ZOYSIAGRASS (*Zoysia japonica* 'Meyer')
Large Patch; *Rhizoctonia solani* AG2-2 LP

D. Earlywine and G.L. Miller
Division of Plant Science
University of Missouri
Columbia, MO 65211

Evaluation of multiple fungicides for large patch control on zoysiagrass, 2014-2015.

Fungicides were evaluated for control of large patch at the University of Missouri Turfgrass Research Facility in Columbia, MO on 'Meyer' zoysiagrass. The soil was a Mexico silt loam with a pH of 5.5. Mowing was performed two times weekly at a height of 0.75-in. No fertilizer applications were made during the trial period. Plots were 5 ft × 10 ft and arranged in a randomized complete block with four replications. Plots were inoculated on 30 Sep 14 by placing 1.52-in.^{3} of rye grain (*Secale cereale* L.) infested with *Rhizoctonia solani* AG2-2 LP in the center of each plot under a metal plate. Plates were removed on 14 Apr 15 and mycelial growth was noted within the turf canopy. Treatments were applied in water equivalent to 2.0 gal per 1000 sq ft with a CO_2-powered sprayer at 26 psi using TeeJet 8008 nozzles. Disease severity and turfgrass quality were assessed every 14 days from initial symptom development. Disease severity was assessed as a visual estimation of the percent symptomatic area within the 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 by Fisher's Protected LSD ($P = 0.05$).

On 3 Oct 14, minimal large patch severity (<1 %) was observed in the trial area with no difference among treatments. On 28 Apr, no significant differences in zoysiagrass percent green-up were noted among treated and untreated plots (48.8 to 52.5%). Large patch was first observed within the trial area on 28 Apr; however, no significant differences in large patch control were noted among treatments until 12 May. On 12 and 26 May, plots treated with Lexicon Intrinsic, Torque, and Heritage had significantly less large patch severity than Xzemplar treated plots. On 9 Jun, no significant differences in large patch control were noted among treated and untreated plots, however, plots treated with Lexicon Intrinsic, Torque, and Heritage still exhibited numerically less large patch severity (≤5.8%). On 12 May, plots treated with Lexicon Intrinsic and Heritage had significantly higher turfgrass quality than plots treated with Xzemplar and the untreated control. From 26 May through 9 Jun, plots treated with Xzemplar and the untreated control had unacceptable turfgrass quality (≤6) due to large patch damage.