
From: K-State turf information [K-STATE_TURF@LISTSERV.KSU.EDU] on behalf of Megan Kennelly [kennelly@KSU.EDU]
Sent: Wednesday, April 29, 2009 11:18 AM
To: K-STATE_TURF@LISTSERV.KSU.EDU
Subject: [K-STATE_TURF] K-state turf: patch-a-rama
Attachments: April 29 patches.pdf

Hello,

The cool, wet weather is triggering some patch diseases.

More details and photos on #2 and #3 are attached.

1) Large patch

Large patch on zoysiagrass is definitely active at our research plots here in Manhattan. My student who is studying this disease will be busy measuring patch growth. With weather like this, he'll probably be able to SEE those patches grow if he sits there long enough!

2) Yellow patch

I got a call from a superintendent in S. Central KS who is seeing some yellow patch (=cool-season brown patch) on putting greens. See attachment for more details on this disease.

3) Microdochium patch (pink snow mold)

Even though we've had some warm dry days in the 70's and 80's, it is conceivable that microdochium patch (pink snow mold) could become active. This disease grows BEST at temps 32-46 F, but it certainly can grow at temps in the 50's. It does NOT need snow.

"50's", you might say, "But our highs are in the 60's and 70's." Alas, the fungus cannot read a clock, and it can grow just fine during our nighttime temps which are forecast to be in the 40's and 50's.

Most likely on putting greens. See the attachment for more details

4) "powdery patch"

Okay, though not a patch disease, I wanted to mention that powdery mildew is active in some places. One person told me that powdery mildew was active in tall fescue on the north side (= cool, shady, more likely to stay wet) of the house. "Nothing that the mower couldn't handle" was the rest of the story.

Powdery mildew is most active at temps 41-72 F.

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1) Cool-season brown patch/yellow patch

Cool-season brown patch is also called yellow patch, and it is primarily a disease of putting greens. It occurs during cool, rainy weather. The fungus is called *Rhizoctonia cerealis*, and it is a cousin of the fungus (*Rhizoctonia solani*) that causes brown patch during the summertime.

Unlike the brown patch fungus, the yellow patch pathogen prefers temperatures 50-65 F. It causes yellow or red-brown rings or arcs on low-cut grass (like in putting greens). The photos show some examples. Yellow patch usually affects only the leaf blades, and the **disease usually goes away on its own** once the temperature gets warmer (>75) and the weather is drier.

Improving drainage and reducing excessive thatch can help prevent this disease. In sites with recurring yellow patch a nitrogen application in the late fall can help the turf outgrow the disease in the following spring. For sites with chronic yellow patch there are several fungicides available. Flutolanil (Prostar), fludioxonil (Medallion), and propiconazole (ex: Banner MAXX) have provided good control in some trials, with preventative apps more effective than curative. Keep in mind that fungicides will not make the rings disappear—the turf still needs to grow and recover, and that can take awhile depending on conditions.

I mentioned above that the disease usually goes away once the weather turns warm and dry. If you have yellow patch type symptoms that do NOT go

away in warm dry weather, there is a chance that you have a different disease on hand. That disease is called brown ring patch or Waitea patch. It has NOT yet been found in Kansas but has been detected in other states. So, if you do have yellow-patch symptoms that do not disappear with warmer temps, let me know and I'll check whether it's the "new" disease.

Figure 1: Yellow patch, photo by Kennelly



Figure 1: Yellow patch, photo by Kennelly



Microdochium Patch/Pink snow mold

This disease is caused by the fungus *Microdochium nivale*. It is most likely to be a problem on putting greens, and can occur simultaneously with yellow patch. It can be found in taller-cut turf as well.

The disease causes circular, bleached patches in the turf that are up to about 2 feet across (Fig 3). When the turf is wet, the fungal mycelium is sometimes visible and is whitish but sometimes has a pinkish color (which is the source of the name of the disease).

The fungus survives in plant tissue and debris. It becomes active during cold, wet weather (32-60 F) and goes dormant when conditions are warm and dry. Pink snow mold does *not* actually require snow cover. It can develop if conditions are simply cold and wet, like in foggy or drizzly weather, or alternating periods of repeating frosts.



Fig 3. Microdochium patch phase (snow-free pink snow mold). Photo from <http://www.uoguelph.ca/~thsiang/snow/snowmold.htm>

Cultural Control:

Cultural practices in the fall can reduce disease pressure.

Autumn:

- Keep mowing the grass as long as it is growing. Overly tall turf (more than 3 inches) will be matted down under the

snow, making a favorable environment for the fungi.

- Don't fertilize too late in the fall. Late applications of N will overstimulate the turf, making a lush growth that is a susceptible to snow molds. Late growth will also interfere with winter hardiness.

- Rake leaves in the fall. A layer of fallen leaves will contribute to the matting down and moisture build-up.

- Golf Courses: Use snow fences and windbreaks to prevent deep buildup of snow on golf greens

Spring:

- Rake lawns to air out the turf and promote drying.
- Shovel the snow off of susceptible areas like golf course putting greens. Alternatively, you can spread something dark (like a humate product) on the snow surface to enhance melting.

Chemical control:

Home lawns: Fungicides are not recommended for home lawns except in extreme situations. Though symptoms look dramatic, the turf will recover eventually. Use cultural practices described above.

Golf course/commercial:

For pink snow mold, spring fungicides can sometimes have an effect. Remember, pink snow mold does *not* require snow and can grow if conditions are simply cold and wet. Spring fungicides may reduce such development.

For pink snow mold, fungicides with the active ingredients fludioxanil, iprodione, PCNB, propiconazole, pyraclostrobin, thiophanate methyl, and trifloxystrobin have been reported to provide good to excellent control. PCNB can cause phytotoxicity, though, especially on creeping bentgrass, and this chemical is under review by EPA and might not be available in the future.

For gray snow mold, some available products include those with PCNB, triadimefon, iprodione, flutolanil, or fludioxanil as active ingredients.

More photos and information for commercial turf are available here:

Pink snow mold:

<http://www.ces.purdue.edu/extmedia/BP/BP-102-W.pdf>