

CREEPING BENTGRASS (*Agrostis stolonifera* 'Penneagle II')

Dollar spot; *Sclerotinia homoeocarpa*

Brown patch; *Rhizoctonia solani*

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Evaluation of fungicides for disease control on fairway height creeping bentgrass, 2014.

Fungicides were evaluated for preventative brown patch and dollar spot control at the University of Missouri Turfgrass Research Facility in Columbia, MO on 'Penneagle II' creeping bentgrass grown on a native soil (Mexico silt loam). Mowing was performed two times weekly at a height of 0.55-in. from 2 Apr to 19 Sep. Starting 16 May through 8 Aug, UMaxx® (47-0-0) at 0.375 lb N/1000 sq ft + Ferromec (10-2-4) + micros (0.015 lb N/1000 sq ft) was applied every three weeks. Plots were 5 ft × 5 ft and arranged in a randomized complete block design with four replications. Treatments were applied in water equivalent to 2 gal/1000 sq ft with a CO₂-powered sprayer at 26 psi using TeeJet 8008 nozzles. On 23 May, rye grain infested with the dollar spot pathogen was uniformly applied at a volume of 1.52-in.³ per plot using a small broadcast spreader and left on the turf surface for 3 days before mowing. Disease severity and turfgrass quality were assessed every 14 days from initial symptom development. Disease severity was assessed as a visual estimate of the percentage of plot displaying brown patch symptoms. Dollar spot incidence was based on the number of infection centers per plot. Turfgrass quality was evaluated using a 1 to 9 scale (9=best, 5=acceptable) based on color, density, and uniformity. Data were subjected to analysis of variance and means separation using Fisher's Protected LSD ($P=0.05$). To stabilize variance, disease severity data was square-root transformed for analysis and back-transformed for presentation.

From 9 May to 1 Aug, preventative fungicide applications were applied on either 21 or 28 day intervals. Dollar spot symptoms occurred on 23 May in the trial area. From 3 Jul to 1 Aug, dollar spot was suppressed in fungicide-treated plots compared to the untreated control. On 6 Jun, plots treated with Tartan, Mirage, and Lexicon Intrinsic on a 21 d interval had significantly less dollar spot infection centers than treatments applied on a 28 d interval. On most rating dates in Jun to Aug, treatments applied on 21 day intervals tended to exhibit numerically less dollar spot infection centers per plot than treatments applied on 28 day intervals. By 12 Sep, 6 weeks following the final application (WFFA), no statistical differences in dollar spot control were observed among fungicide treatments and the untreated control. Brown patch symptoms were observed from 3 Jul to 15 Aug. All treated plots had significantly less brown patch severity in August than the untreated control, but no differences were detected among treatments. From 6 Jun and 1 Aug, turfgrass quality tended to be higher in plots treated with Tartan, Mirage, and Lexicon Intrinsic on 21 day intervals than 28 day intervals, due to increased disease control. On many rating dates from Jun to Aug, turfgrass quality in plots treated on 28 day was unacceptable (< 5) due to dollar spot breakthrough. No phytotoxicity was observed following any application.