A Flurry at Summer’s Finish

Weather

Like July, August will turn out mild compared to the scorching May and June that preceded it. Several welcome dips over the last 10 days have brought 2018 August temperatures just about on par thus far. These last few scorching days should bring the month to above average again, however. Since January 2017, this will astoundingly make 16 of the last 20 months with temps above the 1895-2010 long-term average. A short-lived dip is expected mid-week with a cold front hopefully bringing some rain. Unfortunately, the break will be short-lived as above normal temperatures are expected into the first portion of September.

The heat and drought have been a historic one-two punch, with the lack of a spring being a haymaker. State Climatologist Dr. Pat Guinan recently summarized the past 12 months in Missouri, which also drastically impacted our forage producing brethren who too depend on a crop that doesn’t get the break of a complete harvest. The driest September 2018 – January 2019 period in over 40 years. An extreme flip in April to May spring temperature that is unprecedented in 124 years of climate observations. The hottest May – June period on record, and a drought in the state of nearly 5 inches below average from April – July (a mere 133,870 gallon shortage per acre). Woo.

Two bright points. September is coming. The precipitation forecast is promising, with above normal precipitation expected through the first portion of the month. As shown by the words above and the graphic below, the rain and its enhancement of our seeding and recovery efforts is needed. Second, day length is decreasing. The region has just over 13 hours of day light, whereas in June and early July nearly 2 extra hours of extra sun and heat occur per day. The decrease brings cooler temperatures and the opportunity for recovery. Unfortunately in this late August timeframe though, the darkness also provides extra time for leaf wetness and potential for foliar disease activity on tired plants.
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Quick Hits

• Foliar Disease Explosion on Bentgrass – Since mid August, pressure from various diseases on bentgrass has exploded at the MU turfgrass farm and throughout the region. Foliar diseases such as copper spot, red leaf spot, dollar spot and brown patch, along with root/crown diseases such as fairy ring, anthracnose, summer patch, and fairy ring have either appeared or increased in the last two weeks. Longer nights lead to longer dew periods and leaf wetness duration. Combined with a little rain on tired plants, perhaps a need for nitrogen and growth, and an insulting slap of summer daytime heat
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has resulted in the intense foliar disease resurgence. Stay vigilant on fungicide reapplication intervals on bentgrass putting greens during this period.

- **Anthracnose & Summer Patch on Bentgrass** – Although *Poa annua* is much more susceptible to these two diseases, several bentgrass samples have come into the lab over the past week with anthracnose or summer patch. Curative fungicides may be one recourse, but also consider adding a bump of nitrogen to aid recovery. Anthracnose is known to be a low nitrogen disease, preying on undernourished bentgrass. Summer patch infection may be reduced with ammonium sulfate applications. So along with those fungicide apps, perhaps add a small bump of ammonium sulfate (0.1 – 0.15 lb N/1000 sq ft). The only negative of an ammonium sulfate application may be for those also dealing with black layer, so take a soil sample (perhaps with an aerification unit) to assess that underlying problem.
Gray Leaf Spot on Tall Fescue

A. Symptoms of gray leaf spot can appear like brown patch.
B. Distinct spots, not lesions can coalesce to blight the entire leaf.

- **Gray Leaf Spot on Tall Fescue** – Gray leaf spot is a late summer/early fall disease in Missouri that should be scouted for now, particularly on irrigated tall fescue lawns. One tall fescue lawn sample in the St Louis area was received last week, and infection can continue well into September considering the warm forecast. Gray leaf spot is tied to long periods of leaf wetness, so reducing duration through proper irrigation and reducing shade can minimize disease occurrence. Tall fescue is moderately susceptible to the disease, but in severe cases fungicide application may be necessary. Thiophanate methyl has been demonstrated by the NC State turfgrass pathology program as effective, particularly tank-mixed with a QoI (or strobilurin) fungicide (i.e. Heritage or Insignia). Resistance to the QoI fungicides in populations of the gray leaf spot pathogen has been found, and reliance on this chemistry alone is not effective for control. This is in stark contrast to brown patch on tall fescue which is controlled most effectively with the QoI chemistry.
Mother Nature taught a painful lesson this year... she can kick some grass. As outlined several times over the past few reports, the weather has been extraordinarily hard on cool season turfgrasses in Missouri and some turf managers may have lost this one. Take heart, turf loss due to heat, drought stress, and disease has been overwhelmingly common in this region. Beautifully, however, cool season turfgrass areas can be recovered, and sustained with an amazing resource that most warm season varieties can't provide – seed. Farmers seed, troublesome weeds seed, why shouldn't we?

Hopefully turfgrass seed was purchased a few months ago when it might have been a bit cheaper, and stored in a cool, dry place. In just a few short weeks, the best time period (mid-September) for fertilizing, overseeding, and cultivation of cool season turfgrass lawns will occur. Note that no time period is absolutely perfect. The drought last fall made it particularly difficult on seed germination and establishment, so an eye to the skies and forecast is important for success. Below are a few tips for recovery and seeding on bentgrass putting greens and cool season lawns.

**Bentgrass Putting Greens**

- Before you start, investigate the root of the problem. Make sure water is flowing through your greens profile and out a clear drainage pipe. If not, make it so. Make sure the drainage pipe is not submersed in a body of water. The best seed or sod contact with soil and long-term recovery may be after the use of a shovel or back hoe.
- Reestablishment with sod is an obvious choice for recovering playing surfaces during or after the summer, so if at all possible maintain a large nursery green on property. This will increase operating costs, but may be invaluable when a season like this recurs.
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double benefit is that reseeding of the nursery green is unnoticecd, out of play and can be done with a clean slate. One of the hardest decisions is how to remove old organic material and algae to allow for good seed soil contact without impacting play considerably. The best option is with a sod cutter and laying a new piece immediately.

- If no sod is available, consider seeding at the time of damage in the summer. A silver lining is the canopy will be open and the soil will be more available for seed contact. Additionally, research from Rutgers University suggests that less annual bluegrass competition can be expected from June/early July seeding dates and overall bentgrass establishment is greater. Seedlings will need to protected from damping off diseases (*Rhizoctonia* and *Pythium* spp.), watered carefully, and traffic will need to be eliminated (a temporary green).

- Don’t forget the P! The most common deficiency observed in young seedlings is phosphorus so make sure to add some at establishment. This is another reason why milorganite or another organic fertilizer with phosphorus makes a good bentgrass seed carrier.

- Methods for interseeding or overseeding putting greens are all over the web, but research demonstrating prolonged establishment of the new bentgrass variety without killing off the old one is limited. Live bentgrass plants will come back and spread in, so don’t anticipate an overseed to equate into a new bentgrass variety unless those areas are completely killed.

**Tall Fescue and/or Kentucky Bluegrass Lawns**

- Wait! Particularly if the lawn is tall fescue, you may be surprised how much comes back when temperatures cool and rains return. Tall fescue and to a much lesser extent Kentucky bluegrass will go dormant in drought conditions and can regrow. To rebuild a dense lawn, overseeding will most likely be needed and beneficial, but a complete renovation may not.

- A good rule of thumb is if 50% of the lawn isn’t what it’s supposed to be, consider complete renovation by removing all vegetation. If just weak and more than 50% is the desired plant(s), take out the weeds selectively and reseed. Wait to see if the tall fescue will come back into September before making that decision.

- Consider hand pulling or non-selectively spot removing weeds with glyphosate or other short residual herbicide prior to reseeding. Selective herbicides such as 2,4-D have a longer residual, and treated areas can’t be reseeded for a month or more.

- Make sure the soil is visible. Mow as low as possible. Aggressively power raking (or verticuting) will then be necessary. Core aerification may also work but leave the cores on the surface.

- Use enough seed. For tall fescue, 5-7 lbs of pure live seed is recommended. Remember most seed has an 85% germination rate, or contains 85% pure live seed.

- Soil test. Apply a starter fertilizer with phosphorus if necessary.

- Lightly rake the seed in after application.

- Until seedlings mature, water frequently enough that the soil remains dark, but not so much that it shines or puddles.
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- Raise mowing heights. Keep them there.
- Consider overseeding lawns on a more regular basis - every fall, every other fall, or once every three years. Most summers involve some attrition of cool season lawns, and some like this one involves a lot.

Hooray for the PGA!

A Win for St. Louis
A. The grounds crew were coordinated fireflies in the early morning darkness.
B. A few extra spectators in the dewy grass on a beautiful morning at Bellerive CC.

I’d be remiss not to mention the incredible achievement of the Bellerive grounds crew under the direction of Carlos Arraya and his assistants Jared Brewster, Nick White, and Matt Lennon. Thank you to them for letting me witness and “assist” in tournament preparation. Television could not do justice to the beauty of the venue, nor the size and excitement of the crowd. Although we in the area have an idea, there is no way to measure the size of the task the Bellerive crew achieved to put on this event. The result of those actions, however, is a buzz created for golf in St. Louis and Missouri that will rattle for many, many years to come. Kudos and thank you to Bellerive for the great success and legacy left by the 100th PGA Championship!