Winter's Wrath Becoming Apparent

Weather

![Columbia, MO March Daily Max/Min Temperature Normal vs 2014](image)

March Weather

A. March has been a bit of a see-saw ride. Overall, temperatures are just a bit below normal. - Source: Pat Guinan

B. Five-day average 2” soil temperatures are well below thresholds throughout Missouri. - Source: Horizon Reports

Spring break is occurring on campus, and while it seems like a desert, the winter chill is still with us. March has brought a dose or two of spring warmth, but as is typical with our spring temperature pattern, there have been large temperature swings. Days with near 80°F highs are followed by frosts and days that struggle to get in the 40s. In accordance with air temperatures, soil temperatures are still fairly frigid throughout the region. Some trees have budded (including the forsythia outside my window), but are waiting for the March madness weather swings to steady before blooming.

Forecasts indicate another day or two of cold weather and then a gradual warm-up into this weekend and next week. If the forecast holds, I’ll restate the sentiment of the last report... that this may be best time to spring seed cool-season turfgrasses at or below 1-70. From what I’ve heard, most superintendents have mowed the frass off creeping bentgrass putting greens a time or two now, but next week’s early April days may also necessitate the need to fire up those lawnmowers on home lawns.

Hopefully April will bring along some of its typical showers, as most areas in the state enter this spring in a mild to moderate drought. January, in particular, was very windy, and experienced some very low dew points. This caused some issues with winter dessication to young creeping bentgrass as noted below, and hopefully won’t also yield substantial winter injury to warm-season turfgrasses.
Quick Hits:

- **Pink Snow Mold**: The big snowmelt 3 weeks ago yielded an unpleasant surprise on a few bentgrass putting greens in central MO. After just looking at the pictures, I had a crazy notion that the symptoms may be caused by gray snow mold, which is presumably a native of a few parallels north of us (another reason to submit a sample!). After incubation and microscopic observation, characteristic spores of *Microdochium nivale* were abundant, making the diagnosis more typical of the region and climate. Recovery will need to include a fungicide application (i.e. iprodione + chlorothalonil tank-mix) to halt the disease, as the pathogen can crank back up in mild temperatures when moisture is present. Aggressive aerification and overseeding was also scheduled.
Winter Desiccation
A. The signs of a tough winter are being felt on some bentgrass putting greens, particularly those that were seeded in the last 12 months on a sand-based rootzone. 
B. Mature bentgrass on native push-up soils at the same site did not show desiccation damage.

- **Winter Desiccation:** Mature, established bentgrass seemed to weather winter’s wrath fairly well, but newly established bentgrass on sand-based putting greens may have fallen prey to winter desiccation. Desiccation occurs when the amount of water lost by foliage exceeds the amount picked up by the roots. During a cold winter, uptake of water by turfgrass roots is minimal due to dormancy, yet high winds and low dew points can continue to suck water out of the foliage. As noted above, January 2014 had sustained periods of both, and we may be seeing damage from that time frame when an insulating snow cover was not present.

Desiccation injury is normally most associated with *Poa annua*, a more succulent stress-prone plant. Injury to bentgrass is rare; however, young bentgrasses, particularly those exposed to high slopes on sand-based putting greens, can also be injured. Since the potential for injury is so sporadic, the prevention of desiccation injury is difficult. At this point, soil temperatures are still low (mid-40s), so before taking action it’s advisable to bring a suspect plug indoors for a few days and monitor how much green tissue recovers. Milorganite or black topdressing materials may also be utilized to warm soil temperatures more quickly and get a better assessment of damage.

Again, bentgrass greens in Missouri normally don’t have issues with desiccation events. Covers, a heavy late-season topdressing, and winter irrigation during periods of frigid temperatures and no snow cover, have been show to prevent injury. For those that have significant desiccation injury, an aggressive reseeding program integrating aerification and topdressing will be necessary for recovery.
- **Growing Degree Day Tracker**: If you apply pre-emergent or seedhead preventing herbicides, and are on the eastern side of the state then you should consider using this great resource from Michigan State University. Utilizing weather data from stations in Indiana, Illinois, and Michigan, this service calculates degree days and can provide email alerts when weed management thresholds have been met. I received an email alert on 3/16 informing that Carbondale, IL had reached the base 32 degree-day threshold for applying Proxy/Primo for Poa seedhead suppression. A very, very useful tool.

**Plant Diagnostic Clinic reopening – April 1st**

The University of Missouri Extension Service will be reopening the MU Plant Diagnostic Clinic on April 1st. The Clinic will provide disease diagnosis for all plant samples, as well as identification services for plants (weeds) and insect pests. With my oversight, the turfgrass diagnostic service will be integrated into the overall Clinic. The mobile turfgrass diagnostic clinic will continue in its same status, and with a base operation to receive and process turfgrass samples, diagnostic and research visits should be easier to facilitate.

The importance of reopening the Clinic cannot be overstated. Missouri is a keystone, border state for several critical pests such as gypsy moth, emerald ash borer, thousand cankers disease, brown marmorated stink bug, Impatiens downy mildew,
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and the spotted wing drosophila. In collaboration with the Missouri Depts of Agriculture, Conservation, and Natural Resources, the Plant Diagnostic Clinic will serve as a collective monitoring site, collecting ground truth on outbreaks of these problems. Additionally, row crop and ornamental growers, as well as homeowners and turfgrass managers, will now have the resource of plant diagnosis and management information coming from MU in a critical as-needed basis. In case it’s not obvious, I’m thrilled to be a part of getting this service back online.

Patricia Wallace, previously from Plant Sciences, Inc. in Watsonville, CA, will serve as the Plant Diagnostic Clinic Director, and direct daily operations. She received her M.S. degree at Oregon State University studying the role of unsaturated biofilms in the biological control of Botrytis cinerea. During her 4 years at Plant Sciences, Inc., Patricia served as the lab manager and diagnostician for growers of strawberry, cane berry, and artichoke. She is a native Missourian, and was born and raised in Ava.

Below is the announcement for the Clinic, and the fee structure for sample submission. Hopefully, it will be a service you or your clientele can utilize for accurate diagnosis of pest issues. For more information, click here to access the MU Plant Diagnostic Clinic website.