

Anthracnose Fungicide Studies - 1981

Establishment

The 1981 anthracnose (Colletotrichum graminicola) fungicide studies were established in two locations, one at Glen Gary Country Club in Sylvania, OH (Tables 11 and 12), and the other on the Burroughs Farms Golf Course in Brighton, Michigan (Tables 13 and 14). Both studies were conducted on irrigated Poa annua (annual bluegrass) fairways mowed at 1/2" height of cut. Both studies were laid out in three replications of a random block design, utilizing 6' x 9' plots. All liquid applications were made with a CO₂ small-plot sprayer, while granular formulations were applied by hand. The urea fertilizer was applied as a tank mix with the appropriate fungicide.

The Glen Gary anthracnose study was applied preventatively on July 8, with subsequent treatments being applied as specified on the data chart. The disease rating was taken on August 5, following a severe disease outbreak in the plot area.

The Burroughs Farms anthracnose study was applied curatively on August 7, with subsequent treatments being applied as indicated on the data chart. The ratings were taken on August 28 and September 8.

Results

The Glen Gary study showed many fungicides that give effective management of anthracnose (Tables 11 and 12). Among these are the ergosterol inhibiting fungicides: Bayleton, CGA-64251, CGA-64250, Par Ex 64250, Par Ex 64251, the benzimidazole fungicides: Fungo 50, Cleary 3336, ProTurf Fertilizer + DSB fungicide and the contact fungicide Daconil 2787. The plots which received fungicides in combination with nitrogen fertilizer had better turf quality although there was no difference in disease incidence when compared to similar plots receiving the same fungicide treatment without nitrogen fertilizer.

No conclusions can be made from the curative anthracnose fungicides study at the Burroughs Farms location (Tables 13 and 14). It can be seen in the tables that all treatments began to recover including the untreated check due to environmental conditions.

Table 11. Glen Gary Anthracnose Fungicide Study - 1981.
Disease Rating - % plot area infected. Rated 8/5/81.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR
		I	II	III		
Bayleton + Urea	4 oz. + 1/2 lb. N ²	0	0	0	0	A
Bayleton + Urea	4 oz. + 1/2 lb. N ¹	0	0	0	0	A
Bayleton	4 oz. ¹	0	0	0	0	A
Bayleton	1 oz. ²	0	0	0	0	A
Bayleton	2 oz. ²	0	0	0	0	A
Bayleton	4 oz. ²	0	0	0	0	A
Bayleton WDG	2 oz. ¹	0	0	0	0	A
Bayleton WDG	4 oz. ¹	0	0	0	0	A
Bayleton WDG	2 oz. ²	0	0	0	0	A
Bayleton WDG	4 oz. ²	0	0	0	0	A
Bayleton + Urea	2 oz. + 1/2 lb. N ¹	0	2	0	.7	A
Bayleton + Urea	2 oz. + 1/2 lb. N ²	2	0	2	1.3	A
Bayleton + Urea	1 oz. + 1/2 lb. N ¹	0	5	2	2.3	AB
Bayleton WDG	1 oz. ²	5	2	0	2.3	AB
Bayleton	2 oz. ¹	0	2	10	4	ABC
CGA-64251	1 fl. oz. ³	0	10	2	4	ABC
Bayleton	1 oz. ¹	5	5	5	5	ABCD
ProTurf DSB	2X ⁴	10	0	10	6.7	ABCDE
CGA-64251	.5 fl. oz. ³	5	10	5	6.7	ABCDE
Par Ex + CGA-64251	.8 lb. N + 12 gm. ai. ³	10	10	0	6.7	ABCDE
CGA-64250	.16 fl. oz. ³	5	0	20	8.3	ABCDE
Par Ex + CGA-64251	.8 lb. N + 8 gm. ai. ³	5	10	10	8.3	ABCDE
Bayleton + Urea	1 oz. + 1/2 lb. N ²	15	5	5	8.3	ABCDE
CGA-64250	.32 fl. oz. ³	0	10	25	11.7	ABCDE
Bromosan FL	4 oz. ³	20	15	5	13.3	ABCDEF
Bayleton WDG	1 oz. ³	25	5	10	13.3	ABCDEF
Par Ex + CGA-64250	.8 lb. N + 12 gm. ai. ³	10	20	15	15	ABCDEF
Cleary 3336	1 oz. ³	15	5	25	15	ABCDEF
Daconil 2787 FL	3.75 qt./A. ²	10	10	35	18.3	BCDEF
BAS 43600	2 oz. ai. ²	25	20	15	20	CDEFGHI
Fungo 50	1 oz. ³	25	20	15	20	CDEFGHI
Duosan	3 oz. ¹	20	15	25	20	CDEFGHI
Daconil 2787 WDG	4.33 lb./A. ²	10	25	30	21.7	DEFGHIJ
Acti-dione TGF + Daconil 2787 WP	.34 oz. + .92 oz. ²	30	25	10	21.7	DEFGHIJ
Par Ex + CGA-64250	.8 lb. N + 8 gm. ai. ³	40	5	25	23.3	EFGHIJK
BAS 43600	1 oz. ai. ²	25	25	20	23.3	EFGHIJK
Daconil 2787 WDG	8 lb./A. ²	10	30	30	23.3	EFGHIJK
Daconil 2787 FL	7 qt./A. ²	15	30	45	30	FGHIJK
Acti-dione Thiram	2 oz. ²	20	30	40	30	FGHIJK
Daconil 2787 WP	.92 oz. ²	10	45	35	30	FGHIJK
EL 222	.125 lb. ai./A. ³	3	25	35	30	FGHIJK
EL 222	.25 lb. ai./A. ³	35	20	40	31.7	GHIJK
BAS 43600	.5 oz. ai. ²	30	30	35	31.7	GHIJK
Acti-dione TGF	.34 oz. ²	40	30	30	33.3	HIJKL
AD-RZ + AD-TGF	.55 oz. + .34 oz. ²	25	45	35	35	HIJKL
Acti-dione RZ	1.6 oz. ²	35	40	35	36.7	IJKL
Acti-dione TGF	.68 oz. ²	25	45	40	36.7	IJKL
Daconil 2787 WP	1.84 oz. ²	50	40	25	38.3	JKLM
Panasea	1 fl. oz. ³	50	30	40	40	KLM
EL 222	.5 lb. ai./A. ³	50	30	40	40	KLM
OAC 3890	2 oz. ³	60	50	35	48.3	LM
Check	—	35	50	75	53.3	M
OAC 3890	4 oz. ³	70	80	55	68.3	M

Treatments followed by the same letter are not significantly different from each other at the 5% level.

¹Treatments applied 7/8 only.

²Treatments applied 7/8 and 7/22.

³Treatments applied 7/8 and 7/29.

⁴Treatments applied 7/22 only.

Table 12. Glen Gary Anthracnose Fungicide Study - 1981.
Disease Rating - % plot area infected. Rated 8/11/81.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR
		I	II	III		
Bayleton + Urea	4 oz. + 1/2 lb. N ²	0	0	0	0	A
Bayleton + Urea	2 oz. + 1/2 lb. N ¹	0	0	0	0	A
Bayleton + Urea	4 oz. + 1/2 lb. N ¹	0	0	0	0	A
Bayleton	4 oz. ¹	0	0	0	0	A
Bayleton	2 oz. ²	0	0	0	0	A
Bayleton	4 oz. ²	0	0	0	0	A
Bayleton WDG	2 oz. ¹	0	0	0	0	A
Bayleton WDG	4 oz. ¹	0	0	0	0	A
Bayleton WDG	2 oz. ²	0	0	0	0	A
Bayleton WDG	4 oz. ²	0	0	0	0	A
Bayleton WDG	1 oz. ²	0	0	0	0	A
Par Ex + CGA-64251	.8 lb. N + 8 gm. ai. ³	0	0	2	.7	A
Par Ex + CGA-64251	.8 lb. N + 12 gm. ai. ³	2	0	0	.7	A
Bayleton + Urea	1 oz. + 1/2 lb. N ¹	2	0	2	1.3	A
CGA-64251	1 fl. oz. ³	2	2	0	1.3	A
Bayleton	1 oz. ²	0	0	5	1.7	AB
Bayleton + Urea	2 oz. + 1/2 lb. N ²	0	2	5	2.3	AB
Bayleton	2 oz. ¹	10	0	10	6.7	ABC
Bayleton	1 oz. ¹	5	10	0	8.3	ABC
CGA-64250	.16 fl. oz. ³	20	0	10	10	ABC
CGA-64250	.32 fl. oz. ³	2	0	20	10.7	ABC
Cleary 3336	1 oz. ³	0	0	30	10.7	ABC
Bayleton + Urea	1 oz. + 1/2 lb. N ²	10	30	30	13.3	ABCD
ProTurf DSB	2X ⁴	30	10	10	13.3	ABCD
Bromosan FL	4 fl. oz. ³	10	10	0	13.3	ABCD
CGA-64251	.5 fl oz. ³	30	10	5	15	ABCD
Daconil 2787 FL	3.75 qt./A. ²	10	0	30	16.7	ABCDE
BAS 43600	1 oz. ai. ²	40	10	2	17.3	ABCDE
Par Ex + CGA-64250	.8 lb. N + 8 gm. ai. ³	40	5	15	18.3	ABCDE
Fungo 50	1 oz. ³	30	30	15	18.3	ABCDE
Bayleton WDG	1 oz. ¹	30	5	20	18.3	ABCDE
Daconil 2787 WDG	4.33 lb./A. ²	10	30	20	20	ABCDEF
Daconil 2787 FL	7 qt./A. ²	5	40	20	21.7	ABCDEF
BAS 43600	2 oz. ai. ²	40	10	2	24	ABCDEFG
Par Ex + CGA-64250	.8 lb. N + 12 gm. ai. ³	35	30	5	26.7	BCDEFGH
BAS 43600	.5 oz. ai. ²	40	40	30	26.7	BCDEFGH
Duosan	3 oz. ¹	20	10	40	30	CDEFGHI
Daconil 2787 WDG	8 lb./A. ²	10	10	40	30	CDEFGHI
Panasea	1 fl. oz. ²	70	40	30	36.7	DEFGHIJ
EL 222	.5 lb. ai./A. ²	60	50	50	40	EFGHIJK
Acti-dione TGF + Daconil 2787 WP	.34 oz. + .92 oz. ²	50	50	30	40	EFGHIJK
EL 222	.25 lb. ai./A. ³	40	30	40	43.3	FGHIJK
Acti-dione TGF	.34 oz. ²	50	70	40	46.7	GHIJK
EL 222	.125 lb. ai./A. ³	60	60	60	50	HIJKL
Acti-dione TGF	.68 oz. ²	30	70	60	53.3	IJKLM
Daconil 2787 WP	1.84 oz. ²	60	60	40	53.3	IJKLM
Daconil 2787 WP	.92 oz. ²	40	70	60	56.7	JKLM
Acti-dione Thiram	2 oz. ²	60	60	60	60	JKLM
Acti-dione dione RZ	1.6 oz. ²	60	80	50	63.3	KLM
Acti-dione RZ+ Acti-dione TGF	.55 oz. + .34 oz. ²	60	70	60	63.3	KLM
OAC 3890	2 oz. ³	80	80	60	73.3	LM
Check	—	70	80	70	73.3	LM
OAC 3890	4 oz. ³	90	90	50	76.7	M

Treatments followed by the same letter are not significantly different from each other at the 5% level.

¹Treatments applied 7/8 only.

²Treatments applied 7/8 and 7/22.

³Treatments applied 7/8 and 7/29.

⁴Treatments applied 7/22 only.

Table 13. Burroughs Farms - Anthracnose Fungicide Study - 1981.
Disease Rating - % plot area infected. Rated 8/28/81.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR
		I	II	III		
ProTurf DSB	2X ²	1	2	2	1.7	A
Bayleton + Urea	1 oz. + 1/2 lb. N ²	1	4	1	2	AB
Bayleton + Urea	1 oz. + 1/2 lb. N ¹	1	4	2	2.3	ABC
Bayleton	4 oz. ¹	2	4	1	2.3	ABC
CGA-64251	.5 fl. oz. ³	1	4	2	2.3	ABC
Bayleton WDG	1 oz. ¹	3	3	1	2.3	ABC
Bayleton + Urea	4 oz. + 1/2 lb. N ²	2	5	1	2.7	ABC
Bayleton + Urea	4 oz. + 1/2 lb. N ¹	2	5	1	2.7	ABC
Bayleton	1 oz. ²	2	4	2	2.7	ABC
EL 222	.5 lb. ai./A. ³	3	5	1	3	ABC
Bayleton + Urea	2 oz. + 1/2 lb. N ²	2	5	2	3	ABC
Bayleton	4 oz. ²	2	5	2	3	ABC
Bromosan FL	4 oz. ³	3	4	2	3	ABC
Bayleton	2 oz. ²	1	6	3	3.3	ABC
CGA-64251	.32 fl. oz. ³	3	4	3	3.3	ABC
Daconil 2787 FL	7 qt./A. ²	2	6	2	3.3	ABC
Daconil 2787 WDG	4.33 lb./A. ²	3	4	3	3.3	ABC
EL 222	.25 lb. ai./A. ³	4	5	2	3.7	ABC
Acti-dione RZ	1.6 oz. ²	3	6	2	3.7	ABC
Bayleton WDG	2 oz. ²	5	3	3	3.7	ABC
EL 222	.125 lb. ai./A. ³	4	6	2	4	ABC
OAC 3890	2 oz. ³	3	8	1	4	ABC
Cleary 3336	1 oz. ³	2	5	5	4	ABC
Acti-dione TGF + Daconil 2787 WP	.34 oz. + .92 oz. ²	4	6	2	4	ABC
Bayleton	1 oz. ¹	3	5	5	4.3	ABC
Par Ex + CGA-64251	.8 lbs. N + 8 gm. ai. ³	5	6	2	4.3	ABC
Par Ex + CGA-64251	.8 lbs. N + 12 gm. ai. ³	4	8	1	4.3	ABC
Par Ex + CGA-64250	.8 lbs. N + 8 gm. ai. ³	5	6	2	4.3	ABC
OAC 3890	4 oz. ³	5	5	3	4.3	ABC
Fungo 50	1 oz. ³	2	6	5	4.3	ABC
Daconil 2787 WP	1.84 oz. ²	3	4	6	4.3	ABC
BAS 43600	1 oz. ai. ²	5	5	3	4.3	ABC
Daconil 2787 WDG	8 lbs./A. ²	5	6	2	4.3	ABC
Bayleton WDG	2 oz. ¹	2	5	6	4.3	ABC
Bayleton + Urea	2 oz. + 1/2 lb. N ¹	1	6	7	4.7	ABC
Acti-dione + TGF	.34 oz. ³	5	3	6	4.7	ABC
Acti-dione + TGF	.68 oz. ²	4	6	4	4.7	ABC
Daconil 2787 FL	3.75 qt./A. ²	5	5	4	4.7	ABC
Check	--	7	5	2	4.7	ABC
Bayleton WDG	4 oz. ¹	6	7	1	4.7	ABC
Bayleton WDG	4 oz. ²	3	5	6	4.7	ABC
CGA-64251	1 fl. oz. ³	4	6	5	5	ABC
Par Ex + CGA-64250	.8 lb. N + 12 gm. ai. ³	1	6	8	5	ABC
Daconil 2787 WP	.92 oz. ²	5	3	7	5	ABC
Acti-dione RZ + Acti-dione TGF	.55 oz. + .34 oz. ²	2	7	6	5	ABC
BAS 43600	2 oz. ai. ²	6	7	2	5	ABC
Bayleton	2 oz. ²	3	7	6	5.3	BC
CGA-64250	.16 fl. oz. ²	3	6	7	5.3	BC
Acti-dione Thiram	2 oz. ²	5	4	7	5.3	BC
Bayleton WDG	1 oz. ²	7	4	5	5.3	BC
BAS 43600	.5 oz. ai. ²	5	4	8	5.7	C
Panasea	1 fl. oz. ²	5	9	3	5.7	C

Treatments followed by the same letter are not significantly different from each other at the 5% level.

¹Treatments applied 8/7 only.

²Treatments applied 8/7 and 8/18.

³Treatments applied 8/7 and 8/28.

Table 14. Burroughs Farms - Anthracnose Fungicide Study - 1981.
Disease Rating - % plot area infected. Rated 9/8/81.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR
		I	II	III		
Bayleton WDG	1 oz. ¹	1	1	1	1	A
Bayleton	4 oz. ¹	1	1	1	1	A
ProTurf DSB	2X ³	1	1	1	1	A
Cleary 3336	1 oz. ³	1	1	1	1	A
Bayleton WDG	2 oz. ²	1	1	1	1	A
EL 222	.5 lb. ai./A ³	1	2	1	1.3	AB
Bayleton + Urea	1 oz. + 1/2 lb. N ²	1	2	1	1.3	AB
Bayleton + Urea	2 oz. + 1/2 lb. N ²	1	2	1	1.3	AB
Bayleton + Urea	4 oz. + 1/2 lb. N ²	1	2	1	1.3	AB
Bayleton + Urea	1 oz. + 1/2 lb. N ¹	1	2	1	1.3	AB
Bayleton + Urea	4 oz. + 1/2 lb. N ¹	1	2	1	1.3	AB
Bayleton	1 oz. ²	1	2	1	1.3	AB
Bayleton	2 oz. ²	1	2	1	1.3	AB
Bayleton	4 oz. ²	1	2	1	1.3	AB
CGA-64251	.5 fl. oz. ³	1	2	1	1.3	AB
Bromosan FL	4 oz. ³	1	2	1	1.3	AB
Bayleton WDG	2 oz. ¹	1	1	2	1.3	AB
Bayleton + Urea	2 oz. + 1/2 lb. N ¹	1	2	2	1.7	AB
CGA-64250	.32 fl. oz. ³	1	2	2	1.7	AB
Fungo 50	1 oz. ³	1	3	1	1.7	AB
Acti-dione TGF	.68 oz. ²	1	2	2	1.7	AB
Daconil 2787 FL	.92 oz. ²	2	1	2	1.7	AB
BAS 43600	1 oz. ai. ²	2	2	1	1.7	AB
Daconil 2787 FL	3.75 qt./A. ²	2	2	1	1.7	AB
Daconil 2787 WDG	4.33 lb./A. ²	2	2	1	1.7	AB
Daconil 2787 WDG	8 lb./A. ²	2	2	1	1.7	AB
Bayleton WDG	1 oz. ²	3	1	1	1.7	AB
Bayleton WDG	4 oz. ²	1	3	1	1.7	AB
EL 222	.125 lb. ai./A. ³	2	3	1	2	AB
EL 222	.25 lb. ai./A. ³	2	3	1	2	AB
Bayleton	1 oz. ¹	2	2	2	2	AB
CGA-64251	1 fl. oz. ³	1	3	2	2	AB
CGA-64250	.16 fl. oz. ³	2	2	2	2	AB
Par Ex + CGA-64250	.8 lb. N + .8 gm. ai. ³	2	2	2	2	AB
OAC-3890	4 oz. ³	2	3	1	2	AB
Acti-dione TGF	.34 oz. ²	2	2	2	2	AB
Daconil 2787 WP	1.84 oz. ²	2	2	2	2	AB
Acti-dione TGF + Daconil 2787 WP	.34 oz. + .92 oz. ²	3	2	1	2	AB
Acti-dione RZ	1.6 oz. ²	1	3	2	2	AB
Acti-dione RZ + Acti-dione TGF	.55 oz. + .34 oz. ²	1	3	2	2	AB
Acti-dione Thiram	2 oz. ²	2	2	2	2	AB
Daconil 2787 FL	7 qt./A. ¹	1	3	2	2	AB
Bayleton WDG	4 oz. ¹	2	3	1	2	AB
Par Ex + CGA-64251	.8 lb. N + 8 gm. ai. ³	2	2	2	2	AB
Bayleton	2 oz. ¹	2	3	2	2.3	AB
Par Ex + CGA-64251	.8 lb. N + 12 gm. ai. ³	2	5	1	2.7	AB
Par Ex + CGA-64250	.8 lb. N + 12 gm. ai. ³	1	4	3	2.7	AB
BAS 43600	.5 oz. ai. ²	2	1	5	2.7	AB
BAS 43600	2 oz. ai. ²	3	4	1	2.7	AB
Check	---	5	2	1	2.7	AB
OAC 3890	2 oz. ³	1	6	2	3	B
Panasea	1 oz. ²	2	6	1	3	B

Treatments followed by the same letter are not significantly different from each other at the 5% level.

¹Treatments applied 8/7 only.

²Treatments applied 8/7 and 8/18.

³Treatments applied 8/7 and 8/28.