

CREEPING BENTGRASS (*Agrostis stolonifera* 'Penncross')

Dollar spot; *Sclerotinia homoeocarpa*

Brown patch; *Rhizoctonia solani* AG2-2 IIIB

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Dollar spot and brown patch control on creeping bentgrass putting greens with fungicide tank-mixes, 2015.

Fungicides were evaluated for disease control at the University of Missouri Turfgrass Research Facility in Columbia, MO on a 'Penncross' creeping bentgrass green. The green contained a 12-in. sand root zone over a drained subgrade. Mowing was performed at a height of 0.13-in., three and five times weekly from 2 Apr to 30 Apr and 1 May to 24 Sep, respectively. Nitrogen was applied at 0.375 lb N/1000 sq ft on 17 Apr. and every 3 wks at 0.39 lb N/1000 sq ft thereafter from 1 May to 24 Sep. Revolution® (6.0 fl oz/1000 sq ft) was applied every 28-d starting on 1 May. 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 28 psi using TeeJet 8008 flat fan nozzles. Dollar spot symptoms occurred in the trial area in early April before the trial was initiated. Therefore, Daconil Ultrex (3.25 oz/1000 sq ft) was applied on 17 Apr, and reapplied at a higher rate (5.0 oz/1000 sq ft) on 23 Apr and 1 May. Rye grain (*Secale cereale* L.) infested with the dollar spot and brown patch pathogens 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 on 22 May and 5 Jun, respectively. Following the brown patch inoculation, a clear 5 fl oz plastic cup was randomly placed over 6 to 10 rye grains within each plot, and left on the turf three days to encourage infection. Disease severity and turfgrass quality were assessed every 14-d from initial symptom development. Brown patch was assessed as a visual estimate of the percent symptomatic area and dollar spot was quantified as counts of infection centers per plot. Turfgrass quality was evaluated using a 1 to 9 scale (9=best, 6=acceptable) based on color, density, and uniformity. Data were subjected to analysis of variance and means separation using Fisher's Protected LSD test ($P=0.05$).

Fungicide applications were applied on 14-d intervals from 21 May through 27 Aug. Throughout the trial, all fungicide treatments provided significantly less dollar spot and brown patch severity, and greater turfgrass quality compared to the untreated control. Approximately one month after the last treatment date, plots treated with Appear + Velista had significantly less dollar spot than Appear + Secure. Brown patch was first observed on 18 Jun. Treatments of Appear + Velista and Appear + Heritage Action + Velista had significantly less brown patch severity than other treatments on 13 Aug and 10 Sep. Treatments of Appear + Velista and Appear + Heritage Action + Velista were the only treatments with acceptable turfgrass quality (≥ 6) from 4 Jun through 24 Sep. No phytotoxicity was observed as a result of any fungicide application.