TURFGRASS DIAGNOSTIC LAB

Snow Mold and Quality Ratings Recorded on March 19th, 2012 at Wawonowin CC

Treatment	Rate	Timing[a]	Dis Severity[b]	Quality[c]	Color[d]
61 Civitas	8.0 FL OZ/M	Late	31.3 bc	4.5 hij	7.0 g
Harmonizer	0.5 FL OZ/M	Late			
Emerald	0.18 OZ/M	Late			
62 Civitas	8.0 FL OZ/M	Late	35.0 b-h	4.3 ij	8.3 bc
Harmonizer	4.0 FL OZ/M	Late			
Emerald	0.18 OZ/M	Late			
63 Civitas	16.0 FL OZ/M	Late	10.0 f-j	5.8 c-g	7.5 ef
Harmonizer	1.0 FL OZ/M	Late			
Instrata	2.5 FL OZ/M	Late			
64 Civitas	16.0 FL OZ/M	Late	6.3 g-j	5.8 c-g	8.8 ab
Harmonizer	4.0 FL OZ/M	Late			
Torque	0.6 FL OZ/M	Late			
65 Civitas	8.0 FL OZ/M	Late	7.5 g-j	5.5 d-h	8.5 ab
Harmonizer	4.0 FL OZ/M	Late			
Torque	0.6 FL OZ/M	Late			
66 Civitas	8.0 FL OZ/M	Late	33.8 b-h	4.5 hij	8.3 bc
Harmonizer	4.0 FL OZ/M	Late			
Concert	4.5 FL OZ/M	Late			
67 651-0350	17.0 FL OZ/M	Late	18.8 c-g	4.8 ghi	7.5 ef
Concert	4.5 FL OZ/M	Late			
68 651-0350	17.0 FL OZ/M	Late	1.3 ij	6.8 abc	8.0 cd
Torque	0.6 FL OZ/M	Late			
69 Chipco 26GT	4.0 FL OZ/M	Late	3.8 hij	6.3 a-e	7.0 g
Daconil Ultrex	5.0 OZ/M	Late			
70 Affirm	0.9 OZ/M	Late	16.3 d-h	5.0 f-i	7.0 g
3336 Plus	4.0 FL OZ/M	Late			
71 Chipco 26GT	4.0 FL OZ/M	Late	5.0 g-j	6.5 a-d	7.0 g
Trinity	1.0 FL OZ/M	Late			

Means followed by same letter do not significantly differ (P=.05, Waller Duncan)

[a]Early and late fungicide treatments were applied on Oct. 6th and Nov. 1st 2012, respectively

[b]Mean % diseased area

[c]Quality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

[d]Color was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

Figure 1. Heavy snow mold pressure at Wawonowin CC in Champion, MI showed the benefits of a strong fungicide program to manage snow molds.

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Where Are All The Grubs?

By Dr. R. Chris Williamson, Department of Entomology, University of Wisconsin-Madison

Most everyone would likely agree that this growing season was rather unusual to say the least. Much of Wisconsin experienced abnormally high temperatures, at least a couple of days above 100 F°. And to make matters even worse, most of the lower half of the state was, and continues to be, in a drought. Just like we humans (and plants), insects are extremely dependent on water for survival. So, it is not too difficult to understand why we may not see the large numbers of grubs where soil moisture was lacking even though adult populations may have been high in June and July.

Japanese beetle adult females preferentially seek-out areas of turf that have adequate soil moisture to ensure larval survival. Consequently, areas of turf that were irrigated or happened to receive rainfall (resulting in adequate soil moisture) during the drought would have been highly attractive to egg-laying Japanese beetle adult females.

Conversely, those areas that lacked soil moisture would likely be devoid of grubs as the beetles would have avoided laying eggs in these areas. So the question remains, "where are the grubs?" There is no simple answer to this question; however, as stated earlier, Japanese beetle adults will preferentially lay eggs in turf that has adequate soil moisture, therefore we would expect grubs to be located in these areas.

Often Grubs Can Be Found By Looking For Skunk Or Other Varmit Damage. (Photo Courtesy of Steven Biehl, Golf Course Superintendent Naperville Country Club, Naperville, IL)

Fortunately, many turfgrass managers employ a preventative grub control program where they apply a preventative white grub control product to the high profile turfgrass areas such as tee boxes, fairways and green surrounds. These turf areas commonly receive irrigation, and are thus highly favorable areas for grubs.

Because such areas are typically protected with a preventative insecticide treatment and the other turf areas lack adequate soil moisture, the overall grub populations and subsequent feeding damage will likely be minimal.

However, for those turfgrass managers that did not apply a preventative insecticide treatment to irrigated or to areas of turf that did receive rainfall and adequate soil moisture existed, white grub populations would likely be high.

To determine if white grubs are present, merely pull-back the turf to verify that grubs exist. If present, consider treating them with a corrective white grub control product such as Arena (clothianidin), or Dylox (trichlorfon) or Sevin (carbaryl). Be sure to apply post-treatment irrigation to move the insecticide into the soil where the grubs are loctated.

Turf Suffering From Grub Damage Pulls Back Easily Revealing Grubs Below. (Photo Courtesy of Steven Biehl, Golf Course Superintendent Naperville Country Club, Naperville, IL)

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UW Turf Team Visits Norway

By Dr. Doug Soldat, Department of Soil Science, University of Wisconsin - Madison

In late June, a contingent from the UW Turf program had the opportunity to attend the European Turfgrass Society Conference held in Kristiansand, Norway. The team consisted of myself, Dr. Jim Kerns, his graduate students Paul Koch and Renee Rioux, Dr. John Stier's graduate student Mark Garrison, and Glen Obear who presented the work of his co-advisor Dr. Chris Williamson who had to back out at the last minute because of a conflict. The graduate students all represented the University well by delivering scientific presentations under the overarching theme of maintaining high quality turfgrass using fewer inputs.

Because of the similarities between or our climates, Wisconsin's turf research is highly relevant to Norwegian turf managers, and vice versa. Norwegians struggle mightily with annual bluegrass, snow mold, and winter kill. They also have far fewer chemical control strategies available to them, so their research focuses on grass selection and cultural practices to combat these issues. As chemical control strategies are likely to become more restrictive in the future, we will certainly look to places like Norway for guidance.

The conference was organized and hosted by Dr. Trygve Aamlid and his associates at Bioforsk, a research and development institute under Norway's Ministry of Agriculture and Food. Day one consisted of research talks and poster presentations from turf scientists from all over the world followed by a field day at Bioforsk's impressive research station just up the road in Grimstad. We returned back to the hotel just before 11 pm, to a still lighted sky. The sun set around 10:30, but it never gets very dark because the sun lurks just below the horizon until it rises again in the wee hours of the morning. The second and final day of the conference consisted of another full agenda of research presentations.

The highlight of the trip for me was visiting with Jens Arneson, one of the turfgrass undergraduates at UW-Madison who was in the middle of an internship at Bioforsk. Jens is double majoring in Soil Science and Scandinavian studies. When he told me this a few years ago as a freshman, I began working to get him an internship experience with Dr. Aamlid where he could combine his passion for turf with his interest in the Norwegian culture. It was a stroke of luck that the internship availability overlapped with the international conference.

Dr. Aamlid (in pink) describing cultivar evaluation trials with UW students Paul Koch and Renee Rioux in the foreground.

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Jens had been working for Dr. Aamlid for about two months when I visited him. He seemed to be having a great experience, and I could tell he was well liked by his mentors and co-workers. Jens participated in the conference as a tour guide during the field day and helped the speakers attach the lapel microphone during the scientific talks. The most memorable moment for me was during the field day when an ominous looking storm was approaching during a talk made by Dr. Tatsiana Espevig of Biofosk. Dr. Espevig was describing the results of her study in English, then noticed the rapidly developing storm and turned to Jens and told him in Norwegian what I inferred to be instructions for getting everyone to shelter before the storm hit. Jens ran off and made preparations before the storm hit. He was surely mistaken as a local by everyone else, but he made the Wisconsinite's in the group proud!

I appreciate having the opportunity to attend these international events which always provide a unique perspective that I use to improve the quality of my work in Wisconsin. I was very proud to be able to help Jens find an experience he is likely to never forget, and one that he will look back on as something that unified his seemingly incongruous double majors of Soil Science and Scandinavian Studies. The graduate students earned a valuable experience to practice scientific communication and were able to meet colleagues and discuss research in a unique setting. Overall, the trip was an unqualified success!

An ominous looking storm approaches the tour group. I've heard that Norwegians are notoriously nonchalant about inclement weather. This stereotype was perpetuated during the field day. We entered the storm shelter about fifteen seconds before the driving rain began.

Jens Arneson (in black, holding blue flag) is a UW-Madison turf undergraduate who spent his summer working for Dr. Aamlid at the Bioforsk turfgrass research station.

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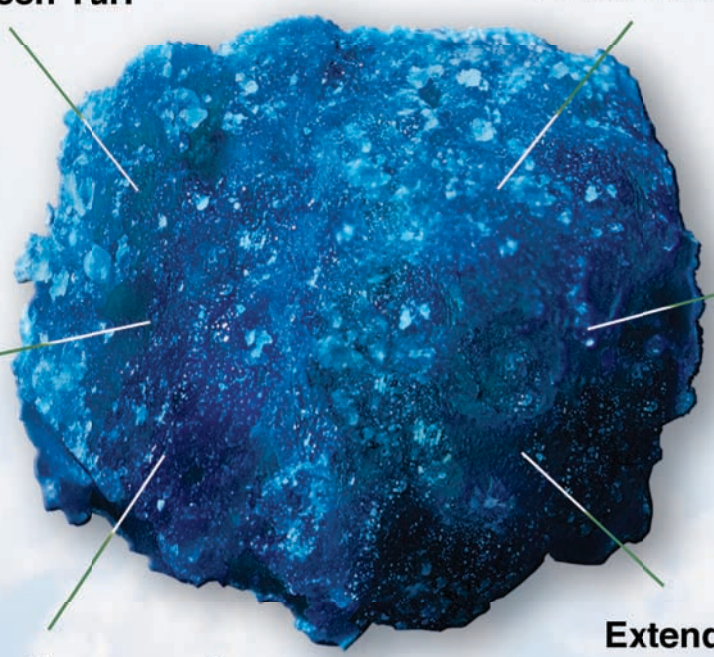

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Influence of Winter Covers on Snow Mold Severity: A Summary of Year 1

By Dr. Jim Kerns, Department of Pathology, University of Wisconsin - Madison &
Dr. Paul Koch, Turfgrass Diagnostic Lab Manager, O.J. Noer Turfgrass Research and Education Facility

Last year the WGCSA funded our study to examine the influence of winter covers on snow mold severity. The study was conducted at Bass Lake Golf Course near Antigo, WI with Dave Van Auken as our host. (Thank you Dave for hosting us and being such a gracious host, we really do appreciate it.) The site was on a 'Penncross' creeping bentgrass putting green maintained at a height of 0.125 inches. The plots were 3 ft by 10 ft and the treatments were arranged in a strip, split plot design.

Basically the putting green was divided into three sections, covered with an evergreen cover, a green jacket cover with insulation and no cover. Then the three winter cover treatment sections were split into three different fungicide application timings: an early application (10/06/2011), a split application (10/06/11 and 11/1/11) and a late application (11/01/11). Interface at 4.0 fl oz and Triton FLO at 0.85 was applied once for the early and late application timings. The split application received two applications of the mixture listed above, but the rates were cut in half to achieve the same amount of product in each application timing.

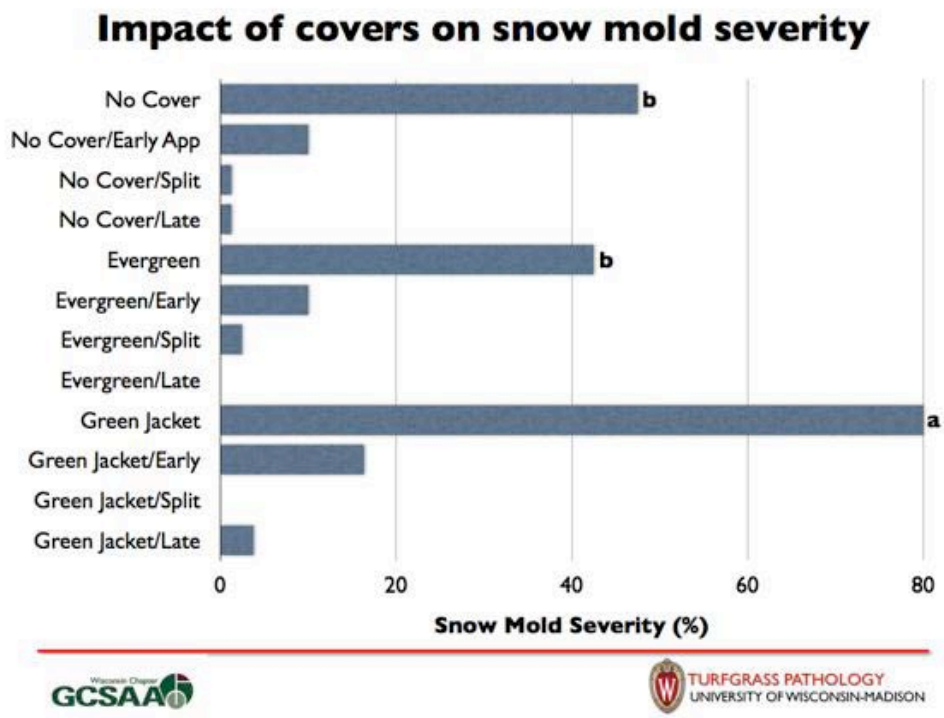

Figure 1. Impact of winter covers on snow mold severity at Bass Lake Country Club in Antigo, WI.

Immediately following the final fungicide application on Nov. 1, Dave Van Auken and crew installed the winter covers. Disease severity and turfgrass quality were visually estimated on March 19, 2012. The experimental area was under snow cover for approximately 100 days. This experiment will be repeated this year. Although most of our snow mold trials in 2011-2012 were a wash, this particular trial yielded excellent and interesting results. The purpose of this experiment was to investigate claims of severe snow mold development despite using excellent fungicide mixtures for snow mold management.