

## Helminthosporium (Melting-Out) Fungicide Studies - 1981

### Establishment

The 1981 Helminthosporium melting-out (Helminthosporium vagans) fungicide study was conducted at the MSU Soils Research Farm on Park Kentucky bluegrass maintained at a 1 1/2" height of cut. Fungicides were applied at various intervals as indicated in the data chart. All treatments were applied with a CO<sub>2</sub> small-plot sprayer at a volume of 40 gal/acre.

The study was divided into two parts, one consisting of the usual three replications of a random block design and the other consisting of four replications of the same experimental plot design. The plots were 3' x 6' in size.

The plots were read on May 29, 1981 (Tables 2 and 3).

A second Helminthosporium melting-out (Helminthosporium vagans) study was conducted on an irrigated, Baron Kentucky bluegrass fairway at the Hartland Glen Golf Course in Hartland, MI. The study was laid out in three replications of a random block design utilizing a plot size of 6' x 9'. Treatments were applied on April 30, May 18 and May 28, except as noted on the data chart. A CO<sub>2</sub> small plot sprayer was used to apply the treatments at a volume of 40 gal/acre. All granular materials were pre-weighed and applied by hand.

The plots were rated for disease on June 2 (Table 4).

### Results

Study A, MSU Crop and Soil Science Field Lab (Table 2). The fungicides giving the best management of Helminthosporium melting-out in order of ranking were Chipco 26019 at the 2 oz. rate at both 14- and 28-day intervals, BASF 43600 at 1, 2 and .5 oz ai applied every two weeks, Daconil 2787 fl. 2 oz. every 10 days, Actidione RZ .55 oz. every 21 days, CGA 64251 4 gm ai every 14 days, Daconil 2787 fl. 6 oz. at 10- and 14-day intervals and Actidione RZ .55 oz. applied only once. Chipco 26019 at the 2 oz. rate gave excellent disease control even at a 28-day interval. The 2 oz. rate of Daconil on a 10-day basis gave the same level of management of Helminthosporium melting-out as the 6 oz. rate applied on a 14-day schedule, as previously seen in Sclerotinia dollar spot fungicide trials. One early treatment of Actidione RZ at the .55 oz. rate in 3 gals of water gave good management of Helminthosporium melting-out for the duration of the experiment.

Study B, MSU Crop and Soil Science Field Lab (Table 3). EL 222 appears to have little efficacy against H. vagans. It was compatible with Daconil 2787 and could be used in a tank mix for broader disease management.

Table 2. Helminthosporium Melting-Out Fungicide Study - 1981. MSU Crop and Soils Research Farm. Rating 1 (no disease) - 9 (90% or greater infection). 5/29/81.

Treatment	Rate/1000 ft <sup>2</sup>	Replication			AVE	DMR
		I	II	III		
Chipco 26019	2 oz. <sup>4</sup>	1	1	1	1	A
Chipco 26019	2 oz. <sup>2</sup>	1	1	1	1	A
BAS 43600	1 oz. ai. <sup>2</sup>	1	1	2	1.3	A
BAS 43600	2 oz. ai. <sup>2</sup>	1	1	2	1.3	A
BAS 43600	.5 oz. ai. <sup>2</sup>	2	1	2	1.7	AB
Daconil 2787 Fl.	2 fl. oz. <sup>1</sup>	5	1	1	2.3	ABC
Acti-dione RZ	.55 oz. - 2 gal. H <sub>2</sub> O <sup>3</sup>	3	2	3	2.7	ABC
CGA 64251	4 gm. ai. <sup>2</sup>	2	5	3	3.3	ABCD
Daconil 2787 Fl.	6 fl. oz. <sup>1</sup>	4	2	5	3.7	ABCD
Daconil 2787 Fl.	6 fl. oz. <sup>2</sup>	3	4	4	3.7	ABCD
Acti-dione RZ	.55 oz. - 3 gal. H <sub>2</sub> O (1 applic. only)	3	3	5	3.7	ABCD
Acti-dione RZ	.55 oz. - 1 gal. H <sub>2</sub> O <sup>3</sup>	3	5	3	3.7	ABCD
Daconil 2787 Fl.	4 fl. oz. <sup>2</sup>	3f	4	6	4.3	BCD
Acti-dione RZ	.55 oz. - 1 gal. H <sub>2</sub> O (1 applic. only)	2	7	4	4.3	BCD
Acti-dione RZ	1.1 oz. - 1 gal. H <sub>2</sub> O (1 applic. only)	3	7	3	4.3	BCD
Daconil 2787 Fl.	6 fl. oz. <sup>1</sup> (interval and rate adjustable)	6	4	4	4.7	CD
Acti-dione RZ	1.1 oz. - 3 gal. H <sub>2</sub> O (1 applic. only)	6	5	3	4.7	CD
Daconil 2787 Fl.	4 fl. oz. <sup>1</sup>	3	5	7	5	CDE
Daconil 2787 Fl.	2 fl. oz. <sup>2</sup>	3	5	7	5	CDE
CGA-64251	8 gm. ai. <sup>2</sup>	7	2	7	5.3	CDE
Daconil 2787 Fl.	3 fl. oz. <sup>1</sup> (interval and rate adjustable)	7	7	5	6.3	DE
Control		8	8	7	7.7	E

Treatments followed by the same letter are not significantly different from others at the 5% level of significance.

<sup>1</sup>All 10 day interval treatments applied 4/21, 5/1, 5/12, 4/22.

<sup>2</sup>All 14 day interval treatments applied 4/21, 5/5, 5/19.

<sup>3</sup>All 21 day interval treatments applied 4/21, 5/12.

<sup>4</sup>All 28 day interval treatments applied 4/21, 5/19.

Table 3. Helminthosporium Melting-Out Fungicide Study - 1981. MSU Crops and Soils Research Farm. Rating 1 (no disease) - 9 (90% infection or greater). 5/29/81.

Treatment	Rate/Acre	Replication				AVE	DMR
		I	II	III	IV		
E1 222 + Daconil 2787 (WP)	.25 lb. ai./A. + 8 lb. ai./A.	3	5	3	3	3.5	A
Daconil 2787 (WP)	8 lb. ai./A.	3	4	6	3	3.8	AB
Daconil 2787 (WP)	4 lb. ai./A.	5	4	4	4	4	ABC
E1 222 + Daconil 2787 (WP)	.125 lb. ai./A. + 8 lb. ai./A.	5	4	7	2	4.3	ABC
E1 222 + Daconil 2787 (WP)	.125 lb. ai./A. + 2 lb. ai./A.	4	5	4	6	4.8	ABCD
E1 222 + Daconil 2787 (WP)	.25 lb. ai./A. + 4 lb. ai./A.	2	6	8	3	4.8	ABCD
E1 222 + Daconil 2787 (WP)	.5 lb. ai./A. + 4 lb. ai./A.	2	6	8	3	4.8	ABCD
E1 222	.125 lb. ai./A.	3	6	7	4	5	ABCD
E1 222 + Daconil 2787 (WP)	.125 lb. ai./A. + 4 lb. ai./A.	4	7	3	6	5	ABCD
E1 222 + Daconil 2787 (WP)	.25 lb. ai./A. + 2 lb. ai./A.	3	7	4	6	5	ABCD
E1 222 + Daconil 2787 (WP)	.5 lb. ai./A. + 8 lb. ai./A.	4	6	3	7	5	ABCD
Daconil 2787 (WP)	2 lb. ai./A.	6	7	5	4	5.5	ABCD
E1 222 + Daconil 2787 (WP)	.5 lb. ai./A. + 2 lb. ai./A.	7	3	8	4	5.5	ABCD
Control	---	7	8	6	5	6.5	BCD
E1 222	.5 lb. ai./A.	7	6	7	7	6.8	CD
E1 222	.25 lb. ai./A.	4	9	8	8	7.3	D

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

Note: All treatments applied 4/21, 5/5, 5/19.

Table 4. Hartland Helminthosporium Melting-Out Fungicide Study - 1981.  
 Rating 1 (no disease) - 9 (90% infection or greater). Rated 6/2/81.

Treatment	Rate/1000 ft <sup>2</sup>	Replication			AVE	DMR
		I	II	III		
Chipco 26019 <sup>1</sup>	2 oz.	3	2	2	2.3	A
CGA 55100 <sup>2</sup>	28 gm. ai.	2	2	3	2.3	A
Par Ex (18-4-16) + CGA-64251 <sup>3</sup>	12 gm. ai.	3	4	2	3	A
CGA 55100 <sup>2</sup>	22 gm. ai.	5	2	2	3	A
Par Ex (18-4-6) + CGA-64251 <sup>3</sup>	8 gm. ai.	3	5	3	3.7	A
Check	---	6	6	5	5.7	B

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

<sup>1</sup>Applied 4/30, 5/18, 5/28.

<sup>2</sup>Applied 4/30, 5/18.

<sup>3</sup>Applied 4/30, 5/28.

#### Results

Hartland Glen Golf Course (Table 4). The CGA 55100 applications at the 22 + 28 gm. ai. rates and CGA 64251 at the 8 + 12 gm. ai. rates applied in combination with a Par Ex fertilizer blend gave excellent management of Helminthosporium melting-out compared to the standard Chipco 26019 and the untreated control. The Par Ex fertilizer was applied at a rate of .8 lb. of actual nitrogen/1000 sq ft/application.