



Dollar Spot Suppression Using ISK Biosciences® Fungicides

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OBJECTIVE

To determine the efficacy of ISK Biosciences® fungicides for controlling dollar spot caused by the fungus *Sclerotinia homoeocarpa* on creeping bentgrass.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility on a stand of creeping bentgrass (*Agrostis stolonifera* 'Penncross') maintained at 0.125 inches. Individual plots measured 3 feet by 10 feet and were arranged in a randomized complete block design with four replications. Treatments were applied at a nozzle pressure of 40 p.s.i. using a CO₂ pressurized boom sprayer equipped with two XR Teejet AI8004 nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft². All treatments were initiated on July 23rd and subsequent applications were made at 14 or 21-day intervals. The experimental area was inoculated with dollar spot-infested Kentucky bluegrass seed on July 23rd. Number of dollar spot foci and turfgrass quality (1-9, 9 being excellent, 6 acceptable, and 1 bare soil) were visually assessed every 2 weeks. Turf quality and disease severity were subjected to an analysis of variance and means separated using the Waller-Duncan test (P = 0.05). Results of disease severity and turfgrass quality ratings can be found in table 1 and 2, respectively.

RESULTS AND DISCUSSION

Dollar spot pressure was high throughout most of 2014, reaching extreme levels near the end of August as non-treated controls averaged 1000 foci per plot on the August 27th rating date. All treatments reduced dollar spot relative to the non-treated control on all three rating dates, with the most effective suppression being provided by the tank mixture of IB11171 and IB17256 applied on a 14-day interval and Banner MAXX II applied at a 14-day interval. Turfgrass quality generally mirrored disease severity ratings, with the highest quality provided by treatments 2 and 6. No treatment provided acceptable turf quality on the August 27th rating date. Phytotoxicity was not observed with any treatment.

Table 1. Mean number of dollar spots per treatment at the OJ Noer Turfgrass Research and Education Facility in Madison during 2014.

Treatment	Rate	Application Interval	Dollar Spot Severity ^a			
			Jul 31	Aug 13	Aug 27	
1	Non-treated control		325.8a	190.8a	1136.3a	
2	IB11171 IB17256	0.5 FL OZ/1000 FT2 0.0106 OZ WT/1000 FT2	14 Day	17.8c	19.0c	93.0c
3	IB11171 IB17256	0.5 FL OZ/1000 FT2 0.0106 OZ WT/1000 FT2	21 Day	16.8c	76.5b	900.8b
4	Secure	0.5 FL OZ/1000 FT2	14 Day	22.0c	25.0c	132.3c
5	Emerald	0.13 OZ/1000 FT2	14 Day	241.3ab	19.0c	181.0c
6	Banner MAXX II	2.0 FL OZ/1000 FT2	14 Day	105.5bc	5.8c	101.0c

^aDollar spot severity assessed as number of dollar spot infection centers per plot. Means followed by the same letter do not significantly differ (P=.05, Waller Duncan).

Table 2. Mean turfgrass quality per treatment at the OJ Noer Turfgrass Research and Education Facility in Madison, WI during 2014.

Treatment	Rate	Application Dates	Turfgrass Quality ^a			
			Jul 31	Aug 13	Aug 27	
1	Non-treated control		3.5c	4.5c	3.0b	
2	IB11171 IB17256	0.5 FL OZ/1000 FT2 0.0106 OZ WT/1000 FT2	14 Day	5.3a	6.0a	5.0a
3	IB11171 IB17256	0.5 FL OZ/1000 FT2 0.0106 OZ WT/1000 FT2	21 Day	5.0a	5.0bc	3.0b
4	Secure	0.5 FL OZ/1000 FT2	14 Day	5.3a	5.8ab	5.0a
5	Emerald	0.13 OZ/1000 FT2	14 Day	4.3b	5.5ab	5.0a
6	Banner MAXX II	2.0 FL OZ/1000 FT2	14 Day	5.0a	6.3a	5.3a

^aTurfgrass quality was rated visually on a 1 – 9 scale with 6 being acceptable. Means followed by the same letter do not significantly differ (P=.05, Waller Duncan).