

II Brown Patch Fungicide Study - 1996

Hancock Turfgrass Research Center, E. Lansing, MI

The brown patch fungicide study at the turf center on the MSU campus was established on irrigated perennial ryegrass. It was maintained at 1.5 inches of height and was fertilized at 2 lb nitrogen per 1000 sq ft per month to promote disease. Plots were 2' x 4.5' with 1' alleys between rows. Four replications of each treatment were included. Brown patch plots were inoculated with *Rhizoctonia* growing on a cornmeal/sand mixture to encourage uniform disease development. Plots were covered with plastic greenhouse trays in the evenings to maintain high humidity levels during the night. The trays were removed in the mornings. Treatments were applied beginning on 6/28/96 according to company protocols and were re-applied according to the specifications in Table 2. Daily treatments were applied beginning on 6/12/96. Application equipment and procedures are those described in the snow mold study section of this write up.

Due to cool, mild temperatures and relatively low humidity, disease severity was not very great. A rather superficial infection occurred which is the basis for these ratings. As the data in Table 4 indicates, many of our standards performed well including Daconil, Ultrex, and Thalonil. Sentinel and Heritage also performed well.

No phytotoxicity was observed in this study this year.

Table 2. Brown Patch Fungicide Study, Hancock Turfgrass Research Center, E. Lansing, MI.

Rating Scale: Percent area under pan infected by brown patch (*Rhizoctonia solani*)

Rating Date: August 7, 1996

Treatment	Rate/1000 ft ² b	Applic. Interval	I	II	III	IV	AVG	LSD(.05)a
RH-130753	1 oz	28 days	0	0	0	0	0	A
Heritage	0.25 oz	28 days	0	0	0	0	0	A
RH-130753	0.5 oz	28 days	0	0	0	1	0.25	A
Daconil								
Weather Stik	4.1 fl oz	14 days	0	0	1	0	0.25	A
Daconil Ultrex	3.8 oz	14 days	0	1	1	0	0.5	AB
Sentinel	0.25 oz	21 days	0	1	0	5	1.5	AB
Daconil Ultrex + IB10813	3.8 oz + 0.5% v/v	14 days	1	0	5	0	1.5	AB
Spectro	5 oz	14 days	0	5	5	0	2.5	A-C
RH-130753	0.25 oz	28 days	0	5	0	5	2.5	A-C
IB11924	2.75 fl oz	14 days	10	1	0	0	2.75	A-C
Sentinel	0.33 oz	21 days	1	5	5	0	2.75	A-C
Heritage	0.4 oz	21 days	5	0	5	1	2.75	A-C
Daconil Ultrex + Aliette Signature WDG	3.8 oz + 4 oz	14 days	10	0	1	0	2.75	A-C
Thalonil 4L	6 fl oz	14 days	1	1	0	10	3.0	A-C
Exp. 10704A + Dithane	4 oz + 8 oz	14 days	5	5	0	5	3.75	A-C
Daconil Ultrex	4 oz	14 days	0	0	5	10	3.75	A-C

Table 2. cont.

Treatment	Rate/1000 ft ² b	Applic. Interval	I	II	III	IV	AVG LSD(.05)a
Eagle WP	0.6 oz	14 days	0	0	0	15	3.75 A-C
Eagle WP + Fore	0.6 oz + 6 oz	14 days	10	1	5	0	4.0 A-C
Thalonil 6L	4 fl oz	14 days	1	5	5	5	4.0 A-C
Amv 53d	2 oz	14 days	1	5	0	15	5.25 A-D
Daconil ZN	6 fl oz	14 days	5	0	15	5	6.25 A-E
IB11522	4 fl oz	14 days	10	5	5	5	6.25 A-E
RH-130753	1 oz	21 days	0	0	20	5	6.25 A-E
Amv 53 d	4 oz	14 days	5	10	5	5	6.25 A-E
RH-130753	0.25 oz	21 days	0	10	10	10	7.5 A-E
Thalonil 90DF	3.5 oz	14 days	5	15	5	5	7.5 A-E
Daconil ZN +							
Aliette Signature							
WDG	6 fl oz + 4 oz	14 days	20	0	10	0	7.5 A-E
IB1223 1	4.7 oz	14 days	15	10	5	0	7.5 A-E
Amv 41 d	4 fl oz	14 days	10	5	20	0	8.75 A-E
Prostar WP	2 oz	14 days	20	0	0	15	8.75 A-E
Daconil 2787(F)	6 fl oz	14 days	5	20	10	1	9.0 A-E
Procymidone	1 oz	14 days	10	5	10	15	10.0 A-E
Amv 41 d	2 fl oz	14 days	25	10	5	5	11.25 A-E
Rizolex	3 oz	21 days	15	15	0	15	11.25 A-E
Eagle WP	1.2 oz	21 days	25	0	0	25	12.5 A-F
Heritage	0.25 oz	21 days	10	5	10	25	12.5 A-F
RH-130753	0.5 oz	21 days	20	5	25	5	13.75 A-G
Boiled TSB	-----	Daily	30	10	10	5	13.75 A-G
Prostar WP	2 oz	21 days	25	0	30	5	15.0 A-H
Chipco 26019							
WDG	2 oz	14 days	0	20	10	35	16.25 A-I
WAC 71 EXP	7 oz	14 days	20	10	5	35	17.5 A-I
Exp. 10715A +							
Dithane	4 oz + 4 oz	14 days	0	5	40	25	17.5 A-I
Exp. 10751A +							
Dithane	8 oz + 8 oz	14 days	1	5	55	10	17.75 A-I
Spotrete +							
Clearspray	5 oz + 2 fl oz	14 days	25	1	20	25	17.75 A-I
Exp. 10715A	8 oz	14 days	15	50	5	1	17.75 A-I
Chipco 26019							
50WP	2 oz	14 days	1	25	15	40	20.25 A-J
Chipco Aliette							
WDG + Fore WP	4 oz + 8 oz	14 days	5	20	50	10	21.25 B-J
Procymidone	3 oz	14 days	25	10	10	40	21.25 B-J
Companion	4 fl oz	14 days	35	20	25	10	22.5 C-J
TX-1	107 CFU/cm ²	Daily	25	0	70	5	25.0 D-J

cont.

Table 2. cont.

Treatment	Rate/1000 ft ² b	Applic. Interval	I	II	III	IV	AVG LSD(.05)a
Chipco 26019 50WP	1.5 oz	14 days	5	50	35	10	25.0 D-J
Actinovate	3#/acre/season	14 days	65	5	60	0	32.5 F-J
Companion 2	4 fl oz	14 days	25	25	80	0	32.5 F-J
Chipco 26019 WDG	1.5 oz	14 days	30	20	30	50	32.5 F-J
Chipco 26019 F	3 fl oz	14 days	20	30	30	50	32.5 F-J
Procymidone	5 oz	14 days	55	55	10	15	33.75 G-J
Untreated control ----	----	----	60	30	30	25	36.25 IJ
Chipco 26019 F	4 fl oz	14 days	30	20	25	80	38.75 J
Chipco 26019 F + Clearys 3336	2 fl oz + 2 fl oz	14 days	25	85	90	80	70.0 K

aTreatments followed by the same letter are not significantly different from each other at the 5% level (LSD).

bRates represent formulated product.

cMild phytotoxicity observed on

d Amv treatments plugged sprayer screens and had to be filtered before each application.

Take-all Fungicide Studies-1996

Fungicide studies for the preventive control of take-all patch (*Gaeumannomyces graminis*) on creeping bentgrass were established on irrigated fairways on two Michigan golf courses with a history of take-all patch disease. The Lakewood Shores Golf Club (Oscoda, MI) study was initiated in early spring 1996.

Treatments were applied to four replicate 6'x9' plots in both studies using equipment and procedures previously described in this report (refer to snow mold section). Treatments were generally re-applied monthly or as cited in the data tables and the studies (non-fertility treatments) were fertilized monthly with Lebanon Country Club fertilizer (18-5-9) at 0.5 lb nitrogen/1000 ft².

Lakewood Shores Golf Club, Oscoda, MI

This study was established on a perennially infected bentgrass fairway on May 2, 1996, shortly after the second mowing of the season. No pre-treatment disease ratings were taken because the disease was not active. The spring-initiated fungicide treatments were applied on May 2 and re-applied on June 5 (except as noted in the data tables), while the fertilizer treatments were applied May 2 and monthly throughout the growing season.

As the data in table 3, 4, & 5 indicate, on all these rating dates, the one pound rates of ammonium sulfate, IBDU, and sulfur-coated urea produced statistically significant disease management compared to the controls (fertilized and unfertilized). The high rate fertility treatments also produced the best quality turf. The fungicides also provided some disease management, although the differences were statistically different from the fertilized control treatments, except for the Rubigan (1oz.) and the Banner (4fl.oz) treatments on Oct 19 (Table5).