The Summer Stressors of July

Weather

None of us normally like to get stuck in “a rut”, but weather-wise last week's rut of cool temperatures was a perfect gift for the holiday. Two high pressure areas in the West and Northeast gave those areas scorching temperatures while we hung out in the low pressure valley of well below average temperatures with nighttime lows in the 50’s. Alas, all good things come to an end (it is July after all) and the westerly weather flow will deliver some heat to begin our week with mid to upper 90’s. Very little chance of precipitation (only pop-up, localized thunderstorms) is forecasted, so supplemental irrigation looks to be a requirement to keep tall fescue lawns out of dormancy.

The outlooks over the next 6-10 and 8-14 days from the National Weather Service look pretty good. In both forecasts, Missouri is given a B for temperature, which thankfully stands for below normal. True to this form, forecasts later next week call for high temperatures to fall back into the 80’s, and upper 60’s for lows. Rainfall over the next 6-10 days is given a B, (don't expect much help from gray skies in the near-term), but is given an A or above average precipitation chance over the 8-14 day span, so there is potential for relief from any mild drought situation. You can view these forecasts here.

Want to remember July of 2012?

Quick Hits:
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- As noted in the last update, brown patch on tall fescue is really rolling in the region (despite our natural fungicide last week). With the current uptick in temperatures and relative lack of rainfall over the last week, irrigation, and more importantly the timing of irrigation may play a crucial role in the severity of this disease. Irrigating during the heat of the day or at dusk is “asking for it” as it contributes to high humidity and leaf moisture during prime infection periods. Watering early in the morning can provide two benefits: rinsing dew and guttation fluid off the leaves and potentially physically disrupting the infection process. If you have multiple zones to water in your landscape, work from sunrise backwards when programming. As a reminder, nitrogen fertilizer on tall fescue is an extreme no-no, and brown patch is considerably more severe in shaded areas (see above).
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- On the zoysia front, hunting billbug and chinch bug adults have been observed on our research plots at the turf farm in the past two weeks. Both pests were caught in pitfall traps in a research trial designed to evaluate insecticides for hunting billbug control. Hunting billbug larvae (small and legless) have also been noted in our zoysia areas. Large patch activity should be done, and affected areas should be well into recovery mode at this point. Expanding areas of damage in this hot, dry spell are most likely due to one of these insect pests, which mimic drought symptoms. Chinch bugs are most easily detected by pulling damaged turf up at barriers such as driveways or sidewalks, or by performing a float test with an open-ended cylinder. Hunting billbug damage should be confirmed by pulling up or digging up affected turf and looking for the small pinkie-nail sized legless grubs.

Abiotic Issues: Sand damage & organic matter layers
A. Collar and cleanup passes are most affected by topdressing/dragging issues.
b. Sand particle lodged in leaf tissue.
c. Organic matter layering in the soil profile limits root development by trapping water & nutrients.
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- A number of abiotic issues on creeping bentgrass putting greens have been observed in combination with our first blast of 90 degree temperatures of late June. Several of these centered on collars or cleanup passes stressed by mower frequency and topdressing sand damage. In particular, dragging in topdressing sand at this time of year and abrading leaf tissues can produce symptoms which mimic leaf spots or other turf diseases. Another sample brought into the lab had roots infected with Pythium root rot despite a quite intensive preventive fungicide program. In this case, organic matter layers were providing wet conditions for pathogen infection, and preventing treatments to reach the target areas of the root zone.

Bacterial Etiolation/Decline

In late June, a sample was sent into the lab from southeast MO that had the hallmarks of bacterial decline. The sample had several etiolating plants, and cut leaf tissue showed significant bacterial streaming. Both heat and intensive agronomic management are stressors on most greens that have been severely afflicted with these symptoms. As the superintendent described this case, the symptoms are most prominently on his P.I.T.A. green: depressed, surrounded by trees, shaded, and lacking air movement. Roots were also extremely shallow, which may be due to a soil salinity issue.
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At this still early stage of research, curative chemical options have not been deemed effective for this problem (even antibiotics, which are illegal anyway). In addition, controversy and confusion has swirled around the issue since the first diagnosis, and several turf pathology labs in the country are working on a solution. We have very simply installed a few plugs from a site with symptoms at the MU turf farm, and are investigating routine plant growth regulator applications vs. no treatment.

Preventively, applications of Signature or Daconil Action may provide some suppression of this disease, but reducing stress is still the key component to managing bacterial decline. If symptoms occur, utilizing fans to increase air flow, dry out the turf canopy, and reduce air and soil temperatures is a good measure. Limiting the use of plant growth regulators once symptoms occur, particularly in hotter weather, may also reduce incidence. Other suggested agronomic changes on affected greens include:

- Topdress very lightly, do not drag in.
- Raise mowing heights
- Switch to solid rollers
- Alternate mowing and rolling.
- Mow when greens are dry
- Increase N fertility
- Delay cultivation practices until symptoms subside or at least cooler weather.

A few presentations and articles have been published recently on the web that address the current state of research on the issue. Some of these links are provided below.

**Bacterial Decline on Creeping Bentgrass – North & South Perspectives. Rick Latin and Bruce Martin. 2013 GCSAA Education Conference.**

**Emerging Bacterial Diseases Associated with the Management of Creeping Bentgrass Putting Greens. Roberts et al. 2013 Western Pennsylvania Turf Conference.**

**Characterizing the Cause of Bentgrass Yellowing & Decline on Putting Greens. Giordano et al. USGA Green Section Record: 1-11-13**
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Field Day, July 30th – Save the Date.

Attendee registration is now open for the MU Turf & Ornamental Field Day on July 30th. Vendors/exhibitors - we had a full boat last year, and many commented that it was the best bang for their field day buck during the whole season. We will have a dedicated demonstration time before lunch (contact me for details on setup), when you can show your wares in a turf setting. We also have several sponsorships available to support the event.

Links are below to access registration for both attendees and vendors, and the complete field day agenda. Hope to see you there.

For the full agenda, click here.
For attendee registration, click here.
For exhibitor/vendor registration, click here.

Have a great week.

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