irrigate the chemicals in. Follow label instructions. *How to get 2-in soil temps?* Go to <http://av.vet.ksu.edu/webwx/> and choose a station near you, and select 2-in soil temps.

The common type Kentucky bluegrasses Park, Kenblue, SouthDakota Certified, Ginger, Alene, and Greenley are susceptible. The older cultivars Adelphi, Admiral, America, Baron, Bristol, Challenge, Columbia, Eclipse, Majestic, and Monopoly have moderate resistance. Data are lacking for many new cultivars.

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



Circular patches and one donut-shape, Kentucky bluegrass. *Photo by M. Kennelly*



Donut shape patches in Kentucky Bluegrass. *Photo by N. Tisserat*



Patches can coalesce to cover large areas. *Photo by N. Tisserat*

## Fungicides labeled for summer patch

**\*Always check the label to make sure the site (ex: home lawn/residential lawn/golf course) is allowed.**

\* It is the responsibility of the user to read, understand, and follow the label.

\*Mention of a product does not imply endorsement, nor does lack of mention of a product imply non-endorsement.

Active ingredient	Fungicide group	Efficacy and notes	Typical application interval (days)	Examples of products
azoxystrobin	QoI/strobilurin	Excellent	14-28	Heritage
fenarimol	DMI	Fair to good	1-2 apps	Rubigan
fludioxonil	Phenylpyrrole	Limited data available	14	Medallion
fluoxastrobin	QoI/strobilurin	Limited data available	14-28	Disarm
hydrogen dioxide	Oxidizing agent	Limited data available	7	Zerotol
myclobutanil	DMI	Good to excellent	28	Eagle
propiconazole	DMI	Good to excellent	14-28	BannerMAXX, Spectator
pyraclostrobin	QoI/strobilurin	Limited data available	14-28	Insignia
thiophanate-methyl	benzimidazole	Good	10-21	Cleary's 3336, Fungo, Systec 1998, Cavalier, T-Storm
triadimefon	DMI	Good to excellent	30	Bayleton
trifloxystrobin	QoI/strobilurin	Good to excellent	21-28	Compass
triticonazole	DMI	Limited data available	14-28	Trinity

*References to products are not intended to be an endorsement to the exclusion of other products that may be similar. Any person using pesticides assumes full responsibility for their use in accordance with the label.*

*Table modified with permission from Chemical Control of Turfgrass Diseases 2008 by P. Vincelli and A.J. Powell, University of Kentucky*

*Cultivar information from: Identification & Management of Turfgrass Diseases. By B. Corwin, N Tisserat, and B Fresenburg. 2007. University of Missouri*