

1974 APPLE SCAB INFECTION PERIODS
 HUDSON VALLEY LAB., HIGHLAND, N.Y.

<u>Date</u>	<u>Severity of Infection Anticipated</u>	<u>McIntosh Growth Stage</u>
Apr. 13-15	light (?)	1/4-1/2 ^m Green
Apr. 30-May 1	moderate	full pink
May 3-4	light	bloom; 4-5 term lvs.
May 9-10	moderate	petal fall; 6-8 term. lvs.
May 12-13	moderate-heavy	8-10 term. lvs.
May 23-25	heavy	12-13 term. lvs.
May 29-30	heavy	13-14 term. lvs.
May 31-June 1	moderate	
June 3-4	moderate	14 ¹ -16 term lvs.
June 12-13	moderate	18-20 term. lvs.
June 16-17*	heavy	
June 21-22	heavy	
June 24-26	heavy	22-25 term. lvs.
June 29	moderate	
June 30-July 1	moderate	
July 14-15	moderate	Terminal bud set
July 24-25	heavy	
July 26	light	
July 26-27	moderate	
July 28-29	heavy	
July 30	moderate	
Aug. 3-4	heavy	
Aug. 4	moderate	

* End of primary scab.

RESULTS OF 1974 FIELD FUNGICIDE TESTS
 HUDSON VALLEY LABORATORY, HIGHLAND, N.Y.
 R.C. PEARSON

Treatment & No. Rate/100 Gal.	%Diseased Leaves on Terminals ¹				%Leaf Area Infected ²		Phytotox %leaf area ⁶		
	Apple Scab ³ Mac.	Cort.	Cedar Apple Rust ⁴ G. Del.	Rome	Powdery Mildew ⁵ Mac.	Cort.			
1. DPX-10 50W 4.0 oz.....	0 a	0.4a	23.8	f	31.7	ef	0.3abc	2.0ab	0.21a
2. DPX-10 50W 2.0 oz. + Superior 70° Oil 1.0 qt. 0 a	0 a	0 a	15.3	def	17.8	d	0.1ab	0.9a	3.2 b
3. DPX-112 80W 1.0 lb.....	0 a	0.2a	0.5a		0.4ab		1.2 bc	1.9ab	0 a
4. S-15126 50W 6.0 oz.....	33.2 b	38.6 b	7.8	cd	4.6	c	2.2 cd	4.1abc	0 a
5. S-15126 50W 12.0 oz.....	51.4 b	53.4	c	5.7 bc	3.2abc		0.9abc	1.4a	0.01a
6. Ceta W524 (FMC 28221) 20 EC 10.0 oz.....	0.2a	0 a	0.5a		0.2ab		1.3 bc	14.8 bc	0.05a
7. Captan 50W 2.0 lb.....	0.3a	0 a	4.2 bc		3.7 bc		10.7	e	20.1 c
8. Manzate 200 80W 2.0 lb..	0.2a	0 a	0.4a		0.1a		5.8	de	10.3abc
9. Benlate 50W 2.0 oz. + Superior 70° Oil 1.0 qt. 0 a	0 a	0 a	20.1	ef	27.9	ef	0 a	0.7a	5.9 b
10. Untreated.....	38.2 b	33.2 b	35.9	g	37.8	f	8.1	e	70 d

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

Based on observation of all leaves on each of 15 terminals/replicate (4 single tree reps.)
 Based on Barratt-Horsfall ratings of the 5 youngest leaves (excluding the terminal leaf) on each of 15 terminals/replicate (4 single tree reps.).

Scab data collected July 22, 1974.
 Cedar Apple rust data collected July 17, 1974.
 Powdery mildew data collected July 23, 1974.

Phytotoxicity data based on Barratt-Horsfall ratings of all leaves on each of 10 terminals/rep.
 Fungicides were applied as dilute sprays at 550 psi by hand gun on April 18, (1/4-1/2" green), 25 (tight

luster), May 2 (full pink), 11 (petal fall), 16, 22, 30, June 6, 13, 27, July 9, and 29. Guthion (1/2 lb/100

gal) applied on May 28. No acaricide was used.

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Results of 1974 Field Fungicide Tests
Hudson Valley Laboratory, Highland, N.Y.
R.C. Pearson

Treatment & Rate/100 Gal.	%Fruit Affected ¹				
	Apple Scab Mac. Cort.	Rome	Fruit Russet on Golden Del. None	Mild	Severe
DPX-10 50W 4.0 oz.....	0a	0a	0a	54 bc	46 bc 0a
DPX-10 50W 2.0 oz. + Superior 70° Oil 1.0 qt.....	0a	0a	0a	34ab	62 cd 3 bc
DPX-112 80W 1.0 lb.....	0a	0a	0a	83 d	17a 0a
S-15126 50W 6.0 oz.....	53 b	65 c	35 b	38ab	62 cd 0a
S-15126 50W 12.0 oz.....	66 b	58 bc	30 b	46 bc	52 bcd 1ab
Cela W524 (FMC 28221) 20 EC 10.0 oz.....	0a	0a	0a	50 bc	50 bc 0a
Captan 50W 2.0 lb.....	0a	0a	0a	69 cd	31ab 0a
Manzate 200 80W 2.0 lb.....	0a	0a	0a	67 cd	33ab 0a
Benlate 50W 2.0 oz. + Superior 70° Oil 1.0 qt.....	0a	0a	0a	19a	73 d 7 cd
Untreated.....	64 b	43 b	38 b	20a	64 cd 14 d

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

- 1 Based on observation of 100 fruit/replicate (4 single tree reps.)
- 2 McIntosh fruit harvested September 16, 1974.
- 3 Cortland fruit harvested September 17, 1974.
- 4 Rome fruit harvested October 7, 1974.
- 5 Golden Delicious harvested October 3, 1974.

Results of 1974 Field Fungicide Tests
Hudson Valley Laboratory, Highland, N.Y.
R.C. Pearson

Treatment & Rate/100	% Fruit Affected ¹								
	Moldy Core Cort. 2	Red Del. 3	Cedar Apple Rust Golden Del. 4	Rome 5	Fly Speck Golden Del.	Sooty Blotch Golden Del.			
DPX-10 50W 4.0 oz.....	69	d	49ab	17	d	21	e	0a	0a
DPX-10 50W 2.0 oz. + Superior 70° Oil 1.0 qt....	50	bc	37ab	8	c	28	e	0a	0a
DPX-112 80W 1.0 lb.....	45abc	*	53 b	0	a	0a		0a	0a
S-15126 50W 6.0 oz.....	33a		26a	0.7ab		6	cd	0a	3a
S-15126 50W 12.0 oz.....	52	c	37ab	0.4ab		3	bc	0a	1a
Cela W524 (FMC) 28221) 20 EC 10.0 oz.....	46abc		43ab	0	a	0a		1a	0a
Captan 50W 2.0 lb.....	47	bc	41ab	0	a	1ab		0a	0a
Manzate 200 80W 2.0 lb.....	44abc		53 b	0	a	0a		0a	0a
Benlate 50W 2.0 oz. + Superior 70° Oil 1.0 qt....	52	c	56 b	2	b	12	d	0a	0a
Untreated.....	36ab		26a	10	c	31	e	27 b	59 b

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- 1 Cedar Apple Rust, Fly Speck and Sooty Blotch data based on observation of 100 fruit/replicate. Moldy core data based on observation of 50 fruit/rep. in Cortlands and 25 fruit/rep. in Red Delicious (4 single tree reps.).
- 2 Cortland fruit harvested September 17, 1974.
- 3 Red Delicious fruit harvested September 26, 1974.
- 4 Golden Delicious fruit harvested October 3, 1974.
- 5 Rome fruit harvested October 7, 1974.

RESULTS OF 1974 FIELD FUNGICIDE TESTS
 HUDSON VALLEY LAB., HIGHLAND, N.Y.
 R.C. PEARSON AND R.W. WEIRES

	European Red Mite				Two Spotted Mite				Predator Mites	
	7/16/74 Nymphs ¹	Eggs ²	8/20/74 Nymphs	Eggs	7/16/74 Nymphs	Eggs	8/20/74 Nymphs	Eggs	7/16/74 Nymphs	8/20/74 Nymphs
1. DPX-10 50W 4.0 oz.....	23.7	30.7	8.3	23.3	0.7	2.0	1.3	3.0	0	0.7
2. DPX-10 50W 2.0 oz. + Superior 70° Oil 1.0 qt.....	0	0	0.3	4.3	1.7	0	3.0	1.0	0.7	0.3
3. DPX-112 80W 1.0 lb.....	3.3	1.3	3.7	3.7	1.0	2.0	8.0	2.7	0.3	0.7
4. S-15126 50W 6.0 oz.....	0.7	0	0.3	4.7	0	0	0	0	0	2.3
5. S-15126 50W 12.0 oz.....	0	0	0	0	0	0	0	0	0	1.0
6. Cella W524 (FMC 28221) 20 EC 10.0 oz.....	0	0	0	0.3	0.3	0	0.3	0.3	1.3	21.0
7. Captan 50W 2.0 lb.....	21.3	17.7	0	2.3	2.7	2.0	0	0.3	15.7	29.7
8. Manzate 200 80W 2.0 lb.....	4.3	1.7	2.7	3.0	8.7	12.3	0.3	0.3	3.0	1.7
9. Benlate 50W 2.0 oz. + Superior 70° Oil 1.0 qt.....	0	0	1.0	6.3	0	0	0.7	1.7	0.3	3.7
10. Untreated.....	0	0.3	1.7	0.3	3.0	0	0.7	1.3	29.3	34.0

¹Number of nymphs/25 Red Delicious leaves/replicate (3 single tree reps).

²Number of eggs/25 Red Delicious leaves/replicate (3 single tree reps).

1974 Fungicide Application Schedule
 Golden Delicious Apples at Stoneridge, N.Y.
 Hudson Valley Laboratory, Highland, N.Y.
 R. C. Pearson

No. Treatment ²	Pink			Bloom			Date of Application ¹						
	4/29	5/1	5/2	5/8	5/14	5/15	5/16	1 Wk. Post Bloom	2 Wk. Post Bloom	3 Wk. Post Bloom			
								5/24	5/28	6/4	6/5	6/13	6/14
1. Dithane M-45	X			X	X				X			X	
2. Dithane M-45		X						X				X	
3. Dithane M-45			X		X							X	
4. Dithane M-45							X						X
5. Cela W 524		X			X		X			X			
6. Cela W 524			X					X				X	
7. Cela W 524				X		X							X
8. Cela W 524						X				X			
9. Cela W 524							X					X	
10. Untreated													

¹ April 17, 1974 Difolatan 4F (5qts./100 gal.) applied over all treatments.
 June 5, 1974 Captan 80W (1 lb./100 gal.), Systox (1 pt./100 gal), Guthion (1/2 lb/100 gal.) applied over all treatments.
 June 8, 1974 Cyprex 65W (3/8 lb./100 gal.) applied over all treatments.
 June 20, 1974 Captan 80W (1 lb./100 gal.) applied over all treatments.

² Dithane M45 80W 1 1/2 lb./100 gal. and Cela W524 (FMC 28221) 20 EC 1 pt./100 gal. applied dilute by hand gun at 550 psi.

RESULTS OF 1974 FIELD FUNGICIDE TESTS ON GOLDEN DELICIOUS
Hudson Valley Laboratory, Highland, N.Y.
R.C. Pearson

No. Treatments	% Leaf Area Infected (CAR) 1		Cedar Apple Rust	% Diseased Fruit 2			Sooty Blotch
	Total 3 Lesions	Normal 4 Lesions		Quince Rust	Fly Speck		
1. DM45-P ⁵ (2); B ⁶ ; 1, 2, 3PB	0.5a	0.5ab	1 abc	0 a	0.4a	0 a	
2. DM45-P; 1, 3PB	4.3 cd	4.3 de	2 bc	0 a	14 ab	0.5ab	
3. DM45-P; B; 3PB	1.8 b	1.8 bc	4 c	0 a	13 ab	0 a	
4. DM45-B; 2PB	5.1 d	5.1 e	26 d	4 b	39 b	4 abc	
5. CW524-P(2); B; 1, 2, 3PB	2.2 bc	0.3a	0 a	0 a	84 c	5 abcd	
6. CW524-P; 1, 3PB	2.4 bc	1.4 bc	2 bc	0.1a	94 c	9 bcde	
7. CW524-P; B; 3PB	3.7 bcd	2.6 cd'	1 abc	0 a	91 c	20 de	
8. CW524-B; 2PB	2.6 bc	1.2abc	4 c	0.1a	94 c	16 cde	
9. CW524-B; 1, 2PB	3.3 bcd	0.8ab	0.1ab	0 a	76 c	8 bcde	
10. Untreated	16.2 e	16.2 f	21 d	6 b	86 c	21 e	

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

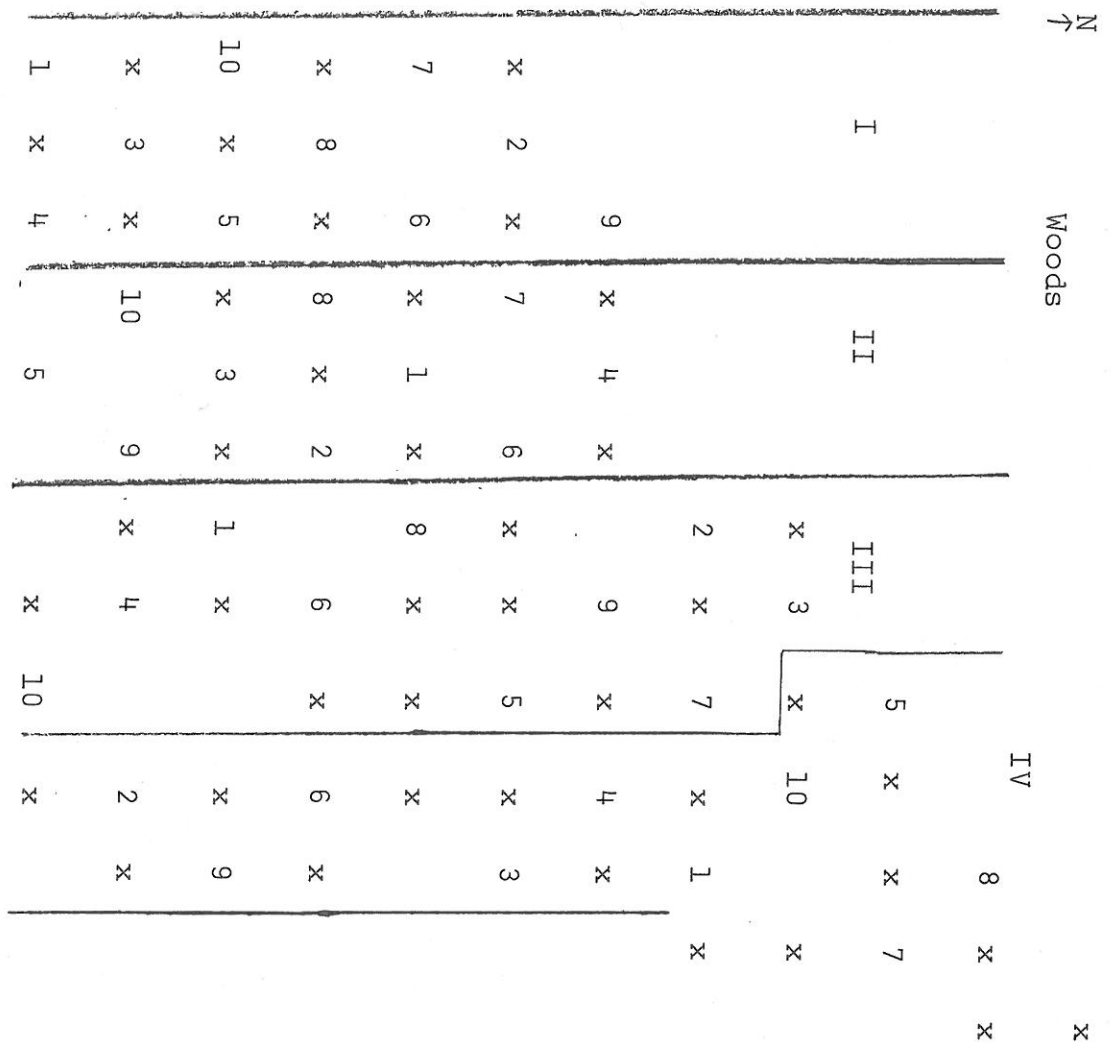
- 1 %leaf area infected with cedar-apple rust determined by Barratt-Horsfall ratings of all leaves on a minimum of 20 terminals/rep. (4 single tree reps/treatment)
- 2 Based on 100 fruit/replication.
- 3 %leaf area covered with "total lesions" (normal lesions + abnormal lesions).
- 4 %leaf area covered with normal lesions.
- 5 P=pink; 6B=bloom; 71, 2, 3PB=lwk, 2wk, 3wks post bloom.

1974 FUNGICIDE APPLICATION SCHEDULE IN CEDAR
 APPLE RUST POST-INFECTION CONTROL STUDY
 ULSTER COUNTY COMMUNITY COLLEGE, STONERIDGE, N.Y.

Infection Period	Fungicide Applied	G. Del Growth Stage	Treatment and Tag Color ^a									
			Dithane M45					Cela W524				
			1b	2c	3d	4e	5b	6c	7d	8e	9f	10
4/30-5/1	4/29	1/2" gr.	red				red					
	5/1	4-6 term		red				red				
	5/2				red				red			
5/3-5/4	5/8	pink	-g				-g					
5/9-5/10												
5/12-5/13	5/14	8-11 term	yellow		yellow		yellow		yellow			yellow
	5/15				yellow				yellow			
	5/16	9-11 term									yellow	
5/23-5/25	5/24	10-13 term	yellow				yellow					yellow
	5/28	11-14 term	white				white				white	
5/29-5/30												
5/31-6/1												
6/3-6/4	6/4	14-15 term	red				red					red
	6/5											
6/12-6/13	6/13	16-17 term	white		white		white		white			white
	6/14		white						white			

^aTags placed immediately preceding youngest unfolded leaf at time of fungicide application.
^bFungicide applied on a weekly schedule.
^{c,d,e,f}Fungicide applied 1,2,3, and 4 days respectively after an infection period.

^gFungicide applied but terminals not tagged.



Color Code

- 1 - white
- 2 - red
- 3 - blue
- 4 - yellow
- 5 - orange
- 6 - pink
- 7 - red stripe
- 8 - yellow stripe
- 9 - orange stripe
- 10 - blue stripe

Parking Lot

College Drive

Parking Lot

x = untreated buffer trees

RESULTS OF 1974 FIELD FUNGICIDE TESTS FOR POST-INFECTION
CONTROL OF CEDAR APPLE RUST ON GOLDEN DELICIOUS
HUDSON VALLEY LAB., HIGHLAND, N.Y.
R.C. PEARSON

Treatment	% Leaf Area Infected ¹ and Infection Date									
	4/30-5/1		5/12-5/13		5/23-5/24		5/31-6/1		6/12-6/13	
	Total ²	Normal ³	Total	Normal	Total	Normal	Total	Normal	Total	Normal
1. Dithane M45 ⁴ Weekly..	0.1a	0.1a			0.8a	0.8a	0.6a	0.6a	0.2a	0.2a
2. Dithane M45 1-day post infection.....	1.4 bc	1.4 c			5.0a	5.0a			0.9a	0.9a
3. Dithane M45 2-day post infection.....	0.4ab	0.4ab	2.0a	2.0ab					0.9a	0.9a
4. Dithane M45 3-day post infection.....			6.3a	6.3 b			1.0a	1.0a		
5. Cela W524 ⁵ Weekly ..	0.8abc	0.2ab			2.2a	0.3a	2.0a	0.3a	0.4a	0.0a
6. Cela W524 1-day post infection.....	5.5 d	3.1 d			0.8a	0.4a			0.3a	0.1a
7. Cela W524 2-day post infection.....	2.2 c	0.7 bc	3.6a	2.1ab					2.0a	1.2a
8. Cela W524 3-day post infection.....			3.0a	1.4ab			1.9a	0.8a		
9. Cela W524 4-day post infection.....			4.6a	0.7a	1.5a	0.3a	0.8a	0.4a		
0. Untreated.....	14.8	e 14.8	e 26.9 b	26.9 c	20.6 b	20.6 b	5.5a	5.5 b	5.7 b	5.7 b

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

¹Based on Barratt-Horsfall ratings of the two youngest leaves exposed during the indicated infection date.
 Data collected July 25, 1974.
²leaf area covered with "total lesions (normal lesions + abnormal lesions)"
³leaf area covered with normal lesions.
⁴Dithane M45 80W at 1 1/2 lbs. /100 gal.
⁵Cela W524 (FMC 28221) 20EC 1 pt./100 gal.