

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

Dollar spot; *Sclerotinia homoeocarpa*

Brown patch; *Rhizoctonia solani* AG2-2 IIIB

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Evaluation of multiple fungicide programs 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 on 16 May to 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 ($P=0.05$).

Five preventative fungicide programs (see table for application details) were initiated on 15 May and continued until 28 Aug, following either a 14, 21, or 28 day spray interval. Dollar spot was first observed on 29 May. From 29 May to 25 Sep, all program-treated plots had significantly less dollar spot infection centers per plot than untreated control. No significant differences in dollar spot control were noted among programs until 18 Sep, when plots treated with program 5 (final application 14 to 21 days earlier than other programs) had more infection centers than other programs. Brown patch symptoms were only observed on the 8 Aug rating date. All program treated plots had significantly less brown patch severity than the untreated control. From 29 May to 21 Aug, turfgrass quality remained above acceptable levels (>5) among all programs tested. On both 24 Jul and 21 Aug, turfgrass quality was lowest in program 4 compared to other programs tested due to dollar spot occurrence. By 18 Sep, plots treated with Program 5 had significantly lower turfgrass quality than program 2 due to higher incidence of dollar spot. No phytotoxicity was observed as a result of any fungicide application.