

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

L.P. Tredway<sup>1</sup> and J.H. Monroe<sup>2</sup>  
<sup>1</sup>Department of Plant Pathology  
North Carolina State University  
Raleigh, NC 27695  
<sup>2</sup>North Carolina Cooperative Extension  
Mecklenburg County  
Charlotte, NC 28202

### **Control of brown patch in tall fescue with monthly fungicide applications in Charlotte, NC.**

Fungicides were evaluated for their ability to control brown patch in tall fescue when applied on 28 day intervals, which is a standard application interval in the landscape industry. In addition, the effect of nitrogen fertilization on fungicide performance was evaluated by conducting separate trials under high nitrogen (addition 0.5 lb N applied on 5 Jun) and low nitrogen (no additional fertilization). These trials were conducted at Winget Park in Charlotte, NC on tall fescue maintained under landscape conditions. The stand was established by seeding on 3 Oct 2002 using John Deere Select Turf Type Tall Fescue Blend (6 lbs/1000 sq ft) and again on 30 Oct 2002 using Lesco Transition Blend (6 lbs/1000 sq ft). Mowing was performed once weekly at a height of 3.5 in. with clippings returned, and the site was irrigated to prevent severe drought stress. Fertilizer was applied as on 4 Mar (1 lb N/1000 sq ft), and 15 Jul (0.5 lb N/1000 sq ft). Ronstar 2G (2.5 lbs ai/acre) was applied on 14 Mar for pre-emergence crabgrass control. 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 CO<sub>2</sub> powered sprayer at 40 psi using TeeJet 8004 nozzles. All treatments were applied on 6 Jun and 3 Jul. The experimental area was inoculated on 3 Jun using rye grain infested with *R. solani* AG 1-1A to encourage brown patch development. Percent turf area exhibiting brown patch symptoms was assessed on 2 Jul and 29 Jul. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t test (k=100).

A low level of brown patch incidence (5% or less) was observed in the experimental area at initiation of this trial. Weather conditions were highly conducive to brown patch development throughout June, resulting in average disease incidence of 66% and 80% on 2 Jul in Low N and High N trials, respectively. Heritage (0.1 and 0.2 oz), Insignia (0.9 oz), Prostar (3.0 oz), and SysStar (3.0 oz) provided excellent brown patch control in both Low N and High N trials. Each of these treatments maintained brown patch incidence to 6% or less, which is acceptable for most landscape situations. Insignia (0.5 oz) provided excellent control of brown patch in the High N trial, but not in the low N trial. Plots treated with Compass (0.25 oz) contained significantly more brown patch than plots treated with Heritage (0.2 oz) in the High N trial, but no significant difference was detected among these treatments in the Low N trial. Brown patch activity was low to moderate during July, and recovery of the tall fescue occurred rapidly following the 15 Jul fertilizer application. On 29 Jul, Heritage (0.1 and 0.2 oz), Insignia (0.5 and 0.9 oz), Prostar (3.0 oz), and SysStar (3.0 oz) provided excellent control of brown patch, maintaining brown patch incidence to 4% or less. During this trial, fungicide performance was not influenced by application of nitrogen in the amount of 0.5 lb N/1000 sq ft. When applied on 28 day intervals, Heritage, Insignia, Prostar, and SysStar were most effective for control of brown patch in tall fescue. Acceptable brown patch control was provided by Heritage at the low label rate (0.2 oz) and half of the low label rate (0.1 oz). Additional research is needed to evaluate reduced rates of Prostar and SysStar for brown patch control in tall fescue landscapes.

Treatment and rate / 1000 sq ft <sup>z</sup>	Low N		High N	
	Brown patch incidence (%)		Brown patch incidence (%)	
	2 Jul	29 Jul	2 Jul	29 Jul
Heritage 50WG 0.2 oz.....	1 e <sup>y</sup>	2 g	2 e	2 fg
Heritage 50WG 0.1 oz.....	5 e	4 fg	6 e	2 fg
Compass 50WDG 0.25 oz.....	19 de	8 ef	21 d	8 b-f
Compass 50WDG 0.15 oz.....	33 cd	15 bcd	30 cd	7 c-f
Insignia 20WG 0.9 oz.....	3 e	1 g	2 e	1 g
Insignia 20WG 0.5 oz.....	20 de	2 g	6 e	3 efg
Banner MAXX 1.24ME 2 fl oz.....	36 cd	13 b-e	38 c	10 bc
Bayleton 50DF 1.0 oz.....	34 cd	10 cde	27 cd	10 bc
Eagle 40WP 0.6 oz.....	60 ab	16 bc	58 b	12 abc
Prostar 70WP 3.0 oz.....	0 e	3 fg	1 e	4 d-g
SysStar 80WDG 3.0 oz.....	0 e	2 g	1 e	1 g
3336 50WP 4.0 oz.....	71 a	10 de	78 a	8 b-e
ConSyst 67WDG 8.0 oz.....	34 cd	12 cde	32 cd	8 b-e
Fungicide VII 0.59G 84.75 oz.....	48 bc	18 b	59 b	14 ab
Systemic Fungicide 2.3G 87.0 oz.....	53 abc	12 b-e	66 ab	9 bcd
Untreated Control.....	66 ab	25 a	80 a	17 a

<sup>z</sup>Fungicides were applied on 6 Jun and 3 Jul.

<sup>y</sup>Values 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).