MU Turf & Ornamental Field Day: Next Tuesday, July 22nd

I’ll lead with a shameless plug for next Tuesday’s field day event. The MU Turfgrass & Ornamental Field Day will be held in Columbia, MO at our research farm on the MU South Farm Research Center (click here for directions). We have a large and diverse array of educational opportunities to offer next week. Some of these topics include:

- Current Billbug Research
- Weather Stations and Resources
- Problems and Pests of Urban Trees
- 2014 Annual Flower Selections
- Native Plantings for Missouri
- Fertilizer Timing & Selection on Tall Fescue Lawns
- Post-Application Irrigation & Fungicide Efficacy
- Plant Diagnostic Clinic Reopening and Services
- Frazing Demonstration

As you can see, there is something for just about everyone so bring yourself, your employees, your clients, your neighbors, or anyone that has an engaged interest in the Missouri Green Industry.

In addition, we also will have the Lobenstein scholarship raffle with some great prizes from MU athletics, CAFNR, the St. Louis Cardinals, and the Kansas City Royals. So bring along a few bucks to support this worthy cause and perhaps win a prize to boot. More information about the Lobenstein undergraduate scholarship & the 2013 recipients can be found here.

Links are below to access registration for both attendees and vendors, and the complete field day agenda. Hope to see you next Tuesday.

For the full agenda, click here.
For attendee registration, click here.
For exhibitor/vendor registration, click here.
Is this really July? This head scratcher is occurring throughout much of the Midwest and East Coast as Canada blessed us with her jet stream over the middle portion of last week and for much of this week. Historically, July is the hottest month in Missouri with average highs near 90 and lows in the upper 60s or low 70s. Over the course of the week, many areas won’t experience highs in the 80s which is more reminiscent of September. Forecasts do have summer-like temperatures returning next week, so this great break may be over shortly.

For those north and along the I-70 corridor, the cool fronts (which seem to like Mondays for some reason) brought substantial rain and have kept most of Missouri above or around normal precipitation levels during the 1st half of July. Chances for rain are low throughout the next 7-10 day period, so July, normally our driest month, may return back to normal with both warm and dry conditions.
Quick Hits:

- **Nematodes on Creeping Bentgrass:** Another creeping bentgrass putting green sample with a nematode issue from the St. Louis area came in on July 11. The green had a combo package of over 3,000 ring nematodes and over 2500 lance nematodes/100 cc soil. In this case, the lance nematode is an endoparasite, meaning it gets inside root tissue to feed, and the ring nematode (pictured above) is an ectoparasite, feeding on the outside of the root. This double whammy not only weakens the root system, but provides prime infection sites for secondary root pathogens. In several past reports, I've discussed Avid for nematode control, and a recent article in *Golf Course Management* written by Dr. Billy Crow from University of Florida details a potential new tool in Multiguard Protect. This product has not yet been evaluated in Missouri for nematode control on creeping bentgrass, but is registered for use.

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**Ring & Lance Nematode Infestation**
A. Necrotic lesions caused by nematode feeding on bentgrass roots.
B. Ring nematode with it’s tongue (actually stylet) sticking out.

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**Yellow Spot on Creeping Bentgrass**
A. As the name implies, bright yellow spots are the characteristic stand symptom.
B. Under the microscope, aggregates of blue-green algae (cyanobacteria) are evident surrounding leaf sheaths of chlorotic plants.
The Zoysia Zeitgeist

- **Yellow Spot on Creeping Bentgrass:** To go along with a previous report, a case of yellow spot caused by cyanobacteria (blue-green algae) was observed this week at a course in central MO. In this case, the greens had not had chlorothalonil applied since June 1, and consistent rains had been keeping the surface wet. As stated before, QoI fungicide application may exacerbate this condition, and may need to be combined with chlorothalonil and or mancozeb applications. [Click here to read the research article by Tredway and PACE provided in the previous update.](#)

- **Copper Spot on Creeping Bentgrass:** Our first instance of copper spot on our ‘Penncross’ disease research green at the MU turf farm was observed earlier this week. This disease is rarely a problem on putting greens in this area because it is covered by other preventive fungicide applications. Come on out Tuesday though and check it out.

- **Bacteria Associated Etiolation:** We haven’t had any new reports since the last update of etiolation. In case you missed it though, I did want to point out a great article written by Dr. Jim Kerns from NC State University on the issue.

The Bugs are Bouncing Again on Zoysiagrass

Regrettably it’s that time of year again that insect pest populations on zoysiagrass build, and damage starts occurring. We have observed both chinch bugs and billbugs on lawns and golf courses in the last two weeks, which may be an enduring zoysia zeitgeist of our Missouri summers.

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**Chinch bug damage on Zoysia**

A. Stand symptoms of chinch bug damage. Notice damage is prevalent in full sun, but is not as severe in the sun.

B. Mature chinch bugs are black, have white wings, and are bout the size of FDR’s nose on the dime.

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**Zoysiagrass Issue #1 – Chinch Bugs**

In the past week, I've visited a lawn in Columbia that was ravaged by chinch bugs, and we have received 3 more samples with chinch bug damage from the St. Louis area. The visited lawn had the problem late last summer, and they are back in force. Chinch bug populations
The Zoysia Zeitgeist

seem to be early by a few weeks and especially large this year (to go along with the Japanese beetles). Damage seems to be particularly severe on zoysiagrass lawns, as we haven’t had a golf course sample submitted as of yet.

A few things should be noted about chinch bug symptoms, which can differentiate them from billbug damage. Chinch bugs are foliar feeders that have a toxin in their saliva which can curl and turn affected leaves an orange color. This may often be mistaken for large patch damage, but the rapid decline occurs later in the summer when recovery from earlier large patch symptoms should be occurring. Also for some reason, chinch bugs prefer sunlight instead of the shade. Damage often stops right on the line where shade from buildings or trees occurs. Lastly, chinch bug damage is often considerably worse along sidewalks, driveways, or street curbs, as populations tend to build along these barriers. This is also the area where they are most easily observed, since the small (about 0.125”) black insects show up more readily on the lighter colored, concrete backgrounds.

Chinch bug curative control will most often require insecticide use to stop further damage and encourage recovery. Most insecticides are labeled for chinch bug control, but during an active outbreak, a contact insecticide like bifenthrin, carbaryl or trichlorfon may act more quickly. Granular insecticides will need to be watered in to release the active ingredient. If an area needs treatment, it may only be necessary to treat the damaged area plus a 2-3 foot border. As always, follow all label directions. Be particularly careful around pavement or impervious surfaces as some insecticides are toxic to fish and other aquatics, and restrict entry until the material has dried. For more information on chinch bugs, click here, or click here.

Zoysiagrass Issue #2 – Billbugs

My warning in the last update was unfortunately well timed, as observations and reports of billbug damage on golf courses and our research farm from central MO and Kansas City
The Zoysia Zeitgeist

started occurring shortly thereafter. Although the problem isn’t new, billbug damage is more widespread (or has just been diagnosed) in more areas of the state. I expect areas in St. Louis are also experiencing the issue, although chinch bug reports have taken precedence there.

Billbug control is difficult. In discussing the issue with other entomology colleagues, a few different billbug species are involved in the complex, and they appear to be indiscriminate feeders. The major zoysiagrass cultivar planted in the area is ‘Meyer’ due to its exceptional cold tolerance, (see the NTEP trial at field day next week). However, ‘Meyer’ by all accounts is the most susceptible to hosting high billbug populations and incurring severe feeding damage.

Recent research suggests billbugs are more sessile than other weevil type insects, and overwinter and bed down in zoysiagrass fairways. For this reason, a pass around the outside of fairways, as previously suggested to reduce cost, was not as successful as hoped. Also, on several insecticide labels preventive application timing is stated to be at the peak of adult billbug activity in the spring. University researchers, however, recommend applying 4-6 weeks after the peak. Here in Missouri, yet, we still have a lot to learn.

Current options for curative control must include targeting the adult and billbug larvae. Aloft® (clothianidin + bifenthrin) and Meridian® + a pyrethroid are suggested for curative control in the Southeast U.S. Applications must be watered-in with 1/8 – 1/4" of irrigation to target the larvae. Dr. Xi Xiong and Dr. Bruce Barrett are currently investigating control options for this pest, and will be presenting on the issue at field day next Tuesday.

One last reminder...

**Next Tuesday, July 22nd – MU Turf & Ornamental Field Day**

Hope to see you next then,

Lee

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[Lee Miller](mailto:lee.miller@missouri.edu)
Follow on Twitter!
@muturfpath
Extension Turfgrass Pathologist
University of Missouri