Control of Helminthosporium Leaf Spot (Drechslera sp., Bipolaris, sp., etc.) in Cool-Season Turf with Medallion 2004

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Material and Methods:

This trial was conducted on a short cut (1.75 in.) rough along the number 3 fairway at the Washington State University Golf Course at Pullman, WA. The turf consisted mainly of Kentucky bluegrass with some perennial ryegrass and fineleaf fescue. The site was irrigated to prevent drought stress and was shaded by large silver maple trees. Individual treatment plots were 6 ft x 10 ft with three replications in a randomized complete-block design. An ANOVA using a repeated measures design was used to determine the significance of the average leaf spots over the duration of the study (Table 1). Fungicides were applied on 17 May, 1 Jun, and 14 Jun 2004. Applications were made with a bicycle-wheeled CO_2 pressurized sprayer with Teejet 11004VS flat fan nozzles at 40 psi. Spray rate was 88 GPA. Evaluations were made every 2 weeks after the first application (WAFT) date (17 May 2004). Three, 4 in^2 area counts (subsamples) were made in each plot then averaged to determine the number of leaf spots.

Results:

By 2 WAFT the Medallion + Daconil treatment that received one application only showed a significant reduction in the number of leaf spots compared to the other treatments (Table 1). In addition, all treatments had significantly less leaf spots compared to the non-treated control. Two weeks following the second application (4 WAFT) again there was a significant reduction in the number of leaf spots among all the treatments compared to the control. The Medallion + Daconil treatment resulted in the lowest number of leaf spots, a reduction of 82% compared to the control. Six WAFT and 2 weeks following the third and final fungicide application all fungicide treatments showed similar levels of control. Eight and 12 WAFT all fungicide treatments continue to provide good control compared to the check.

Overall, Medallion + Daconil provide good control as soon as 2 WAFT compared to the other fungicide treatments. In addition, 2 WAFT all treatments showed significant reductions in the number of leaf spots per unit area compared to the control, but it wasn't until 6 WAFT that the other fungicide treatments attained the same level of control as Medallion + Daconil. In addition, Medallion + Daconil provided the best control throughout the 12 weeks of the study. Increased rates of Medallion did not result in increased disease control. Daconil alone provided as good control as any of the Medallion treatments alone.

Table 1. Efficacy of Medallion at various rates to control Helminthosporium Leaf Spot (Drechslera sp., Bipolaris sp., etc.) on a Kentucky bluegrass/perennial ryegrass/fineleaf fescue irrigated rough mowed at 1.75" at the Washington State University Golf Course, Pullman, WA during summer 2004.

Fungicide treatment	Rate (oz/M)	2 WAFT Leaf Spots /4 in^2	4 WAFT Leaf Spots /4 in^2	6 WAFT Leaf Spots /4 in^2	8 WAFT Leaf Spots /4 in^2	12 WAFT Leaf Spots /4 in^2	Mean Leaf Spots /4 in^2
Non-treated control	0	38.8* d	35.3 c	21.8 b	18.0 c	12.2 b	25.2** c
Medallion	0.25	20.1 bc	12.4 b	4.2 a	3.8 ab	3.6 a	8.8 ab
Medallion	0.33	23.9 bc	9.9 ab	4.9 a	3.3 ab	4.6 a	9.3 ab
Medallion	0.5	18.3 b	11.2 b	5.7 a	3.2 ab	4.8 a	8.6 ab
Daconil Ultrex	3.2	26.3 c	12.2 b	7.3 a	5.9 b	5.9 a	11.5 b
Medallion + Daconil Ultrex	0.25 + 1.8	9.2 a	6.3 a	5.9 a	1.4 a	3.9 a	5.3 a

*Means within a column followed by the same letter are not significantly different (LSD *p=0.05*).

**ANOVA for number of leaf spots over the duration of the study was a Repeated Measures Design using LSD (*p=0.05*) to compare means.