Creeping Bentgrass (*Agrostis stolonifera* 'Penncross')
Brown patch; *Rhizoctonia solani*
Dollar spot; *Sclerotinia homoeocarpa*

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Evaluation of two fungicide programs for summer disease control on a creeping bentgrass putting green, 2015.

Fungicides were evaluated for disease control at the University of Missouri Turfgrass Research Facility in Columbia, MO on a 'Penncross' creeping bentgrass green. Mowing was performed at a height of 0.130 in. three and five times weekly from 2 Apr to 30 Apr and 1 May to 18 Sept, respectively. Nitrogen was first applied using NBN-30® (30-0-0) on 17 Apr at 0.375 lb N/1000 sq ft. Starting on 1 May – 2 Oct, NBN-30 (30-0-0) at 0.375 lb N/1000 sq ft + Ferromec ® micros (10-2-4) at 0.015 lb N/1000 sq ft was applied every three weeks. Revolution® (6.0 fl oz/1000 sq ft) was applied every 28 days starting on 1 May. Plots were 5 × 5 ft and arranged in a randomized complete block design with four replications. Treatments were applied in water equivalent to 2 gal per 1000 sq ft with a CO_2-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 April, and reapplied at a higher rate (5.0 oz/1000 sq ft) on 23 Apr and 1 May. On 22 May, rye grain infested with the brown patch pathogen was uniformly applied at 25 cc per plot using a small broadcast spreader across each plot. A clear plastic cup was randomly placed over 6-10 rye grains within each plot, and left on the turf for 3 d to encourage pathogen infection. Disease severity and turfgrass quality were assessed every 14 days from initial symptom development. Disease severity was assessed as a visual estimate of the percent symptomatic area and counts 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).

Two preventative fungicide programs (see table for application details) were applied from 19 May – 9 Sept, following a 14 d application interval. At the initial application, minimal dollar spot was observed within the trial area (<0.3% severity). From 4 Jun – 2 Oct, both programs had significantly less dollar spot severity than the untreated control. Throughout the season, no statistical differences in dollar spot control were noted between the two programs until 2 Oct. On 2 Oct, 3 weeks following the final application (WFFA), dollar spot counts were significantly lower in program 2 treated plots than program 1. Brown patch was first noted on 17 June within the trial area. Both programs had significantly less brown patch severity than the untreated control from 30 Jul – 9 Sept, and no control differences were observed between the two programs. Following multiple rainfall events from late Jul through early Sept, blue-green algae was observed in the trial area. From 28 Jul - 22 Sept, all program treated plots had significantly less algae incidence than the untreated control except on 25 Aug rating date. Copper spot symptoms were observed in the trial area from early Sept to Oct. Plots treated with both programs had significantly lower copper spot severity than the untreated control on both 22 Sept, and 2 Oct. Turf quality was significantly higher in treated plots than the untreated control for most of the rating period. No phytotoxicity was observed as a result of any fungicide application.