Aerification Doesn’t Prevent Recovery

Weather

August relief? It’s a rare commodity, but the region is currently experiencing a welcome rest from the tempest of this summer season. Over the last 4 days, temperatures in the state have been 4-12 degrees below normal, and the low 50°F mornings have been refreshing. Thank El Niño here, but don’t let anyone on the hot, drought stricken west coast hear you, and remember it didn’t do us any favors in the rainfall department this summer. The cool down and precipitation break has put the brakes on many summer diseases. Brown patch, in particular, has wreaked havoc in the state and this weather pattern should restrict further development...

Perhaps not for long though. The extended 8-14 day forecast shows some heat returning for early September along with decent chances for precipitation. If the high 80s, low 90s do return brown patch and other summer disease problems could come back with it. Outbreaks may not be as pronounced, however, since the photoperiod (i.e. day length) will be shorter and overall stress on the plant shouldn’t be as severe as in July. For example in St. Louis, the day length was 14 hours and 49 minutes on July 1, 14 hours and 9 minutes on August 1, and will be 13 hours and 17 minutes tomorrow. The 1.5 hours of difference is substantial when considering it’s a differential of either being 90+ degrees or cooling down to the 60s that much quicker. For this reason, many turfgrass managers (particularly golf superintendents) feel that August 15 is the hump to get over, and aspirations of recovery begin to turn into reality.
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Quick Hits:

- A few lesions of gray leaf spot were noted on our Rembrandt tall fescue in the last two weeks, and in a sample received last week. On turf-type tall fescue, cultivars those that are partially resistant to brown patch are often susceptible to this disease. Gray leaf spot occurs sporadically in the middle portion of the state and more frequently in southern MO. Perennial ryegrass, particularly seedlings, are particularly prone to this disease. Established tall fescue lawns are usually tolerant to widespread loss from this disease, but some damage has been observed. On home lawns, fungicide control is erratic and fungicide resistance can be a problem in pathogen populations. At this late stage in the season, the best recourse is to reseed damaged areas in early September.
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- **Fall armyworm** moth captures have been noted regularly in southern parts of the state. Although preventive insecticide applications are not recommended, remember that last year in early September several considerable outbreaks occurred.

Recovery Mode on Putting Greens

Although recovery on putting greens has occurred in the last few days, by all accounts it has been a brutal summer in Missouri. Currently, 20% of all samples submitted to the Plant Diagnostic Clinic have been turfgrass - second only to row crop submissions. Most of these (96%) have been from putting greens, with record 10 samples submitted on a fateful Tuesday in late July. Much of the damage was a result of considerable root physiological decline/wet wilt brought about by saturated root zones. In many cases, this was also a precursor to significant Pythium root rot and summer patch infections, which along with brown patch stood out as the diseases of the season.

Since saturated root zones were so prominent this season, the word “venting” has been uttered more than I can remember and for good reason. Venting, or using solid, pencil, bayonet, or star tines, was necessary to facilitate air exchange in clogged profiles, provide channels for drying soils out and allowing nutrients and fresh water back in. On several occasions, superintendents relayed concerns that venting may do more harm to their fragile, injured turfgrass than good. This concern did not come up with spray applications, however, which oftentimes was steered into the main topic of conversation. Therefore, I think it’s important to do a little math and compare the two practices to comprehend the impact and stress they place on the putting green surface. Many sprayer/aerifier models are available so I just picked two as quick examples to illustrate the point. *Differences among manufacturers and types will exist.
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Sprayer - Toro Multi Pro® 5800
Weight = 2,700 pounds w/12 gallons fuel = 2,772 pounds

Aerifier – Toro ProCore® 648
Weight = 1,590 pounds w/7.5 gallons fuel = 1,635 pounds

So the weight alone is more for the sprayer, however, the sprayer has 4 larger tires than the aerifier, and therefore could still disperse the weight and have a lower ground contact pressure. The kicker, here, however, is the volume of water the sprayer is holding and the water weight. At max capacity, the above sprayer has 300 gallons of water (+ chemical), or an additional ~ 2,500 pounds, for a total of 7,721 pounds. With operator (average 195 pounds) the sprayer now becomes 4.8 times the weight of the aerifier. A considerable addition of tire contact area would be necessary to disperse the weight of the sprayer and approximate the ground contact pressure exerted by the aerifier. True, the ground contact pressure of the aerifier operator’s footsteps should also be added, but would presumably be negligible (could be viewed as an extremely rambunctious golfer).

Sure, the sprayer makes less passes, and the tires impact a smaller amount of turf surface than the smaller concentrated passes of the aerifier. Out of habit or necessity, however, the sprayer is often driven in the same pattern and utilized more frequently (once a week) than the aerifier. The aggressive action of venting itself may be seen as a stressor, but recall the actual surface disruption only equals approximately 1-5% of the surface area if using small ¼” tines (http://gsrpdf.lib.msu.edu/ticpdf.py?file=/2000s/2001/010708.pdf).

The core of my argument here isn’t greens should be vented and not sprayed or vice versa. My point is that in most cases (~ 90% of all the golf green samples submitted this year) the benefit of venting putting greens, even stressed ones, far outweigh any of the additional stress. Lastly, if at all possible, a regular summer program for punching holes with your aerifier, just like your sprayer, should be put on the calendar.

Lobenstein Scholarship Tournament

The Lobenstein Scholarship Tournament has been rescheduled for Friday, October 2nd, 8 am at Columbia Country Club. This is the day before the SEC Opener for the Mizzou Tigers vs. the South Carolina Gamecocks, so come out and make a full weekend out of it.

The tournament will benefit the Lobenstein Fund, which has the sole purpose of annually warding two deserving MU undergraduates (one in Turfgrass Science and one in Horticulture Science & Design) $1000 scholarships. The event will be a 4-man scramble, and the field is limited to 72 players. Hole, prize and beverage sponsorships are available.
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More information is provided on the flyer below. To register, go to http://motoc.org/golf/. Hope to see you there!

[Image of flyer]

Lee Miller
Follow on Twitter! @muturfpath
Like on Facebook! Mizzou Turfgrass Extension Turfgrass Pathologist
University of Missouri