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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, Cook College, Rutgers University in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public. Articles appearing in these proceedings are divided into two sections.

The first section (white pages) includes lecture notes of papers presented at the 1997 New Jersey Turfgrass Expo. Publication of the New Jersey Turfgrass Expo Notes provides a readily

available source of information covering a wide range of topics. The Expo Notes include technical and popular presentations of importance to the turfgrass industry.

The second section (green pages) includes technical research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of these papers is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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Dr. Ann B. Gould, Editor  
Dr. Bruce B. Clarke, Coordinator

# EVALUATION OF FUNGICIDES FOR THE CONTROL OF BROWN PATCH ON REBEL II TALL FESCUE

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Fungicides were evaluated in 1997 for their ability to control brown patch (caused by *Rhizoctonia solani*) on tall fescue (*Festuca arundinacea* Rebel II) at the Plant Science Research Farm in Adelphia, NJ. The turf was established September 1991 on a Freehold sandy loam with a pH of 6.4. The test area was mowed at a height of 2.0 inches twice per week with no clipping collection. Irrigation was applied to avoid drought stress. Fertilizer was applied as 15-0-0 on 18 March (0.5 lb N/1000 ft<sup>2</sup>), 2 June (0.75 lb N/1000 ft<sup>2</sup>), 7 July (0.75 lb N/1000 ft<sup>2</sup>), and 4 August (1.0 lb N/1000 ft<sup>2</sup>). Dacthal 6F (5 fl oz/1000 ft<sup>2</sup>) was applied on 16 April for preemergence weed control. Plots were 3 X 9 ft and were arranged in a randomized complete block with four replications.

Fungicides were applied in water equivalent to 2 gal per 1000 ft<sup>2</sup> with a CO<sub>2</sub> powered sprayer at 30 psi using TeeJet 8003E nozzles. Treatments (trt) 1 to 6 were initiated on 10 June, whereas all other treatments were initiated on 2

July. Fungicides were reapplied at the appropriate intervals as indicated in Table 1. Percent turf area infected with *R. solani* was assessed on 15 July, 26 July, 30 July, 14 August, and 20 August. Data were subjected to analysis of variance and means separation by Waller-Duncan *k*-ratio *t* test (*k* = 100) following arcsine transformation.

Brown patch development was first observed on 2 July. Disease pressure was low to moderate through July and early August but intensified toward the end of August. All treatments provided some degree of brown patch suppression on each rating date. Good control was provided throughout the season by Eagle 40W (trt 9, 10), RH0753 23%SC (trt 6), BWC 011 01F 2.1E (trt 12, 13), BWC 012 03F 90WG (trt 14), BWC 012 01F 4.17SC (trt 15, 16, 17), and the 0.74 fl oz rate of BWC 014 02F 2SC (trt 19). Moderate to fair disease control was provided by Junction 45DF (trt 21, 22) and RH0753 23%SC (trt 4, 5, 7, 8).

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Table 1. Impact of fungicides on severity of brown patch on Rebel II tall fescue in Adelphia, NJ.

Treatment and rate/1000 sq ft	Spray interval (days) <sup>2</sup>	Turf area infected (%)/plot <sup>1</sup>				
		15 July	26 July	30 July	14 Aug.	20 Aug.
1 RH0753 23% SC 2.17 fl oz. ....Once	Once	9.0 c-f	11.5 de	11.5 ef	15.2 h	26.2 i
2 RH0753 23% SC 4.35 fl oz. ....Once	Once	7.2 a-f	10.8 c-e	7.5 b-e	13.8 gh	19.8 gh
3 RH0753 23% SC 2.17 fl oz. ....28 <sup>3</sup>	28 <sup>3</sup>	7.2 a-f	10.0 b-e	11.0 ef	12.8 f-h	23.5 hi
4 RH0753 23% SC 4.35 fl oz. ....28 <sup>3</sup>	28 <sup>3</sup>	5.8 ab	9.8 b-e	7.5 b-e	12.2 e-h	12.0 fg
5 RH0753 23% SC 2.17 fl oz. ....28 <sup>4</sup>	28 <sup>4</sup>	7.8 a-f	9.5 b-e	8.0 b-f	10.2 d-h	11.2 ef
6 RH0753 23% SC 4.35 fl oz. ....28 <sup>4</sup>	28 <sup>4</sup>	5.8 ab	7.2 a-d	7.8 b-f	8.5 c-g	5.2 bc
7 RH0753 23% SC 2.17 fl oz. ....28 <sup>5</sup>	28 <sup>5</sup>	10.2 ef	11.0 c-e	9.0 d-f	9.2 c-g	6.8 cd
8 RH0753 23% SC 4.35 fl oz. ....28 <sup>5</sup>	28 <sup>5</sup>	9.0 c-f	10.0 b-e	8.0 b-f	7.0 b-d	4.8 a-c
9 Eagle 40W 0.6 oz. ....14	14	6.2 a-d	6.2 a-c	4.2 a-c	6.5 a-d	4.2 a-c
10 Eagle 40W 1.2 oz. ....28	28	9.0 c-f	8.5 b-e	5.5 a-d	8.0 c-e	2.8 ab
11 BWC 011 01F 2.1E 0.175 fl oz. ....14	14	8.2 a-f	6.2 a-c	3.5 a	8.2 c-f	15.2 fg
12 BWC 011 01F 2.1E 0.35 fl oz. ....14	14	6.2 a-d	6.0 a-c	3.5 a	6.8 a-d	9.8 de
13 BWC 011 01F 2.1E 0.7 fl oz. ....14	14	6.8 a-e	7.0 a-d	2.0 a	5.2 a-c	6.5 cd
14 BWC 012 03F 90WG 0.1 oz. ....14	14	5.2 a	6.8 a-d	4.2 a-c	5.5 a-c	4.2 a-c
15 BWC 012 01F 4.17SC 0.088 fl oz. ....14	14	9.5 c-f	6.8 a-d	4.8 a-d	8.8 c-g	3.8 a-c
16 BWC 012 01F 4.17SC 0.175 fl oz. ....14	14	8.8 b-f	5.8 ab	3.0 a	3.5 a	2.2 a
17 BWC 012 01F 4.17SC 0.35 fl oz. ....14	14	6.0 a-c	4.0 a	2.8 a	3.5 a	3.2 ab
18 BWC 014 02F 2SC 0.37 fl oz. ....14	14	10.8 f	11.5 de	10.5 ef	7.5 b-e	4.5 a-c
19 BWC 014 02F 2SC 0.74 fl oz. ....14	14	9.8 d-f	7.2 a-d	8.5 b-f	6.5 a-d	4.5 a-c
20 QST153 3.7 fl oz. ....14	14	10.0 ef	12.5 e	13.0 f	15.2 h	26.2 i
21 Junction 45DF 4 oz. ....14	14	9.5 c-f	8.8 b-e	12.8 ef	8.8 c-g	10.2 de
22 Junction 45DF 8 oz. ....14	14	6.0 a-c	6.0 a-c	10.5 ef	8.0 c-e	10.2 de
23 Untreated Check .....—	—	16.5 g	20.0 f	24.2 g	25.0 i	40.8 j

Table 1 (continued).

- <sup>1</sup> Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan *k*-ratio *t* test (*k* = 100).
- <sup>2</sup> Fungicides were applied 10 June (treatments 2 through 7 only), 2 July (all treatments except treatment 2 and 3), 17 July (14 day treatments only), 1 Aug. (14 and 28 day treatments), and 19 Aug. (14 day treatments only).
- <sup>3</sup> Treatments 4 and 5 were applied on 10 June and 2 July only.
- <sup>4</sup> Treatments 6 and 7 were applied on 10 June, 2 July, and 1 Aug. only.
- <sup>5</sup> Treatments 8 and 9 were applied on 2 July and 1 Aug. only.