



Resurgence of Dollar Spot After Fungicide Cessation on Fairways

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OBJECTIVE

To determine which fungicides cause a resurgence of dollar spot caused by the fungal pathogen *Clariireedia jacksonii* after fungicide applications have ceased.

MATERIALS AND METHODS

The study was conducted at the O. J. Noer Turfgrass Research and Education Facility on a stand of 'Pennncross' creeping bentgrass (*Agrostis stolonifera*) maintained at 0.5 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 psi using a CO₂-pressurized boom sprayer equipped with one Teejet AI9508EVS nozzle. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². All treatments were initiated on May 14, 2025, and subsequent applications were made at 14-, 21-, or 28-day intervals. The final application of all fungicide treatments was made in mid to late July. Number of dollar spot foci per plot and turfgrass quality (1-9, 9 being excellent, 6 acceptable, and 1 bare soil) were visually assessed every 2 weeks through the end of September. Turf quality and disease severity were subjected to an analysis of variance and means separated using Fisher's LSD ($P = 0.05$). Results of disease severity and turfgrass quality ratings can be found in Table 1 and 2, respectively. Area under the disease progress curve (AUDPC) and area under the turf quality curve (AUTQC) were calculated using the trapezoidal method and summarize the whole season disease severity and turf quality and are included in tables 1 and 2, respectively.

RESULTS AND DISCUSSION

Dollar spot pressure was very high throughout much of the summer with nontreated controls averaging 172 infection centers per plot on Sep 17. On the Sep 3 rating date, the nontreated control averaged 15 infection centers per plot, numerically less than every fungicide treatment. This suggests a faster recovery from dollar spot in the nontreated control after stopping fungicide applications. On the Sep 17 rating date, almost all the treatments were numerically higher than the nontreated control, indicating a possible 'resurgence' of dollar spot after fungicide treatments were stopped. Turf quality mirrored disease severity.

Table 1. Mean number of dollar spots per treatment at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2025.

Treatment	Rate	Application Interval	Application Code ^a	Dollar Spot Severity ^b July 23 rd	Dollar Spot Severity Sep 3 rd	Dollar Spot Severity Sep 17 th	Dollar Spot Severity AUDPC ^c
1 Nontreated Control				162.3a	15.3h	172.3d	8746.5ab
2 Daconil Weatherstik	5.5 fl oz/1000 ft ²	14 day	BDFHJL	26.5ef	89.8bcd	228.3a-d	5941.3cde
3 Fore Rainshield	8.0 oz/1000 ft ²	14 day	BDFHJL	122.3b	37.8fgh	211.0bcd	7995.8abc
4 26 GT	4.0 fl oz/1000 ft ²	14 day	BDFHJL	22.3ef	79.5c-f	181.3cd	4536.0e
5 Secure	0.5 fl oz/1000 ft ²	14 day	BDFHJL	5.5f	86.0cd	227.5a-d	4847.5de
6 3336F	4.0 fl oz/1000 ft ²	14 day	BDFHJL	89.8bc	76.8c-g	229.5a-d	8085.0abc
7 Banner Maxx	2.0 fl oz/1000 ft ²	14 day	BDFHJL	0.0f	94.0bc	252.3ab	5064.5de
8 Torque	1.1 fl oz/1000 ft ²	14 day	BDFHJL	5.0f	131.5ab	253.3ab	5740.0cde
9 Densicor	0.196 fl oz/1000 ft ²	14 day	BDFHJL	15.5ef	145.3a	282.8a	6756.8b-e
10 Heritage TL	2.0 fl oz/1000 ft ²	14 day	BDFHJL	43.3de	69.0c-g	247.3ab	5734.8cde
11 Insignia SC	0.7 fl oz/1000 ft ²	14 day	BDFHJL	21.5ef	73.0c-g	265.5ab	5829.3cde
12 Emerald	0.18 oz/1000 ft ²	28 day	BFJ	85.3c	44.0e-h	171.3d	7082.3bcd
13 Posterity	0.32 fl oz/1000 ft ²	28 day	BFJ	0.0f	82.3cde	217.8a-d	4466.0e
14 Xzemplar	0.26 fl oz/1000 ft ²	28 day	BFJ	68.8cd	48.3d-h	240.5abc	9541.0a
15 Kabuto	0.7 fl oz/1000 ft ²	21 day	BEHK	25.0ef	37.0gh	217.5bcd	5463.5de
LSD P=.05				36.2	41.78	65.01	2391.04

^aApplication code: B =May 14th, D = May 29th, E = June 5th, F = June 12th, H = June 26th, J = July 10th, K = July 17th, L = July 24th

^bDollar spot rated as number of dollar spot infection centers. Means followed by the same letter do not significantly differ (P=.05, Fisher's LSD).

^cArea under the disease progress curve (AUDPC) was calculated using the trapezoidal method.

Table 2. Mean turf quality ratings per treatment at fairway height at the OJ Noer Turfgrass Research Facility in Madison, WI during 2025.

Treatment	Rate	Application Interval	Application Code ^a	Turf Quality ^b July 23 rd	Turf Quality Sep 2 nd	Turf Quality Sep 16 th	Turf Quality AUTQC ^c
1 Nontreated Control				4.0g	6.0a	6.3a	598.8g
2 Daconil Weatherstik	5.5 fl oz/1000 ft2	14 day	BDFHJL	5.0de	5.0d	5.0d	622.8efg
3 Fore Rainshield	8.0 oz/1000 ft2	14 day	BDFHJL	4.3fg	6.0a	6.0ab	626.3efg
4 26 GT	4.0 fl oz/1000 ft2	14 day	BDFHJL	5.8bc	5.0d	5.5bcd	664.4bc
5 Secure	0.5 fl oz/1000 ft2	14 day	BDFHJL	6.3b	5.5bc	5.3cd	671.4bc
6 3336F	4.0 fl oz/1000 ft2	14 day	BDFHJL	4.8ef	5.3cd	5.8abc	609.6fg
7 Banner Maxx	2.0 fl oz/1000 ft2	14 day	BDFHJL	7.0a	5.8ab	5.5bcd	736.6a
8 Torque	1.1 fl oz/1000 ft2	14 day	BDFHJL	6.3b	5.0d	5.0d	657.3bcd
9 Densicor	0.196 fl oz/1000 ft2	14 day	BDFHJL	5.3cde	5.0d	5.0d	646.5cde
10 Heritage TL	2.0 fl oz/1000 ft2	14 day	BDFHJL	5.0de	5.0d	5.3cd	629.3def
11 Insignia SC	0.7 fl oz/1000 ft2	14 day	BDFHJL	5.5cd	5.0d	5.3cd	646.5cde
12 Emerald	0.18 oz/1000 ft2	28 day	BFJ	4.8ef	5.8ab	6.0ab	629.6def
13 Posterity	0.32 fl oz/1000 ft2	28 day	BFJ	7.0a	5.3cd	5.3cd	675.5b
14 Xzemplar	0.26 fl oz/1000 ft2	28 day	BFJ	5.0de	5.3cd	5.5bcd	620.3efg
15 Kabuto	0.7 fl oz/1000 ft2	21 day	BEHK	5.3cde	6.0a	5.8abc	649.1b-e
LSD P=.05				0.58	0.45	0.63	28.24

^aApplication code: B =May 14th, D = May 29th, E = June 5th, F = June 12th, H = June 26th, J = July 10th, K = July 17th, L = July 24th

^bTurfgrass 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, Fisher's LSD).

^cArea under the turfgrass quality curve (AUTQC) was calculated using the trapezoidal method.