September has thankfully arrived, but the warm temperatures have stuck around. Temperatures eclipsing the 90s have remained for nearly half of September’s first half. Stress on cool season turfgrass has returned in some instances, but warm season turfgrass on the other hand has enjoyed the late heat. Fortunately, this trend doesn’t seem slated to continue. A cold front looks to drop later this week and bring hopefully sustained cooler temperatures with a strong forecast likelihood through the rest of September.

The rain returned in late August and mid-September, when a cold front stalled for a precious three days over the region. Most areas received 1-1.5 inches of rainfall in both events, which was much needed in drought-stricken areas in central and northwestern MO. A significant 1-2 inch precipitation event is expected this weekend over Iowa, central and northern MO, with lower rainfall totals expected south. The long-term rainfall forecast through the end of the month calls for good chances of precipitation throughout the region, which should make for excellent germination of cool season seeding efforts.
Quick Hits

• **Dollar Spot Pressure Continues** – Dollar spot severity ramped up considerably in late August through the first week of September, and is expected to climb again with the arrival of this cold front. As is common practice on our fungicide evaluation trials, we are done with applications for the year, and instead judge efficacy based on residual activity. Some new chemistries are lasting beyond a four-week window, which makes them good candidates to close a season out in the fall. Above is the Smith Kerns prediction model for timing dollar spot severity throughout our season at the MU turf farm. Depressingly, from the start of our epidemic in May until now, the model only
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dipped below the 20% probability threshold once in early June and almost again in early August. Although more experience is still needed in this region, this result indicates that perhaps our best use of the model is timing the beginning and end of our dollar spot season, which still can be valuable in maximizing spray application timing.

NTEP Tall Fescue Establishment
A. Site preparation - glyphosate vegetation removal, till x 2, starter fertilizer (13-13-13 @ 1 lb/M).
B. Seedboxes used to keep the 132 entries separate in 5 x 5 ft plots.
C. Growth cover and irrigation.

• NTEP Tall Fescue Trial Establishment– Yesterday (Sept 18), the turf pathology crew established an extremely large, 132 variety tall fescue trial coordinated by the National Turfgrass Evaluation Program. The site was prepared by removing the former 2013 trial (and then some) with several herbicide applications and tilling the area twice to remove the vegetation. A starter fertilizer (13-13-13) was applied at 1 lb N/1000 sq ft prior to seeding at 6 lb/1000 sq ft. Plots were lightly raked, covered with a growth blanket and irrigated. In retrospective (and now that the ibuprofen has set in), establishing research plots with a great team is a glorious experience.

Now is the time to take stock of what summer has left in a cool season lawn, sports field or rough and take advantage of the season and weather forecast ripe for recovery. For a complete renovation, the above is a good plan (trade out the seed boxes for a spreader and cloth perhaps for a bale of straw per 1000 sq ft). If higher turfgrass density is needed, take out pockets of unwanted vegetation and overseed. A reduced seeding rate of 4-6 lb/1000 sq ft can be used depending on how much turfgrass density is needed. To prepare the site, mow to the lowest setting (won’t hear this suggestion again) and verticut/power rake/aerify to get good seed/soil contact. As my good friend Carl Hopphan once said, “sow one, seed one, and leave one for the birds.”
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September – The Greatest Month

That was no fun, which is a gross understatement. This summer left many a cool season turfgrass stand bruised and battered, but September, the greatest month by my account, is here. Gone are lifeless football stadiums on weekends. Also gone are the 95 + degrees reigning down like a battering ram on our putting greens. Instead we return to lovely 70ish degree days of mild tranquility and luxurious cool season growth while zoysia and bermuda go gently into winter slumber... Or do we?

In reality, 33 out of the last 40 months in Missouri have been above average (span 1895-2010). This past May (1st warmest on record) was a bentgrass crusher, but these warm temperatures have also transgressed into our fall with above average temperatures in every fall month (Sept – Nov) for the last three years. In the last 20 years, the first fall frost is extended by a full week above average; in mid Missouri from October 21 to October 28. In 2017, seven days of 90 + degree temperatures occurred in September, and the same has already occurred in 2018. So is September really fool's gold and just an extension of our summer?

As mentioned in the last newsletter, the real relief of September comes in reduced daylength along with cooler temperatures. Both of these in early September provided fodder for early large patch activity, which since faded quickly with the return of warmer temperatures and vigorous zoysia growth. Reduced daylength also allows for an extra hour plus of recovery time for bentgrass and other cool season turfgrasses to recover from aerification more quickly and fill in.
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Pest control practices may be considerably impacted by extended seasons, however. Crabgrass and other warm season annuals may hang around a little longer, and merge with germinating cool season annuals. Insects will be active longer; as evidenced earlier this week when a chinch bug nymph was observed on a zoysia sample. Disease control may need to extend out an extra application on cool season turfgrasses. For example, brown patch is still apparent and kicking on our creeping bentgrass research green this week.

Last but not least, the timing of warm season disease prevention may need to be adjusted later in the fall, particularly if spring control of large patch or spring dead spot is expected from fungicide applications. Last year, we noted applications targeting spring dead spot were more effective when made in mid-October and November, than in the normal mid-September and October timeframe. Monitoring soil temperatures in the fall like we do in spring, while keeping an eye on the forecast may be crucial in timing these applications. A suggested target threshold for maximizing warm season fungicide applications is a consistent 70 degree two-inch soil temperature. This occurred earlier in September in much of Missouri, but now has rocketed back up to consistent low 80s. With these volatile temperature swings becoming commonplace in September, the first application may be best targeted later in the month or even in October when soil temperatures surely stabilize to the 70 degree threshold. Nailing the infection period of the pathogen in a slowly sliding fall is key to the success of disease control six months in the future.