



## **2011-2012 Snow Mold Control Evaluation: Odana Hills GC – Madison, WI**

Paul Koch, P. J. Liesch, Sam Soper, and Dr. Jim Kerns  
Department of Plant Pathology  
University of Wisconsin-Madison

### **OBJECTIVE**

To evaluate fungicides for the control of Typhula blight (caused by *Typhula incarnata*) and Microdochium patch (caused by *Microdochium nivale*).

### **MATERIALS AND METHODS**

This evaluation was conducted at Odana Hills Golf Course in Madison, WI on a creeping bentgrass (*Agrostis stolonifera*) and annual bluegrass (*Poa annua*) golf course fairway maintained at a height of 0.5 inch. Individual plots measured 3 ft x 10 ft (30 ft<sup>2</sup>), and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 p.s.i using a CO<sub>2</sub> pressurized boom sprayer equipped with two XR Teejet 8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft<sup>2</sup>. Exceptions were granular treatments 10 and 34 and FeDCON (Trt 26 and 27), which was applied in 2.5 gallons of water per 1000 ft<sup>2</sup>. Early applications were applied on November 4<sup>th</sup>, and late applications were applied on November 28<sup>th</sup>, 2011. The experimental plot area was not inoculated. Warm temperatures and below average snow mold throughout the winter provided very little snow cover, and the longest period of snow cover was not more than 21 days. Disease severity and turf quality were recorded on March 15<sup>th</sup>, 2012. Disease severity was visually assessed as percent area affected and turfgrass quality was visually assessed on a 1-9 scale with 6 being acceptable. Data was subjected to an analysis of variance and means were separated using the Waller-Duncan test. Means for disease severity, turf quality and turf color are presented in the following table for individual treatments.

### **RESULTS AND DISCUSSION**

Unseasonably warm temperatures and little snowfall resulted in very low disease pressure at Odana Hills in 2011-2012. Gray snow mold developed in only one plot in the entire trial, and no Microdochium patch was observed. Turfgrass quality ratings were generally acceptable due to the lack of snow mold, but higher ratings were observed with those products containing pigments due to the darker green color.

**Snow Mold and Quality Ratings Recorded on March 15th, 2012 at Odana Hills**

Treatment	Rate	Timing <sup>a</sup>	Dis Severity <sup>b</sup>	Quality <sup>c</sup>
1 Nontreated Control		Late	0.0 a	7.0 ef
2 Tourney	0.37 OZ/M	Late	0.0 a	7.0 ef
3336 Plus	4.0 FL OZ/M	Late		
3 Velista	0.7 OZ/M	Late	0.0 a	7.3 de
4 Velista	0.7 OZ/M	Late	0.0 a	7.0 ef
Daconil Ultrex	5.0 OZ/M	Late		
Chipco 26GT	4.0 FL OZ/M	Late		
5 Velista	0.7 OZ/M	Late	0.0 a	7.0 ef
Daconil Ultrex	5.0 OZ/M	Late		
Heritage	0.7 OZ/M	Late		
6 Velista	0.7 OZ/M	Late	0.0 a	7.0 ef
Daconil Ultrex	5.0 OZ/M	Late		
Banner MAXX II	2.0 FL OZ/M	Late		
7 Velista	0.7 OZ/M	Late	0.0 a	7.0 ef
Daconil Ultrex	5.0 OZ/M	Late		
3336 Plus	2.0 FL OZ/M	Late		
8 Velista	0.7 OZ/M	Late	0.0 a	6.8 f
Daconil Ultrex	5.0 OZ/M	Late		
9 Velista	0.7 OZ/M	Late	0.0 a	7.0 ef
Medallion	0.25 OZ/M	Late		
Banner MAXX II	2.0 FL OZ/M	Late		
10 Pillar G	3 LB/M	Late	0.0 a	7.0 ef
11 Insignia SC	0.7 FL OZ/M	Late	0.0 a	7.0 ef
Trinity	1.0 FL OZ/M	Late		
Daconil Ultrex	3.2 OZ/M	Late		
12 Honor	0.84 OZ/M	Late	0.0 a	7.3 de
Trinity	1.0 FL OZ/M	Late		
Daconil Ultrex	3.2 OZ/M	Late		
13 Interface	3.0 FL OZ/M	Late	0.0 a	7.3 de
Triton FLO	0.5 FL OZ/M	Late		
14 Interface	3.0 FL OZ/M	Late	0.0 a	7.3 de
Triton FLO	0.75 FL OZ/M	Late		
15 Interface	4.0 FL OZ/M	Late	0.0 a	7.3 de
Triton FLO	0.5 FL OZ/M	Late		
ES TC006A	3.0 GAL/A	Late		
16 Interface	6.0 FL OZ/M	Late	0.0 a	7.3 de
17 Interface	4.0 FL OZ/M	Late	0.0 a	7.0 ef
Triton FLO	5.0 FL OZ/M	Late		
18 Interface	4.0 FL OZ/M	Late	0.0 a	7.0 ef
Tartan	1.0 FL OZ/M	Late		
19 Tartan	2.0 FL OZ/M	Late	0.0 a	7.0 ef
20 Tartan	1.0 FL OZ/M	Late	0.0 a	7.0 ef
Interface	3.0 FL OZ/M	Late		
21 Tartan	1.5 FL OZ/M	Late	0.0 a	7.0 ef
Interface	3.0 FL OZ/M	Late		
22 Interface	3.0 FL OZ/M	Late	0.0 a	7.0 ef
Torque	0.6 FL OZ/M	Late		
23 Torque	0.6 FL OZ/M	Late	0.0 a	7.0 ef
26/36	4.0 FL OZ/M	Late		
Spectro	3.6 OZ/M	Late		

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

<sup>a</sup>Early and late fungicide treatments were applied on Nov. 4th and Nov 28th 2011, respectively

<sup>b</sup>Mean % diseased area

<sup>c</sup>Quality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = da

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Treatment	Rate	Timing <sup>a</sup>	Dis Severity <sup>b</sup>	Quality <sup>c</sup>
24 Torque	0.6 FL OZ/M	Late	0.0 a	7.0 ef
Affirm	0.9 OZ/M	Late		
Spectro	3.6 OZ/M	Late		
25 Torque	0.9 FL OZ/M	Late	0.0 a	7.0 ef
3336 Plus	4.0 FL OZ/M	Late		
26 FeDCON	12.0 FL OZ/M	Early/Late	0.0 a	7.0 ef
Torque	0.4 FL OZ/M	Late		
27 FeDCON	12.0 FL OZ/M	Late	0.0 a	6.3 g
Torque	0.4 FL OZ/M	Late		
28 Instrata	7.0 FL OZ/M	Late	0.0 a	7.3 de
29 Instrata	9.0 FL OZ/M	Late	0.0 a	7.0 ef
30 Concert II	8.5 FL OZ/M	Late	0.0 a	7.0 ef
31 Concert II	8.5 FL OZ/M	Late	0.0 a	6.8 f
PAR	0.37 FL OZ/M	Late		
32 Concert II	8.5 FL OZ/M	Late	0.0 a	7.0 ef
Medallion	0.25 OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
33 Concert II	8.5 FL OZ/M	Late	0.0 a	7.3 de
Secure	0.5 FL OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
34 Headway G	4.0 LB/A	Early/Late	0.0 a	7.0 ef
35 A9898A	1.3 FL OZ/M	Late	0.0 a	7.0 ef
Daconil Action	5.4 FL OZ/M	Late		
36 A9898A	1.3 FL OZ/M	Late	0.0 a	6.8 f
Medallion TL	0.96 FL OZ/M	Late		
37 A9898A	1.3 FL OZ/M	Late	0.0 a	7.0 ef
Secure	0.5 FL OZ/M	Late		
38 A9898A	1.3 FL OZ/M	Late	0.0 a	7.3 de
Secure	0.5 FL OZ/M	Late		
Medallion TL	0.96 FL OZ/M	Late		
39 Instrata	9.0 FL OZ/M	Late	0.0 a	7.8 bc
PAR	0.37 FL OZ/M	Late		
40 Instrata	5.5 FL OZ/M	Late	0.0 a	7.8 bc
Secure	0.5 FL OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
41 Banner MAXX II	2.0 FL OZ/M	Late	0.0 a	7.0 ef
Secure	0.5 FL OZ/M	Late		
Medallion TL	0.96 FL OZ/M	Late		
42 Banner MAXX II	2.0 FL OZ/M	Late	0.0 a	7.5 cd
Medallion TL	0.96 FL OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
43 Banner MAXX II	2.0 FL OZ/M	Late	3.8 a	7.3 de
Medallion TL	0.96 FL OZ/M	Late		
44 Interface	4.0 FL OZ/M	Late	0.0 a	7.3 de
Chipco Triton WDG	0.3 OZ/M	Late		
45 QP TM/C	6.0 OZ/M	Late	0.0 a	7.3 de
QP Iprodione	4.0 FL OZ/M	Late		
QP Propiconazole	2.0 FL OZ/M	Late		

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46 QP TM/C	6.0 OZ/M	Late	0.0 a	7.0 ef
QP Iprodione	4.0 FL OZ/M	Late		
QP Tebuconazole	0.60 FL OZ/M	Late		
47 QP Enclave	8.0 FL OZ/M	Late	0.0 a	7.0 ef
48 QP Enclave	8.0 FL OZ/M	Late	0.0 a	7.5 cd
Foursome	0.5 FL OZ/M	Late		
49 Civitas	16.0 FL OZ/M	Late	0.0 a	8.0 ab
Harmonizer	1.0 FL OZ/M	Late		
Concert	4.5 FL OZ/M	Late		
50 Civitas	16.0 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	1.0 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
51 Civitas	16 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	1.0 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
Daconil Wstik	1.5 FL OZ/M	Late		
52 Civitas	16 FL OZ/M	Late	0.0 a	8.0 ab
Harmonizer	1.0 FL OZ/M	Late		
QP Iprodione	2.0 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
53 Civitas	16.0 FL OZ/M	Late	0.0 a	8.0 ab
Harmonizer	1.0 FL OZ/M	Late		
Trinity	1.0 FL OZ/M	Late		
Daconil Wstik	1.5 FL OZ/M	Late		
54 Civitas	16.0 FL OZ/M	Late	0.0	8.0 ab
Harmonizer	1.0 FL OZ/M	Late		
QP Iprodione	3.0 FL OZ/M	Late		
Daconil Wstik	1.5 FL OZ/M	Late		
55 Civitas	8.0 FL OZ/M	Late	0.0 a	7.3 de
Harmonizer	0.5 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
56 Civitas	8.0 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	0.5 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
Daconil Wstik	1.5 FL OZ/M	Late		
57 Civitas	8.0 FL OZ/M	Late	0.0 a	8.0 ab
Harmonizer	0.5 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
Daconil Wstik	5.5 FL OZ/M	Late		
58 Civitas	8.0 FL OZ/M	Early/Late	0.0 a	8.0 ab
Harmonizer	0.5 FL OZ/M	Early/Late		
Torque	0.6 FL OZ/M	Early/Late		
59 Civitas	8.0 FL OZ/M	Late	0.0 a	7.5 cd
Harmonizer	0.5 FL OZ/M	Late		
Trinity	1.0 FL OZ/M	Late		
Daconil Wstik	1.5 FL OZ/M	Late		
60 Civitas	16.0 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	1.0 FL OZ/M	Late		
Emerald	0.18 OZ/M	Late		

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

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Treatment	Rate	Timing <sup>a</sup>	Dis Severity <sup>b</sup>	Quality <sup>c</sup>
61 Civitas	8.0 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	0.5 FL OZ/M	Late		
Emerald	0.18 OZ/M	Late		
62 Civitas	8.0 FL OZ/M	Late	0.0 a	8.3 a
Harmonizer	4.0 FL OZ/M	Late		
Emerald	0.18 OZ/M	Late		
63 Civitas	16.0 FL OZ/M	Late	0.0 a	8 ab
Harmonizer	1.0 FL OZ/M	Late		
Instrata	2.5 FL OZ/M	Late		
64 Civitas	16.0 FL OZ/M	Late	0.0 a	8.0 ab
Harmonizer	4.0 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
65 Civitas	8.0 FL OZ/M	Late	0.0 a	7.8 bc
Harmonizer	4.0 FL OZ/M	Late		
Torque	0.6 FL OZ/M	Late		
66 Civitas	8.0 FL OZ/M	Late	0.0 a	8.3 a
Harmonizer	4.0 FL OZ/M	Late		
Concert	4.5 FL OZ/M	Late		
67 651-0350	17.0 FL OZ/M	Late	0.0 a	8.0 ab
Concert	4.5 FL OZ/M	Late		
68 651-0350	17.0 FL OZ/M	Late	0.0 a	7.8 bc
Torque	0.6 FL OZ/M	Late		
69 Chipco 26GT	4.0 FL OZ/M	Late	0.0 a	7.3 de
Daconil Ultrex	5.0 OZ/M	Late		
70 Affirm	0.9 OZ/M	Late	0.0 a	6.8 f
3336 Plus	4.0 FL OZ/M	Late		
71 Chipco 26GT	4.0 FL OZ/M	Late	0.0 a	6.8 f
Trinity	1.0 FL OZ/M	Late		

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

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