

TALL FESCUE (*Festuca arundinacea* 'Coronado')
Brown patch; *Rhizoctonia solani*

M.D. Soika and L.P. Tredway
Department of Plant Pathology
North Carolina State University
Raleigh, NC 27695

Evaluation of consumer fungicide formulations for brown patch control, 2006.

Fungicide formulations for the consumer market were evaluated for brown patch control in tall fescue landscapes. This trial was conducted at the Lake Wheeler Turfgrass Field Laboratory in Raleigh, NC on 'Coronado' tall fescue maintained under home lawn conditions. Mowing was performed two times weekly at a height of 3.5 in. with clippings returned, and the site was irrigated daily with 0.13" at 8 PM to enhance brown patch development. Fertilizer was applied as 25-6-12 on 28 Feb, 29 Mar, and 16 Jun (1.0 lb N/1000 sq ft). Barricade 65WG (0.75 lb ai/A) was applied on 7 Mar for pre-emergent weed control. Plots were 5 ft x 6 ft and were arranged in a randomized complete block with four replications. Sprayable formulations were applied in water equivalent to 2 gal per 1000 sq ft with a CO₂ powered sprayer at 40 psi using TeeJet 8004 nozzles. Granular formulations were applied by hand using a shaker jar. All treatments were initiated on 15 Jun and reapplied on 17 Jul. Treatments were applied in the evening, and plots were irrigated prior to application to encourage foliar adherence and absorption of granular formulations. The experimental area was inoculated on 5 Jun using rye grain infested with *R. solani* isolates AG-1, Rh-45, and Rh-46 to encourage brown patch development. Percent turf area exhibiting brown patch symptoms was assessed on 29 Jun, 5 and 12 Jul, 1, 16, and 29 Aug, and 7 Sep. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t test (k=100).

Brown patch incidence was low in this study, reaching a peak of 8.7% on 1 Aug and resurging to 5.7% on 7 Sep. On 5 Jul, 20 days after initial treatment, significant control of brown patch was provided by the 48 oz rate of Bayer Advanced Fungus Control, both rates of Bayleton SC, both rates of Disease Control Concentrate, and the high rates of AEF069623 and Immunox 0.39GR. On 1 Aug, 15 days after all treatments were reapplied, both rates of Bayleton SC and Disease Control Concentrate were significantly different from the untreated control, as was the liquid formulation of Immunox. No phytotoxicity or other negative side effects were observed in this study.

Treatment, formulation, and rate per 1000 sq ft	Application interval (days)	Brown patch incidence (%)			
		29 Jun	5 Jul	12 Jul	1 Aug
Bayer Adv. Fungus Control for Lawn 1GR 24.0 oz.....	28*	1.3 a**	4.1 a	4.0 abc	8.2 a
Bayer Adv. Fungus Control for Lawn 1GR 48.0 oz.....	28	0.0 a	0.1 b	0.6 bc	7.5 ab
Bayleton 0.3SC 6.4 fl oz.....	28	0.4 a	0.0 b	0.0 c	0.9 cde
Bayleton 0.3SC 12.8 fl oz.....	28	0.0 a	0.1 b	0.1 bc	0.2 de
Disease Control Concentrate 2.9%EW 8.0 fl oz.....	28	0.0 a	0.1 b	0.0 c	0.9 cde
Disease Control Concentrate 2.9%EW 16.0 fl oz.....	28	0.0 a	0.0 b	0.0 c	0.0 e
AEFO69623 1GR 24.0 oz.....	28	0.4 a	2.7 ab	2.6 abc	7.9 a
AEFO69623 1GR 48.0 oz.....	28	0.2 a	0.9 ab	0.6 bc	6.2 abc
Scotts Lawn Fungus Control 2.3GR 22.0 oz.....	28	0.8 a	4.2 a	4.3 ab	5.9 a-d
Immunox Lawn Disease Gr 0.39GR 64.0 oz.....	28	1.5 a	2.8 ab	3.7 abc	4.0 a-e
Immunox Lawn Disease Gr 0.39GR 96.0 oz.....	28	0.0 a	0.6 b	2.0 bc	6.0 a-d
Immunox Lawn Disease 2%L 10.7 fl oz.....	28	0.2 a	0.7 b	2.4 abc	1.8 b-e
Untreated Control.....		0.8 a	1.4 ab	6.5 a	8.7 a

*All treatments were applied on 15 Jun and 17 Jul.

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

Treatment, formulation, and rate per 1000 sq ft	Application interval (days)	Brown patch incidence (%)		
		16 Aug	29 Aug	7 Sep
Bayer Adv. Fungus Control for Lawn 1GR 24.0 oz.....	28*	1.2 ab**	6.7 a	12.1 a
Bayer Adv. Fungus Control for Lawn 1GR 48.0 oz.....	28	0.7 b	1.2 a	3.7 a
Bayleton 0.3SC 6.4 fl oz.....	28	0.5 b	2.0 a	7.5 a
Bayleton 0.3SC 12.8 fl oz.....	28	0.0 b	2.8 a	8.8 a
Disease Control Concentrate 2.9%EW 8.0 fl oz.....	28	0.6 b	5.4 a	14.2 a
Disease Control Concentrate 2.9%EW 16.0 fl oz.....	28	0.5 b	4.9 a	15.4 a
AEFO69623 1GR 24.0 oz.....	28	1.5 ab	5.1 a	8.4 a
AEFO69623 1GR 48.0 oz.....	28	3.0 a	3.8 a	11.0 a
Scotts Lawn Fungus Control 2.3GR 22.0 oz.....	28	0.9 b	1.5 a	7.2 a
Immunox Lawn Disease Gr 0.39GR 64.0 oz.....	28	1.4 ab	2.8 a	9.7 a
Immunox Lawn Disease Gr 0.39GR 96.0 oz.....	28	0.7 b	1.9 a	6.6 a
Immunox Lawn Disease 2%L 10.7 fl oz.....	28	0.2 b	4.8 a	11.1 a
Untreated Control.....		0.9 b	3.6 a	5.7 a

*All treatments were applied on 15 Jun and 17 Jul.

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