Fall or Spring Patch Loom Most Large?

Weather

Now that is more like it. Fall fell during mid-September, with temperatures plummeting to well below normal and giving a few folks in northern portions of the state an early fall frost scare. A frost didn’t occur, and doesn’t look to happen over the first portion of October with temperatures expected to be “hot” for fall, (highs in the lower to mid 80’s). This warmth should extend this current fall seeding window for cool-season turfgrasses somewhat, but as stated in the last update, now is the time. Although precipitation doesn’t appear likely in the next few days, higher chances of precipitation over the first part of October are expected for the region (http://www.cpc.ncep.noaa.gov). This rainfall should aid germination and establishment of young seedlings, but remember frequent, light irrigation scheduling will still be necessary during the first 7-14 days.

As shown in the figure below, the first freezing low temperature (≤ 32°F) in Columbia has occurred later in recent years than our historical data would indicate. In fact, over the past 10 years the first fall frost date averages October 22nd, which is a full week later but early enough to put some frost on the pumpkin. As has been shown often in other outlets, this trend mirrors the warming global climate that has been observed over the period. Presumably, complete zoysiagrass dormancy is also being pushed later into the fall season as well, which may mean a longer period of slow growth and fall infection potential for large patch.
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**First Frost A Bit Later in Recent Years**

A. The first fall frost date map constructed from 1971-2000 data.
- Source: MU Extension: AgEBB
B. Most of the first fall frost dates over the past 8 years from Columbia, MO are 6-14 days later than the Oct. 15 average date on the map. - Source: MU Extension: AgEBB

**Quick Hits:**

- **Basal rot anthracnose** has been observed on a bentgrass putting green in mid Missouri this week. This disease is easily neglected this time of year, but conditions are often ripe for it. Bentgrass gets hungry for nitrogen in the fall, as temperatures dive into the perfect range for growth and recuperation from summer stresses. To coincide with this need, anthracnose is a low N
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disease, occurring and causing considerably more damage when the plant is under-fertilized. Superintendents may also press the issue of raising greens speeds a bit more in the fall as temperatures subside. Going back to grooved rollers and lowering mowing heights before important fall tournaments may set the stage for this disease. Also, early September rains/high temperatures may have resulted in puffy greens and scalping injury subsequent wounding and the actual start of the infection process. If you are managing bentgrass varieties susceptible to anthracnose infection (i.e. ‘Penncross’, ‘Pennlinks’, ‘Providence’, ‘Seaside II’, 'Brighton'), be on the lookout for this disease now. As mentioned, a little extra nitrogen will help reduce anthracnose severity. At this time of year, a tank-mix combination DMI plus chlorothalonil application should be a good curative treatment. Do not rely on flutolanil, iprodione or thiophanate-methyl for control of this disease.

- **Fall armyworms** are still hanging around. Damaging populations may be dwindling as larvae begin to pupate, but while sampling some tall fescue this morning I was still able find a few. See [the previous update](#) for more information.

Large Patch Starting to Fire this Fall

As Dr. Brad Fresenburg likes to state, “Missouri is a tall fescue state”... well if the lawn isn’t tall fescue or a tall fescue/Kentucky bluegrass mix than it is more than likely zoysiagrass. Not only that, but nearly all of the golf course fairways in the state are planted in zoysiagrass. All of this zoysiagrass (approximately 130,000 managed acres) is planted mainly in the cultivar ‘Meyer’, and for good reason as it
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has historically been most able to survive our oftentimes brutal winters in the upper transition zone. In fact, last year it was one of only two newly established zoysia cultivars out of 35 in our NTEP trial to survive the 2013/14 winter season. Over the past week, we have noticed more and more large patch firing on our ‘Meyer’ research blocks at the farm. Along with insect issues (chinch bugs and billbugs), large patch is a considerable problem that limits zoysia utility in this region, and ‘Meyer’ is a particularly susceptible cultivar. After witnessing the winterkill on other cultivars this past winter, however, I wouldn’t suggest throwing this ‘Meyer’ baby out with the bath water.

Large patch has two infection periods corresponding to diminished zoysiagrass growth in the fall and spring when the turf is either going into or coming out of dormancy. These two seasons result in a vexing issue for turfgrass managers regarding when to apply a fungicide. In high amenity situations such as golf course fairways, two or even three fungicide applications (2 Fall and 1 Spring) may be utilized to prevent the disease. In lawn care, the issue may be even more problematic as a homeowner may only allow or be able to afford a single application.

As shown in the figure above, if only a single fungicide application is planned for large patch control, perhaps it’s best to wait until spring rather than apply now. Other than the higher efficacy shown, in my observations large patch is normally more severe and conspicuous in the spring. Most zoysiagrass is sliding into dormancy and in a few short weeks in Missouri will already be brown and straw colored. Conversely, zoysiagrass in the spring is building up its metabolism and the overall goal is to have it green for the next 4-5 months. A fungicide application then is more aptly timed to suppress infection during this critical and obvious stage.

What to do now if only one application is planned? Pay attention. Large patch will
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normally show the next spring right where it left off this fall, and can be pointed out to the client. Target those areas and plan on spraying them at or just before the first mow. If areas do begin to severely decline, a curative spot treatment now may be necessary.

Currently, we are also investigating the impact of nitrogen source and fertilizer timing on large patch severity. John Koehler (photo above) will be leading this project as the main focus of his thesis project. In brief, we will be targeting fertilizer treatments during the spring and fall and determining if large patch activity increases or if disease recovery may be quicker. Results of this research as it bears out will be forthcoming.

Have a good weekend,

Lee

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