

Looming disease pressure**August 3, 2016**

The weather forecast shows good opportunity for dollar spot and brown patch development over the next 10 days. When not causing disease, each of these pathogens have mechanisms for survival in thatch and soil. When conditions are suitable for infection, susceptible hosts not protected by fungicide are at risk. In the north central U.S., dollar spot is most often observed on creeping bentgrass, perennial ryegrass, or Kentucky bluegrass. The disease can occur over a wide range of temperatures (55-80F) during periods of high humidity (> 8 hours) around turfgrass leaves. Warm days followed by nighttime temperatures that cool to the dew point result in surface moisture that favors infection. Brown patch is most common on tall fescue, creeping bentgrass, and perennial ryegrass. The disease occurs with extended periods (>10 hours) of high humidity and minimum nighttime temperatures > 65F.



In addition to several chances for rain over the next 10 days, the forecasted temperature and dew point frequently converge during overnight hours, and are typically not less than 65-70F. Air will be humid, dew will likely be present in mornings, and disease will probably develop in unprotected turf. Do everything you can do culturally to reduce leaf wetness and reduce the likelihood of infection. Reduce or eliminate irrigation cycles following precipitation, irrigate during early morning hours to reduce the duration of leaf wetness and knock dew off of leaves, improve air flow, and even pole, mow, or drag a hose across turf to remove dew in the morning.

Preventive fungicide applications are most effective for disease control. “Curative” applications may stop a disease outbreak from spreading further, but the damage will have been done. Additionally, higher rates are required for curative applications and environmental conditions suitable for disease infection may subside following the initial outbreak, meaning that a curative application may be completely unnecessary. Chlorothalonil, boscalid, demethylation inhibitors (e.g. propiconazole), dicarboximides (e.g. iprodione), and thiophanate-methyl provide preventive dollar spot control. Since disease pressure is likely going to be high, don’t rely solely on chlorothalonil for prevention. Instead, tank mix with one of the other listed types of fungicides – this will also help delay the selection of fungicide resistant populations of the dollar spot pathogen (*resistance has been reported for thiophanate-methyl, dicarboximides, and demethylation inhibitors*). Many fungicides are available for brown patch control but strobilurins (e.g. azoxystrobin), flutolanil, polyoxin D, and demethylation inhibitors are probably most effective. Brown patch resistance to fungicides has not yet been reported, but we should always rotate and tank mix different modes of action to delay the selection of resistance.

Cole Thompson, Assistant Professor, Integrated Turfgrass Management Specialist, cole.thompson@unl.edu