Wet Spring Sets Up Summer Turf Disease – 5/26/11

Weather

Tragically severe weather has been the norm over the past 7 days. We have been stuck between cold and warm air masses for what feels like an eternity, and the past few day’s radar imagery reminds me of hurricanes I thought I had left on the Carolina coast. Over the last seven days, most of the region has experienced 3 – 4” of precipitation, with considerable spikes of 6”+ scattered across the state. Over the past 30 days, I-70 and points south have turned into relative swamp land, with most areas experiencing 8 inches or more of rain above the normal 4-5 inches we normally observe. Temperatures (soil and air) are relatively normal throughout the state, but with all of this moisture the next warm-up could result in a considerable and severe spike in turf disease occurrence. This spring has been the bump and set, and a hot summer could be the spike.

Quick Hits

Throughout the summer, I’ll provide these minimally detailed observations on disease occurrences to serve as scouting reports for MO turf managers.

- Dollar spot is occurring with fervor on our creeping bentgrass putting green plots at the farm. Night and day difference between preventive and curative control attempts.
- Red thread is also being seen at the farm and in a sample from Iowa.
- Smut of bermudagrass caused by Ustilago cynodontis on seedheads observed in southern MO.
Brown Patch on Tall Fescue

The initial lesions of brown patch have been observed on tall fescue leaves in central Missouri. Brown patch is the most notable of turf diseases, and can be considered the first American turfgrass disease - being diagnosed in bentgrass putting greens by Piper and Coe in 1917. Unfortunately, brown patch is not limited to the golf course, and is the most severe and limiting disease of tall fescue used in lawns. The pathogen is *Rhizoctonia solani*, which is the same pathogen species as large patch in zoysia but resides in a different subgroup. Infection and disease incidence occurs in conditions of high moisture/humidity and warm temperatures. I use the 6-8 flip flop rule for temperature where lows ≥ 68°F and highs ≥ 86°F = “Brown Patch Primetime”.

What I consider full brown patch outbreaks of 3-6 inch patches of bleached out tall fescue have been kept in check by the mild temperatures. However, the moisture is obviously there, and a forecasted Memorial Day weekend warm-up could easily kick the pathogen into overdrive and more “brown patch rapture” could start occurring by early next week. Therefore, if you have an area with a past history that you are planning on applying preventives to, now is the definitely the time to do so.

I have been getting a lot of questions surrounding granular fungicide applications and the suitability of their use for brown patch control. Most reports I have read from colleagues throughout the country indicate granular fungicides are effective, but are not as effective as their spray counterparts. Last summer, I did some limited work on tall fescue with Heritage G on a preventive basis, and saw acceptable control of natural outbreaks from not only brown patch but also Pythium.

This year, we are cranking it up a notch (insert Emeril’s “BAM” here), and testing several different granular fungicides to compare them side-by-side to their liquid...
counterparts. Included in this study are two different QoI fungicides, and two different DMI/QoI fungicide mixtures. Although the study area has had considerable brown patch activity in the past, we are also inoculating each plot to provide the most severe test of the fungicide’s performance. Fact is pathologist and inoculum are as inseparable as PB & J.

These plots will be on full display at the Turf Research Field Day on July 26, and I will be presenting in the morning session to describe the results. It’s up to you to see and experience these results up close and personal, and I hope to see you there.

Ascochyta Blight

![Ascochyta Blight on Tall Fescue/Kentucky bluegrass](image)

Ascochyta Blight on Tall Fescue/Kentucky bluegrass
A. Ascochyta blight can occur during high heat preceded by a large rainfall event. Only leaves are blighted, so recovery is fairly rapid when conditions improve. Fungicides are normally not recommended.
B. Small pycnidia are apparent in diseased leaves.
C. Microphotograph of pycnidia with distinct ostiole from which conidia are released.
D. Thousands of conidia can be released from a single pycnidia during high moisture. Conidia are dispersed in water films and during mowing.

Although the main concern is brown patch, that doesn’t mean that tall fescue/KBG turf areas have gotten off scott-free during these cooler temperatures. Late last week, we received a sample from a tall fescue sports field in central MO that was loaded with Ascochyta blight. This disease occurs erratically, and more highly maintained lawns (particularly with irrigation systems) can be loaded while a neighbor’s yard may be untouched. Much of the disease cycle for Ascochyta blight is unknown, but it is definitely linked to long periods of leaf wetness, as the disease is more severe during warm periods preceded by heavy rainfall events or high humidity.

Only a pathologist could think a fungus was beautiful, but one may have to admit the above picture of *Ascochyta* pycnidia embedded in the leaf tissue are pretty spectacular. The pycnidia contain thousands of conidia, which disperse in water films and mower clippings to infect new leaves.
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Although the symptoms can be brilliantly disturbing with leaf chlorosis and blighting, the disease does not infect the crown or roots, and turf often recovers with proper cultural practices in the matter of a few weeks. For this reason, fungicides are normally not recommended except in the most severe of cases. Key cultural practices to minimize disease spread is to mow the turf when it is dry, raise mowing heights, and make sure mower blades are sharp. At this late stage, nitrogen fertilization is not generally recommended, but a light fertilizer application (<0.25 lb N/1000 sq ft) of a slow release nitrogen source may aid in recovery. Lastly, when irrigation is necessary (probably in 2012) water early in the morning to minimize the leaf wetness duration.

The occurrence of this disease brings to mind an important point. Proper turfgrass diagnosis cannot be made over the phone. A mechanic shouldn’t diagnose a car’s problem through a rough imitation of a weird engine noise. Similarly, a turfgrass diagnostician should not be able to diagnose over a phone conversation, unless they are the clairvoyant Madame Cleo and that’s another matter altogether. The best that can be done in a ‘phone call only’ scenario is a comment akin to “I’ve seen insert disease here active recently”, which should not be the sole justification for chemical and monetary intervention. If diagnosis of Ascochyta was attempted over the phone, brown patch would have been incorrectly assumed, and needless fungicide and money would have been spent. Digital photos can help in a diagnosis, but because turf symptoms can seem so similar among problems a truly accurate diagnosis is normally not achievable without the use of a microscope. So, bottom line – send a sample to a reputable diagnostic lab if you’re not sure what turf problem you are attempting to solve.

Save the Date: July 26, 2011

Make plans to join us at the University Missouri Turf & Ornamental Research Farm on July 26th for our annual field day! In addition to the research mentioned above, we have prepared an agenda that is packed with useful information and demonstrations that can help your turf and ornamental management operation. This agenda is posted, and participant registration is now open – just click here.

For vendors, this is the best deal in the Midwest to capture your audience and display your ‘wares. Not to mention your dollars will go towards funding the very research that makes Field Day and the Missouri Golf Industry Conference successful. It’s a true win-win!! If you are interested in having a display at the event, or being an event sponsor, vendor online registration is now open – just click here. Looking forward to seeing you there.

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