1998
RUTGERS
Turfgrass Proceedings

THE NEW JERSEY TURFGRASS ASSOCIATION

In Cooperation With

RUTGERS COOPERATIVE EXTENSION
NEW JERSEY AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK

1998 RUTGERS TURFGRASS PROCEEDINGS

of the

New Jersey Turfgrass Expo
December 8-10, 1998
Trump Taj Mahal
Atlantic City, New Jersey

Volume 30
Published June, 1999

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 includes lecture notes of papers presented at the 1998 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 includes research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of this section is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to those individuals who have provided support to the Rutgers Turf Research Program at Cook College - Rutgers, The State University of New Jersey.

Dr. Ann B. Gould, Editor
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EVALUATION OF CHEMICAL AND BIOLOGICAL FUNGICIDES FOR THE CONTROL OF SUMMER PATCH ON KENTUCKY BLUEGRASS

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The impact of chemical and biological fungicides on the development of summer patch (caused by the fungus *Magnaporthe poae*) in Baron Kentucky bluegrass turf was evaluated in 1998 at the Rutgers Turf Research Farm in North Brunswick, NJ. Turf was established in September 1992 on a Norton loam soil with a pH of 6.4. The site was mowed two times per week at a height of 1.5 inches, and clippings were not collected. Turf was irrigated to prevent drought stress.

Fertilizer was applied as 15-0-0 on 8 April 1998 (0.21 lb N/1000 ft^2) and 22 April (0.56 lb N/ 1000 ft^2), and as 16-4-8 on 13 July (1.0 lb N/ 1000 ft^2). The following selective herbicides were applied on 13 April to control broadleaf weeds: 2,4-D-4-amine (0.59 fl oz/1000 ft^2), Banvel 4L (0.18 fl oz/1000 ft^2), and Dimension 1E (1 fl oz / 1000 ft^2). Quinchlorac 75DF (0.25 oz/1000 ft^2) was applied on 9 July to control crabgrass. Insects were suppressed with Dursban Pro 2EC on 24 July (2 fl oz/1000 ft^2) and on 14 August (1.5 fl oz/1000 ft^2). Plots were 3 ft x 9 ft and were arranged in a randomized complete block with four replications.

Fungicides were applied in water equivalent to 4 gal per 1000 ft^2 with a CO_2 powered sprayer at 30 psi using TeeJet 8003E nozzles. Treatments (trt) 38 and 39 were watered into the thatch after each application with 1 gal water per plot. All treatments were initiated on 29 May when the maximum soil temperature at a 2 inch depth reached or exceeded 65°F for 5 consecutive days. Fungicides were reapplied at the appropriate intervals as indicated in Table 1. Each plot was inoculated in three locations with 25 cc of oats infested with *M. poae* isolate 73-15 on 28 May 1998. Percent turf area exhibiting foliar symptoms of summer patch was assessed on 14 August, 31 August, and 11 September. Data were subjected to analysis of variance and means separation by Waller-Duncan *k*-ratio *t*-test (k = 100) following arcsine transformation.

Summer patch was first observed on 5 August. Disease severity increased steadily through 11 September. On 14 August, all products except the 21.4 oz rate of QST 1713 W (trt 23) provided a significant level of summer patch suppression. As the disease intensified on 31 August, most treatments containing CGA 279'202 50W (trt 6, 7, 9), Banner MAXX 1.24MC (trt 10 to 15), DAS 0025 (trt 18), Lynx 45W (trt 19), Eagle 40W (trt 21), Companion I (trt 24, 29, 30), and Heritage 50WG (trt 29 to 37) continued to provide good to excellent disease control. Excellent season-long control was only obtained, however, with the 4 oz rate of Banner MAXX 1.24MC (trt 13), Banner MAXX 1.24MC + Primo L 1E (trt 15), S-7511 G (trt 39), and Heritage 50 WG alone (trt 35 to 37) and in combination with Companion I (trt 29, 30), Companion LS 238 (trt 31, 32), and Companion LS 239 (trt 33, 34). No phytotoxicity was observed.

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Table 1. Impact of fungicides on the severity of summer patch on Kentucky bluegrass in North Brunswick, NJ: 1998.

Treatment and rate/1000 sq ft	Spray interval (days)[2]	Turf area infected (%)/plot[1] 14 Aug.	31 Aug.	11 Sept.
1. Cleary 3336 50W 8.0 oz	14	9.2 i-k	26.2 k-m	34.8 op
2. RU200112 0.96 oz	14	2.8 a-g	17.5 g-l	16.2 g-j
3. RU200112 1.44 oz	14	3.2 c-g	16.2 g-l	12.5 f-i
4. CGA 279'202 50W 0.075 oz	14	9.0 i-k	16.2 g-l	31.2 op
5. CGA 279'202 50W 0.1 oz	14	5.5 f-j	15.0 f-j	18.0 h-k
6. CGA 279'202 50W 0.15 oz	14	3.0 b-g	13.8 e-k	16.8 g-j
7. CGA 279'202 50W 0.2 oz	14	4.5 c-h	13.8 e-k	22.0 j-n
8. CGA 279'202 50W 0.25 oz	14	3.8 c-g	16.2 g-l	19.5 i-m
9A. CGA 279'202 50W 0.2 oz	—	—	—	—
B. + Primo L 1E 0.25 fl oz	28	6.2 g-j	12.5 e-k	19.0 i-m
10A. CGA 279'202 50W 0.2 oz	—	—	—	—
B. + Banner Maxx 1.24MC 2.0 fl oz	28	3.8 c-g	13.0 e-k	17.8 h-j
11. Banner Maxx 1.24MC 1.0 fl oz	14	0.0 a	11.0 c-h	26.5 l-p
12. Banner Maxx 1.24MC 2.0 fl oz	14	4.8 d-i	11.2 d-i	16.8 g-j
13. Banner Maxx 1.24MC 4.0 fl oz	28	2.5 a-f	8.8 b-f	10.8 ef
14A. Banner Maxx 1.24MC 2.0 fl oz	—	—	—	—
B. + Medallion 50W 0.31 oz	28	5.0 e-i	10.5 b-f	12.0 f-h
15A. Banner Maxx 1.24MC 3.0 fl oz	—	—	—	—
B. + Primo L 1E 0.25 fl oz	28	0.5 a-b	8.8 b-f	5.0 c-e
16. Primo L 1E 0.25 fl oz	28	5.8 g-j	17.5 g-l	18.8 h-l
17. DAS 0025 0.96 fl oz.	28	1.8 a-e	15.0 f-j	17.2 h-j
18. DAS 0025 1.92 fl oz	28	2.2 a-e	12.0 e-j	18.8 h-l
19. Lynx 45W 0.27 oz	28	5.8 g-j	6.2 bc	25.8 k-o
20. Eagle 40W 0.6 oz	14	4.5 c-h	15.0 f-j	22.0 j-n
21. Eagle 40W 1.2 oz	28	2.5 a-f	11.8 d-i	18.2 h-k

(continued)

Table 1 (continued).

Treatment and rate/1000 sq ft	Spray interval (days)[2]	Turf area infected (%)/plot[1] 14 Aug.	31 Aug.	11 Sept.
22. QST 1713 W 10.7 oz	14	8.0 h-j	13.8 e-k	29.2 n-p
23. QST 1713 W 21.4 oz	14	10.2 jk	25.0 j-m	35.2 p
24. Companion I 4.0 fl oz	14	6.2 g-j	11.2 b-g	17.2 h-j
25. Companion LS238 4.0 fl oz	14	2.8 a-g	18.8 h-l	20.5 j-m
26. Companion LS239 4.0 fl oz	14	7.5 g-j	22.5 i-l	34.8 op
27A. Companion I 4.0 fl oz	—	—	—	—
B. + Banner Maxx 1.24MC 1 fl oz	14	6.5 g-j	22.5 i-l	27.0 m-p
28A. Companion I 4.0 fl oz	—	—	—	—
B. + Banner Maxx 1.24MC 2 fl oz	14	4.8 d-i	15.0 f-l	19.2 i-m
29A. Companion I 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.1 oz	14	0.8 a-c	7.5 b-e	7.2 d-f
30A. Companion I 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.2 oz	14	0.5 ab	7.5 b-e	3.0 a-c
31A. Companion LS238 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.1 oz	14	2.5 a-f	5.0 ab	6.2 c-e
32A. Companion LS238 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.2 oz	14	0.0 a	6.8 b-d	3.8 a-d
33A. Companion LS239 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.1 oz	14	0.0 a	6.2 bc	4.8 b-d
34A. Companion LS239 4.0 fl oz	—	—	—	—
B. + Heritage 50WG 0.2 oz	14	0.8 a-c	0.5 a	2.0 ab
35. Heritage 50WG 0.1 oz	14	0.0 a	3.2 ab	3.5 a-d
36. Heritage 50WG 0.2 oz	14	0.0 a	0.5 a	1.5 a
37. Heritage 50WG 0.4 oz	28	1.5 a-d	5.0 ab	3.8 a-d
38. S-7395 G 81 oz	28[3]	5.2 e-j	13.8 e-k	20.0 j-m

(continued)

Table 1 (continued).

Treatment and rate/1000 sq ft	Spray interval (days)[2]	Turf area infected (%)/plot[1] 14 Aug.	31 Aug.	11 Sept.
39. S-7511 G 128 oz	28[3]	2.2 a-e	6.8 b-d	9.8 ef
40. Untreated Check	—	17.0 k	36.2 m	45.8 q
	INT[4]	DAT[5]	DAT	DAT
	14	7	24	35
	28	21	38	49

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 29 May (all treatments), 15 June (14 day treatments), 26 June (14 and 28 day treatments), 10 July (14 day treatments), 24 July (14 and 28 day treatments), and 7 Aug. (14 day treatments).

3 Treatments 38 and 39 were watered into thatch with 1 gal water per 27 sq ft plot.

4 Spray interval in days.

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