

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

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Evaluation of fungicides for control of brown patch in Coronado tall fescue, 2004.

Fungicides were evaluated for their ability to provide 28 days of brown patch control in the highly susceptible tall fescue cultivar 'Coronado'. This trial was conducted at the Lake Wheeler Tufgrass Field Lab in Raleigh, NC. Mowing was performed weekly at a height of 3 in. with clippings returned, and the site was irrigated to prevent drought stress. Fertilizer was applied as 25-5-15 on 5 Mar and 1 Apr (1 lb N/1000 sq ft) and as 30-3-10 on 27 Aug (1 lb N/1000 sq ft). Annual grasses were suppressed with Ronstar 2G (150 lbs/acre) on 14 Mar and Acclaim Extra on 5 Aug and 17 Aug (0.57 fl oz/1000 sq ft), and broadleaf weeds were controlled with Trimec Plus on 18 Jun (4 pts/acre). Plots were 5 ft x 6 ft and were arranged in a randomized complete block with four replications. Fungicides were applied in water equivalent to 3 gal per 1000 sq ft with a CO₂ powered sprayer at 40 psi using TeeJet 8004 nozzles. All treatments were initiated on 1 Jun and were reapplied at the appropriate intervals as indicated in the table. The experimental area was inoculated on 16 Jun using rye grain infested with *Rhizoctonia solani* to encourage brown patch development. Percent turf area exhibiting brown patch symptoms was assessed on 30 Jun, 16 Jul, 29 Jul, 16 Aug, and 1 Sep. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t test (k=100).

Brown patch activity was low in the experimental area throughout June and early July. Brown patch incidence increased rapidly between 5 Jul and 15 Jul during which mean temperatures were approximately 80°F and rainfall totaling 1 inch was recorded. Because of the timing of this epidemic, brown patch incidence was lower on 16 Jul in plots treated with Compass or Insignia on a 28 day interval (applied on 1 Jun and 29 Jun) than on a 21 day interval (applied on 1 Jun, 22 Jun, and 13 Jul). Of the single products applied on 28 day intervals, Compass (0.2 oz), Heritage 50WG (0.2 and 0.4 oz), Heritage TL (0.5 and 1 fl oz), Insignia (0.5, 0.7, and 0.9 oz), Prostar (1, 2.25, and 3 oz), and Systar (2.25 and 3 oz) provided excellent brown patch control on all rating dates. Of the single products applied on 21 day intervals, Insignia (0.5, 0.7, or 0.9 oz) generally provided better control of brown patch than Compass (0.2 or 0.25 oz). Of the fungicide programs evaluated in this trial, all of the 28 day programs provided excellent brown patch control throughout the season. The 21 day programs did not provide acceptable control on 16 Jul or 29 Jul, likely due to the timing of the brown patch epidemic in relation to the 21 day application schedule.

Table 1. Evaluation of fungicides for control of brown patch in Coronado tall fescue, 2004.

Treatment and rate / 1000 sq ft	Spray interval (days)	Brown patch incidence (%)				
		30 Jun	16 Jul	29 Jul	16 Aug	1 Sep
Compass 50WG 0.2 oz.....	21 ^z	4 abc	28 ab	24 bc	16 b	9 a-g
Compass 50WG 0.25 oz.....	21	5 abc	18 cde	18 cde	11 bc	14 a-e
Compass 50WG 0.2 oz.....	28	3 abc	3 hi	8 f-m	2 e	13 a-f
Compass 50WG 0.25 oz.....	28	8 abc	7 f-i	15 def	4 cde	20 a
Heritage 50WG 0.1 oz.....	28	2 abc	1 i	1 lm	1 e	7 b-g
Heritage 50WG 0.2 oz.....	28	2 bc	1 i	0 m	0 e	10 a-g
Heritage TL 0.8ME 0.5 fl oz.....	28	2 abc	1 i	2 klm	0 e	8 a-g
Heritage TL 0.8ME 1 fl oz.....	28	2 abc	1 i	1 lm	1 e	6 c-g
Insignia 20WG 0.5 oz.....	21	5 abc ^y	12 d-g	8 f-m	0 e	0 g
Insignia 20WG 0.5 oz.....	28	3 abc	4 hi	4 h-m	0 e	1 fg
Insignia 20WG 0.7 oz.....	21	3 abc	6 f-i	5 g-m	0 e	0 g
Insignia 20WG 0.7 oz.....	28	5 abc	1 i	1 lm	0 e	3 efg
Insignia 20WG 0.9 oz.....	21	3 abc	11 e-h	10 e-k	0 e	0 g
Insignia 20WG 0.9 oz.....	28	5 abc	1 i	2 klm	0 e	0 g
Prostar 70WP 1 oz.....	28	9 ab	6 f-i	8 f-m	3 de	11 a-g
Prostar 70WP 1.5 oz.....	28	8 abc	5 f-i	9 e-l	9 bcd	19 abc
Prostar 70WP 2.25 oz.....	28	2 bc	1 i	1 lm	1 e	10 a-g
Prostar 70WP 3 oz.....	28	2 bc	1 i	1 lm	2 e	18 a-d
Systar 80WDG 1 oz.....	28	5 abc	4 hi	7 f-m	4 de	15 a-e
Systar 80WDG 1.5 oz.....	28	6 abc	3 hi	12 e-i	3 de	8 a-g
Systar 80WDG 2.25 oz.....	28	5 abc	4 ghi	8 f-m	1 e	11 a-g
Systar 80WDG 3 oz.....	28	6 abc	4 hi	2 j-m	0 e	11 a-g
Bayleton 50WG 1 oz.....	28	6 abc	8 f-i	11 e-j	2 e	6 d-g
Banner Maxx 1.3ME 1 fl oz.....	28	6 abc	13 def	22 bcd	3 de	5 d-g
Banner Maxx 1.3ME 2 fl oz.....	28	8 abc	20 bcd	28 ab	5 cde	6 c-g
Compass 50WG 0.2 oz + Bayleton 50WG 1 oz.....	28	6 abc	5 f-i	4 i-m	1 e	3 efg
Compass 50WG 0.2 oz + Bayleton 50WG 1 oz alt Prostar 70WP 3 oz alt Compass 50WG 0.2 oz + Bayleton 50WG 1 oz.....	28	7 abc	4 ghi	3 j-m	0 e	4 efg
Bayleton 50WG 1 oz alt Prostar 70WP 3 oz alt Compass 50WG 0.25 oz.....	28	4 abc	2 i	0 m	0 e	10 a-g
Bayleton 50WG 1 oz alt Compass 50WG 0.2 oz alt Prostar 70WP 2.2 oz alt Compass 50WG 0.2 oz.....	21	9 a	24 abc	24 bc	4 cde	10 a-g
Bayleton 50WG 1 oz alt Prostar 70WP 2.2 oz alt Compass 50WG 0.2 oz alt Prostar 70WP 2.2 oz.....	21	4 abc	17 cde	13 e-h	11 bc	11 a-g
Heritage TL 0.8ME 0.5 fl oz + Banner Maxx 1.3ME 1 fl oz.....	28	4 abc	3 hi	1 lm	1 e	6 d-g
Heritage TL 0.8ME 2 fl oz alt Banner Maxx 1.3ME 2 fl oz.....	28	2 c	1 i	7 f-m	0 e	0 g
Untreated Control.....	--	5 abc	29 a	36 a	39 a	14 a-e

^zFungicides were applied on 1 Jun (all treatments), 22 Jun (21 day treatments), 29 Jun (28 day treatments), 13 Jul (21 day treatments), 26 Jul (28 day treatments), and 3 Aug (21 day treatments).

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