

## **Residual dollar spot control using preventative applications of Xzemplar, Emerald, Lexicon Intrinsic, and Concert II on fairway height creeping bentgrass, 2013.**

### Host:

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

### Target Disease/Pathogen:

Dollar spot; *Sclerotinia homoeocarpa*

Fungicides were evaluated for disease control at the University of Missouri Turfgrass Research Facility in Columbia, MO on 'Penneagle II' creeping bentgrass. Mowing was performed two times weekly at a height of 0.650 in. Nitrogen was applied using UMAXX™ (47-0-0) at 0.25 lb N/1000 sq ft + Knife Plus (12-0-0) at 0.01 lb N /1000 sq ft on 23 and 30 May. UMAXX™ (47-0-0) at 0.25 lb N/1000 sq ft + Ferromec (10-2-4) + micros at 0.01 lb N /1000 sq ft were applied every 2-3 weeks from 14 Jun to 2 Aug. Plots were 5 ft × 10 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<sub>2</sub> powered sprayer at 26 psi using TeeJet 8008 nozzles. On 13 May, rye grain (*Secale cereale* L.) infested with three isolates of *Sclerotinia homoeocarpa* was uniformly applied at a volume of 1.83 in<sup>3</sup> per plot using a small broadcast spreader. Inoculum was left on the turf surface for 2 days. 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).

Preventive applications of Xzemplar, Emerald, Lexicon Intrinsic, and Concert II were applied either once (7 May) or twice (7 May, 4 Jun) on a 28 d interval. Dollar spot symptoms were first observed in the trial area 21 days after initial application on 28 May. From 11 Jun to 2 Jul, no statistical difference was observed between plots treated with a single application of Lexicon Intrinsic and untreated control plots. Except for Lexicon Intrinsic, plots treated with single fungicide applications had statistically lower dollar spot severity than untreated plots, but were considered unacceptable (> 5 infection centers per plot) by 18 Jun. All treatments applied twice (AB - 28 d apart) had significantly lower dollar spot severity than the untreated control throughout the trial period. On 16 Jul, (six weeks after the final application) all plots receiving two fungicide applications had statistically lower dollar spot severity than the untreated control and plots receiving single fungicide applications. Throughout the trial period no significant differences in dollar spot control were observed among plots treated with two fungicide applications. Due to increased dollar spot control, turf quality in plots treated with single applications of Xzemplar, Emerald, and Concert II remained above acceptable levels ( $\geq 5$ ) two weeks longer than plots treated with a single application of Lexicon Intrinsic. All treatments with two applications had significantly higher turf quality than the untreated control during the disease period. No differences in turf quality were noted among treatments with two applications throughout the trial period except on 11 Jun rating date. On 11 Jun, plots treated with Lexicon Intrinsic had significantly higher turf quality than plots treated with Concert II and Xzemplar. No significant phytotoxicity was observed in treated plots.