

Evaluation of multiple fungicides for curative dollar spot control on fairway height creeping bentgrass, 2015.

Fungicides were evaluated for disease control at the University of Missouri Turfgrass Research Facility in Columbia, MO on 'Crystal Blue Links' creeping bentgrass. The soil was a native Mexico silt loam soil. Mowing was performed at a height of 0.55-in., two times weekly from 2 Apr to 17 Jul. 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 2 Jul. Plots were 5 ft × 5 ft and arranged in a randomized complete block design with four replications. Treatments were applied in water equivalent to 1 gal/1000 sq ft with a CO₂-powered sprayer at 28 psi using TeeJet 8004 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. On 29 May, rye grain (*Secale cereale* L.) 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. Following the dollar spot 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. Dollar spot incidence 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 5 Jun when approximately 3 to 5% of the plot had dollar spot symptoms with approximately 25 to 30 infection centers per plot. Significant daily rain events (> 0.2-in) occurred at the site on 8 Jun, 12 Jun through 17 Jun, 26 Jun, 1 Jul, and 6 Jul through 8 Jul during the study period, totaling 9.89-in. of total precipitation. On 15 Jun, all treated plots had significantly less dollar spot incidence when compared to the untreated control. A single application of Daconil Ultrex provided the least amount of control 10-d following application, and was not different from the untreated control 20-d after application. On 25 Jun, Xzemplar- and Lexicon Intrinsic-treated plots had significantly less dollar spot infection centers than plots treated with Secure or Encartis. By 10 Jul, Xzemplar was the only treatment with lower dollar spot severity than the untreated control. Turfgrass quality was significantly greater in all treated plots. From 9 Jun to 10 Jul, all fungicide treatments provided significantly greater turfgrass quality when compared to the control except Daconil Ultrex on the 10 Jul rating date. On 15 Jun, turfgrass quality was significantly higher in plots treated with Xzemplar, Lexicon Intrinsic, and Secure when compared to Daconil Ultrex.