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This publication includes lecture notes of papers presented at the 2001 New Jersey Turfgrass Expo. Publication of these lectures provides 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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CONTROL OF BROWN PATCH WITH SELECTED FUNGICIDES IN TALL FESCUE

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Selected fungicides were evaluated in 2001 for the control of brown patch (caused by *Rhizoctonia solani*) on tall fescue (*Festuca arundinacea* 'Matador') at the Plant Science Research Farm in Adelphia, NJ. Plots were established in September 2000 on a Freehold sandy loam with a pH of 6.3. Turf was mowed at a height of 2.0 inch, twice a week, and clippings were returned to the site. The study was irrigated as needed to prevent drought stress.

Fertilizer was applied as 16-4-8 on 21 May (0.75 lb nitrogen (N)/1000 ft^2) and 16 July (0.75 lb N/1000 ft^2). Broadleaf weeds were controlled with Bensumec 4LF (8.8 fl oz/1000 ft^2) on 11 April and Dimension (0.73 fl oz/1000 ft^2) on 14 April. Plots were 3 x 9 ft and were arranged in a randomized complete block with four replications. The site was inoculated with three isolates of *R. solani* (COBGBP1, COBGBP2, and Rh76) on 9 July using 2.5 g m^{-2} of oat infested inoculum from each isolate broadcast over the entire study in an attempt to encourage disease development.

Fungicides were applied in water equivalent to 1.89 gal per 1000 ft^2 with a CO_2 powered sprayer at 30 psi using TeeJet 8003VS flat fan nozzles. Treatments (trt) were initiated on 22 June, and reapplied as indicated in Table 1. The percent turf area infested with *R. solani* was assessed on 7 August, 14 August, 21 August, and 28 August. 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 during the summer months was low. Brown patch did not appear until 1 August, but it was uniformly distributed throughout the study. Most products evaluated provided acceptable levels of disease control. When disease was first assessed on 7 August, all treatments provided complete or nearly complete control of brown patch. As the season progressed (14 August to 28 August), however, Scotts Lawn Fungicide 2.3G (trt 6) and CUPRI-ZIN 22 4LC + Eco-Dyne 3.5LC (trt 18, 19) sustained a level of disease development similar to untreated turf (trt 21). All other treatments provided excellent disease control, compared to the untreated check. No phytotoxicity was reported.

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Table 1. Impact of fungicides on the incidence of brown patch in tall fescue in North Brunswick, NJ: 2001.

Treatment and rate per 1000 sq ft	Spray Interval (days)[2]	Turf Area Infected (%) per Plot[1]			
		7 Aug.	14 Aug.	21 Aug.	28 Aug.
1. Bayleton 1G Mont. Clay 48 oz	14[3]	0.8 a	3.8 b	3.8 ab	3.0 b
2. Bayleton 1G Attap. Clay 48 oz	14[3]	0.0 a	3.3 b	2.8 ab	2.5 b
3. Bayleton 1G Corn C DPG 48 oz	14[3]	1.0 a	0.8 a	0.8 a	1.5 b
4. Bayleton 1G Corn C HEX 48 oz	14[3]	0.0 a	3.0 b	2.8 ab	2.8 b
5. Bayleton 1G Biodac 48 oz	14[3]	1.3 b	2.5 b	1.8 ab	2.8 b
6. Scotts Lawn Fungicide 2.3G 21.8 oz	14[3,4]	0.0 a	3.0 b	6.3 b	6.3 c
7. Spectracide Immunox 1.55SC 14 fl. oz	14[5]	0.0 a	2.0 b	2.3 ab	2.5 b
8. Ortho Multi-Purpose Fungicide 29.6 FL 12 fl oz	14[6]	0.0 a	0.0 a	0.0 a	0.0 a
9. Compass 50WG 0.2 oz	14	0.0 a	0.0 a	0.0 a	0.0 a
10. Bayleton 50W 0.5 oz	14	0.0 a	0.5 a	0.0 a	0.3 a
11. Eagle 40W 0.6 oz	14	0.0 a	1.8 b	0.8 a	1.0 a
12. Daconil Ultrex 82.5SDG 1.84 oz	14	0.5 a	0.0 a	0.8 a	0.0 a
13. Heritage 50WG 0.2 oz	14	0.0 a	0.5 a	0.0 a	0.3 a
14. V-10114 1.67FL 0.88 fl oz + TADS 13093 0.24% v/v	7[7]	0.0 a	0.0 a	0.0 a	0.0 a
15. V-10114 1.67FL 1.76 fl oz + TADS 13093 0.24% v/v	7[7]	0.0 a	0.3 a	0.0 a	0.0 a
16. V-10114 1.67FL 0.88 fl oz + TADS 13093 0.24% v/v	14[7]	0.0 a	0.0 a	0.0 a	0.0 a
17. V-10114 1.67FL 1.76 fl oz + TADS 13093 0.24% v/v	14[7]	0.0 a	0.0 a	0.0 a	0.0 a
18. CUPRI-ZIN 22 4LC 1 fl oz + Eco-Dyne 3.5LC 0.5 fl oz	14	1.3 b	3.5 b	7.5 b	6.8 c
19. CUPRI-ZIN 22 4LC 2 fl oz + Eco-Dyne 3.5LC 1 fl oz	14	1.3 b	2.5 b	4.0 ab	6.0 c
20. Fore Rainshield 80W 8 oz	14	0.0 a	0.0 a	0.0 a	0.0 a
21. Untreated Check		4.5 b	6.5 b	8.3 b	9.8 c

Table 1 (continued).

Treatment and rate per 1000 sq ft	Spray Interval (days)[2]	Turf Area Infected (%) per Plot[1]			
		7 Aug.	14 Aug.	21 Aug.	28 Aug.
	INT[8]	DAT[9]	DAT	DAT	DAT
	7	5	5	5	5
	14	5	10	5	10

[1] 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).
[2] Fungicides were applied on 22 June (all treatments (trt) except trt 14 to 17), 28 June (7 day treatment), 5 July (7 and 14 day treatments, including first application of trt 14 to 17), 12 July (7 day treatment), 19 July (7 and 14 day treatments), 26 July (7 day treatment), 2 August (7 and 14 day treatments), 9 August (7 day treatment), 16 August (7 and 14 day treatments), and 23 August (7 day treatment).
[3] Treatments 1 to 6 were irrigated with 1 gal water per plot immediately after application.
[4] Active ingredient is thiophanate-methyl.
[5] Active ingredient is myclobutanil.
[6] Active ingredient is chlorothalonil.
[7] Trt 14 to 17 were applied with the non-ionic surfactant TADS 13093.
[8] Spray intervals in days.
[9] Days after treatment (DAT) for each spray interval.