



2011-2012 Snow Mold Control Evaluation Craguns Golf Resort – Brainerd, MN



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OBJECTIVES

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

MATERIALS AND METHODS

This evaluation was conducted on the Dutch course at the Legacy at Craguns Resort in Brainerd, MN 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 ft²), 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 CO₂ 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 ft². Early applications were applied on October 21st, 2011 and late applications were applied on November 17th, 2011. The experimental plot area was not inoculated. There was continuous snow cover on the plots from mid-December of 2011 until mid-March of 2012, a total of approximately 100 days. Disease severity and turf quality were recorded on April 6th, 2012. Disease severity was visually rated as percent disease and turfgrass quality was visually rated 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 and turf quality for individual treatments are presented in the following tables for individual treatments.

RESULTS AND DISCUSSION

Due to unseasonable warm winter temperatures in 2011-2012, disease pressure at Craguns Resort was low with nontreated controls averaging just 12.5% disease. The primary pathogen observed was *Typhula ishikariensis*. Most treatments provided control of snow mold when compared to the nontreated control, and most treatments provided acceptable control of snow mold (< 10% disease). Turfgrass quality was generally highest with those treatments that provided the greatest snow mold control, though winter desiccation and other abiotic factors unrelated to the fungicide application did reduce turfgrass quality in some plots.

Snow Mold and Quality Ratings Recorded on April 6th, 2012 at Craguns

Treatment	Rate	Timing ^a	Dis Severity ^b	Quality ^c
1 Non treated Control			12.5 ab	5.3 c-g
2 Velista	0.7 OZ/M	Late	2.5 b	5.0 d-g
3 Velista	0.7 OZ/M	Late	3.8 b	5.5 c-f
Daconil Ultrex	5.0 OZ/M	Late		
Chipco 26GT	4.0 FL OZ/M	Late		
4 Velista	0.7 OZ/M	Late	2.5 b	5.8 b-e
Daconil Ultrex	5.0 OZ/M	Late		
Heritage	0.7 OZ/M	Late		
5 Velista	0.7 OZ/M	Late	0.0 b	5.0 d-g
Daconil Ultrex	5.0 OZ/M	Late		
Banner MAXX II	2 FL OZ/M	Late		
6 Velista	0.7 OZ/M	Late	1.3 b	5.3 c-g
Daconil Ultrex	5.0 OZ/M	Late		
3336 Plus	2.0 FL OZ/M	Late		
7 Velista	0.7 OZ/M	Late	1.3 b	6.0 a-d
Daconil Ultrex	5.0 OZ/M	Late		
8 Velista	0.7 OZ/M	Late	2.5 b	5.5 c-f
Medallion	0.25 OZ/M	Late		
Banner MAXX	2.0 FL OZ/M	Late		
9 Pillar G	3 LB/M	Late	12.5 ab	4.3 ghi
10 Insignia SC	0.7 FL OZ/M	Late	11.3 ab	4.5 fg
Trinity	1.0 FL OZ/M	Late		
Daconil Ultrex	3.2 OZ/M	Late		
11 Honor	0.84 OZ/M	Late	13.8 ab	4.5 fg
Trinity	1.0 FL OZ/M	Late		
Daconil Ultrex	3.2 OZ/M	Late		
12 Interface	3.0 FL OZ/M	Late	10.0 ab	5.3 c-g
Triton FLO	0.5 FL OZ/M	Late		
13 Interface	3.0 FL OZ/M	Late	3.8 b	6.0 a-d
Triton FLO	0.75 FL OZ/M	Late		
14 Interface	4.0 FL OZ/M	Late	3.8 b	6.8 ab
Triton FLO	0.5 FL OZ/M	Late		
ES TC006A	3.0 Gal/A	Late		
15 Interface	4.0 FL OZ/M	Late	12.5 ab	6.0 a-d
Triton FLO	0.75 FL OZ/M	Late		
16 Reserve	4.5 FL OZ/M	Late	0.0 b	6.3 abc
Interface	4.0 FL OZ/M	Late		
17 Reserve	4.5 FL OZ/M	Late	1.3 b	6.0 a-d
Tartan	1.5 FL OZ/M	Late		
18 Tartan	1.0 FL OZ/M	Late	0.0 b	6.0 a-d
Interface	3.0 FL OZ/M	Late		
19 Tartan	1.5 FL OZ/M	Late	2.5 b	6.3 abc
Interface	3.0 FL OZ/M	Late		
20 Interface	4.0 FL OZ/M	Late	1.3 b	6.8 ab
Triton FLO	0.5 FL OZ/M	Late		
21 Instrata	7.0 FL OZ/M	Late	2.5 b	4.8 efg
22 Instrata	9.0 FL OZ/M	Late	5.0 ab	4.5 fg
23 Concert II	8.5 FL OZ/M	Late	7.5 ab	5.3 c-g
24 Concert II	8.5 FL OZ/M	Late	0.0 b	6.8 ab
PAR	0.37 FL OZ/M	Late		

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

^aEarly and late fungicide treatments were applied on Oct. 21st and Nov 17th 2012, respectively

^bMean % diseased area

^cQuality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

Snow Mold and Quality Ratings Recorded on April 6th, 2012 at Craguns

Treatment	Rate	Timing ^a	Dis Severity ^b	Quality ^c
25 Concert II	8.5 FL OZ/M	Late	0.0 b	6.8 ab
Medallion	0.25 OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
26 Concert II	8.5 FL OZ/M	Late	2.5 b	7.0 a
A7087F	0.5 FL OZ/M	Late		
PAR	0.37 FL OZ/M	Late		
27 Headway G	4.0 LB/M	Early/Late	2.5 b	4.8 efg
28 QP TM/C	6.0 OZ/M	Late	3.8 b	5.0 d-g
QP Iprodione	4.0 FL OZ/M	Late		
QP Propiconazole	2.0 FL OZ/M	Late		
29 QP TM/C	6.0 OZ/M	Late	7.5 ab	5.5 c-f
QP Iprodione	4.0 FL OZ/M	Late		
QP Tebuconazole	0.6 FL OZ/M	Late		
30 QP TM/C	6.0 OZ/M	Late	12.5 ab	5.0 d-g
QP Iprodione	4.0 FL OZ/M	Late		
31 QP Iprodione	4.0 OZ/M	Late	5.0 ab	5.5 c-f
QP Propiconazole	2.0 FL OZ/M	Late		
32 Torque	0.6 FL OZ/M	Late	15.0 ab	4.3 g
26/36	4.0 FL OZ/M	Late		
Spectro	3.6 OZ/M	Late		
33 Torque	0.6 FL OZ/M	Late	6.3 ab	4.3 g
Affirm	0.9 FL OZ/M	Late		
Spectro	3.6 OZ/M	Late		
34 Chipco 26GT	4.0 FL OZ/M	Late	20.0 a	4.8 efg
Daconil Ultrex	5.0 OZ/M	Late		

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

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