NC1208: Biology, Etiology, and Management of Dollar Spot in Turfgrasses

2022 Annual Meeting Agenda

February 8th, 2022: 2:00 to 4:00 PST, Room 25C, San Diego Convention Center

Also broadcast online via Zoom

The full project outline with objectives can be accessed at the following link if you would like to refresh your memory prior to attending: <https://www.nimss.org/projects/view/mrp/outline/18590>

Introductions

Updates on current projects:

* Dollar spot fall sampling
* Dollar spot cultural practices
* Dollar spot host resistance
* Host resistance survey

Future projects

* Incorporation of dollar spot model threshold work into resistant cultivars?

Dissemination of project findings

* Develop a project website? Newsletter or trade articles?

Summary Meeting Notes

* Participation
	+ Approximately 20 people participated in the meeting, roughly 10 in person and 10 online.
	+ Stacy Bonos, Rutgers University Leah Brilman, DLF Bruce Clarke, Rutgers University Nancy Dykema, Michigan State University Brandon Horvath, University of Tennessee John Ingaugiato, University of Connecticut John Kaminski, Penn State University Mike Kenna formerly of United State Golf Association Megan Kennelly, Kansas State University Paul Koch, University of Wisconsin – Madison Dave McCall, Virginia Tech University Lee Miller, Purdue University James Murphy, Rutgers University Cole Thompson, United States Golf Association Joe Vargas, Michigan State University Nathan Walker, Oklahoma State University
* Dollar spot fall sampling
	+ Stacy B informed the group that the dollar spot sequences from the Wisconsin and Rutgers groups are ready for analysis. A call will be set up to discuss the sequence results and what future steps may be taken (if any) to follow up on these initial sequences.
* Dollar spot cultural practices
	+ Paul K provided an overview of the results from each institution that provided results. John I also provided results from his (slightly different) study in CT.
	+ Overall there were few treatment impacts using AUDPC. However, a quick look over individual rating dates found that many sites had individual dates with treatment differences. In general none of the treatments provided commercially acceptable dollar spot control.
	+ The sites with the most treatment differences were the two run by Virginia Tech. Both these sites found significant reductions of dollar spot with the dew removal treatments, of importance Va Tech was the only group that removed their dew early in the morning (ie earlier than 7 AM). Most other sites removed dew at 7 AM or later (we did it at approximately 7:30 in WI), and the suppressive effects were much less apparent at the later dew removal times.
	+ While both nitrogen and dew removal seemed to have minor effects at various times of the year, the PGR (Aneuw) treatment did not…and at UW it was observed that on many individual rating dates the PGR treatment had more dollar spot. There was some discussion about whether the PGR treatment should be removed for 2022.
	+ Kurt Hockemeyer, Paul K’s field technician, observed that the fertility effects really seemed to run out in July and August in the UW trial. Other sites reported something similar. Splitting the fertilizer application into 2 applications (1 lb N each) and/or using a different type of fertilizer was also discussed.
* Dollar spot host resistance
	+ Each of the participating locations got their plots seeded in 2021.
	+ The treatments are going to be cultivar, dew removal, and biocontrol. There was a long discussion about which biocontrol product would be best to use since none of them have demonstrated much success in field evaluations for dollar spot control. We agreed to discuss further and make a final selection via email.
	+ It was also discussed whether or not we should inoculate the plots to increase the consistency of disease. While I think we all initially agreed to inoculate, I (Paul K) had reservations after thinking about it after the meeting. Because we’re primarily looking at host resistance, I’m concerned that inoculating will provide unrealistic or unfair results. In addition, I’m concerned that the varied inoculation methods between sites will add unneeded variability. We agreed to confirm this via email after the meeting.
* Host resistance survey
	+ The draft survey is complete and the USGA is preparing a test version to send out to trusted beta testers. The goal will be to send the beta version out the week of February 21st and have the completed survey ready to send out to the industry sometime in early March.
* Other updates and future projects
	+ Dave M’s team provided an update on their remote sensing/imaging project. Their drone imaging appears to do an excellent job of mapping dollar spot outbreaks, and they are looking for other partners to work with and test the concept. Paul K mentioned that there might be some compatibility with research at UW looking to use the dollar spot prediction model to implement a precision disease management spraying system based on dollar spot probability data
	+ Lee M proposed a project to study the transition to a more resistant cultivar through repeated interseeding and without killing the turf present. This would seemingly increase the number of courses that could afford to transition because it wouldn’t require the closure of the course. Assessing the success of the transition could be done both by reduction in dollar spot severity over time and by using molecular markers to quantify the presence of particular cultivars. It’s unclear if this project will be able to implemented in 2022. Joe V brought up the concern of annual bluegrass dominating the stand and not allowing for a transition.
	+ Paul K proposed a project to the groups participating in the ‘Dollar spot host resistance’ project. The project would entail testing different dollar spot model spray thresholds on each of the three cultivars. We could then compare the thresholds identified for each cultivar and use the model to estimate how much fungicide savings any golf course in the world could achieve by transitioning to a more resistant cultivar simply by entering their past environmental data into the model. The project would involve 5-6 treatments on each of the cultivars and daily monitoring of the dollar spot model. At this point the study is more likely to be implemented in 2023 instead of 2022.
* Dissemination of product findings
	+ The group briefly discussed ways to disseminate findings. Things discussed included articles in regional and national trade journals, one or more field days towards the end of the project, and perhaps a national seminar at the GCSAA Conference or other venue.