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Weather

Over the month of May, most of Missouri saw significantly above normal precipitation. Unfortunately, points north of Missouri also experienced significantly above normal precipitation, so our rivers will be swelling above flood stages for some time. Oddly enough, the most southwest reporting station recorded the highest rainfall total (Noel – 14.55”), and the most northwest reporting station recorded the lowest rainfall (Rock Port – 2.39”). 250 miles = over a foot of precipitation difference!

Over the next 7-10 days, June is expected to bring prolonged summer heat and humidity for the first time this season. Temperatures are expected to be around 10 degrees above normal, which means ninety degree highs will be experienced over much of the period. From a turf disease standpoint, this is a serious red flag (like the map above) because previously wet conditions will intersect with heat. I anticipate a busy week with brown patch activity kicking into high gear (already seeing the initial symptoms), perhaps the first summer patch symptoms on Kentucky bluegrass, and maybe even a little Pythium activity.

Quick Hits
- Brown patch on creeping bentgrass @ putting green height may be just starting in some of our plots at the Turf Farm. Using the 6-8 flip flop rule from last week it should be really getting going in the next few days.
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- Dollar spot on Kentucky bluegrass and bermudagrass has been reported in central Missouri.
- Another instance of red thread was noted in perennial ryegrass in Jefferson City. Tall fescue in the lawn was unharmed.

The Starting Line

**Taking root “stock” - 6/2/11**

Checking roots now can potentially tell of problems to come. These soil cores come from three distinct putting green environments at the farm. From left to right, A-4 (full sun), Penncross (full sun, good soil), and Penncross (heavily shaded, poor soil).

With the ringing in of June, spring ends and (unofficially) summer begins. For golf superintendents, this signals the end of creeping bentgrass root growth, and the switch to a gradual decline of root length and density until fall mercifully arrives. I decided to take samples from a few research greens around the farm and “take stock” of our beginning root length before the summer stress period begins. This quick and dirty methodology involved taking the sample with a standard soil probe to a depth below the roots, gently lifting the core from the top until the roots could no longer hold the soil, and gently washing the roots under the tap while supported by a flat sieve. Each green varies somewhat in age and environment. What I found was not ground-breaking, but echoes a few points that bear mention.
The photo above shows what I consider to be nature and nurture. It is obvious that the newer, improved A-4 bentgrass cultivar has produced a larger root mass (and corresponding mat layer) than the Penncross plants. I refer to this as nature. With proper nurture, however, the Penncross sample (PC-1) that is grown in full sun like the A-4 and has a similarly constructed, well-draining root zone doesn’t have the A-4’s root mass but is putting down some pretty decent roots (5” deep). Alternatively, the second Penncross sample (PC-2) is growing on our disease green, and honestly the newborn in the Jungle Book had more advantages. This green is shaded for most of the day, is depressed in a hole with trees on one side and little air flow, and has a wet, poorly drained soil profile. This green is grown without nurture on purpose, so we can subject our experimental disease control measures to the worst scenario possible. Not surprisingly, this root mass is the least dense and long because it has both nature and nurture going against it.

Every superintendent knows a green like our disease green on their golf course, and knows the challenges it presents during normal summers, much less a severe one like last year. It may help to compare the root length and density on your problem child green with one of your A-students, and take pictures. It may provide support for special tutoring (improve air flow, allow more sunlight, raise cutting heights, etc.) of the problem child green in the future. On a monthly basis, I’ll continue taking these samples and posting the results to observe how our bentgrass roots react to this summer’s temperatures. Much like a report card...

**Large Patch on Bermudagrass**

Just to show off, large patch showed up on our bermudagrass plots this past week. The disease has been ravaging zoysiagrass fairways and lawns in Missouri during
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dthis mild, wet spring, and is showing that it can affect bermudagrass as well. This is the first time I have experienced the disease on bermudagrass (normally zoysia is much more susceptible), and to Dr. Fresenburg's knowledge this is the first time it has shown up at the farm.

Several agronomic problems on this plot may be exacerbating damage. Large patch is restricted to the lowest, wettest portion of the bermudagrass plot where drainage is poor. This plot has also not been cultivated since seeding, and has a very puffy thatch layer. Although this disease is currently active, warmer temperatures should slow it down, and a good shot of fertilizer (1 lb N/1000 sq ft) should hasten recovery.

The agronomic problems on this plot have also led to a very severe case of spring dead spot on this plot, which is a more widespread and limiting disease problem of bermudagrass in Missouri. If you look closely at picture A above, you'll notice white dots which outline research plots designed to investigate cultural control measures for suppressing the disease. The trial is being conducted by my new M.S. student, Derek Cottrill, who will officially begin graduate work in August. Unfortunately, fungicides are not always effective for controlling this disease, and newer research has indicated different fertility practices may reduce severity. Derek is attempting to replicate these results in Missouri, and evaluate other practices that may further reduce severity of this disease.

As another shameless plug, Derek will be on hand to discuss this research and discuss the trial’s design at the University of Missouri Field Day on July 26th.

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.
Lee Miller
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