

1978 Apple Scab and Cedar Apple Rust Infection Periods
Hudson Valley Laboratory, Highland, New York

D. A. Rosenberger, F. W. Meyer, and C. V. Cecilia

Spray date	McIntosh growth stage	Date	Wetting Period		Mean temp (°F)	Anticipated Scab severity		Cedar Apple rust inf. period
			Rain (in.)	Duration (hr.)		Primary	Secondary	
April 18	Green Tip ^{21/0}	Apr 19-20	1.32	33	47		S	
April 22	1/2" Green ^{Apr. 21 26/5}							
April 28	Early TC ^{38/5}							
May 8	Early Pink ^{47/2}	May 4-6	0.79	33.5	46		S	
		May 8-10	.66	36 ^{12+18 hr. dry period}	58		S	YES
May 16	Full Bloom; 5-6 term. lvs. ^{May 18 51/28}	May 14-15	1.59	19 ^{15.5 hr drying}	53		M	YES
		May 16-19	1.90	77	57		S	YES
May 22	PF; 10-11 term. lvs. ^{May 26 44/43}	May 24-25	1.99	29	63		S	YES
May 30	3/8" fruit; 14-16 term. lvs.	May 31- June 1	6.93 ^{New Paltz last 8.2" during this per. normal in 2.1 to 5.6}	16.5	68		S	YES
		June 3-4	0.91	22	65		S	YES

June 5 ^{34/56}

10 primary inf. periods, all severe but 2 m according to Miller but 1st 2 were light to moderate or nonexistent.
13 secondary inf periods then May 1.

Spray date	McIntosh growth stage	Wetting Period			Mean temp (°F)	Anticipated Scab severity		Cedar Apple Rust Inf. period
		Date	Rain (in.)	Duration (hr.)		Primary	Secondary	
June 7	3/4" fruit; 15-18 term. lvs.	June 7-8	0.76	17	75	S	S	YES
		June 9	0.63	6	61		L	
June 16	1.25" fruit; 17-20 term. lvs.	June 13	0.15	11	52		L	YES
		June 21-22	0.93	15.5	75	M	S	YES
July 6	1.75" fruit; 20-24 term. lvs.	July 4	0.99	16.5	56		S	YES
		July 14-15	0.23	17.5	69		S	
		July 17	0.23	6	69		L	
July 24		July 23-24	0.07	6.5	73		L	
		July 27-28	0.21	12	70		S	
		July 29-30	0.05	8.5	75		M	
		July 31- August 1	0.21 <u>1.99</u>	17	67		S	
		August 3-4	0.26	17	71		S	
		August 5-7	1.72	41	74		S	
		August 7-8	0.90	14.5	74		S	
August 10		August 12	0.38	6.5			L	
		August 24-26	1.04	40	71		S	

June 14 22/73

3.38

June 21 15/84

END OF PRIMARY SCAB

Hudson Valley Laboratory Orchard - East Block
1978 Field Fungicide Trial Plots



M Gr RD C	S GD RB ¹ Em	5	RD C	Em S	RD C	Em S	M Gr RD C	2	Em ¹ GD RB GD	M Gr RD C	5	M Gr RD C	S GD RB ¹ Em
Gr RD C	Em ¹ GD RB GD	4	C M Gr RD	GD RB ¹ Em ¹ Id	C M Gr RD	7	Gr RD C	3	Em ¹ GD RB S	Gr RD C	8	Gr RD C	Em ¹ GD RB S
M Gr RD C	S GD RB ¹ Em	1	RD C	GD ¹ Em ¹ GD RB	RD C	2	M Gr RD C	10	RB GD RB ¹ Em	M Gr RD C	3	M Gr RD C	Em ¹ GD RB S
Gr RD C	Em ¹ GD RB GD	10	C M Gr RD	GD RB ¹ Em ¹ Id	C M Gr RD	11	Gr RD C	8	S GD RB ¹ Em	Gr RD C	4	Gr RD C	S GD RB ¹ Em
M Gr RD C	S GD RB ¹ Em	6	RD C	Em S	RD C	5	M Gr RD C	9	Em ¹ GD RB Mu	M Gr RD C	11	M Gr RD C	S GD RB ¹ Em
Gr RD C	Em ¹ GD RB S	2	Em M Gr RD	GD RB C	C M Gr RD	4	Gr RD C	6	S ¹ GD ¹ RB S	Gr RD C	9	Gr RD C	Em ¹ GD RB S

ROAD

C - Cortland Em - Empire GD - Golden Delicious Id - Idared M - McIntosh
 Mu - Mutsu RB - Rome Beauty RD - Red Delicious S - Spy

¹ Recently grafted trees.

Results of 1978 Fungicide Field Trials
 Hudson Valley Laboratory, Highland, New York
 D. A. Rosenberger, F. W. Meyer, and C. V. Cecilia

No.	Treatment ¹ and rate/100 gals.	APPLE SCAB			
		% cluster lvs. infected on McIntosh ²	% terminal leaves infected ³		
			McIntosh	Cortland	
1.	Check	3.6 b	82.0 e	88.1 c	
2.	Benlate 50W (2 oz.) + Manzate 200 80W (1 lb.)	0 a	3.9 ab	4.2 ab	
3.	Captan 50W (2 lb.)	0 a	2.8 ab	2.1 ab	
4.	CME 74770 18.2EC (10 fl. oz.)	0 a	2.3 ab	4.6 ab	
5.	Difolatan 4F (3 qt.) April 26 Benlate 50W (3 oz.) + THAT 52% (12 fl. oz.) June 7 Benlate 50W (2 oz.) + THAT 52% (12 fl. oz.) 3rd-5th cover	0 a	17.9 d	8.0 b	
6.	Difolatan 4F (3 qt.) April 18 Benlate 50W (2 oz.) + Dichlone 50WP (2 oz.) Pink-5th cover	0 a	0.1 a	0.6 a	
7.	CME 74770 18.2EC (6 fl. oz.) + Glyodin 30% (1 pt.)	0 a	2.0 ab	1.2 ab	
8.	Magnetic 95 Wettable Sulfur (5 lb. thru 2nd cover) (4 lb. 3rd-5th cover)	0 a	13.0 cd	5.1 ab	
9.	THAT Flowable Sulfur 52% (3 pts.)	0.1 a	6.8 bc	5.0 ab	
10.	THAT Flowable Sulfur 52% (2 pts.) + Captan 50W (1 lb.)	0 a	3.0 ab	2.7 ab	
11.	THAT Flowable Sulfur 52% (2 pts.) + Benlate 50W (2 oz.)	0.1 a	4.6 bc	1.3 ab	
12.	Super-Six 52% (2 pts.)	0 a	5.1 bc	5.1 ab	

between 1/2 + E.T.C.

*7.7% on last
5 cluster lvs.*

¹Fungicides were applied as dilute sprays with a handgun on April 22, 28, May 8, 16, 22, 30, June 7, 16, July 6, 24, and August 10, except for variations in treatments 5 and 6 noted in the table. Other sprays: Fruitone-N 3.5W at 5 ppm on McIntosh, 10 ppm on Cortland and Rome, 15 ppm on Golden Delicious (June 1); Cygon 400 8 fl. oz. + Plictran 50W 3.5 oz. (June 30).

²Data collected from 20 clusters/replicate (3 single-tree reps) on June 20.

³Data collected from all leaves on 20 terminals/replicate (3 single-tree reps) on August 22, 1978.

The small letters indicate Duncan's multiple range groupings of treatment which do not differ significantly at the 5% level.

Results of 1978 Fungicide Field Trials
Hudson Valley Laboratory, Highland, New York
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Galls in baskets
May 3
May 15
May 30

No.	Treatment ¹ and rate/100 gals.	CEDAR APPLE RUST					
		% cluster lvs. infected on Rome ²		% terminal leaves infected ³			
				Rome		Golden Del.	
1.	Check	42.0	d	66.8	f	58.2	f
2.	Benlate 50W (2 oz.) + Manzate 200 80W (1 lb.)	0	a	0.3	a	0.1	a
3.	Captan 50W (2 lb.)	8.3	bc	18.2	cd	8.5	bc
4.	CME 74770 18.2EC (10 fl. oz.)	0.3	a	24.1	cd	22.3	de
5.	Difolatan 4F (3 qt.) April 26 Benlate 50W (3 oz.) + THAT 52% (12 fl. oz.) June 7 Benlate 50W (2 oz.) + THAT 52% (12 fl. oz.) 3rd-5th cover	37.5	d	61.3	f	53.1	f
6.	Difolatan 4F (3 qt.) April 18 Benlate 50W (2 oz.) + Dichlone 50WP (2 oz.) Pink-5th cover	20.3	c	35.7	e	24.6	de
7.	CME 74770 18.2EC (6 fl. oz.) + Glyodin 30% (1 pt.)	0	a	18.7	cd	15.7	cd
8.	Magnetic 95 Wettable Sulfur (5 lb. thru 2nd cover) (4 lb. 3rd-5th cover)	17.9	c	39.3	e	31.6	e
9.	THAT Flowable Sulfur 52% (3 pts.)	1.0	a	25.0	d	15.7	cd
10.	THAT Flowable Sulfur 52% (2 pts.) + Captan 50W (1 lb.)	3.5	ab	11.3	b	4.6	b
11.	THAT Flowable Sulfur 52% (2 pts.) + Benlate 50W (2 oz.)	3.3	ab	35.7	e	29.2	e
12.	Super-Six 52% (2 pts.)	0.1	a	16.5	bc	15.8	cd

¹Fungicides were applied as dilute sprays with a handgun on April 22, 28, May 8, 16, 22, 30, June 7, 16, July 6, 24, and August 10, except for variations in treatments 5 and 6 noted in the table. Other sprays: Fruitone-N 3.5W at 5 ppm on McIntosh, 10 ppm on Cortland and Rome, 15 ppm on Golden Delicious (June 1); Cygon 400 8 fl. oz. + Plictran 50W 3.5 oz. (June 30).

²Data collected from 20 clusters/replicate (3 single-tree reps) on June 20.

³Data collected from all leaves on 20 terminals/replicate (3 single-tree reps) on July 12, 1978.

The small letters indicate Duncan's multiple range groupings of treatment which do not differ significantly at the 5% level.

Results of 1978 Field Fungicide Trials
Grand Prize Prunes, Peter Sturges Farm, Red Hook, New York

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D.A. Rosenberger, F. W. Meyer, and C. V. Cecilia

No.	Treatment and rate/100 gals. ¹	Spray dates	% fruit with latent brown rot ²	No. of black knots/20 terminals ³
1.	Check		77.2 b	67.6 c
2.	Dithane Z-78 75W (2 lb.)	<i>Beadburst</i> 4/25, 5/4	14.5 a	3.6 a
	Dithane Z-78 75W (1 lb.) + Captan 50W (1 lb.)	<i>Green cluster</i> 5/11, 5/18, 5/26, 6/5		
	Captan 50W (2 lb.)	8/8, 8/17, 8/24		
3.	Benlate 50W (2 oz.) + Dithane Z-78 (1 lb.)	4/25, 5/4	5.6 a	2.8 a
	Benlate 50W (4 oz.) + Dithane Z-78 75W (1 lb.) + Captan 50W (1 lb.)	5/11, 5/18, 5/26, 6/5		
	Benlate 50W (4 oz.) + Captan 50W (1 lb.)	8/8, 8/17, 8/24		
4.	Benlate 50W (4 oz.)	4/25, 5/4	19.1 a	33.0 b
	Benlate 50W (8 oz.)	5/11, 5/18, 5/26, 6/5, 8/8, 8/17, 8/24		
5.	Difolatan 4F (1 qt.)	5/11, 5/18, 5/26, 6/5, 8/8, 8/17	1.6 a	16.8 a
6.	Difolatan 4F (3 qt.)	4/25	61.3 b	36.2 b
	Benlate 50W (4 oz.) + Captan 50W (1 lb.) + Glyodin 30% (1 pt.)	8/18, 8/17, 8/24		

The small letters indicate Duncan's multiple range groupings of treatments which do not differ significantly at the 5% level.

¹Other sprays included Imidan 50W (1.5 lb.) on 5/26 and 6/6, Imidan 50W (1 lb.) on 6/15, Imidan 50W (1 lb.) + Plictran (4 oz.) on 7/7 and 8/8.

²Latent brown rot infections were evaluated by incubating 15 fruits per replicate (5 single-tree replicates) at room temperature for 9 days and counting the number of fruit developing brown rot. Fruit were picked 7/7 and were soaked in 1% chlorox for 2 min prior to incubation.

³Black knot infections on 20 terminals per replicate were counted August 24.