

Preventive Microdochium Patch (*Microdochium nivale*) Fungicide Study 2003-2004

A preventive *Microdochium* patch (*Microdochium nivale*) study was established on an annual bluegrass fairway at the Hancock Turfgrass Research Center on the MSU campus. This study included 4 replicate 2' x 6' plots with 6" alleys between rows that were arranged in a randomized complete block design. Treatments were applied using a CO₂ –powered backpack sprayer with a single-nozzle boom (8002E TeeJet flat fan nozzle) at 36 PSI and a spray volume of 2 gallons/1000 sq ft. Plots were fertilized with ¼ lb N/1000 sq ft on October 7, 2003 with Country Club 18-3-12. Treatments were applied on the dates indicated in the tables that follow, beginning on October 10, 2003. The entire plot area was inoculated with *Microdochium nivale* growing on sand/cornmeal on October 13 and October 20, 2003 and covered with a vinyl tarp to induce disease. No active disease was observed in the fall of 2003. Extensive disease was observed, however, when the snow cover melted off this spring, and plots were rated on March 9 and March 23, 2004 for percent plot area diseased (Tables 5 and 6.) Quality ratings were also taken and are presented in Tables 3 and 4. Data were analyzed using ANOVA and means were separated with LSD (p=0.05).

Disease pressure in the study area was severe with some plots exhibiting 100% disease. The untreated control plots had an average of 86% disease. Compass 50WP performed very well in this study, as did Chipco 26GT, and both products in various combinations with other fungicides. Chipco 26GT/Compass/Signature and Chipco 26GT/Compass combinations performed the best of all treatments tested, with virtually disease-free plots. The Chipco 26GT/Compass/Signature treatment also provided very good turf quality. Other treatments that provided excellent disease control include various rates of Compass 50WP alone, Chipco 26GT/Daconil Ultrex/PCNB, and Chipco 26GT alone. The triticonazole treatments did not provide any disease protection at any rate tested and were not different from the untreated control plots. No phytotoxicity was observed.

Table 5. Microdochium Patch Study 2003-2004
Hancock Turfgrass Research Center, E. Lansing, MI
Rating Scale: % area diseased

Treatment and Rate	Application Dates (2003)	March 9, 2004 Mean LSD ^a	March 23, 2004 Mean LSD ^a
Chipco 26GT 4 fl oz + Compass 0.25 oz + Signature 4 oz/1000 ft ²	27-Oct, 17-Nov	0.3 a	0.3 a
Chipco 26GT 4 fl oz + Compass 0.25 oz/1000 ft ²	24-Oct, 17-Nov	0.3 a	0.5 a
Compass 50WP 7.2 g/100M ²	10-Oct, 24-Oct, 17-Nov	2.0 ab	1.8 a
Chipco 26GT 4 fl oz + Daconil Ultrex 3.2 oz + PCNB 6 oz/1000 ft ²	17-Nov	3.5 ab	5.0 a
Chipco 26GT 185 ml/100M ²	10-Oct, 24-Oct, 17-Nov	8.5 ab	10.0 a

Compass 50WP 3.8 g/100M ²	10-Oct, 24-Oct, 17-Nov	10.0 ab	10.5 a
Compass 50WP 1.9 g/100M ²	10-Oct, 24-Oct, 17-Nov	13.3 b	11.5 a
Control		86.3 c	86.3 b
Triticonazole 32 g/100M ²	10-Oct, 24-Oct, 17-Nov	86.5 c	86.5 b
Triticonazole 8 g/100M ²	10-Oct, 24-Oct, 17-Nov	88.8 c	91.3 b
Triticonazole 4 g/100M ²	10-Oct, 24-Oct, 17-Nov	90.0 c	92.0 b
Triticonazole 16 g/100M ²	10-Oct, 24-Oct, 17-Nov	98.3 c	97.8 b

^aTreatment means followed by the same letter are not significantly different from each other (LSD, 5%).

Table 6. Microdochium Patch Study 2003-2004

Hancock Turfgrass Research Center, E. Lansing, MI

Rating Scale: Turfgrass quality 0 – 10, 0=poor, 10=excellent, 7=acceptable.

Rating Date: March 10, 2004

Treatment and Rate	Application Dates (2003)	March 10, 2004 Mean	March 24, 2004 Mean
Chipco 26GT 4 fl oz + Compass 0.25 oz + Signature 4 oz/1000 ft ²	27-Oct, 17-Nov	8.0	8.0
Chipco 26GT 4 fl oz + Compass 0.25 oz/1000 ft ²	24-Oct, 17-Nov	7.5	7.8
Compass 50WP 7.2 g/100M ²	10-Oct, 24-Oct, 17-Nov	7.3	7.5
Chipco 26GT 4 fl oz + Daconil Ultrex 3.2 oz + PCNB 6 oz/1000 ft ²	17-Nov	6.8	6.8
Compass 50WP 3.8 g/100M ²	10-Oct, 24-Oct, 17-Nov	6.5	6.3
Chipco 26GT 185 ml/100M ²	10-Oct, 24-Oct, 17-Nov	6.5	6.3
Compass 50WP 1.9 g/100M ²	10-Oct, 24-Oct, 17-Nov	6.3	6.0
Control		1.5	1.3
Triticonazole 8 g/100M ²	10-Oct, 24-Oct, 17-Nov	1.0	0.8
Triticonazole 4 g/100M ²	10-Oct, 24-Oct, 17-Nov	1.0	0.8
Triticonazole 32 g/100M ²	10-Oct, 24-Oct, 17-Nov	0.8	0.8
Triticonazole 16 g/100M ²	10-Oct, 24-Oct, 17-Nov	0.0	0.0

Curative *Microdochium* Patch (*Microdochium nivale*) Fungicide Study 2004

A curative *Microdochium* patch (*Microdochium nivale*) study was established on an annual bluegrass fairway at the Hancock Turfgrass Research Center on the MSU campus. This study included 4 replicate 2' x 6' plots with 6" alleys between rows that were arranged in a randomized complete block design. Treatments were applied using a CO₂ –powered backpack sprayer with a single-nozzle boom (8002E TeeJet flat fan nozzle) at 36 PSI and a spray volume of 2 gallons/1000 sq ft. Plots were fertilized with ¼ lb N/1000 sq ft on April 13, April 30 and May 11 with Country Club 18-3-12. All treatments were applied on March 30, April 14 and 30. The entire plot area was inoculated with *Microdochium nivale* growing on sand/cornmeal on October 13 and October 20, 2003 and covered with a vinyl tarp to induce disease. No active disease was observed in the fall of 2003. Extensive disease was observed, however, when the snow cover melted off in the spring of 2004. Plots were rated on March 30, April 15, and May 14 for percent plot area diseased (Table 6A.) Data were analyzed using ANOVA and means were separated with the LSD test (p=0.05). The plots were rated on April 15 and May 14 for percent disease (Tables 2 and 3.) Percent recovery/plot ratings were calculated using pretreatment disease ratings taken on March 30, 2004 and comparing them to the post-treatment ratings taken on April 15 and May 14, 2004 (Table 4.)

Initial disease pressure in the study area was high, with means ranging from 46-69% plot area diseased. By the April 15 rating date, none of the treatments had recovery that was significantly different from the untreated control. No phytotoxicity was observed.

Table 6A. *Microdochium* Patch Study 2003-2004
Hancock Turfgrass Research Center, E. Lansing, MI
Rating Scale: % area diseased
Note: 30-March, 2004 (pretreatment rating)

Treatment and Rate	Application Dates	30-March Mean ^a	15-April Mean ^a	14-May Mean ^a
Compass 50WG 1.9 g/100M2	14 (3 apps)	47.5 a	45.0 ab	1.5 ab
Compass 50WG 3.8 g/100M2	14 (3 apps)	52.5 a	55.0 ab	2.3 ab
Compass 50WG 7.6 g/100M2	14 (3 apps)	47.5 a	48.8 ab	1.3 ab
Heritage 0.2 oz/1000 sq ft	14 (3 apps)	58.8 a	57.5 ab	2.0 ab
Banner Maxx 2 fl oz/1000 sq ft	14 (3 apps)	68.8 a	67.5 a	0.8 ab
Chipco 26GT 4 fl oz	14 (3 apps)	63.8 a	65.0 ab	3.3 a
Control	---	60.0 a	56.3 ab	3.8 a

^aTreatment means followed by the same letter are not significantly different from each other (LSD, 5%).