The Cooler

Weather

As indicated in the previous newsletter, March successfully crushed all of the records. In speaking with our state climatologist, if we took the temperatures for March and compared them to historical April weather records, it was the 10th warmest April on record! Quite a start to spring to say the least. April started off with the same fervor, but has since cooled, hence the title reference to the movie starring William Macy.

Some areas north of I-70 had frost this morning, (including my house), which may have slowed some of the summer annuals (i.e. crabgrass). If pressed, however, I don't think the event was severe enough to kill crabgrass seedlings. At this time,
crabgrass seedlings are well insulated by surrounding vegetation, and the growing point and most of the plant are close to the ground. Recorded surface temperatures did not dip below freezing for many areas, and only the very northern areas of Missouri dipped into the 20’s.

So how could recorded surface temperatures be above freezing and yet there is still frost on the turf? All the golf superintendents probably know the answer to this one, and have to answer this question several times in the spring and fall. Shade may be an obvious choice, but at night when the frost sets shade is a non-issue. Instead, shade extends the duration of frost occurrence in the morning, but not the incidence. Yesterday’s frost occurrence is most likely due to what meteorologists call surface temperature inversion. Since cold air is heavy air, air temperature increases as measurements are taken upward from the surface. Surface temperature is normally measured at a height of 4-6 feet in special shelters called Stevenson screens to protect from direct heat radiation. However, because they are above the actual surface they still estimate surface temperature and may remain a few degrees higher than actual. On clear, calm nights surface temperature inversion is most noticeable since the cold air sinks and sits undisturbed.

It appears that this weekend’s weather pattern is shaping up to be dark and stormy. Not good for opening weekend of baseball in STL and KC, or for the unveiling of the new Mizzou uniforms. Some areas were getting dry, particularly some of our new seedlings at the turf farm, so the rain will be a nice recharge. A word of warning though: the grass is sure to be growing like gangbusters next week so when the weather allows it will be time to get on the mower!

Quick Hits:

Dandelion Aversion to Tall Fescue

A. A recent Twitter post by Dr. Doug Soldat from University of Wisconsin shows dandelion’s apparent disdain for tall fescue. Dandelions are prevalent in the strip of perennial ryegrass, but not in the fescue.

B. Similarly, the lawn on the left with dandelions is Kentucky bluegrass and the lawn on the right is tall fescue.
The Cooler

Broadleaf weeds are intensely growing throughout the region, and I noticed a tweet from Dr. Doug Soldat, a colleague turf professor at the University of Wisconsin, on the subject. He is noticing that dandelion populations are lacking in tall fescue swards as opposed to Kentucky bluegrass and perennial ryegrass. The reason for this is uncertain, and it may simply be a case of increased density in the tall fescue plots compared to the other two. Another possible theory for this phenomenon is allelopathy. Although not well known, tall fescue roots exude compounds that inhibit the growth of trees, including walnut, pecan, and sweetgum (click here for Starbuck article). These exudates may also be inhibiting the growth of dandelions.

Large Patch

Large patch has been the disease story of spring thus far, and this current wet weather pattern and cool temperatures will make the disease considerably more severe over the next two months. We have several trials evaluating fall preventive fungicide applications throughout the viewing area, and are already observing some very interesting results. I visited and rated a trial in Kansas City last week and was delighted (only a pathologist can say that) to see severe symptoms within the plot area. In the trial, we evaluated Heritage WG and Triton FLO at low and high rates applied once on two different dates in the fall.

We observed significantly more large patch in plots treated on the October 12th date vs. the September 14th date. Although more needs to be collected, this one year of data indicates that if you only have one shot at it in the fall to apply earlier rather than later. A potential reason for this effect may be that the pathogen is in more of a free-living, infectious state in September, and may not have gone into winter.
The Cooler

survival mode by diving down into leaf sheaths or forming resistant structures called sclerotia. Stay tuned ...

If you have large patch now, a fungicide will stop new infections but won’t magically cure damaged turf. As stated in the previous update, don’t fertilize heavily and try to grow out these damaged areas, as it will make the large patch much more severe. Also don’t rake or aerify damaged areas as this stress the turf and result in more infections.

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