

Evaluation of Fungicides for Control of Dollar Spot in Penncross Creeping Bentgrass - 1996

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Trials were conducted at the Turfgrass Research Area of Iowa State University's Horticulture Research Station north of Ames, Iowa. Fungicides were applied to Penncross creeping bentgrass maintained at 5/32-inch cutting height, using a modified bicycle sprayer at 30 psi and a dilution rate of 5 gal/1000 ft². The experimental design was a randomized complete block with four replications. All plots measured 4 ft x 5 ft.

After inoculation of the entire plot with pathogen-infested rye grain on June 10, spray applications began on June 18. Subsequent applications were made at specified intervals on July 2, 9, 16, and 30.

Dollar spot symptoms appeared in the plot within nine days after the first spray treatment. Disease development was moderate during July. On July 10, the only treatments that did not exhibit significantly (LSD, $P \leq 0.05$) fewer infection centers than the untreated control were AMV 53 WDG at 4 oz rate and Daconil Zn (6 fl oz) + Aliette 80 WDG (4 oz). On July 24, the only treatments that did not exhibit significantly fewer infection centers than the untreated control were AMV 53 WDG at 4, 6, and 8-oz rates, Rizolex 75 WP at 2.5 oz, Thalonil 4L at 6 fl oz, and two combination treatments: Chipco 26019 FLO (2 fl oz) + Heritage 50 WG (0.2 oz) and Chipco 26019 FLO (2 fl oz) + Daconil 2787 (3 fl oz). No phytotoxicity symptoms were observed during the trial.

Table 1. 1996 Dollar Spot Trial, Iowa State University Horticulture Research Station

Trt#	Company	Product	Rate per 1000 ft ²	Interval (days)	# of infection centers/plot		
					6/27	7/10	7/24
1	none	untreated check			36.8	62.8	115.5
2	AmVac	Amv 41 F	8 fl oz	14	8.3	10.3	17.0
3	AmVac	Amv 41 F	10 fl oz	14	25.8	12.5	19.3
4	AmVac	Amv 41 F	12 fl oz	14	12.8	7.5	14.3
5	AmVac	Amv 53 WDG	4 oz	14	41.3	37.5	110.0
6	AmVac	Amv 53 WDG	6 oz	14	32.5	30.8	67.5
7	AmVac	Amv 53 WDG	8 oz	14	31.3	20.0	76.3
8	AmVac	ParFlo 6 F	8 fl oz	14	7.5	11.5	49.0
9	Rhone-Poulenc	EXP 10702A 2 SC	4 fl oz	14	6.3	3.0	9.8
		+ Chipco Aliette WDG	4 oz				
10	Rhone-Poulenc	EXP 10715A 80 WG	4 oz	14	0.5	1.5	1.3
		+ EXP 10702A 2 SC	4 fl oz				
11	Rhone-Poulenc	Daconil Ultrex 82.5 WG	3 oz	14	10.0	5.8	10.8
		+ EXP 10715A 80 WG	4 oz				
12	Rhone-Poulenc	EXP 10715A 80 WG	4 oz	14	20.0	26.3	43.8
13	Rhone-Poulenc	Chipco 26019 FLO	4 fl oz	14	9.3	20.0	31.3
14	Sandoz	Sentinel 40 WG,	0.167 oz	14	8.8	1.5	3.3
		Daconil Ultrex 82.5 WDG ¹	3.8 oz				
15	Sandoz	Sentinel 40 WG	0.167 oz	21	3.8	2.8	3.0
		+ Rizolex 75 WP	2.5 oz				

Trt#	Company	Product	Rate per 1000 ft ²	Interval (days)	# of infection centers/plot		
					6/27	7/10	7/24
16	Sandoz	Sentinel 40 WG + Daconil Ultrex 82.5 WDG	0.167 oz 3.8 oz	21	5.5	1.8	2.5
17	Sandoz	Rizolex 75 WP	2.5 oz	14	43.8	32.3	65.5
18	Sandoz	Sentinel 40 WG	0.167 oz	21	6.3	1.8	1.5
19	Sandoz	Heritage 50 WDG	0.2 oz	14	22.5	8.8	47.5
20	Sandoz	Banner 1.24 MEC	1 fl oz	14	3.8	1.8	1.5
21	Terra	Thalonil 90 DF	3.5 oz	14	8.8	8.0	8.8
22	Terra	Thalonil 4 L	6 fl oz	14	27.5	30.3	75.8
23	Terra	TRA 0106	4 fl oz	14	14.3	6.5	27.5
24	Ciba Geigy	CGA-BMP WP	0.56 oz	21	4.8	1.8	2.3
25	Ciba Geigy	Banner Maxx	1 fl oz	21	9.5	7.8	1.3
26	Bayer	Lynx 25 DF	1 oz	28	6.3	8.0	1.8
27	Bayer	Lynx 250 EW	28.4 ml	28	5.3	3.0	2.5
28	Bayer	Bayleton 25 DF	1 oz	28	7.8	7.3	1.8
29	ISK Biotech	Daconil Ultrex	3.8 oz	14	16.3	8.3	11.5
30	ISK Biotech	Daconil Weather Stik	4.1 fl oz	14	4.5	2.5	6.3
31	ISK Biotech	Daconil Zn	6.0 fl oz	14	7.5	4.8	11.3
32	ISK Biotech	IB 11522	4.0 oz	14	9.3	5.0	13.8
33	ISK Biotech	IB 12231	4.7 oz	14	22.5	11.5	28.8
34	ISK Biotech	Daconil Ultrex + Aliette 80 WDG	3.8 oz 4.0 oz	14	4.3	1.8	4.8
35	ISK Biotech	Daconil Zn + Aliette 80 WDG	6.0 fl oz 4.0 oz	14	35.0	37.5	28.8
36	ISK Biotech	Daconil Ultrex + IB 10813	3.8 oz 0.5% v/v	14	5.0	5.3	1.3
37	Rhone-Poulenc	Chipco 26019 FLO + Banner 1.24 MEC	2.0 fl oz 0.5 fl oz	14	11.3	2.3	1.8
38	Rhone-Poulenc	Chipco 26019 FLO + Bayleton 25 % DF	2.0 fl oz 0.5 oz	14	3.0	4.0	3.3
39	Rhone-Poulenc	Chipco 26019 FLO + Cleary 3336 F	2.0 fl oz 1.0 fl oz	14	4.0	1.3	1.3
40	Rhone-Poulenc	Chipco 26019 FLO + Heritage 50 WG	2.0 fl oz 0.2 oz	14	13.0	2.8	58.8
41	Rhone-Poulenc	Chipco 26019 FLO + Daconil 2787	2.0 fl oz 3.0 fl oz	14	13.8	9.3	75.0
42	Rhone-Poulenc	Chipco 26019 FLO	4.0 fl oz	14	11.5	3.8	12.8
	MSE ²				412.2	373.6	1917.0
	LSD ³				28.1	26.8	60.7

¹ Sentinel + Daconil at first application date, Daconil alone at second application date, then repeat.

² Mean square error. df = 129. n = 4.

³ Least significant difference. $P \leq 0.05$.