

Influence of rate and application date on control of spring dead spot with fenarimol, 2004-2005.

Varying rates of fenarimol applied on different timing regimes were evaluated for control of spring dead spot. This trial was conducted for the second year at Walnut Creek Softball Complex on Field 4 in Raleigh, NC on 'Tifway' bermudagrass maintained under athletic field conditions. The turf is fertilized with monthly applications of N (1 lb/1000 sq ft with varying N sources) from May until Sept and an application of 1 lb K/1000 sq ft in Sept. The fields are irrigated to prevent drought stress, pre-emergent herbicides are applied in fall and spring, and mowing is performed 3 times per week at a height of 1 in. with clippings returned. The soil in this location is a sandy loam with pH of 6.0 and a CEC of 6.5. Treatments were applied to the same plots as in 2003-2004 and were 5 ft x 10 ft in size with four replications. Treatments were arranged in a split-plot randomized complete block, with application rates serving as main plots and application dates as sub-plots. Fungicides were applied in water equivalent to 5 gal per 1000 sq ft with a CO₂ powered sprayer at 40 psi using TeeJet 8008 nozzles. Applications were originally scheduled for the same dates that they were applied on in 2003, but due to hurricane activity and frequent rainfall, treatments were actually applied on Aug 23 (originally scheduled for Aug 1), Oct 4a (originally scheduled for Aug 15), Oct 4b (originally scheduled for Sept 1), Oct 20 (originally scheduled for Sept 15), and Nov 5 (originally scheduled for Oct 1). Percent turf area exhibiting spring dead spot symptoms was assessed on 31 May 2005 using digital image analysis. Data were subjected to analysis of variance and means separation by Waller-Duncan k-ratio t-test (k=100).

Spring dead spot was moderately severe in the spring of 2005 due to large and rapid temperature fluctuations in January and February. All fenarimol application rates provided significant control of spring dead spot when averaged across all application timings (Table 1). When treatments were initiated on 4 Oct 04b, only the 4 + 4 fl oz and 6 + 6 fl oz treatments provided significant spring dead spot control. No significant differences were detected among treatments for all other application dates. Only the 23 Aug 04 and 4 Oct 04a timings were significantly different from each other among application timings, with the 23 Aug 04 applications providing superior spring dead spot control (Table 2). No phytotoxicity or other negative impacts on turfgrass quality were observed at any time during this trial. Based upon the results from this two-year study, a single Rubigan 1AS application at 6 fl oz or two applications at 4 fl oz are as effective as two applications at 6 fl oz. The timing of Rubigan applications within the mid-August to late October time frame does not appear to have a major impact on preventative control of spring dead spot.

Table 1. Spring dead spot incidence ratings for application timings.

Treatment and rate / 1000 sq ft	Disease incidence on 31 May 05 (%)					
	All Timings ^z	23 Aug 04	4 Oct 04a	4 Oct 04b	20 Oct 04	5 Nov 04
1. Rubigan 1AS (6 fl oz)	3.27 b ^y	2.44 a	3.64 a	3.62 ab	3.27 a	3.38 a
2. Rubigan 1AS (4 + 4 fl oz)	3.00 b	2.74 a	3.56 a	2.74 b	3.14 a	2.84 a
3. Rubigan 1AS (6 + 6 fl oz)	2.92 b	1.91 a	3.34 a	3.28 b	3.10 a	2.96 a
4. Untreated Control.....	5.56 a	4.66 a	8.10 a	5.25 a	5.68 a	4.11 a

^zTreatments were initiated on the dates indicated in the table. For split-applications, follow-up treatments were applied 14 days after the initial application.

^yDisease incidence values from 31 May 05 rating date 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).

Table 2. Spring dead spot incidence ratings for all Rubigan rates.

Application Timing ^z	Disease incidence on 31 May 05 (%)
1. 23 Aug 04	2.94 b ^y
2. 4 Oct 04a.....	4.66 a
3. 4 Oct 04b	3.72 ab
4. 20 Oct 04	3.80 ab
4. 5 Nov 04	3.32 ab

^zTreatments were initiated on the dates indicated in the table. For split-applications, follow-up treatments were applied 14 days after the initial application.

^yDisease incidence values from 31 May 05 rating date are averaged across application rates and replications. Means within columns followed by the same letter are not significantly different according to Waller-Duncan k-ratio t-test (k=100).