April Showers = Spring Disease?

Weather

Early April turned out to be average temperature-wise, resulting from the equation cool start + short-term spike + recent drop in temperatures is just about normal for an April in MO.

A. A cool start, short spike, and recent drop in temperatures is just about normal for an April in MO.
   - Source: Pat Guinan, State Climatologist
B. Walda dumped anywhere from 0.75” - 3+” of rain across the area in the last 2 days.
   - Source: NOAA

Early April Temps: Up + Down = Average,
A. A cool start, short spike, and recent drop in temperatures is just about normal for an April in MO.
   - Source: Pat Guinan, State Climatologist
B. Walda dumped anywhere from 0.75” - 3+” of rain across the area in the last 2 days.
   - Source: NOAA

Early April turned out to be average temperature-wise, resulting from the equation cool start + short-term spike + recent cool down. Additionally, thanks to winter storm Walda, we are well above average in precipitation, and it’s safe to say we are well out of a drought situation for now. Locally, we received just over 2” of rain at the turf farm, with precipitation amounts ranging from 0.75” – 3” over Missouri. Walda spawned a few tornadoes in north-central Arkansas, but left most of Missouri with just a good amount of rain (1.5 – 2” in most areas) and some minor localized flooding. Walda broke many snow records to our north, created many freezing rain problems in Kansas, and made for an interesting situation in Texas where northern Texas had lows in the 20s degree range, while the southern tip had highs in the 100s (click here for WS Wanda facts).

The forecast over the next 10 days show temperatures again wavering between above average for the weekend and below average next week. It also calls for a relative dry down; of course, after the last two days just about any weather pattern would appear dry. Weed preventives for annual bluegrass seedheads and crabgrass pre-emergents should be down for southern MO, and should be down shortly
April Showers = Spring Disease?

Quick Hits:

- New Website Content: You may notice a new navigation tab on the website termed “Research Reports”. We have cataloged all of our field evaluation trials over the last 3 years and summarized the results in a report, data graphs, and image collection. Please take a few moments to check out the new section, and feel free to email any suggestions on how the information can be made more of a resource for you.

- Weed preventives such as annual bluegrass seedheads and crabgrass pre-emergents should be down for southern MO, and should be down very shortly for St. Louis, Kansas City, and mid MO (see forsythia bloom photo below). In the vein of weed control, I have never seen so much common chickweed as this year. Evidently, it (along with henbit and other winter annuals) really appreciated the late snow/wet April weather pattern.

- Moles are out. The scissor type “EZ-Set” trap shown above is one of the best methods for control that we use at the turf farm. Remember, insecticides targeting grubs do not control moles!! The mole’s food source is earthworms. To view a full article on mole control, click here.
April Showers = Spring Disease?

Pink Snow Mold/Microdochium Patch in tall fescue/KBG lawns: The odd, 20-30” late winter snowfall and wet spring also led to a relatively rare observation in Missouri: Microdochium patch (a.k.a. pink snow mold) on higher cut tall fescue/Kentucky bluegrass lawns. I received the sample pictured above yesterday from St. Charles, MO, and it is my first experience with this disease in MO on anything other than creeping bentgrass putting greens. The pathogen infects and produces numerous conidia under snow cover or in cool wet conditions, (hence the split name), and can cause considerable damage on high amenity turfgrasses. A fungicide application is not suggested on higher cut turf now as conditions should warm up and allow for turf recovery. Affected areas should be mowed when the turf is dry, the matted disease area should be broken up with a heavy rake, and overseeded as soon as possible (by hand if the areas are small).

Early DMI/Fairy Ring Preventive Status

For review, below is a recap of the overall strategy as written in 2011 in a journalistic framework.

Overall Strategy

1. **THE WHO** = Diseases targeted – Fairy Ring, Take-all Patch, Summer Patch, potentially Dollar Spot
2. **THE WHAT** – Low rates of fungicides in the DMI class including the 4 T's (Triton, Trinity, Torque, Tourney), Eagle, and Bayleton.
April Showers = Spring Disease?

3. **THE WHEN** - First application when 2" soil temperatures average 55-60°F for five consecutive days. Second application 28 days later.

4. **THE WHERE** - Golf putting greens

5. **THE WHY** – DMI fungicides are plant growth regulators, and should not be utilized in the summer heat on bentgrass putting greens. Curative applications may need to be applied repeatedly and often result in more fungicide use.

6. **THE HOW** - Two applications 28 days apart. Do not tank-mix preventive fungicide with a wetting agent. Try to keep other PGR applications (particularly Trimmit) 1-2 weeks away from DMI preventive applications. Water in the application with ⅛” (preferably ¼”) of irrigation immediately after application (preferred) or at least that night. Remember the pathogen is in the soil, so put the fungicide there.

Most superintendents in the region at this point are familiar with this strategy, as I’ve been presenting it for the last 3 years or so. Overall, superintendents have been pleased with the reduced rates of fungicide necessary to control fairy ring, and the resulting increase in putting green quality. The toughest part is timing the first preventive spray, however, and hopefully the above figure will help comprehend the idea of a 5-day average and why it’s utilized. In a nutshell, the 5-day average soil temperature negates the wild fluctuation that occurs with using the daily average.

With most of the area within “the zone” off 55-60 F and taking into consideration the current cool down, all signs point to early to middle next week being the target timing for the first of the two preventive DMI applications for fairy ring control.
April Showers = Spring Disease?

Spring Fungicide Applications for Large Patch

Zoysia is starting to green up in the region, which is leading to questions about prevention of perhaps its biggest scourge: large patch. Large patch, formerly called zoysia patch, causes symptoms when zoysiagrass is growing slowly either going into (fall) or coming out (spring) of dormancy. Symptoms occur as roughly circular patches of tan or straw-colored turf that can range from a few feet to many yards in diameter, hence the name “large patch”. When the disease is active, bright orange leaves (also known “firing” symptoms) can be evident along patch margins. The pathogen infects at the leaf sheath, causing a basal rot and reddish brown to black lesions along lower leaf and sheath tissue.

Cultural control measures during the spring and fall include mowing zoysia when it is dry, limiting irrigation and increasing drainage to reduce moisture (a tough task this spring), avoiding the use of N fertilizer until the summer, and avoiding any cultivation practices such as aerification.

For the best control, most studies suggest at least one preventive application should be made for this disease in the fall when soil temperatures drop below 70 F. Most severe disease outbreaks, however, occur in the spring in Missouri approximately 2-8 weeks after spring green up. And this spring, with the amount of moisture that we have, large patch severity should be a doozy!
April Showers = Spring Disease?

There is limited data on the effect of preventive spring applications if the fall application period was missed. One study conducted at Purdue indicates a single spring application made before & after green-up limited large patch infection and severity as well as a fall application (click here to view study results). We are currently conducting a similar study in Columbia, MO to confirm this result.

This being stated, the current suggestion for spring fungicide application is to wait until the first signs of large patch appear (bright orange leaves) and apply fungicide to the areas at that time. The theory is that most fungicides that control this disease are systemic, and retention/control duration may be longer in an actively growing plant than a semi-dormant one. This requires heavy scouting of zoysia during the next few weeks, and a knowledge of the disease symptoms. If the site has a confirmed history of the disease, it is important to be particularly vigilant and curatively control this disease earlier rather than later.

Stay tuned to the latest scouting reports, and in particular the program’s Twitter/Facebook feed as the minute a report comes in of active large patch in the region, the notification will go out.

Happy Spring!

Lee Miller
Follow on Twitter! @muturfpath
Like on Facebook! Mizzou Turfgrass
Extension Turfgrass Pathologist
University of Missouri