

Disease pressure climbs with warming temperatures

June 20, 2019

The recent wet weather and hot temperatures in the forecast have us thinking about turf disease. The [Smith-Kerns Dollar Spot model](#) is approaching 50%, a very high risk threshold, and we've received reports of leaf spot on ryegrass and Kentucky bluegrass lawns, fields, and fairways. The conditions are primed to see these diseases continue and for mid-summer diseases to appear.

Brown Patch

Brown patch in tall fescue and creeping bentgrass is a perennial problem during summer in the central Great Plains. High heat and humidity favor this disease. While brown patch rarely causes long-term issues, it can be unsightly to some. Try to encourage leaf drying and consider a preventative application of a fungicide if an outbreak is completely unacceptable. Here is a great resource for selecting the best disease control product from Drs. Vincelli and Clarke: [Chemical Control of Turfgrass Diseases](#).

While nitrogen fertilization is often linked to brown patch severity, the latest research suggests this connection isn't as strong as once thought. Under-fertilized tall fescue lawns can even have worse disease symptoms because the plant cannot "grow-out" of the damage. When it comes to fertilization in summer, don't fertilize if the grass is already green and rapidly growing. This can make the disease worse. However, a fertilizer application in mid-summer can often help lawns with minimal growth in the summer. Consider a slow-release source, like an organic fertilizer, to minimize the risk of fertilizer burn and be sure to water-in the fertilizer after.

Anthracnose

As the stress on the turf increases, the risk of anthracnose is also enhanced. While anthracnose can occur under diverse environmental conditions, high humidity and temperature following late spring flowering can lead to rapid disease development. Stress exacerbates disease progression. Practices that [promote plant health](#) can help with anthracnose. On putting greens, those practices include raising the mowing height, withholding aggressive verticutting, light and frequent sand topdressing, and application of sufficient nitrogen to sustain adequate growth. In annual bluegrass, light spoon-feeding of potassium fertilizer can help reduce anthracnose (tissue K >2%). Also, use [soil moisture meters](#) to precisely apply water to the turf. Still preventative applications of fungicides are typically required to prevent this damaging disease from causing problems: [Chemical Control of Turfgrass Diseases](#).

Pythium

Pythium blight is feared by many turfgrass managers. We all have heard stories of greens killed overnight by this disease. While it can cause catastrophic damage, it is more common on high mowed creeping bentgrass and ryegrass (fairways) that have received too much water when the air temperature and humidity are very high. And still, damage is usually isolated to low-lying areas unless it is moved by mowers or by water flowing over the surface. Curative applications of fungicides can help managers defend against this damaging pest.

More common *Pythium* diseases are the [Pythium root diseases](#). These pests are much less dramatic than *Pythium* blight, but can still have a severe impact on [turfgrass quality](#). These root diseases reduce water and nutrient uptake and leads to slow turf decline. Wet soils favor *Pythium* root diseases. It is tempting to add more water to these areas, but that can actually make the disease worse. In fact, *Pythium* root

Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska-Lincoln Extension education programs abide with the nondiscrimination policies of the University of Nebraska-Lincoln and the United States Department of Agriculture.



Fungicide efficacy trial for *Pythium* root rot disease at North Carolina State University. Notice the non-treated controls are brown and rapidly declining.

rot researchers typically run light irrigation during the afternoon to promote the disease. Practices to maximize turf health like venting, adequate nitrogen fertilizer, and use of wetting agent can help, but fungicide applications are typically needed when the soils are wet and have significant organic matter.

One of the most commonly used fungicides for *Pythium* root diseases is cyazofamid (Segway); a Qil active ingredient (FRAC 21). As with other fungicides, it's important to rotate chemical families to avoid disease resistance. The QoI (strobi) fungicides,

FRAC 11, are frequently used in rotation with Segway. They include active ingredients like azoxystrobin (Heritage), fluoxastrobin (Fame), and pyraclostrobin (Insignia). Products like ethazole (Terrazole), fosetyl Al (Signature), and propamocarb (Banol) are also effective on *Pythium* rot root. These products should be watered in to achieve best results. North Carolina State University has great information and specific control recommendations for both [Pythium root rot](#) and [Pythium root dysfunction](#).

Iron deficiency

While not a biotic disease, iron chlorosis is common in Kentucky bluegrass and creeping bentgrass when soils are warm, wet, and have a high pH. Nitrogen fertilization actually makes this yellowing worse as the leaves grow faster but the plant can't make enough chlorophyll to provide a dark green appearance. It's best to preventatively treat these areas with foliar iron fertilizer. It can be from dissolved iron sulfate or liquid chelated iron sources. Our research suggests they all work about the same, and more iron (Fe) led to more greening regardless of the iron source. Granular iron fertilizer does not help, because struggling turfgrass roots cannot take it up. Be careful with very high rates of iron on hot days to minimize the risk of burn. Do not water-in the iron fertilizer. Here's a past TI on the subject: [Observations and treatment of iron deficiency and chlorosis](#).

Bill Kreuser, Assistant Professor and Turfgrass Extension Specialist, wkreuser2@unl.edu