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This publication includes lecture notes of papers presented at the 2000 New Jersey Turfgrass Expo. Publication of these lectures pro-

vides a readily available source of information covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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CHEMICAL CONTROL OF BROWN PATCH IN TALL FESCUE

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The efficacy of selected fungicides for the control of brown patch (caused by *Rhizoctonia solani*) on tall fescue (*Festuca arundinacea* 'Coronado') was assessed in 2000 at the Plant Science Research Farm in Adelphia, NJ. Turf was established September 1998 on a Freehold sandy loam with a pH of 6.3. The site was mowed at a height of 2.0 inch, twice a week, and clippings were collected. Turf was irrigated to prevent drought stress.

Fertilizer was applied as 16-4-8 on 14 April (0.75 lb nitrogen (N)/1000 ft²), 10 June (1.0 lb N/1000 ft²), and 10 July (0.75 lb N/1000 ft²). Plots were 3 X 9 ft and were arranged in a randomized complete block with four replications.

Fungicides were applied in water equivalent to 2.0 gal of water per 1000 ft² with a CO₂ powered sprayer at 30 psi using TeeJet 8003VS flat fan nozzles. Treatments (trt) were initiated on 26 June, except for trt 11 to 14, which were applied on a curative basis on 10 July. Fungicides were reapplied as indicated in Table 1. Percent of turf area infested with *Rhizoctonia solani* was assessed on 7 August, 16 August, and 25 August. Turf quality was evaluated on 8 September

on a 1 to 9 scale, where 9 = best quality. Data were subjected to an analysis of variance and means separation by Waller-Duncan *k*-ratio *t*-test (*k* = 100) following arcsine transformation.

Disease pressure was rather light this season and did not appear until 7 July. However, the disease developed uniformly throughout the field by early August and through the end of September. Almost all treatments provided acceptable control of brown patch. Fore Rainshield 80W (trt 2 and 3), Fore 80W (trt 4), Daconil Ultrex 82.5SDG (trt 5), preventive and curative applications of Ortho Fungicide 29.6 F (trt 10 and 14, respectively), Daconil Ultrex 82.5SDG + Heritage 50WG (trt 21), TM-41702 40W + Heritage 50WG (trt 19 and 20), and Heritage 50WG (trt 22 and 23) were most efficacious. The only non-curative treatments that did not suppress brown patch to an acceptable level were Scotts Lawn Fungicide 2.3G (trt 8) and TM-41702 40W (trt 15). Moreover, all curative treatments provided acceptable levels of brown patch control with the exception of Scotts Lawn Fungicide 2.3 G (trt 12). No phytotoxicity was observed.

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Table 1. Impact of chemical products on the incidence of brown patch in tall fescue in North Brunswick, NJ: 2000.

Treatment and rate/1000 sq ft	Spray interval (days) ³	Turf area infected (%) per plot ¹			Turf Quality ² 8 Sept.
		7 Aug.	16 Aug.	25 Aug.	
1. Eagle 40W 0.6 oz	14	13.0 i-k	9.8 de	6.2 g-i	6.8 de
2. Fore Rainshield 80W 6.0 oz	14	1.5 ab	0.8 a	1.8 b-f	8.2 h
3. Fore Rainshield 80W 8.0 oz	14	1.2 ab	0.8 a	0.8 a-c	8.0 gh
4. Fore 80W 8.0 oz.	14	1.0 ab	0.0 a	0.2 ab	8.2 h
5. Daconil Ultrex 82.5SDG 1.8 oz	14	4.5 c-f	1.0 a	0.8 a-c	7.2 e-g
6. Bayleton 50W 0.5 oz.	14	8.5 f-i	5.0 bc	4.2 f-h	6.2 b-d
7. Bayleton 1G 24.0 oz	14 ⁴	9.8 g-j	6.2 b-d	7.8 h-j	7.0 d-f
8. Scotts Lawn Fungicide 2.3G 21.8 oz	14 ⁴	12.5 i-k	15.5 f	13.5 j-l	5.0 a
9. Spectracide Immunox Fungicide 1.55SC 14 fl oz	14	4.8 d-g	3.8 b	3.0 c-g	6.2 b-d
10. Ortho Fungicide 29.6F 12 fl oz	14	1.5 a-c	0.0 a	1.0 a-e	8.2 h
11. Bayleton 1G 48.0 oz	14 ^{4,5}	12.0 h-k	6.0 b-d	5.5 g-i	6.5 c-e
12. Scotts Lawn Fungicide 2.3G 21.8 oz	14 ^{4,5}	15.8 jk	19.0 fg	15.2 kl	5.2 a
13. Spectracide Immunox Fungicide 1.55SC 14.0 fl oz	14 ⁵	5.2 e-g	4.0 bc	4.0 e-h	6.5 c-e
14. Ortho Fungicide 29.6F 12 fl oz	14 ⁵	3.2 b-e	0.0 a	0.8 a-c	8.0 gh
15. TM-41702 40W 0.1 oz	14	13.0 i-k	14.0 ef	13.5 j-l	5.0 a
16. TM-41702 40W 0.25 oz	14	10.0 h-j	9.0 d	9.2 i-k	5.5 ab
17. TM-41702 40W 0.5 oz	14	6.0 e-h	6.5 b-d	7.8 h-j	6.5 c-e
18. TM-41702 40W 0.7 oz	14	7.8 f-i	4.0 bc	4.0 e-h	6.2 b-d
19. TM-41702 40W 0.25 oz + Heritage 50WG 0.1 oz	14	1.8 a-c	0.0 a	0.0 a	8.0 gh
20. TM-41702 40W 0.5 oz + Heritage 50WG 0.1 oz	14	0.0 a	0.0 a	0.0 a	8.5 h
21. Daconil Ultrex 82.5SDG 1.8 oz + Heritage 50WG 0.1 oz	14	1.8 a-c	0.0 a	0.0 a	8.2 h
22. Heritage 50WG 0.1 oz	14	2.2 a-d	0.2 a	0.5 a-c	7.8 f-h

Table 1 (continued).

Treatment and rate/1000 sq ft	Spray interval (days) ³	Turf area infected (%) per plot ¹			Turf Quality ² 8 Sept.
		7 Aug.	16 Aug.	25 Aug.	
23. Heritage 50WG 0.2 oz	14	2.0 b-d	0.5 a	0.5 ab	8.2 h
24. TM 43801 2.5W 4.0 oz	14	7.5 f-i	7.0 cd	3.8 d-h	7.0 d-f
25. Untreated Check	—	18.5 k	21.8 g	18.5 l	5.8 a-c
	INT ⁶	DAT ⁷	DAT	DAT	DAT
	14	14	7	2	16

¹Values are means of four replicates. Means followed by the same letter are not significantly different according to Waller-Duncan *k*-ratio *t*-test ($k = 100$).

²Turf quality on a scale of 1 to 9, where 9 = best turf quality. Values above 6.0 represent acceptable turf quality.

³Fungicides were applied on 26 June (all treatments, except treatments 11 to 14), 10 July (14 day treatment), 24 July (14 day treatment), 9 August (14 day treatment), and 23 August (14 day treatment).

⁴Treatments 7, 8, 11, and 12 were irrigated with 1 gal water/plot immediately following application.

⁵Treatments 11 to 14 were applied on a curative basis starting 10 July, and reapplied 24 July, 9 August, and 23 August.

⁶Spray interval in days.

⁷Days after treatment (DAT) for each spray interval.