

Preventive control of large patch on zoysiagrass with fall and spring fungicide applications, 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. 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 CO₂-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 ($P = 0.05$). To stabilize variance, disease severity data was square-root transformed for analysis (tables below show back-transformed values).

In early Oct 2014, minimal large patch severity (<0.8 %) was observed in the untreated control plots. No significant differences in zoysiagrass percent green-up were noted among treated and untreated plots (52.5 to 61.3%) on 14 Apr 15. Large patch was first observed within the trial area on Apr 28. From Apr 28 through Jun 23, all treated plots had significantly less large patch severity than the untreated control. During that same time period, no significant differences in large patch control were noted among fungicide treatments until the Jun 23 rating date. On Jun 23, large patch severity was significantly higher in plots treated in the fall with ProStar followed by Mirage. From May 26 through Jun 23, turfgrass quality remained above acceptable levels (>6) in all treated plots. On 23 Jun, turfgrass quality was significantly higher in all treated plots compared to plots treated in the fall with ProStar followed by Mirage due to large patch incidence. No phytotoxicity was observed as a result of any fungicide treatment.