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Weather

May temperatures finished 2-3 degrees above normal for the region, and as forecasted early June has followed suit. These high temperatures were combined with a distinct lack of rain over the last 14 days in the state’s midsection and southeast Bootheel region. In contrast, much of the region around St. Louis, particularly across the river, received frequent rain events during the period and some were struggling to get mowers out. Tough to paint with a broad brush in this state.

Last night’s (or this morning’s) storm was a doozy of a rain and wind event for northern and central MO and will help out with some of the rain deficit. Looking at some of our real-time weather stations (click here to view), rain totals were from 2 – 2.5” for northern areas of the state, 1.5-2” around the Columbia area, and a little less towards St. Louis. Wind gusts were also impressive, with 37 – 53 mph highs associated with the storm and many reports of tree damage throughout the area. Even down my street, and in many areas around the turf farm.
Quick Hits:

- Dollar Spot: Dollar spot has exploded on the scene in the last few days along with higher temperatures, higher humidity, and heavy dews. We are also observing it on higher cut turf such as Kentucky bluegrass, and even zoysiagrass and bermudagrass (see above). Unlike on cool season turfgrasses, a distinct lesion is present with dollar spot infection on bermuda and zoysia. The lesion can look like a brown patch on tall fescue lesion with a dark outer margin and straw colored interior. As shown in the pictures above, active dollar spot mycelium can also be seen in early morning like on creeping bentgrass putting greens. With warm season grasses, however, dollar spot occurrence in early summer is a sign that the time is nigh to apply nitrogen. Dollar spot is a “low N”
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disease, so N fertilization will assist in recovery. Unlike on creeping bentgrass and Kentucky bluegrass, a fungicide application is normally not necessary to control dollar spot on warm season turfgrasses.

- **Fairy Ring Reports:** Several reports have been coming in of active fairy ring on putting greens where preventive measures haven’t been applied. With post-symptom treatments, it’s important to realize that fungicide selection and application strategy changes completely vs. a preventive application. The DMI fungicides (Bayleton, Triton, Trinity, Tourney, etc.) do not work well in after an outbreak occurs, and their plant growth regulation can cause some phytotoxicity during heat stress periods anyway. Instead, Heritage, Insignia, or ProStar are recommended to control fairy ring after symptoms occur. Just as important, it’s also critical to realize that most fairy ring symptoms are caused by a hydrophobic soil condition. Therefore, tank-mixing the fungicide with a soil surfactant (i.e. wetting agent) and watering the combination in (1/8”-1/4” irrigation) is essential to incorporate the fungicide into the target zone and help remediate soil physical properties.

- **Pythium Root Rot:** In the last week, we’ve gotten another couple of samples of greens with heavy Pythium root rot infestation. Dr. James Kerns from North Carolina State University recently wrote a great article on fungicide selection and application strategy for controlling Pythium diseases (click here to read it).

- **Evergreen Winter Troubles:** From the news desk of Patricia Wallace, MU Plant Diagnostic Clinic Director... Lethal and unsightly winter injury has been prevalent this spring. The long, cold winter following a drought has left many evergreen woody ornamentals with yellow tips, branches, dropped needles or completely dead. These include arborvitaes, white pines, junipers, boxwoods and
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hollies to name a few. These types of plants are chosen for landscaping because of they are relatively easy to maintain and retain their green color all year. This year, when temperatures warmed up some people stated their evergreen ornamental turned yellow overnight, and it can truly seem like this. It’s important to realize these plants never go into complete dormancy during the winter. When temperatures are warm and the sun is shining, the biological activity of these plants is reduced, and they are still transpiring and using water. If the plants don’t have enough water stored in their roots or if the ground is frozen making water unavailable, they become stressed. The stress can lead to death of tips, branches or entire plants. Since biological activity is reduced the plants will retain their green color. However, once the weather warms up and the plants go back to their full photosynthetic potential the dead parts are quickly abscised off (cut off from receiving any water or nutrients) – leaving branches, leaves or needles yellow, dead, and unaesthetically pleasing.

Brown Patch & Summer Diseases Running with the Torch

The sustained high 80s and lows in the upper 60s over the past 7 days has signaled the end of one set of problems and the beginning of another. For warm season turfgrasses, disease pressure has been left behind as spring passes into summer. Large patch should no longer be an issue for zoysiagrass and recovery should begin. Similarly, recovery from spring dead spot of bermudagrass should be well underway. This is an important transition, as any future serious problems that start to occur now through August on warm season turfgrasses are more likely due to insect issues, such as chinch bugs or our increasingly problematic issue of hunting billbug damage.
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In our Olympics of managing turfgrass in the transition zone, the torch of disease activity has been passed to cool season turfgrasses. For tall fescue lawns, which make up 80-85% of lawn area in Missouri, as well as other cool season turf such as creeping bentgrass or Kentucky bluegrass, the downhill slide has begun. High temperatures and high humidity have brought on significant stress to cool season turfgrasses, and summer pathogen activity is occurring. At the turf farm, we observed our first naturally occurring brown patch lesions on tall fescue in the sun on Friday morning. That evening while mowing my heavily shaded backyard, I noted a full-blown leaf blight and multiple patches had formed.

Brown patch and many other foliar diseases are considerably more severe in shaded areas vs. full sunlight areas for a few reasons. Turfgrass health is compromised by the reduction of photosynthetically active radiation that is available to the plant. Maybe more importantly, shaded areas have longer periods of leaf wetness than non-shaded. Morning shade is particularly troublesome, as sunlight does not have the opportunity to penetrate and dry out leaf blades soaked in morning dew and guttation. Shaded areas will also normally have restricted air movement, which provides a double whammy of not allowing the wind to dry the foliage, and allowing pockets of high humidity to sit over the area and further encourage leaf wetness within the leaf canopy.

Last year, Drs. Damon Smith and Dr. Nathan Walker from Oklahoma State University published an interesting research article investigating brown patch control with fungicides in shaded tall fescue. They compared application strategy (preventive vs. curative), carrier type (granular vs. liquid) and fungicide type (residential vs. commercial) in a 3 year field experiment. Application strategy and carrier type impacts on disease control and turfgrass quality were not considerable, but the difference in control between fungicides marketed for homeowner use vs. those normally applied by a commercial applicator were substantial. Of the fungicides tested, Heritage applications substantially reduced brown patch severity, whereas many homeowner targeted fungicide products did not have any less disease than the untreated control plots. The article was published in Applied Turfgrass Science, and can be accessed here.

Field Day, July 22nd – Save the Date.

As mentioned last week, plans are underway for the 2014 Mizzou Turfgrass & Ornamental Field Day. The event will be held July 22nd at our research facility at South Farms. Below are a few presentation topics to wet your whistle. Registration for vendors and attendees will be available shortly at www.motoc.org.

- Comparing the safety and efficacy of Specticle® and Barricade® on Zoysiagrass
- Impact of post-application irrigation on turfgrass fungicide performance
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- Automated Weather Monitoring and Application
- The MU Plant Diagnostic Clinic: Services for the Missouri Public

Hope to see you at field day, Lee

[Link: Lee Miller]
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