

## Yellow Tuft

This trial was conducted on a Penncross creeping bentgrass green at the Hancock Turfgrass Research Center, E. Lansing, MI. The plot area was mowed at 0.150". Fertility was maintained as needed. The study was set up in a randomized complete block design with four replications of each treatment. Plots measured 2' x 6'. Treatments were applied at 36 PSI in a 1 gal/1000 sq ft spray volume using a CO<sub>2</sub> backpack sprayer and a single 8002E Tee-Jet flat fan nozzle. Initial treatment application was made on July 12. Re-applications of treatments on a 14 day schedule were made on 7/27, 8/9, 8/23, 9/7 and 9/20; 21 day schedule on 8/2, 8/30, and 9/13; and 28 day schedule on 8/9 and 9/7. Percent plot area with yellow tuft was visually estimated, and the means are reported in Table 17. Data were analyzed using ANOVA and means separated by LSD (p= 0.05).

Insignia and Subdue Maxx provided statistically significant control of yellow tuft compared to the untreated control plots. As disease continued to increase in the untreated plots, disease remained stable in the Insignia and Subdue Maxx plots. No phytotoxicity was observed.

**Table 17. Yellow Tuft 2004**

**Location: Hancock Turf Research Center, E. Lansing, MI.**

**Rating Scale: Percent plot area with yellow tuft.**

Treatment and Rate/1000 sq ft	Interval (Days)	8-Sep	22-Sep
		Mean <sup>a,b</sup>	Mean <sup>a,b</sup>
Insignia 0.9 oz	14	0.7 b	0.9 c
Subdue Maxx 1 fl oz	21	1.3 b	1.0 c
Insignia 0.5 oz	14	2.1 b	2.8 bc
Heritage 0.4 oz	28	2.8 ab	6.3 ab
Control	---	5.0 a	8.0 a

<sup>a</sup> Mean of 4 replicate plots.

<sup>b</sup> Treatment means followed by the same letter do not significantly differ (LSD, p=0.05).

## Necrotic Ring Spot

This trial was conducted on a Kentucky bluegrass stand mowed at 3" at the Hancock Turfgrass Research Center, E. Lansing, MI. The study was set up in a randomized complete block design with four replicates of each treatment. Plots measured 6' x 6'. Treatments were applied at 36 PSI in a 2 gal/1000 sq ft spray volume using a CO<sub>2</sub> backpack sprayer and a single 8002E Tee-Jet flat fan nozzle. Fertilizer was applied to all fungicide-treated plots (not Ringer Turf Restore plots, fertilized or unfertilized controls) at ¼ lb N/1000 sq ft on the following dates: 5/19, 6/2, 6/16, 6/30, 7/15, 7/26, 8/12. A ½ lb fertilizer application was made on 9/15. Irrigation was applied on an daily basis. Initial treatment applications were made on May 19 with

reapplications on June 16, July 14, August 12, September 15, and October 11. Percent plot area with necrotic ring spot was visually estimated, and percent recovery was calculated based on the initial disease rating taken on May 19. The percent recovery means are reported in Table 18. Data were analyzed using ANOVA and means separated by LSD ( $p=0.05$ ). Quality ratings were taken and the means are reported in Table 19.

Ringer's Turf Restore proved to be the best curative treatment in our study. The Turf Restore treatment received  $\frac{1}{2}$  lb N/1000 sq ft/month more fertilizer than the rest of the fertilized treatments. By the last rating date, it was the only treatment to provide 100% recovery. For every rating except the June 18 date, Turf Restore was the only treatment to provide significantly more recovery than the fertilized control treatment. None of the other treatments provided recovery that was significantly better than the fertilized control at any time during the study. Turf quality yielded similar results with the Turf Restore being the only product to provide statistically significant better quality than the fertilized control for the entire duration of the study. No phytotoxicity was observed.

**Table 18. Necrotic Ring Spot 2004**

**Location: Hancock Turf Research Center, E. Lansing, MI.**

**Rating Scale: Percent recovery from initial disease rating on May 19.**

<b>Treatment and Rate/1000 sq ft</b>	<b>Interval (Days)</b>	<b>Mean<sup>a,b</sup></b>	<b>Mean<sup>a,b</sup></b>	<b>Mean<sup>a,b</sup></b>	<b>Mean<sup>a,b</sup></b>	<b>Mean<sup>a,b</sup></b>	<b>Mean<sup>a,b</sup></b>
<b>Rating Date</b>		<b>18-Jun</b>	<b>8-Jul</b>	<b>5-Aug</b>	<b>20-Aug</b>	<b>10-Sep</b>	<b>6-Oct</b>
Ringer Turf Restore 1 lb N/mo	28	16.3 ab	57.5 a	75.0 a	80.6 a	94.4 a	100.0 a
Insignia 0.9 oz	65 + 28	9.2 ab	28.3 bc	28.3 bc	36.7 b	50.0 b	61.25 b
Heritage 0.4 oz	65 + 28	18.8 a	36.5 ab	39.6 b	42.7 b	52.1 b	47.9 bc
Banner Maxx 4 fl oz	65 + 28	4.2 ab	19.8 b-d	29.0 bc	33.1 bc	44.8 bc	47.7 bc
Insignia 0.5 oz	65 + 28	5.0 ab	31.7 b	40.4 b	38.3 b	42.9 bc	43.3 bc
Fertilized control 1/2 lb N/mo	28	5.0 ab	16.1 b-d	26.1 bc	26.1 bc	37.5 bc	40.0 bc
Emerald 0.18 oz	65 + 28	3.6 ab	4.3 cd	7.1 cd	10.4 c	19.6 c	22.1 c
Unfertilized control	---	-1.3 b	-2.1 d	-2.1 d	-13.3 d	-23.8 d	-20.8 d

<sup>a</sup> Mean of 4 replicate plots.

<sup>b</sup> Treatment means followed by the same letter do not significantly differ (LSD,  $p=0.05$ ).

**Table 19. Necrotic Ring Spot Quality Ratings 2004**  
**Location: Hancock Turf Research Center, E. Lansing, MI.**  
**Rating Scale: 1-10, where 1=poor, 6=acceptable, and 10=best.**

Treatment and Rate/1000 sq ft	Interval (Days)	Mean <sup>a,b</sup>	Mean <sup>a,b</sup>	Mean <sup>a,b</sup>
		<b>8/20</b>	<b>9/10</b>	<b>10/6</b>
Ringer Turf Restore (10-2-6) 1 lb N/mo	28	7.0 a	8.3 a	8.0 a
Insignia 0.9 oz	65 + 28	6.3 b	6.8 b	7.0 b
Heritage 0.4 oz	65 + 28	6.3 b	6.5 b	7.0 b
Banner Maxx 4 fl oz	65 + 28	6.0 b	6.5 b	7.3 b
Insignia 0.5 oz	65 + 28	6.0 b	6.3 bc	6.8 b
Emerald 0.18 oz	65 + 28	6.0 b	5.8 cd	5.8 c
Fertilized control 1/2 lb N/mo	28	5.8 bc	5.5 de	5.8 c
Unfertilized control	---	5.3 c	5.0 e	5.0 c

<sup>a</sup> Mean of 4 replicate plots.

<sup>b</sup> Treatment means followed by the same letter do not significantly differ (LSD, p=0.05).

### Dollar Spot Timing Study

Two dollar spot timing studies were set up with fungicide treatments being made early in the season. They were conducted on an annual bluegrass/perennial ryegrass fairway (0.5" height of cut) and a creeping bentgrass green (0.150" height of cut). Both studies were set in randomized complete block designs and consisted of 4 replicate 2' x 6' plots with 1' alleys. Treatments were applied using a CO<sub>2</sub> backpack sprayer at 36 PSI and 2 gal/1000 sq ft using a single 8002E Tee Jet flat fan nozzle. Plots were fertilized as needed. Treatments were applied on the dates listed in Table 20. Plots were rated for percent area blighted by dollar spot (see Table 20.) Data were analyzed using ANOVA and means separated with LSD (p=0.05).

In the fairway study, disease pressure was good. The Emerald treatments applied 5 and 3 times throughout the study had little to no dollar spot though the August 20 rating date. All 3 of the Emerald treatments tested in this study and the Banner Maxx at 1.75 oz applied on May 15 and June 16 provided significant dollar spot control compared to the control though August 20. No phytotoxicity was observed in the study. Unfortunately, little to no disease developed in the study on the creeping bentgrass green so no data are available for that study.