Good Time to Be Cool

Retirement of Dr. Brad Fresenburg

We said goodbye last week at Mizzou to one of the founding fathers of the MU turfgrass program. Dr. Brad Fresenburg retired after 30 (although I call it 31) years of service to the turfgrass industry. I would list all of Brad’s achievements during his career, but summing those up for an individual who revolutionized an industry (particularly sports turf) is near impossible. He was a lone stalwart during the tough times of the program, and held it together like a slip fix on a broken irrigation pipe. There simply would no longer be a program at MU without his efforts, professionalism, and resolve. He fostered a long legacy through the students he mentored and released into the wild of the industry. Brad was kind enough to take me under his wing, and I consider myself one of his students. I will miss Brad selfishly, (because holy moly he did a ton of work!), and personally for the day-to-day basis sharing ideas and the occasional frustration. More than both of those though, I congratulate him and am blessed to call him my friend. Enjoy making your own schedule Brad, and spending time with your family and some unfortunate deer and trout… you deserve it!
Good Time to Be Cool

Weather

Fall football weather arrived early in Missouri, with August slated to end up 3-5 degrees below normal across the region. This felt like a Chicago, Wisconsin, or even Canada August, and for those managing cool season turfgrasses the weather was more than welcome. Our dichotomy of precipitation in August continued however, with too much rain flowing in the west while too little is coming down in the east. The Kansas City area experienced 4-6+ inches of precipitation above average over the last 30 days, and found the last week of dry weather a comfort. On the flip side, the St. Louis area is an inch or two below normal for the month, and is actually on the US drought monitor in an abnormal to moderate drought category (http://droughtmonitor.unl.edu).

Where rainfall is concerned, we probably can't have it both ways to remedy both problems. According to forecasts (see below), rainfall is expected to be minimal through the first part of September. Kansas City may be able to dry out its soggy britches, but St Louis may still remain water starved. The good news is the mild temperatures are slated to stick around (see above), and August really was an early prelude into fall.
Good Time to Be Cool

Quick Hits

- Rain in Columbia a few weeks ago sparked a late combination of brown patch with a little Pythium blight on the side on our ‘RTF’ tall fescue plots. These diseases should be subsiding with the cool dry weather, and at this late point in the season no fungicides should be targeted to their control. Luckily, we’ve also not observed any gray leaf spot on tall fescue this fall yet either. Quickly to take their place, however, is large patch on zoysia, which we’ve observed starting to flare up on our untreated zoysia plots at the farm. Now is the time to consider a management strategy for large patch on sites with a history of the disease. If you’ve only got one fungicide application you can make per
Good Time to Be Cool

year (i.e. on a home lawn or on fairways due to budget constraints), you may sit it out this fall and gear the one towards early spring 2018. If you are making two applications, make one in mid-late September and the second in early spring 2018. If on a three application schedule, make one in the next two weeks, follow up with a second in late October, and make the third in early spring.

Necrotic Ring Spot/Summer Patch on Kentucky bluegrass. A new field sodded last November with ‘HGT’ Kentucky bluegrass broke out with summer patch or necrotic ring spot symptoms last week. Note that these two diseases are very difficult to tell apart even with the aid of a microscope. In this case, we (myself and some trusted colleagues) believe the symptoms may be from necrotic ring spot caused by *Ophiostoma korrae*. Necrotic ring spot is most severe on newly sodded Kentucky bluegrass, and this sod was brought in from up north. We also have been having cooler weather as of late, and summer patch normally flares in hotter weather in June, July, and a (typical) August. Last, the symptoms are not completely sunken and typically “frog eyed” as with summer patch. All this being said, to accurately differentiate between the two diseases the pathogen must be cultured and/or identified through molecular techniques. For recovery, an application of an acidifying fertilizer such as ammonium sulfate is warranted, along with a hollow tine aerification when symptoms subside. Preventive applications are normally required for soilborne diseases like these two, and will need to be enacted in the spring. Curative applications should center on the DMI fungicides (i.e. Banner, Eagle, etc) tank mixed with a QoI such as Heritage, Fame, or Insignia. Interestingly, if symptoms are the result of necrotic ring spot, the pathogen also causes spring dead spot. Therefore, the pathogen may be best controlled next spring with an SDHI fungicide such as penthiopyrad (Velista) or isofetamid (Kabuto). Not sure how we might be able to use this field as a plot to test this hypothesis out though...
Good Time to Be Cool

- **Basal Rot Anthracnose**: Yes again... sorry to belabor the issue, but we had four samples diagnosed in three days last week from STL and Columbia. Remember again this is a low nitrogen disease, and the cooler weather has the bentgrass pining for some N. Consider, especially on susceptible varieties like ‘Penncross’, bumping up the N spoon feed rate from 0.1 lb/1000 sq ft every two – three weeks to 0.1 lb/1000 sq ft every 7-10 days. Until last week, I thought bentgrass susceptibility was restricted to older cultivars such as ‘Penncross’ or any of the older ‘Penns’ (‘links, ‘eagle, ‘Trio), ‘Cato’, ‘SR1020’, ‘Brighton’, ‘Coohansie’, ‘Providence’ etc. However, I did find a severe outbreak on a newer ‘T1’ bentgrass green (see above), so also be aware if you have this cultivar.

- **Localized Dry Spot**: A. Wet algae in the front, but dry powder in the back. B. Don’t play dominoes with your rootzone. Example of water droplet test after 10 min.
Good Time to Be Cool

- A couple of putting green samples in the last two weeks have come in with significant localized dry spot symptoms. Those soaked in the west might be wondering how this is possible, but these samples came from the middle north Missouri and St. Louis. A method of determining if your soil is hydrophobic is demonstrated above. Take a cup cutter plug or sample from soil profiler along the margin of the affected area to a depth of around four inches. If a cup cutter plug, cut in half and slice so it lays flat. Using an old-fashioned eye dropper (or a straw if you have a steady hand) simply place droplets of water across the soil surface at different depths. If the droplets infiltrate immediately or after a few seconds, there’s no issue. If the droplets stay there for a minute or more, or almost indefinitely as shown above, there is a problem. Even those plagued by rain in the Kansas City area should be aware that localized dry spot can occur quickly, often after extreme wet-dry cycles. If the forecast holds, we may be in for a dry period and some more localized dry spot symptoms on sand-based profiles.

- Other notes for bentgrass putting greens: The time for Pythium root rot has not passed, and a few samples over the last week (particularly from the KC area) have come in with severe symptoms. So keep your guard up. We also have observed some considerable copper spot at the farm. Not something that often slips through on golf course greens, but the environment is ripe for this disease.

It’s Go Time for Fall Recovery

Mild temperatures have been screaming “GO!” to tall fescue and Kentucky bluegrass for much of the month of August, well ahead of the revered mid-September date for aerification, fertilization, and overseeding. Average two-inch soil temperatures are hovering around the mid to upper 70s for much of the state, and we are down to 13 hours of daylight to keep things cool. Along with the accompanying mild temperatures in the forecast, we really do have a couple of extra weeks to get started on building the density of cool season turfgrasses in lawns, roughs, and other areas. Zoysiagrass owners may be in for a tough time with this early fall (see the early outbreaks of large patch noted above).

The cool temperatures of fall provide the best time for building a lawn. The stress and disease potential of the summer is in the rearview mirror instead of the windshield, and even troublesome weeds are either ready to kick the bucket (summer annuals) or are pulling in the reins to make it through the winter. At the same time, cool season grasses are kicking it back into gear, wiping the sweat of their brow after a long workout, and are ready to put on some muscle. Our job is to put food on their plate and give them room to grow. Below are a few bullet points of ways to get a healthy lawn going for next spring.

- **Weed Control** – Fall is the best time for long term control of most weeds with herbicides since the plants are pulling in nutrients for storage rather than pushing out new growth. We need to strategize, however, the best timing for doing this, particularly if we plan to overseed. For overseeding soon, spot applications of glyphosate may work best for a small area since reseeding can be done just a few days after. If bermudagrass
Good Time to Be Cool

needs to go, Pylex (topramezone) can be utilized in a 2-3 application strategy and fortunately after the final application can be seeded a day or two after. If going after broadleaves with a 3-way or triclopyr, it may be best to apply this now and seed in 3-4 weeks at the beginning of October. Check the label of your intended product.

- **Fertilization** – If nothing else, fertilize the lawn in the next few weeks to put on that “muscle mass” and start competing. Fall is the best time to fertilize because there is much less danger of sparking troublesome warm weather diseases such as brown patch and Pythium blight. On established lawns, plan for at least 1 lb N/1000 sq ft, and for newer lawns a bit more. Quick release forms such as urea will serve the purpose, but perhaps split into two applications for a steadier feed (and remember to water it in). If overseeding a lawn, a fertilizer with just nitrogen should do fine. If renovating a lawn (i.e. starting from scratch), a balanced starter fertilizer may be needed. Conduct a soil test if renovating to determine plant needs - [http://soilplantlab.missouri.edu](http://soilplantlab.missouri.edu).

- **Aerification** – If letting seed fly, aerification is a great first practice in the fall on lawns. Aerification will help produce some pathways for water and nutrients to flow down to the rootzone, and does a good job of opening up the canopy to enable some good seed soil contact. A power rake, core or spike aerifier (from most to least effective) should be used over the area prior to seeding.

- **Seeding** – If weeds continually produce seeds to establish into bare areas year after year, why don’t we also seed in the same way? We have the distinct advantage of being able to seed tall fescue and Kentucky bluegrass, and to build density we should use it. Fall is the best time for seeding, and to do it effectively follow this pattern. Mow low (only time I’ll recommend) – aerify – seed – lightly rake in – fertilize – irrigate.

- **Irrigation** - On the last item, the only part of the forecast that doesn’t seem to be cooperating with seeding is the lack of rainfall, so supplemental irrigation will probably be necessary. Irrigation used to establish tall fescue seed in the fall is perhaps more appropriate than supplemental irrigation used throughout the summer to keep tall fescue green. This irrigation will need to be light and frequent, opposite of irrigation practices on an established lawn. In the words of my recently retired colleague, Dr. Brad Fresenburg “keep the soil dark after seeding, but don’t make it shiny”.

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