## NOT FOR PUBLICATION

# FRUIT INSECT AND MITE CONTROL STUDIES IN EASTERN NEW YORK DURING 1982

- R. W. Weires
- J. R. VanKirk
- B. R. Wilson
  - D. Dyer

New York State Agricultural Experiment Station
Hudson Valley Laboratory
Highland, NY 12528

CONTENTS														. 1	P	AGE N	0.
Materials tested		•			•			•				٠				. 1	
Weather Data - Peru		•			•	•		•				•				. 2	4
Apple, EUP Trials - Glencoe Mills Peru Marlboro Clintondale		٠	•	•						•	•	•		•	•	. 7	10
Apple, tarnished plant bug contro Marlboro Walden		•	•		•	•		•	•	•	•	•			•	. 8	++51 +-1 -1 -1 -1 -1 -1 -1 -1
Apple Insect Control - Highland			•	•		٠	•	•		•	٠	•	•			.14-	16
Apple Insect Control - Highland Early Season			•	•				•	•		·		•	•		.17-	20
Apple Mite Control - Insecticides	s,	Hi	gł	la	nc	i	•	•	•	•	٠	٠				.21,	22
Apple Mite Control - Seasonal, Hi	i gh	nla	nc					•	•	•			•	•	•	.23,	24

### Materials Tested

Advantage 4EC Ambush 2E Carzol 92SP Cymbush 3EC Dylox 80SP FCR 1272 2EC Guthion 50WP Imidan 50WP Kelthane 4F, 35WP Larvin 3.2F Mavrik 2EC Oncol 50WP Orthene 75SP Pay-Off 2.5EC Penncap 2FM PBO SEC

Plictran 50WP Pydrin 2.4EC SIR 8514 25WP SLJ-0312 50WP Superior oil 60 sec Thiodan 50WP Vydate 2L

FMC Corp. ICI America, Inc. NOR-AM Agric. Prod., Inc. ICI America, Inc. Mobay Chemical Corp. Mobay Chemical Corp. Mobay Chemical Corp. Stauffer Chemical Co. Rohm and Haas Co. Union Carbide Corp. Zoecon Corp. Otsuka Chemical Co., Ltd. Chevron Chemical Co. American Cyanamid Co. Pennwalt Corp. Prentiss Drug & Chemical Co., Inc. Dow Chemical Co. Shell Development Co. Mobay Chemical Corp. Mobay Chemical Corp. FMC Corp. FMC Corp. DuPont Co.

- 2 -1982 WEATHER CONDITIONS - PERU, NY

Date	Max	Temp.	Rain in	Date		emp.	Rain	D-1-		emp.	Rain
Apr. 1	50	34	17/	Date 27	Max 84	Min 56	in	Date	Max		in
	42	30	ς	4/	84		ř.	20	74	64	
3	46		17	28		60		21	82	50	
2 3 4 5 6		30	.67	29	79	64		22	87	56	i i
7	40	28		30	84	57	.06	23	83	68	
2	35	00 11		31	74	67		24	83	54	
	.23	20				TOTAL	2.31	25	88	60	
7	26	20		. 36	00		, i	26	89	68	
8	36	21		June 1	80	64		27	84	54	
9	48	26		2	73	60	1.66	28	66	62	1.15
10	50	28		3	66	58					1.17
11	52	38	.06	4	58	44		29	79	62	
12	42	34	.00	5	65	50		30	82	59	
13	51		02	6	62	56		31	79	59	.72
14		32	.02	7	73	53	.71			TOTAL	2.08
17	53	39		8	76		• / !		- 01	21	
15 16	59	28				54		Aug. 1	84	64	
16	76	38		9	82	51		2	57	53	1.47
17	78	54	.69	10	64	52		3 4	72	51	.03
18	60	38		11	71	60		4	81	53	
19	66	34		12	77	48		5	71	61	
20	71	36		13	66	53		5 6	78	54	
21	61	42	00	14	71	52	.02	7	85	54	
22	45		.09	15	76	50		8	83	62	
		34		16	72	60		9			70
23	68	35				58			80	64	.72
24	62	44		17	75			10	79	66	.01
25	83	53		18	73	56		11	78	58	
26	73	51		19	84	56		12	74	60	
27	68	55	. 06	20	66	54	.27	13	71	56	.46
28	56	38	(85)	21	66	52		14	77	56	
29	63	32		22	77	50	1.20	15	84	62	
30	73	37		23	68	57		16	88	61	
,0			1.50	24	75	53		17	82	70	12
		OTAL	1.59	25	69	59		18			.13
	10						10		77	50	
ay l	69	52		26	75	60	.10	19	79	58	
2	68	40	.04	27	78	48		20	78	64	.15
3	64	42		28	82	56		21	60	41	
4	63	46		29	69	62		22	73	43	
5	70	38		30	76	58	.31	23	71	55	.04
3 4 5 6	76	47				TOTAL	$\frac{.31}{4.27}$	24	77	60	
7	87	60					,	25	63	58	1.43
7	70			July 1	73	46		26	82	56	
0	79	56	1 15	2 3 4 5 6 7 8 9	76	56				50	.05
9	57	54	1.15	3	72	48	.17	27	84	59	
10	61	44		4	7.5	44	- 1 /	28	66	44	
11	61	36		5	80	48		29	66	43	
12	67	46		6				30	74	44	
13	64	46		7	86	56		31	73	58	.08
14	64	44		/	90	62			7	TOTAL	4.57
15	68	38		8	89	70				O I AL	7.7/
16		70		9	88	60				91	
16	73	48		10	81	62					
17	67	53		11	89	59					
18	74	45		12	00	22					
19	80	54	.92	12	88	70	.02				
20	78	61		13	84	62					
21	61	43	.10	14	84	57	* (				
22		20		15	91	60	4				
	69	38		15 16	90	64	Å .				
	62	48	.01	17	94	66					
23					, 7			955			
23 24	56	50		18			02				
23		50 53	.03	18	96 93	73 76	.02				

	a a		EATHER		NS - H	UDS			LABORATORY	, HIGH	ILAND	200		Do !-
Apr. 1 57 40 .50	Date			Rain (in.)	Date				Rain (in.)	Date				Rain (in.)
2 60 31 29 73 59 1.14 23 86 60 60 60 60 60 60 60 60 60 60 60 60 60	process and the second discount of the second				MI	principle-relation (A)		NAME AND ADDRESS OF THE OWNER, WHEN PERSONS AND ADDRESS O		Date	statute review breenings	DASHINGHONES MONEY		(1113)
3 53 27 30 74 57 24 84 60 66 64 65 65 66 66 66 66 67 66 67 67 67 69 67 67 68 67 67 68 67 67 68 67 67 68 67 68 67 68 67 68 67 68 68 68 68 68 68 68 68 68 68 68 68 68	2													Y.
6														
6				. 88		31			. 36					
7	5						T	OTAL	2.81					
8 30 16 2 69 56 .56 22 29 79 80 .09 9 41 22 3 77 55 5.02 30 82 54 111 52 29 5 773 55 .02 31 78 61 112 54 31 76 66 55 2.15 TOTAL 13 50 29 77 59 53 2.10 Aug. 1 82 60 .07 14 54 32 .09 9 71 48 .02 2 81 58 .07 16 62 35 11 81 54 54 76 59 19 82 60 19 60 35 .44 12 64 50 .01 6 86 63 .22 19 60 35 .44 12 64 50 .01 6 86 63 .22 19 60 35 .44 12 64 50 .01 6 86 63 .22 19 60 35 .44 12 64 50 .01 6 86 63 .22 20 72 41 14 53 48 1.50 8 82 64 19 70 49 .03 16 70 50 9 80 69 1.32 21 70 49 .03 16 81 57 50 50 9 80 69 1.32 22 63 31 .15 81 57 50 50 12 71 55 .01 224 68 51 18 75 60 12 71 55 .01 225 76 45 19 82 60 13 77 55 .01 226 81 54 20 76 58 .03 14 75 50 226 81 54 20 76 58 .03 14 75 50 227 63 55 1.15 22 79 53 .01 16 84 55 27 63 55 1.15 22 79 53 .01 16 84 55 27 73 37 24 73 50 18 80 26 61 28 77 37 24 73 50 18 86 .06 58 .01  May 1 73 49 27 80 62 21 77 87 51 28 71 37 18 25 76 48 15 8 20 82 61 10 64 51 46 28 77 63 22 68 45 59 .01 11 69 47 45 54 .01 July 1 78 50 27 74 54 .01 July 1 78 50 28 77 45 54 .01 July 1 78 50 29 77 59 51 18 66 4 .64 11 84 61 .01 10 64 51 4 70 55 29 77 33 46 22 68 51 11 69 47 79 99 06 33 78 54 22 68 61 11 69 47 99 90 63 27 26 84 59 .17 11 69 47 19 90 63 3 88 65 9 .02 11 60 74 49 10 84 56 18 79 50 11 60 74 79 99 06 33 78 54 22 79 53 11 86 64 22 79 53 11 74 55 50 11 60 74 49 10 84 56 27 33 46 28 74 55 11 15 70 47 99 90 63 27 56 94 48 19 70 55 11 16 74 49 10 84 56 99 .02 66 74 48 19 70 71 17 77 59 11 86 64 64 4 78 48 19 70 71 18 79 52 12 82 71 .22 56 69 44 18 79 52 12 82 71 60 .10 18 79 52 12 82 71 .22 56 69 44 18 79 52 12 82 71 60 .10 18 79 52 12 82 71 .22 56 69 44 18 79 52 12 84 53 11 18 79 52 12 82 71 .22 56 69 44 18 18 79 52 12 82 71 .22 56 69 44 18 18 18 61 .01 18 79 52 12 82 71 .22 56 69 44 18 18 18 65 51 19 73 54 .02 13 86 59 .02 66 74 48 18 18 53 11 24 52 55 54 7 .15 19 95 71 12 84 53 18 65 51				2	June	1	68	61	.15					1 20
9 41 22 375 45 45 100 23 178 61 115 22 29 6 60 55 2.15 15 1071 3.25 115 58 27 10 79 45 11 85 48 116 7 79 45 118 154 61 101 16 84 55 1 18 55 64 64 64 11 84 61 .01 16 84 55 27 64 18 18 54 18 18 18 18 18 18 18 18 18 18 18 18 18	8					2								
10						3		45						.09
11 52 29 5 73 55 .20 12 54 31 6 60 55 2.15 13 500 29 7 59 53 2.10 14 54 32 .09 8 60 53 .02 2 81 58 .07 16 62 35 10 79 45 17 73 50 18 74 45 .44 12 64 50 .01 6 86 63 .22 19 60 35 21 3 68 48 .16 7 79 62 20 72 41 14 53 48 1.50 8 82 64 21 70 49 .03 15 70 50 9 80 69 1.32 22 63 31 17 80 56 10 83 64 .13 23 58 29 17 6 81 56 24 68 51 18 75 60 13 75 50 24 68 51 18 75 60 13 75 50 25 76 45 20 76 58 .03 14 75 50 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 22 79 53 .01 16 84 55 27 63 55 37 24 73 54 .56 17 85 64 27 63 57 37 3 49 22 79 53 .01 16 84 55 28 71 39 .09 23 76 58 .03 14 75 50 29 57 37 24 73 54 .56 17 85 64 30 65 39 1070AL 3.18 25 76 48 20 82 61  May 1 73 49 27 80 62 21 77 57 .16 2 74 46 28 77 63 22 68 41 4 69 44 ,01 30 73 61 .73 24 80 59 .02 5 66 69 42 70 74 46 28 77 63 22 68 41 11 69 47 55 70 50 31 74 55 50 11 69 47 57 70 50 50 50 50 12 71 55 .01 13 66 49 40 ,01 30 73 61 .73 24 80 59 .02 14 66 9 42 70 74 46 28 77 63 22 68 41 16 69 47 57 77 57 .16 17 77 59 11 86 64 .64 .64 .73 30 73 61 .73 24 80 59 .02 18 77 74 54 .01 July 1 78 50 27 80 61 19 70 52 3 78 54 29 72 38 62 27 77 57 .16 20 81 60 43 17 78 50 .01 11 69 47 57 77 59 .16 11 69 47 57 77 59 .16 11 69 47 79 59 .02 11 86 64 .45 29 71 .30 70 8ept. 1 81 61 .01 15 70 47 9 90 63 27 70 59 .11 18 79 52 12 82 71 .22 5 69 44 19 77 77 59 11 86 64 59 .02 21 77 77 59 11 86 69 .9 68 51 22 71 49 16 86 65 9 .02 67 59 9 .02 23 61 47 70 59 9 .02 67 5 59 .61 24 59 49 10 84 56 9 .02 67 5 59 .61	10													
13		52				5					ەر د			3.25
14												00		
9 71 48 3 82 58 .07  16 62 35 10 79 45 4 76 59  17 73 50 11 81 54 5 82 68  18 74 45 .44 12 64 50 .01 6 86 63 .22  19 60 35 14 53 48 1.50 8 82 64  21 70 49 .03 15 70 50 9 80 69  22 63 31 16 81 56 10 83 64 .13  23 58 29 17 80 64 .64 11 84 61 .01  24 68 51 18 75 60 12 71 55 .01  25 76 45 55 1.15 21 72 52 .14 15 79 52  26 81 54 20 76 58 .03 14 75 50  27 63 55 1.15 21 72 52 .14 15 79 52  28 71 39 .09 22 79 53 .01 16 84 65 8 .01  29 57 37 23 76 54 .56 17 85 64  3 72 44 29 83 66 .06 23 72 58 .01  May 1 73 49 27 80 62 21 77 75 .16  May 1 73 49 27 80 62 21 77 77 .16  3 72 44 29 83 66 .06 23 72 53 .35  4 69 44 ,01 30 73 61 .73  4 69 44 ,01 30 73 61 .73  4 69 44 ,01 30 73 61 .73  4 77 74 54 .01 July 1 78 50 26 87 59 .01  10 64 51 47 75 50 30 70 49  11 69 47 57 25 37 78 54 29 72 38 8 62 .06  11 77 77 59 11 86 64 .73  11 80 64 .64 .73  11 81 54 .56 .74 29 83 66 .06 23 72 53 .35  11 69 47 57 25 3 78 54 29 72 38 .01  11 69 47 57 25 3 78 54 29 72 38 .01  12 69 43 67 79 59 .02  13 62 49 .03 78 15 77 .36 .38  14 77 59 51 .16 .01  15 70 47 9 90 63 27 80 61 .73  16 74 49 10 84 56 38 84 70 Sept. 1 81 61 .01  16 74 49 10 84 56 38 84 70 Sept. 1 81 61 .01  17 77 59 11 86 64 4 70 55 30 70 49  18 79 52 12 82 71 .22 56 9 48  19 73 54 .02 13 86 59 .02 67 74 48  20 81 60 .18 14 87 61 77 79 51  21 84 54 .48 15 83 63 86 59 .02  22 71 49 10 84 56 9 .02 67 74 48  22 71 49 10 84 56 9 .02 67 74 48  22 71 49 10 84 56 9 .02 67 74 48  23 66 9 69 10 78 54  24 52 45 .30 18 91 74 11 85 53  25 55 47 .15 19 95 71 1 12 84 53  25 55 47 .15 19 95 71 1 12 84 53  25 55 57 49 .15 19 95 71 1 12 84 53  25 55 57 49 .15 19 95 71 1 12 84 53  26 67 24 99 50 67 1.24 13 86 56	. 13									Aug.				.07
16 62 35 10 79 45 4 76 59 177 73 50 11 81 54 5 68 68 63 .22 18 60 35 11 81 54 5 60 62 21 70 49 .03 16 81 84 8 .03 14 75 50 27 76 58 30 65 39 23 76 54 .56 17 85 64 30 62 21 77 57 .16 28 77 63 30 65 39 23 76 54 .56 17 85 64 30 73 66 69 44 .01 30 73 61 .73 24 80 59 .02 66 74 2 77 74 54 .01 July 1 78 50 27 80 61 27 80 61 77 77 59 80 61 18 87 55 60 18 86 58 .01 77 77 74 54 .01 July 1 78 50 20 76 55 30 70 49 .03 77 81 57 70 50 18 86 58 .02 11 66 67 49 .03 77 81 57 77 59 .11 86 64 .84 77 85 .01 18 75 50 27 80 61 88 87 54 22 87 77 77 59 .11 86 64 .64 18 77 57 .15 19 90 63 22 78 30 70 90 90 63 90 90 90 90 90 90 90 90 90 90 90 90 90				.09					.02					617
10	15													.07
18														
19 60 35				1.1.	;				.01		6			.22
14   53   48   1.50   8   82   64				• 77			68	48	.16					
21 70 49 .03 15 70 50 9 80 69 1.32 22 63 31 17 80 64 .64 11 84 61 .01 24 68 51 18 75 60 12 71 55 .01 25 76 45 20 76 58 .03 14 75 52 26 81 54 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 23 76 54 .56 17 85 64 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 23 76 54 .56 17 85 64 30 65 39 24 73 50 18 86 58 .01  May 1 73 49 27 80 62 21 77 57 .16 22 74 46 28 77 63 22 68 41 3 72 44 69 44 ,01 30 73 61 .73 24 80 59 .02 5 6 69 42 70 70 55 27 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 8 75 46 2 77 80 61 11 69 47 5 72 50 31 74 55 11 69 47 5 72 50 31 74 55 11 69 47 5 72 50 31 74 55 11 69 47 7 79 90 63 2 77 80 61 11 69 47 7 9 90 63 2 77 80 61 11 69 47 9 90 63 2 77 80 61 11 69 47 9 90 63 2 77 80 61 12 60 48 8 84 70 55 29 72 38 10 64 51 47 0 55 72 50 31 74 55 11 60 10 84 56 38 80 62 .23 17 77 79 90 63 2 77 80 61 18 79 52 12 82 71 .22 5 69 44 18 79 52 12 82 71 .22 5 69 44 18 79 52 12 82 71 .22 5 69 44 18 79 52 12 82 71 .22 5 69 44 18 79 52 12 82 71 .22 5 69 44 20 81 60 .18 14 87 61 77 79 51 18 79 52 11 86 65 9 .02 67 4 88 20 81 60 .18 14 87 61 77 79 51 18 79 52 12 82 71 .22 5 69 44 21 84 54 .48 15 83 63 8 69 54 22 71 49 10 84 56 59 .02 67 4 88 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 50 31 74 51 12 84 53 26 72 49 50 31 74 51 12 84 53 26 72 49 50 31 86 71 .24 11 85 53							53	48	1.50					
22 63 31 17 80 64 .64 11 84 61 .01 24 68 51 18 75 60 12 71 55 .01 25 76 45 29 76 58 .03 14 75 50 26 81 54 20 76 58 .03 14 75 50 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 22 79 53 .01 16 84 55 29 57 37 23 76 48 19 78 51  TOTAL 3.18 25 76 48 19 78 51  TOTAL 28 77 63 20 82 61  May 1 73 49 27 80 62 21 77 57 .16 2 74 46 28 77 63 20 82 61 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 46 28 77 63 22 68 41 2 74 54 20 30 73 61 .73 24 80 59 .02 5 6 69 42 77 64 20 70 80 61 7 7 74 54 .01 July 1 78 50 27 80 61 8 75 46 27 80 61 9 70 52 3 78 54 29 72 38 10 64 51 47 0 55 30 70 49 11 69 47 5 72 50 30 70 49 11 69 47 5 72 50 30 70 49 11 69 47 5 72 50 30 70 49 11 69 47 5 72 50 30 70 49 11 69 47 6 79 59 31 74 11 69 47 55 72 50 30 70 49 11 67 49 10 84 56 3 83 62 .23 17 77 75 59 11 86 64 4 70 55 30 70 49 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 69 .02 67 48 88 19 78 54 29 772 38 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 69 .02 67 48 88 20 81 60 .18 14 87 61 77 79 51 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 69 .02 67 48 88 20 81 60 .18 14 87 61 77 79 51 21 84 54 .48 15 83 63 86 59 .02 21 84 54 .48 15 83 63 86 59 .02 22 71 49 16 86 65 9 .02 67 44 88 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 22 84 53 26 72 49 20 93 67 1.24 13 86 56				.03		15					9		69	1.32
23 58 29 17 80 64 .64 .64 11 84 61 .01 27 55 .01 22 468 51 19 82 60 12 71 55 .01 27 55 .01 25 76 45 20 76 58 .03 14 75 50 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 23 76 54 .56 17 85 64 30 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 65 39 24 73 50 18 86 58 .01 30 75 76 48 19 78 51 30 62 21 77 57 .16 26 81 58 20 82 61 37 85 1 30 62 21 77 57 .16 28 77 63 22 68 41 30 73 49 29 83 66 .06 23 72 53 .35 46 69 44 ,01 30 73 61 .73 24 80 59 .02 66 69 42 73 50 20 82 61 .73 24 80 59 .02 66 69 42 73 50 20 82 61 .73 24 80 59 .02 66 69 42 73 50 27 80 61 .73 24 80 59 .02 61 8 75 46 27 80 61 .73 24 80 59 .02 61 8 75 46 27 80 61 .73 24 80 59 .02 61 8 75 46 27 80 61 .73 24 80 59 .02 61 8 75 46 51 47 0 55 51 30 70 49 31 74 55 72 50 31 74 50 74 74 75 75 75 75 75 75 75 75 75 75 75 75 75				,	3145						10		64	.13
24 68 51 10 75 60 12 71 55 .01 25 76 45 20 76 58 .03 14 75 50 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 22 79 53 .01 16 84 55 29 57 37 37 24 73 50 18 86 58 .01  TOTAL 3.18 26 81 58 20 82 61  May 1 73 49 27 80 62 21 77 57 .16 2 74 46 28 77 63 26 81 58 20 82 61 3 72 44 29 83 66 .06 23 72 53 .35 4 69 44 ,01 30 73 61 .73 24 80 59 .02 5 67 42 TOTAL 9 83 66 .06 23 72 53 .35 6 69 42 TOTAL 9 8 50 26 75 59 .61 8 75 46 2 73 46 26 75 59 .61 8 75 46 2 73 46 27 80 61 8 75 46 2 73 46 27 80 61 8 75 46 79 59 70 52 3 78 54 29 72 38 11 60 45 51 4 70 55 20 31 74 55 11 60 .10 10 64 51 4 70 55 20 31 74 55 11 60 .10 11 69 47 5 72 50 31 74 55 11 60 .10 11 69 47 5 72 50 31 74 55 11 80 61 .01 12 69 43 67 9 90 63 27 71 60 .10 13 75 52 12 82 71 .22 5 69 44 19 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 15 83 63 8 69 54 22 71 60 .10 21 84 54 .49 10 84 56 9 68 51 19 79 51 11 85 53 26 72 49 9 90 68 51 11 85 53 26 72 49 9 90 68 51 11 85 53 26 72 49 9 90 68 51 11 85 53 26 72 49 9 90 68 51 11 85 53 26 72 49 9 90 69 10 78 54 53 26 72 49 9 90 69 10 78 54 55 20 20 20 20 67 74 48 15 80 60 10 78 54 11 85 53 26 72 49 9 90 69 10 78 54 55 30 18 91 74 11 85 53 26 72 49 9 90 69 10 78 54 53 26 72 49 9 90 69 10 78 54 55 30 20 67 1.24 13 86 56	23				1	17			.64					
26 81 54 20 76 58 .03 14 75 50 27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 22 79 53 .01 16 84 55 29 57 37 30 65 39 24 73 50 18 86 58 .01 TOTAL 3.18 26 81 58 20 82 61 27 44 6 28 77 63 22 68 41 3 72 54 4 6 28 77 63 22 68 41 3 72 54 4 6 28 77 63 22 68 41 3 72 54 4 6 29 83 66 .06 23 72 53 .35 4 69 44 ,01 30 73 61 .73 24 80 59 .02 56 69 42 70 74 54 .01 July 1 78 50 27 80 61 8 75 46 27 74 54 .01 July 1 78 50 27 80 61 8 75 46 27 74 54 .01 July 1 78 50 27 80 61 8 75 46 28 77 63 20 67 59 .61 77 74 54 .01 July 1 78 50 27 80 61 8 75 46 27 80 61 8 75 46 28 77 63 30 73 61 .73 24 80 59 .02 77 80 61 8 75 46 8 75 46 8 75 46 8 75 46 8 75 46 8 75 46 8 75 46 8 75 70 55 80 61 8 75 46 8 75 46 8 75 70 55 80 61 8 75 46 8 75 46 8 75 70 55 80 61 8 75 46 8 75 70 55 80 61 8 75 46 8 75 70 55 80 61 8 75 46 8 75 70 50 80 61 8 75 46 8 75 70 50 80 61 8 75 46 8 75 70 50 80 61 8 75 80 61 8 75 80 61 8 75 80 61 8 8 75 80 80 80 80 80 80 80 80 80 80 80 80 80														.01
27 63 55 1.15 21 72 52 .14 15 79 52 28 71 39 .09 22 79 53 .01 16 84 55 29 57 37 23 76 54 .56 17 85 64 3.01    29 57 37 24 73 50 18 86 58 .01    May 1 73 49 27 80 62 21 77 57 .16   2 74 46 28 77 63 22 68 41   3 72 44 29 83 66 .06 23 72 53 .35   4 69 44 ,01 30 73 61 .73 24 80 59 .02   5 67 42														
28 71 39 .09 22 79 53 .01 16 84 55 29 57 37 24 73 50 18 86 58 .01 TOTAL 3.18 25 76 48 19 78 51 25 76 48 19 78 51 27 44 6 28 77 63 22 68 41 33 72 44 29 83 66 .06 23 72 53 .35 46 69 44 ,01 30 73 61 .73 24 80 59 .02 5 67 42 TOTAL 9.04 25 84 59 .17 66 69 42 73 56 27 85 67 42 74 54 .01 July 1 78 50 27 80 61 8 75 59 .61 8 75 46 29 77 63 3 78 54 29 77 63 3 78 54 29 77 23 8														
29 57 37 37 23 76 54 .56 17 85 64 30 18 86 58 .01 TOTAL 3.18 25 76 48 19 78 51 20 82 61 20 82														
May   1   73   49   27   80   62   21   77   57   .16     May   1   73   49   27   80   62   21   77   57   .16     2   74   46   28   77   63   22   68   41     3   72   44   29   83   66   .06   23   72   53   .35     4   69   44   ,01   30   73   61   .73   24   80   59   .02     5   67   42   70   74   54   .01   July   1   78   50   26   75   59   .61     7   74   54   .01   July   1   78   50   26   75   59   .61     8   75   46   27   346   28   74   55     9   70   52   3   78   54   29   72   38     10   64   51   5   72   50   31   74   55     11   69   47   57   72   50   31   74   55     12   69   43   6   79   59   31   74   55     13   62   49   .03   7   81   57     14   75   48   8   84   70   Sept.   1   81   61   .01     15   70   47   9   90   63   2   71   60   .10     16   74   49   10   84   56   3   83   62   .23     17   77   59   11   86   64   4   78   48     18   79   52   12   82   71   .22   5   69   44     19   73   54   .02   13   86   59   .02   6   74   48     20   81   60   .18   14   87   61   7   79   51     21   84   54   .48   15   83   63   8   69   54     22   71   49   16   86   65   9   68   51     23   61   47   .13   17   89   69   10   78   54     24   52   45   .30   18   91   74   11   85   53     26   72   49   20   93   67   1.24   13   86   56      May 1				.09	* **									
TOTAL 3.18									. 50					01
May 1 73 49 27 80 62 21 77 57 .16 2 74 46 28 77 63 22 68 41 3 72 44 29 83 66 .06 23 72 53 .35 4 69 44 ,01 30 73 61 .73 24 80 59 .02 5 67 42 TOTAL 9.04 25 84 59 .17 6 69 42 73 46 26 75 59 .61 8 75 46 2 73 46 26 75 59 .61 8 75 46 2 73 46 27 80 61 8 75 46 2 73 46 28 74 55 9 70 52 3 78 54 29 72 38 10 64 51 4 70 55 30 70 49 11 69 47 57 12 69 43 67 9 59 11 60 64 51 11 69 47 67 9 90 63 27 80 61 15 70 47 9 90 63 2 71 60 .10 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 20 81 60 .18 14 87 61 79 59 .02 18 4 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 12 82 71 .24 13 86 56 72 49 10 78 54 53 12 84 53 12 82 71 .24 13 86 56 56 72 49 10 78 54 53 12 84 53 12 84 54 .48 15 83 63 8 69 54 11 85 53 12 55 55 47 .15 19 95 71 12 84 53 12 84 54		65		3 10										.0.
May 1 73 49 27 80 62 21 77 57 .16 2 74 46 28 77 63 22 68 41 3 72 44 29 83 66 .06 23 72 53 .35 4 69 44 ,01 30 73 61 .73 24 80 59 .02 5 67 42 TOTAL 9.04 25 84 59 .17 6 69 42 273 46 26 75 59 .61 8 75 46 2 73 46 26 75 59 .61 8 75 46 2 73 46 28 74 55 9 70 52 3 78 54 29 72 38 10 64 51 4 70 55 30 70 49 11 69 47 5 72 50 31 74 55 13 62 49 .03 7 81 57 12 69 43 6 79 59 TOTAL 3.15 14 75 48 8 84 70 Sept. 1 81 61 .01 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 88 64 70 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 79 51 21 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56	0.75			3.10		26								
2 74 46 28 77 63 22 68 41 3 4 69 44 ,01 30 73 61 .73 24 80 59 .02 5 67 42 TOTAL 9.04 25 84 59 .17 66 69 42 74 54 60 27 80 61 8 75 46 27 80 61 8 75 46 27 80 61 8 75 46 27 80 61 8 75 46 28 74 55 84 59 .17 67 67 55 30 70 49 11 69 47 5 72 50 31 74 55 11 69 47 67 9 59 61 12 69 43 78 54 70 55 30 70 49 11 69 47 7 75 48 88 470 Sept. 1 81 61 .01 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 19 73 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56														.16
3		-					77							
5 67 42	3			0.1		29	83	66		17 V 18	23		53	
7 74 54 .01 July 1 78 50 27 80 61 28 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 47 59 63 2 71 60 .10 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 7 79 51 12 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56	4			,01		30			.73					
7 74 54 .01 July 1 78 50 27 80 61 28 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 49 31 74 55 30 70 47 59 63 2 71 60 .10 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 7 79 51 12 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56	2						ТО	TAL	9.04					.17
8 75 46 2 73 46 28 74 55 9 70 52 3 78 54 29 72 38 10 64 51 4 70 55 30 70 49 11 69 47 5 72 50 31 74 55 12 69 43 6 79 59 TOTAL 3.15 13 62 49 .03 7 81 57 14 75 48 8 84 70 Sept. 1 81 61 .01 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 7 79 51 21 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56	7			01	July	1	78	50		3.8				.61
9 70 52 3 78 54 29 72 38 30 70 49 31 74 55 31 75 48 84 70 Sept. 1 81 61 .01 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 7 79 51 21 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 26 72 49 20 93 67 1.24 13 86 56	á			.01										
11       69       47       5       72       50       30       70       49         12       69       43       6       79       59       TOTAL       3.15         13       62       49       .03       7       81       57         14       75       48       8       84       70       Sept. 1       81       61       .01         15       70       47       9       90       63       2       71       60       .10         16       74       49       10       84       56       3       83       62       .23         17       77       59       11       86       64       4       78       48         18       79       52       12       82       71       .22       5       69       44         19       73       54       .02       13       86       59       .02       6       74       48         20       81       60       .18       14       87       61       7       79       51         21       84       54       .48       15       83       63 <td< td=""><td>9</td><td></td><td></td><td></td><td></td><td>3</td><td></td><td></td><td></td><td>-3</td><td></td><td></td><td>28</td><td></td></td<>	9					3				-3			28	
11 69 47 6 79 59 31 74 55 TOTAL 3.15  13 62 49 .03 7 81 57  14 75 48 8 84 70 Sept. 1 81 61 .01  15 70 47 9 90 63 2 71 60 .10  16 74 49 10 84 56 3 83 62 .23  17 77 59 11 86 64 4 78 48  18 79 52 12 82 71 .22 5 69 44  19 73 54 .02 13 86 59 .02 6 74 48  20 81 60 .18 14 87 61 7 79 51  21 84 54 .48 15 83 63 8 69 54  22 71 49 16 86 65 9 68 51  23 61 47 .13 17 89 69 10 78 54  24 52 45 .30 18 91 74 11 85 53  25 55 47 .15 19 95 71 12 84 53  26 72 49 20 93 67 1.24 13 86 56		64	51			4								
13 62 49 .03 7 81 57 14 75 48 8 84 70 Sept. 1 81 61 .01 15 70 47 9 90 63 2 71 60 .10 16 74 49 10 84 56 3 83 62 .23 17 77 59 11 86 64 4 78 48 18 79 52 12 82 71 .22 5 69 44 19 73 54 .02 13 86 59 .02 6 74 48 20 81 60 .18 14 87 61 7 79 51 21 84 54 .48 15 83 63 8 69 54 22 71 49 16 86 65 9 68 51 23 61 47 .13 17 89 69 10 78 54 24 52 45 .30 18 91 74 11 85 53 25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56		69				5								
13       62       49       .03       7       8       84       70       Sept. 1       81       61       .01         15       70       47       9       90       63       2       71       60       .10         16       74       49       10       84       56       3       83       62       .23         17       77       59       11       86       64       4       78       48         18       79       52       12       82       71       .22       5       69       44         19       73       54       .02       13       86       59       .02       6       74       48         20       81       60       .18       14       87       61       7       79       51         21       84       54       .48       15       83       63       8       69       54         22       71       49       16       86       65       9       68       51         23       61       47       .13       17       89       69       10       78       54         24<		69											TOTAL	3.15
15       70       47       9       90       63       2       71       60       .10         16       74       49       10       84       56       3       83       62       .23         17       77       59       11       86       64       4       78       48         18       79       52       12       82       71       .22       5       69       44         19       73       54       .02       13       86       59       .02       6       74       48         20       81       60       .18       14       87       61       7       79       51         21       84       54       .48       15       83       63       8       69       54         22       71       49       16       86       65       9       68       51         23       61       47       .13       17       89       69       10       78       54         24       52       45       .30       18       91       74       11       85       53         25       55       47				.03	84	0				Carlo				
16       74       49       10       84       56       3       83       62       .23         17       77       59       11       86       64       4       78       48         18       79       52       12       82       71       .22       5       69       44         19       73       54       .02       13       86       59       .02       6       74       48         20       81       60       .18       14       87       61       7       79       51         21       84       54       .48       15       83       63       8       69       54         22       71       49       16       86       65       9       68       51         23       61       47       .13       17       89       69       10       78       54         24       52       45       .30       18       91       74       11       85       53         25       55       47       .15       19       95       71       12       84       53         26       72       49 <td></td> <td>75</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Sept</td> <td></td> <td></td> <td></td> <td></td>		75								Sept				
18     79     52       19     73     54     .02       20     81     60     .18       21     84     54     .48       22     71     49       23     61     47     .13       24     52     45     .30       25     55     47     .15       26     72     49         12     82     71     .22     5       13     86     59     .02       14     87     61     7       79     51       8     69     54       9     68     51       10     78     54       24     52     45     .30       18     91     74     11       11     85     53       25     55     47     .15     19       26     72     49     20     93     67     1.24       13     86     56	15					10					2			22
18     79     52       19     73     54     .02       20     81     60     .18       21     84     54     .48       22     71     49       23     61     47     .13       24     52     45     .30       25     55     47     .15       26     72     49         12     82     71     .22     5       13     86     59     .02       14     87     61     7       79     51       8     69     54       9     68     51       10     78     54       24     52     45     .30       18     91     74     11       11     85     53       25     55     47     .15     19       26     72     49     20     93     67     1.24       13     86     56											4			. 2 )
20     81     60     .18     14     87     61     7     79     51       21     84     54     .48     15     83     63     8     69     54       22     71     49     16     86     65     9     68     51       23     61     47     .13     17     89     69     10     78     54       24     52     45     .30     18     91     74     11     85     53       25     55     47     .15     19     95     71     12     84     53       26     72     49     20     93     67     1.24     13     86     56		79	52						.22	,*	5	69		
20     81     60     .18     14     87     61     7     79     51       21     84     54     .48     15     83     63     8     69     54       22     71     49     16     86     65     9     68     51       23     61     47     .13     17     89     69     10     78     54       24     52     45     .30     18     91     74     11     85     53       25     55     47     .15     19     95     71     12     84     53       26     72     49     20     93     67     1.24     13     86     56		73		- 02							6			
22     71     49     16     86     65     9     68     51       23     61     47     .13     17     89     69     10     78     54       24     52     45     .30     18     91     74     11     85     53       25     55     47     .15     19     95     71     12     84     53       26     72     49     20     93     67     1.24     13     86     56		81									7			
22     71     49     16     86     65     9     68     51       23     61     47     .13     17     89     69     10     78     54       24     52     45     .30     18     91     74     11     85     53       25     55     47     .15     19     95     71     12     84     53       26     72     49     20     93     67     1.24     13     86     56						15			140		8	69	54	
24     52     45     .30     18     91     74     11     85     53       25     55     47     .15     19     95     71     12     84     53       26     72     49     20     93     67     1.24     13     86     56	22		49							to keep	9		51	
25 55 47 .15 19 95 71 12 84 53 26 72 49 20 93 67 1.24 13 86 56	23													
26 72 49 20 93 67 1.24 13 86 56														
	25			.15		7			1 24					
בל ב			49							- 1 -				
	41	/9	24		-	- 7	, -	,	.,,,	<b>3</b> 7	4	0)	25	

- Z -

	Temp.	Rain	Rain	(emp	emp.	Rain		165	qma.T	emp.	Rain
Date	Max Min		Date	Max		in		Date	Max		in
Apr. 1	50 34	1 1/4	27	84	56	The state of the s		20	74	64	The second secon
2 3 4	42 30		28	84	60			21	82	50	
3	46 30	.67	29	79	64	Fig		22	87	56	
	40 28		30	84	57	.06		23	83	68	
5 6	35 11		31	74	67	-		24	83	54	
	23 20				TOTAL	2.31		25	88	60	
7	26 20		June 1	80	64	×		26	89	68	
9	36 21 48 26		2	73	60	1.66		27	84	54	
10	48 26 50 28		3	66	58	1.00		28	66	62	1.15
11	52 38	06	4	58	44			29	79	62	
12	42 34	.06	5	65	50			30	82	59	1
13	51 32	.02	6	62	56			31	79	59	.72
14	53 39	.02	7	73	53	.71				TOTAL	2.08
15	59 28		8	76	54			Aug. 1	84	64	
15 16	76 38		9	82	51			2	57	53	1.47
17	78 54	.69	10	64	52			3	72	51	.03
18	60 38	.05	11	71	60			4	81	53	
19	66 34		12	77	48		7	5	71	61	
20	71 36		13	66	53			6	78	54	
21	61 42	.09	14	71	52	.02		7	85.	54	
22	45 34		15	76	50				83	62	
23	68 35		16	72	60			9	80	64	.72
24	62 44		17	75	58			10	79	66	.01
25	83 53		18	73	56			11	78	58	
26	73 51		19	84	56	0.77		12	74	60	
27	68 55	. 06	20	66	54	.27		13	71	56	.46
28	56 38		21 22	66	52	1 20		14	77	56	
29	63 32		23	77 68	50 57	1.20		15	84	62	
30	73 37	1 50	24	75	53			16	88	61	12
	TOTAL	1.59	25	69	59			18	82	70	.13
Mary 1	69 52		26	75	60	.10		19	77 79	50 58	
May 1	69 52 68 40	.04	27	78	48	. 10		20	78	64	.15
3	64 42	. 04	28	82	56			21	60	41	- 15
4	63 46		29	69	62			22	73	43	
5	70 38		30	76	58	.31		23	71	55	.04
5	76 47		-		TOTAL	$\frac{.31}{4.27}$		24	77	60	
7	87 60		11					25	63	58	1.43
7 8 9	79 56		July 1	73	46			26	82	56	.05
9	57 54	1.15	2 3 4	76	56			27	84	59	
10	61 44		, L	72	48	.17		28	66	44	
11	61 36		5	75 80	44			29	66	43	
12	67 46		5 6	86	48 56			30	74	44	**************************************
13	64 46		7	90	62			31	73	58	.08
14	64 44		7 8	89	70				7	OTAL	4.57
15	68 38		9	88	60						
16	73 48		9 10	81	62						
17	67 53		11	89	59						
18	74 45		12	88	70	.02					
19	80 54	.92	13	84	62	u 10 mm					
20	78 61	10	14	84	57	* !	4.				
21 22	61 43 69 38	.10	15 16	91	60						n.
23	62 48	.01	16	90	64	4					
24	56 50	.01	17	94	66			St 77			
25	73 53	.03	18	96	73	.02					
26	82 52		19	93	76						

The second of th

1982 WEATHER CONDITIONS - HUDSON VALLEY LABORATORY, HIGHLAND, NY 100 2018 3494 Comstack weeky bug: Parudodočiuš aumstéckī (Clumann) European sud Witer Panonyuma ulmi (Kagn)

Date			emp = Min	Rain (in.)	er Panonychus Umi (Kaen) Povsabie obodesie Sie Count
	1.5				quarresold of us a construction of the
Sept.		80	57	F0	
	16	79	56	.52	
	17	75	48	.02	THE A HARRY THE EAST OF MALE AND RETURN OF
	18	64	42		
	19	69	41		o de la company
	20	66	44		
	21	59	49	.20	top. Incomence or construct Light Santa was
					er esa danav miniyi stenje seret Ashk sist
	22	64	52	.22	Tallein the Visign Frein, and a season established to
	23	58	53	.44	ti n x od heodaz na Alan al Al Sonania n
	24	65	48	.02	reports at reason related a North amidman (\$46) about
	25	70	47		
	26	72	46		
	27	68	54	.56	Also participate of the Police Plant (Also participate of the particip
	28	68	51	02	enger of four of the bull of 1 MMP from
				.02	이 지수 있어야 있는데 하는 그는 이 이 그 모든 사람들이 걸리 하나요?
	29	74	52		Teaching the all the control of the
	30	67	52	-	solution and a second s
			TOTAL	2.34	to stant As read that it is a first to
		2			it get only to support to the it.
					o threefourth and the state of the

APPLE: Malus domestica Management

Comstock mealy bug: Pseudococcus comstocki (Kuwana)

European red mite: Panonychus ulmi (Koch)

Rosy apple aphid: Dysaphis plantaginea (Passerini) San Jose scale: Quadraspidiotus perniciosus (Comstock)

Tarnished plant bug: Lygus lineolaris (P. de B.)

R.W. Weires Hudson Valley Laboratory NYS Agric. Exp. Station Highland, New York 12528

APPLE, PAYOFF EUP TRIAL, GLENCOE MILLS, NY, 1982: A 35-yr-old block of 'Cortland' and 'Lobo' apple cultivars was divided into six plots ranging in size from 3.4 - 8.7 acres. Three treatments were arranged in a randomized block design with two replicates. Treatments included: Payoff which was applied in pink (May 1), petal fall (May 21), and 4 cover sprays; Pydrin which was applied at pink only followe by a standard spray schedule; and a standard spray schedule relying predominately on Guthion. The trees were ca 18 ft tall and spaced 40 x 40 ft. Additional treatments applied over the block (and combined with the insecticides whenever possible) included: Captan 50WP 2.5 lb (all rates given are per acre), Manzate 86WP 1 lb, and Sulfur 95WP 4 1b on Apr 26, May 1, May 8, May 21, May 28, and Jun 8; Captan 80WP 2.5 1b and Manzate 80WP 1 1b on Jun 15 and Jul 1; Captan 80WP 2.5 1b on Jul 14, Jul 29, Aug 12 and Sep 4; Solubor 2 1b May 21, May 28 and Jun 8; Fruitone N.5 1b on May 25; and Etheral 3 pt on 'Lobo' only Aug 18. Treatments were applied at 20 or 30 gal/acre (20-13%) with a model 5002 Agtec PTO powered sprayer at 2.0 mph. Rosy apple aphid was evaluated on Jun 28 by examining 25 fruit clusters/tree from 4 'Cortland' trees in each plot. European red mites were sampled by brushing 25 leaves/tree and various times throughout the season. The 'Lobo' cultivar was evaluated on Aug 26 for insect injury while the 'Cortland' cultivar was evaluated Sep 23.

Mite suppression was found in the Payoff plots during the period the treatment was being applied. After the Payoff was discontinued in the plots the mite population increased rapidly. San Jose scale was less in the Payoff plots than the other treatments but this may have been due to the differences in initial infestation levels throughout the plots at the initiation of the test. Coverage was also apparently a problem as seen in the different infestation levels between the top and bottom of the tree canopy. In addition, several of Guthion applications were below the recommended per acre rate for large trees. Tarnished plant bug injury was less in the two pyrethroid treatments than in the Guthion standard. The mealy bug infestation was more severe in the Payoff plots.

						. rosy apple		% Infe	sted fruit <sup>b</sup>	
						infested	San Jo	se scale	Tarnishe	d plant bug
Treatment				clu	ıst	ers/25a	Top	Bottom	Тор	Bottom
1						0.5	5.5a	0.0a	0.3a	0.0a
2					•	1.1	14.1ab	0.4a	0.5ab	0.0a
3		•	•	٠		2.4	25.0 Ь	2.9 b	1.1 b	0.0a

									-		%	Injured fruit <sup>C</sup>	
			:					Ta	rn	is	hed plant bug	San Jose scale	Mealy bug
1		۰									1.la	0.0	7.6 b
2	٠										1.5ab	0.0	0.6a
3	•	٠	•	•	٠	•	•	٠	•	•	2.8 ь	0.5	0.2a

Mean no. mites or eggs/leafd June 28 July 30 August 10 ERM ERME ERM ERME ERM ERME 0.3 1.4 33.1 22.8 46.9 0.8 7.2 0.3 6.5 0.3 1.6 10.7 0.2 4.8 0.9 3.6

<sup>&</sup>lt;sup>a</sup>Based on sampling 25 'Cortland' fruit clusters/tree, 4 trees/block.

Based on sampling 200 'Lobo' apples/tree, 100 from top, 100 from bottom, 4 trees/block.

<sup>&</sup>lt;sup>C</sup>Based on sampling 100 'Cortland' apples/tree, 4 trees/block.

Based on sampling 25 'Cortland' leaves/tree, 4 trees/block, ERM = European red mite.

European red mite: Panonychus ulmi (Koch)

Tarnished plant bug: Lygus lineolaris (P. de B.)
Wooly apple aphid: Eriosoma lanigerum (Hausmann)

R.W. Weires Hudson Valley Laboratory NYS Agric. Exp. Station Highland, New York 12528

APPLE, PYRETHROID INSECTICIDE TRIALS, PERU, NEW YORK, 1982: Several insecticides were applied at the pink stage of 'McIntosh' bud development on May 8 in 2 2/3 acre plots replicated twice for each treatment, except Payoff, which was applied to an unreplicated 6 1/4 acre block on a seasonal basis. Trees were 53-yr-old 'McIntosh' trees spaced 40 x 40 ft except in the Payoff block which were 24-yrs-old and spaced 40 x 24 ft. Treatments were applied with a Bean model 502 speed sprayer at 2 1/2 -3 mph using 67 gal/acre (6X) except in the Payoff block where 80 gal/acre (5X) was used. Additional treatments applied over the entire block and combined with the insecticides whenever spray dates coincided, included: (Applications with A behind date indicate applied as an Alternate row spray, all rates are amount formulation/ acre) Dichlone 50WP 3/8 1b May 9A, 10A; Sulfur 95WP 4 1/2 1b May 9A, 10A, 27; Cyprex 65WP 1/2 1b May 20A, 21A, Jun 3A, 6A; Captan 80WP 4 1b May 27, 1 1b Jun 7A, 22, Jul 9, Aug 19A; Urea 2 1b May 27; Benlate 50WP 3 oz Jun 7A; & Solubor 4 1b Jun 22. Mite counts were made from the plots throughout the season. Treatments were evaluated for insect injury on Sep 23 by sampling 100 apples from each plot. A hailstorm which occurred Jun 22 damaged much of the fruit making the injury difficult to evaluate.

Moderate suppression of the mite population was found with the Payoff treatment, but numbers increased rapidly after the material was discontinued. Pydrin provided the best control of tarnished plant bug, which was the only insect responsible for visible fruit injury at harvest. Wooly apple aphid colonies were observed on sucker growth in all plots but the infestation was greater in the Payoff block than in the other treatment blocks.

1.	Payofi	F	2.	.51	EC	8.	0	oz	M	ay	8,	27	p	Ju	ıne	10	9	22,	J	u1	9,	15	9;	Ca	arz	ol	9	25	P	1.	0	16	A	ug	
	18																-								_						-		2		_

Pydrin 2.4EC 10.6 oz May 8; Guthion 50WP 1.3 lb May 27, Jun 10, 22, Jul 9, 19, Aug 5, 19; Carzol 92SP 1.0 lb May 27, Jul 19; Phosphamidon 8EC 8.0 oz Jul 9

3. Thiodan 50WP 4.0 lb May 8; Guthion 50WP 1.3 lb May 27, Jun 10, 22, Jul 9, 19, Aug 5, 19; Carzol 92SP 1.0 lb May 27, Jul 19; Phosphamidon 8EC 8.0 oz

4. Guthion 50WP 1.3 lb May 27, Jun 10, 22, Jul 9, 19, Aug 5, 19; Carzol 92SP 1.0 lb May 27, Jul 19; Phosphamidon 8EC 8.0 oz Jul 9

Mean no. mites or eggs/leafb

								TPB	Ma	y 26	Jui	n 9	Jul	12	Aug	13
Tr	ea	atr	nei	nt		d	ama	ged fruit	ERM	ERME	ERM	ERME	ERM	ERME	ERM	ERME
1	0					4		1.9	1.3	1.8	0.7	1.5	0.7	1.2	5.7	17.7
2	۵		٠				•	0.8	0.2	0.4	0.0	0.1	1.7	0.7	0.3	1.5
3	٠				•			1.6	1.6	4.4	0.0	0.0	2.1	1.1	1.1	6.8
4		٠	٠		۰	•	۵	2.1	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.8

<sup>&</sup>lt;sup>a</sup>Based on examining 100 'McIntosh' fruits/tree, 4 trees/plot, 2 replicate plots for all treatments except Payoff. TPB = tarnished plant bug.

Counts obtained from brushing 25 leaves/tree, 4 'McIntosh' trees/plot, one replicate/ treatment. ERM = European red mite.

APPLE: Malus domestica
Tarnished plant bug: Lygus lineolaris (P. de B.)

R.W. Weires
Hudson Valley Laboratory
NYS Agric. Exp. Station
Highland, New York 12528

APPLE, TARNISHED PLANT BUG CONTROL, MARLBORO, NY, 1982: A 6 acre block of 'Rome' and 'Golden Delicious' apple trees was divided into 3 unreplicated 2 acre plots. One plot received a pink (May 3) application of Pydrin, another Thiodan, while the 3rd was left untreated as a check. Trees were spaced 35 x 35 ft and were ca 17 ft in height. An adjacent block of semidwarf 'Spartan' and 'McIntosh' trees 17-yrs-old, spaced 16 x 27 ft, ca 14 ft in height were divided in 3 plots ranging in size from .9 - 2.7 acres and these plots received the previously mentioned treatments on the same date. Biweekly applications of Guthion 50WP 2.0 lb/acre plus Manzate 200 80WP 6 lb/acre or Captan 50WP 6 lb/acre, were applied during the remainder of the season. All treatments were applied with a Bean model 707 speed sprayer using 100 gal/acre (4X) at a speed of 2.75 mph. The fruit was evaluated for insect injury on Sep 13 by examining 100 apples/tree from 5 trees/plot.

Pydrin reduced tarnished plant bug injury while differences were noted between the check and Thiodan standard only in the Rome block.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Treatment and rate	% Tarnished plan	nt bug injury
form./acre	'Rome'	'Spartan'
Pydrin 2.4EC 10.6 oz	0.6	0.0
Thiodan 50WP 4.0 1b	2.2	3.4
Check	4.2	3.0

APPLE

European red mite: Panonychus ulmi (Koch) Tarnished plant bug: Lygus lineolaris (P. de B.)

Twospotted spider mite: Tetranychus urticae Koch

Spotted tentiform leafminer: Phyllonorycter blancardella

(Fabr.)

White apple leafhopper: Typhlocyba pomaria McAtee

R.W. Weires Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

APPLE, PAYOFF EUP TRIAL, MARLBORO, NY, 1982: A 25-yr-old block of 'Red Delicious' apple trees was divided into a 5 acre portion treated on a seasonal basis with Payoff, a 1.1 acre portion treated with a standard seasonal insecticide program, and a 0.8 acre portion in which the pink insecticide spray was omitted but the standard program was applied during the remainder of the season. Spacing varied throughout the block from 36 x 18 ft to 30 x 27 ft, while tree height varied from 16-18 ft. With the exception of an early (1/2" green stage Apr 24) oil application and an earlier (Apr 16) Glyodex fungicide application using 200 gal/acre (2X), all other applications were applied using 100 gal/acre (4X) with a Bean model 707 speed sprayer traveling 2.75 mph. Additional materials applied over all plots in combination with the insecticide treatments included: Manzate 200 80WP 6 lb/acre May 3 and 7; Dikar 77% WP 6 1b/acre May 18, 25, 28, Jun 9, 21, Jul 7, 23; and Captan 50WP 6 lb/acre Aug 5 and 21. White apple leafhopper and spotted tentiform leafminer were evaluated Jul 19, fruit was rated for insect injury on Sep 13, and mite counts were made periodically throughout the summer.

Payoff sprays effectively controlled both white apple leafhopper and spotted tentiform leafminer. The Thiodan pink application appeared to reduce the levels of the former pests by ca 50%. Tarnished plant bug injury was the only insect injury found and Payoff was the only treatment in the trial which reduced this injury. The Payoff + Dikar combination suppressed mites until both materials were discontinued. Much of the suppression was apparently due to the Dikar since mites increased rather slowly in the comparison plots where Dikar was used. The Carzol application controlled European red mite but was less effective against twospotted spider mites.

## Treatment, rate form./acre W. and application dates W. acabas

- 1. Payoff 2.5EC 8.0 oz May 3, 18, 28, Jun 21, Jul 7, 23; Penncap 2M 4.0 pt Aug 5, 21; Carzol 92SP 2.0 lb Aug 5; Omite 6EC 2.0 pt Aug 21 . . . . . .
- Guthion 50WP 1.5 1b May 18, 28, Jun 9, Aug 5, 21; Penncap 2FM 4.0 pt Jun 21, Jul 7, 23; Carzol 92SP 1.0 1b Jul 23, Aug 5; Vydate 2L 2.0 pt Jul 23, Aug 5

Treatment	Mean no.	WALH lusters <sup>a</sup>	Me mine	an no. STL s/25 clust	.M ers <sup>a</sup>	% TF	
1		Agraph Colo		3.0		0.0	) å&A II Fall Hel
2 00 1	8.8			12.5		1.2	hold o
	17.3		N (2)	28.5	6.4 0	1.4	ed pro
vale in that has	saalova saw sao	Mean	no. mite	s or eggs/	leaf <sup>C</sup>	Miller of	Tut. di
	July 2	sof sdi Lie	-July	21 df (W 29)	real to	Aug 9	t gair
100 301 331	ERM ER	ME ERM	ERME	TSM TSME	ERM	ERME TSM	TSME
1	0.2	9 4.3	28.4	3.7 3.1	0.0	12.5 1.1	2.3
2 Fisher for	1 3	3 75	38 0	0 2 0 2	0.1	2 6 0.0	0.2

10.6

0.1

0.1

8.1

<sup>&</sup>lt;sup>a</sup>Based on examining all leaves on 25 'Red Delicious' fruit clusters/tree, 4 trees/ treatment, on Jul 19. WALH = White apple leafhopper, STLM = Spotted tentiform leafminer.

bBased on examining 100 'Red Delicious' fruits/tree, 5 trees/treatment, on Sep 13. TPB = Tarnished plant bug.

CBased on brushing 25 'Red Delicious' leaves/tree from 4 trees/treatment. ERM = European red mite, TSM = Twospotted spider mite.

European red mite: Panonychus ulmi (Koch)

Comstock mealybug: Pseudococcus comstocki (Kuwana)

San Jose scale: Quadraspidiotus perniciosus (Comstock)

Spotted tentiform leafminer: Phyllonorycter blancardella (Fabr.)

Tarnished plant bug: Lygus lineolaris (P. de B.) Twospotted spider mite: Tetranychus urticae Koch R.W. Weires
Hudson Valley Laboratory
NYS Agric. Exp. Station
Highland, NY 12528

APPLE, PAYOFF EUP TRIAL, CLINTONDALE, NY, 1982: A 30-yr-old block of 'McIntosh' and 'Red Delicious' cultivars, 18-20 ft high, and spaced 20 x 40 ft, was divided into 2 blocks each 3 acres in size. Part of the block received Imidan (treatment 1) the other Payoff (treatment 2) on a seasonal basis. An adjacent 20-yr-old block of 'Spartan' and 'Red Delicious' cultivars, 14-16 ft high, and spaced 18 x 36 ft, was divided into 2 blocks each 2 acres in size. Again, part received Imidan (treatment 3) the other Payoff (treatment 4). Treatments were applied with either a Myers model A36 airblast sprayer or a Bean model 477CP speedsprayer traveling at 2 1/2 mph and delivering 100 gal/acre (4X). Additional treatments applied over the entire block and combined with the insecticides when possible included: Manzate 200 80WP 6.0 lb Apr 20, 26, 2.5 lb May 2, 18, 19, 26, Jun 3, 9, 23; Superior oil 8 gal Apr 24; Benlate 50WP 6.4 oz May 2, 8, 19, 26, Jun 3, 9, 23; Solubor 1.5 lb May 26, Jun 9; Epsom salts (omitted from Payoff plots) 20 lb Jun 9, 23; and Captan 50WP 3.0 lb Jul 8, 22, Aug 7, 22. Spotted tentiform leafminer was evaluated Jul 19 by counting the number of leaves with mines on all the leaves of 25 fruit clusters. Insect injury on the fruit was evaluated by examining 100 fruits from the top and 100 fruits from the bottom of each tree, 4 trees per plot. 'McIntosh' and 'Spartan' cultivars were evaluated Aug 24 while the 'Red Delicious' were evaluated Sep 17. Mealybugs were evaluated on Sep 21 from 'McIntosh' and 'Red Delicious' cultivars by examining 100 fruits/tree, 4 trees/plot. Mites were sampled by brushing 25 'Red Delicious' leaves/tree from 4 trees/plot at periodic intervals throughout the summer.

During the Jul 16 mite evaluation it was observed that the calyx end of many of the apples was covered with a sticky secretion in which a sooty mold fungus was growing. The problem was worse in the Payoff blocks and it was assumed that it was due to wooly apple aphids, which were building-up in the block. On closer examination it was found to be due to mealybugs and the plots were rated, indicating that Payoff was responsible for the problem possibly through natural enemy elimination or lack of efficacy. San Jose scale control was similar in both treatments with most of the scale found in the tops of the trees and only in the blocks having the tallest trees, indicating that coverage was probably responsible for the problem. Tarnished plant bug injury was more evenly distributed throughout the trees and, with the exception of the 'Spartan' cultivar, was more prevalent in the Imidan plots than in the Payoff plots. The early oil application provided rather good early season mite control while during the summer some mite suppression was noted with the Payoff treatment.

#### Treatment, rate form./acre, and application dates

- 3. Imidan 50WP 4 lb May 2, 19, Jun 3, 23, Jul 8, 22, Aug 7, 22; Phosphamidon 8EC 1 pt Jun 3; Plictran 50WP 0.8 lb Jun 23, Jul 8; Vydate 2L 3.2 pt Jul 22 . . . . . . . .

	% mea	lybug d fruit	le labor	% San J	ose sc	ale infes	ted frui	t
	Red		'Red D	elicious'	1 Mc	Intosh'	'Sp	artan'
Treatment	Delicious'	'McIntosh'	Тор	Bottom	Top	Bottom	Тор	Bottom
1	1.8	2.0	0.5	0.3	3.3	0.0	- T	18 18 18 <u>18</u> 24 18 18 18 18 18 18 18 18 18 18 18 18 18 1
2	17.0	15.0	0.0	0.3	2.0	0.5	-	A65 - 1
3	0.3	1013_4555	84 Jan	0.0	)	nga alka n	0.0	0.0
4	12.8	find wanty	n [14 + 1	0.0	· ·	Last h	0.0	0.0

	% tarnished	d plant	t bug İnju	red fi	ruit	
	'Red Delicious'	1Mc	Intosh¹	'Sp	partan'	Mean no. STLM
	Top Bottom	Тор	Bottom	Тор	Bottom	mined leaves/25 clusters
1	1.01.0 1.5	0.8	2.3	40	-	26.3
2	0.3 0.0	0.3	0.8	Max	~	0.3
3	- 0.5	_	- pilit	0.8	0.3	24.0
4	- 0.3		-	0.8	0.3	0.5

		Mean no. mites or eq	ggs/leaf	
	Jun 24	Jul 16	Jul 28	Aug 9
	ERM ERME	ERM ERME TSM TSME	ERM ERME	ERM ERME
1	0.0 0.4	2.9 26.3 0.2 2.0	0.3 2.7	0.0 4.9
2	0.0 0.0	0.2 0.9 0.0 0.1	0.2 0.9	0.1 7.0
3	0.7 16.7	4.1 22.1 0.0 0.0	0.0 10.1	0.1 4.7
4	0.1 11.9	2.0 22.1 0.7 2.8	0.3 6.7	0.1 4.0

APPLE: Malus domestica Tarnished plant bug: Lygus lineolaris (P. de B.)

R.W. Weires & W. Gerling Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

APPLE. TARNISHED PLANT BUG CONTROL, WALDEN, NY, 1982: Three treatments were arranged in a randomized block design with 3 replicates, one replicate consisting of plots 0.3 acre in size containing Law 'Romes' planted in 1969, while the other 2 replicates contained plots 0.7 - 1.1 acres in size of regular 'Romes' planted in 1963. All trees were spaced 15 x 20 ft. Treatments were applied May 3 at the early pink stage of development with a Cardox model 115 airblast sprayer traveling at 2.5 mph and delivering 200 gal/acre (2X). Additional treatments applied over the entire block included: Manzate 200 80WP 6 1b/acre Apr 26, 3.6 1b May 3, 7A (indicates alternate row application); Benlate 50WP 0.5 lb May 3, 7A; Dikar 8 lb May 20A, 21A, 27A, Jun 2A, 9A, 15A, 22A, 30A, Jul 2A, 6 1b Jul 14A, 29 Aug 5A, 13A; Phosphamidon 8EC 0.6 qt May 21A, Jun 2A, 22A, 30A, Jul 2A; Guthion 50WP 2 1b May 20A, 21A, 27A, Jun 2A, 22A, 30A, Jul 2A, 14A, 29, Aug 5A, 13A; Carzol 92SP 1.5 May 21A, 27A; Jul 14A; Epsom salts 14 lb Jun 2A, 9A; Solubor 4 lb Jun 2A, 9A; Vydate 2L 0.8 gal Jul 29; Plictran 50WP 2.5 lb Jul 29; Zineb 3 lb Aug 5A, 13A, 26A; Kelthane 35% EC 3.2 pt Aug 5A, 6A, 6.4 pt Aug 13A, 26A, 31A; Alar 65WP 3.6 lb Aug 12; Penncap 2M 8 pt Aug 26A; and Captan 50WP 3 1b Aug 26A. Treatments were evaluated for insect injury by examining 100 apples/tree from 4 trees in each plot on Sep 22.

Tarnished plant bug injury was the only injury found in the plots. Control of tarnished plant bug was greater in the Pydrin block than in the Thiodan standard or the check.

Treatment and oz formulation/acre	Application date	<pre>% Tarnished   plant bug damaged fruit</pre>
Pydrin 2.4EC 10.6	May 3	1.0
Thiodan 50WP 64.0	May 3	5.9
Check		5.9

Jan Oct 19th my known and for former part of many former part of many former part of the p

Apple aphid: Aphis pomi DeGeer

Rosy apple aphid: Dysaphis plantaginea (Passerini)

Codling moth: Laspeyresia pomonella (L.)

Plum curculio: Conotrachelus nenuphar (Herbst)

San Jose scale: Quadraspidiotus perniciosus (Comstock)
Variegated leafroller: Platynota flavedana (Clemens)
European apple sawfly: Hoplocampa testudinea (Klug)
Tarnished plant bug: Lygus lineolaris (P. de B.)
White apple leafhopper: Typhlocyba pomaria McAtee
Comstock mealybug: Pseudococcus comstocki (Kuwana)

Spotted tentiform leafminer: Phyllonorycter blancardella (Fabr.)

a green fruitworm: Orthosia hibisci Guenee

R.W. Weires & J.R. VanKirk Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

APPLE, INSECT CONTROL, HUDSON VALLEY, HIGHLAND, NEW YORK, 1982: Treatments were applied to 8 tree plots replicated 3 times in a randomized complete block design. Treatments were applied at pink, May 4, petal fall, May 17, 18, and in 5 cover sprays, Jun 3, 22, Jul 9, 23, and Aug 12, using a high-pressure handgun sprayer at 400 psi delivering 4.2 gal spray/tree (403 gal/acre) dilute to runoff. Trees were 18-yrs-old, ca 12 ft high, on EM2 rootstock, and spaced 15 x 30 ft. Orthene treatments were only applied during the first 3 sprays, Guthion being used in the plots the remainder of the season. Ambush was only applied during the first 2 sprays, Cymbush being applied during the remaining sprays. Plictran 50WP at 8 oz formulation/100 gal was applied Jul 9 with all treatments except SIR 8514, Payoff, and FCR 1272. SLJ 0312 50WP at 8.0 oz formulation/100 gal was applied Jul 9 with the FCR 1272 treatment. Vangard 10WP 7.5 oz/acre was applied May 3, 27, and Jul 7 while Rubigan IEC 9.0 oz/acre was applied Jun 15 over the entire block with an airblast sprayer at 4X (100 gal/acre) concentration. Thinning sprays were applied dilute by handgun using from 5-15 ppm of Maphthaleneacetic acid (depending upon the cultivar) on May 26. The weather was dry through the bloom period but June was unusually wet while August was cooler than normal. Pest populations were at normal levels throughout the season. Insect damage was assessed by examining 100 fruits/cultivar/plot from 'McIntosh' Sep 14, 'Cortland' Sep 17, 'Empire' Sep 24, and 'Golden Delicious' Sep 28, cultivars.

All materials, except the SIR 8514 and the Guthion standard, provided excellent control of both rosy apple aphid and apple aphid. All materials except Oncol and Guthion controlled the spotted tentiform leafminer, however Orthene was discontinued prior to 2nd brood activity and no conclusions can be made concerning its effectiveness. SIR 8514 and Guthion were the only materials which did not control White apple leafhopper. All materials provided good control of fruit feeding lepidoptera, including codling moth, fruitworm, and leafrollers. SIR 8514 did not control Plum curculio, tarnished plant bug, sawfly, or San Jose scale, whereas most other materials did. In general, fruit finish was quite poor this year, probably due to the 9.0 inches of rainfall received in early June. An outbreak of the comstock mealybug was found in the Payoff treatment and significantly more apples in this treatment had their calyx end covered with a sooty mold fungus growing on the honeydew-like exudate produced by this pest.

	WHEN THE	- 15	009		
Treatment and oz form./100 gal ,	Mean no. aph Rosy apple aphid Jun 10 'Golden Del.'	Apple Jun 10 'McIntosh'	aphid Jun 10	Mean No. STLM* mines 25 clusters Aug 16 'McIntosh'	Mean No. WALH** nymphs 25 clusters Aug 16 Greening
Onco1 50WP 4.0	0.7a	0.3a	0.3a	36.3 b	0.0a
Oncol 50WP 8.0		0.0a	0.7a	38.3 b	0.0a
FCR 1272 2EC 1.2		0.0a	0.0a	0.0a	0.0a
SIR 8514 25WP 6.8 .		15.3 d	16.0 c	0.0a	62.7a
SIR 8514 25WP 12.0		15.0 d	13.7 bc	0.0a	63.3 c
Penncap 2M 8.0		100 1111 111	and a wholes		
+Ambush 2EC 3.2	0.0a	0.0a	0.0a	0.0a	0.0a
Orthene 75SP 4.0					2012 1 01 05111
Guthion 50WP 8.0	0.0a	3.7ab	1.0a	29.0 b	0.0a
Orthene 75SP 8.0					
Guthion 50WP 8.0	0.0a	0.3a	0.0a	24.0 b	0.3a
Pay-Off 2.5EC 2.0 .		0.0a	0.0a	0.0a	0.0a
Ambush 2EC 3.2		Total Africa		a principal del	
Cymbush 3EC 1.7	0.0a	1.3ab	0.0a	0.3a	0.0a
Guthion 50WP 8.0	6.3 bc	5.7 bc	10.0 Ь	22.7 b	10.7ab
Check	4.0ab	10.0 c	15.0 c	28.0 b	19.0 b

Means followed by the same letter are not significantly different by Waller and Duncan's BSD test, K= 100 (P= ca 0.05).

\*STLM = Spotted tentiform leafminer; \*\*WALH = White apple leafhopper.

		% inju	ured fruit	toni nAmeni itili
Treatment and oz form./100 gal	Plum curculio	Tarnished plant bug		Green fruitworm
Onco1 50WP 4.0	1.6a	4.0ab	0.0a	0.1a
Oncol 50WP 8.0	0.6a	4.0ab	0.0a	0.0a
FCR 1272 2EC 1.2		3.1a	0.3a	0.0a
SIR 8514 25WP 6.8		8.2 cd	1,0 Ь	0.0a
SIR 8514 25WP 12.0		7.6 bcd	1.5 b	0.1a
Penncap 2M 8.0				and the state of the
+Ambush 2EC 3.2	0.2a	2.4a	0.0a	0.0a
Orthene 75SP 4.0		Les netse		
Guthion 50WP 8.0	2.2a	9.1 d	0.1a	0.0a
Orthene 75SP 8.0		La Park Burner		
Guthion 50 WP 8.0	1.6a	4.8abc	0.0a	0.0a
Pay-Off 2.5EC 2.0	1.8a	4.2ab	0.0a	0.0a
Ambush 2EC 3.2				
Cymbush 3EC 1.7	0.3a	3.7ab	0.1a	0.0a
Guthion 50MP 8.0	2.0a	4.9abc	0.0a	0.0a
Check		10.6 d	1.3 b	1.3 b

Means followed by the same letter are not significantly different by Duncan's Multiple Range Test, P=0.05.

27 FARE A THE RESERVE OF THE				Mean	
Treatment and Codling oz form./100 gal moth	San Jose scale	VLR*	% Clean fruit	russet rating/ apple**	Comstock mealybug
Oncol 50WP 4.00.3a	0.3a	.0.3a	92.3a	1.4	0.1a
Oncol 50WP 8.00.la	0.la	0.3a	95.2a	1.3	0.4a
FCR 1272 2EC 1.20.0a	0.0a	0.0a	96.6a	1.4	0.3a
SIR 8514 25WP 6.80.3a	17.1 b	0.2a	41.3 b	1.1.	5.2a
SIR 8514 25WP 12.00.2a	8.4ab	0.3a	40.1 b	1.1	1.la
Penncap 2M 8.0			17 - 70cm	de chellen?	riegated he
+Ambush 2EC 3.20.1a	0.0a	0.0a	97.3a	1.3	0.6a
Orthene 75SP 4.0 Guthion 50WP 8.00.0a	0.3a	0.0a	88.8a	1.2	1.1a
Orthene 75SP 8.0 Guthion 50MP 8.00.0a	0.la	0.0a	93.3a	1.1	0.1a
Pay-Off 2.5EC 2.00.0a	0.5a	0.0a	93.7a	1.2	22.4 b
Ambush 2EC 3.2		The state of	0.15		0.10
Cymbush 3EC 1.70.la	0.la	0.0a	96.0a	1.0	0.la
Guthion 50WP 8.00.0a	0.3a	0.1a	93.7a	1.3	0.8a
Check10.9 b	4.2a	0.8 ь	41.2 b	1.1	7.2a

Means followed by the same letter are not significantly different by Duncan's Multiple Range Test, P=0.05.

<sup>\*</sup>VLR = Variegated leafroller.

<sup>\*\*</sup>Based on 0 (best) - 3 (worst) rating of finish on 'Golden Delicious' cultivar.

Rosy apple aphid: Dysaphis plantaginea (Passerini)

Spotted tentiform leafminer: Phyllonorycter blancardella NYS Agric. Exp. Station

(Fabr.)

R.W. Weires & J.R. VanKirk Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

San Jose scale: Quadraspidiotus perniciosus (Comstock) European apple sawfly: Hoplocampa testudinea (Klug) Tarnished plant bug: Lygus lineolaris (P. de B.)

White apple leafhopper: Typhlocyba pomaria McAtee Plum curculio: Conotrachelus nenuphar (Herbst)

Codling moth: Laspeyresia pomonella (L.)

Variegated leafroller: Platynota flavedana (Clemens)

APPLE, EARLY SEASON INSECT CONTROL, HIGHLAND, NY, 1982: Several treatments were evaluated for different pests. Advantage was applied for San Jose scale control whereas most other treatments were evaluated for early season control of tarnished plant bug, plum curculio, and other pests present at this time. Materials were applied either at pink, May 1, or petal fall May 17, or in cover sprays timed for San Jose scale crawler emergence. Materials were also evaluated as miticides and additional applications were made in response to mite populations. Materials were applied by handgun sprayer at 400 psi, using 4.2 gal/tree (403 gal/acre). Treatments were applied to 8 tree plots replicated 3 times in a randomized complete block design. Trees were 18-yrs-old, ca 12 ft high, and spaced 15 x 30 ft. Additional sprays over the entire block included Rubigan IEC 9.0 oz/acre on May 3, 27, and Jul 7, while Vangard 10WP 7.5 oz/acre was applied Jun 15, all by airblast sprayer at 4X (100 gal/acre) concentration. Thinning sprays of from 5-15 ppm of naphthaleneacetic acid were applied May 26. Insect damage was evaluated on Jun 2 by sampling 50 fruits/tree from one 'McIntosh' and one 'Cortland' tree in each plot. Injury was also evaluated at harvest by sampling 100 'McIntosh' fruits on Sep 15, and 100 'Golden Delicious' fruits on Sep 28. The rosy apple aphid was evaluated on Jun 7, white apple leafhopper nymphs were counted Aug 19, and spotted tentiform leafminer mines were also counted on Aug 19. June was unusually wet while August was unusually cool.

The pyrethroids, Pydrin and Mavrik, gave good control of rosy apple aphid, as did the high rate of Larvin and the Advantage-oil combination. The pyrethroids gave good spotted tentiform leafminer control, as well as controlling the white apple leafhopper. Advantage and the 3 Carzol applications also controlled white apple leafhopper. Plum curculio and tarnished plant bug control was better with the Larvin and the pyrethroid treatments. The pink + petal fall applications of Carzol, and to a lesser extent the Dylox treatments, also gave some plant bug control. San Jose scale results were erratic but the pyrethroids, Advantage, high rates of Larvin and Dylox, and the pink-petal fall Carzol, plots all had fewer scale on the fruit. The Dylox treatments injured the leaves, some of which turned yellow and dropped. Russet was also more prevalent in the Dylox treatment (high rate) possibly in response to the petal fall application.

and Anelo.	d fimit arrished Jun 2	S Injure Lorrello L Marvest	nul V	Values of	Mean mines clust	/25
Treatment & oz form./100 gal	ad F.F	Dates of application	Mean no. in Rosy apple aphid	Hhite apple leafhopper	Spotte tentif leafmi	orm
Carzol 92SP	4.0	May 1 Jul 15	16.7 b	10.3a	38.0	e fox i
Carzol 92SP	4.0	May 17		All Lorent of M.	92	08 xo1
des c	6.0	Jul 15	3.7ab	11.7a	12.7ab	C
Carzol 92SP	4.0	May 1,17				
	6.0	Jul 15	3.0ab	0.3a	17.3 b	cd
Dylox 80SP	16.0	May 1,17	3.2			
Kelthane 35WP	18.3	Jun 25, Jul 15 .	9.3ab	13.3a	52.0	9
Dylox 80SP	32.0	May 1,17		TILL VOIL	35.	5 77
Kelthane 4F	12.0	Jun 25, Jul 15 .	6.3ab	11.3a	16.0 b	cd
Larvin 3.2F	10.0	May 1,17	27 1:4	The sale of water and the	0.00	r migh
Kelthane 35WP	18.3	Jun 25, Jul 15	9.3ab	14.7a	29.3	def
Larvin 3.2F	20.0	May 1,17		a/ net % 7		
Kelthane 4F	12.8	Jun 25, Jul 15 .		9.3a	20.0	cde
Pydrin 2.4EC	2.6	May 1, Jun 25, Ju	11 15	Frank 25 mil + C. F.	Jak as	sau na vi
PBO SEC	10.4	Jun 25		75. 1924.	91703	
	3.2	Jun 15		0.0a	0.0a	
Mavrik 2EC	1.6	May 1, Jun 25, Ju	ıl 150.0a	0.0a	4.3ab	ys three th
Advantage 4EC	8.0	Jun 25, Aug 11		75 - 16.2 m. 450		
Plictran 50WP	4.0	Jun 25	w #88 000 0	is not		ray no l
	6.0	Jul 15	6.0ab	0.3a	32.3	cd
Advantage 4EC		Apr 23, Jun 25, A	lug 11			
	128.0	Apr 23	111111111111111111111111111111	TY VOLUME 2 ale Vil	bewrit F	
Plictran 50WP	4.0	Jun 25		0.00		C Don-
	6.0	Jul 15	0.0a			cde
Check			6.7ab	34.7 b different by Dunca	28.7	def

Means followed by the same level are not significantly different by Duncan's Multiple Range Test, p=0.05.

- 19 -

% Injured fruit

EAST	OI	OCK
EMDI	DE	UUN

				6 Injui	eu muit	
Treatment & oz	2	Dates of	Plum c	curculio	The same of the sa	plant bug
form./100 gal		application	Jun 2	Harvest	Jun 2	Harvest
Carzol 925P	4.0	May I	walf			
rontiform	6.0	Jul 15	10.6ab	20.0abc	3.3 bc	4.0ab
Carzol 92SP	4.0	May 17				
	6.0	Jul 15	20.6 Ь	20.0abc	5.3 c	10.7 d
Carzol 92SP	4.0	May 1,17			0.5	4355 fox
0.07	6.0	Jul 15	7.3ab	16.0ab	1.7ab	4.2ab
Dylox 80SP	16.0	May 1,17		. 11 70		NAKE LOXI
Kelthane 35WP	18.3	Jun 25, Jul 15	5.3a	7.3a	1.3ab	3.7ab
Dylox 80SP	32.0	May 1,17				364 201 Julius
Kelthane 4F	12.0	Jun 25, Jul 15	2.6a	11.2ab	1.0ab	4.7abc
Larvin 3.2F	10.0	May 1,17				
Kelthane 35WP	18.3	Jun 25, Jul 15	1.3a	7.0a	0.3a	2.2a
Larvin 3.2F	20.0	May 1,17	10 A			
Kelthane 4F	12.8	Jun 25, Jul 15	0.0a	4.0a	0.7ab	2.0a
Pydrin 2.4EC	2.6	May 1, Jun 25, Jul 15				11.00
PBO SEC	10.4	Jun 25				
	3.2	Jul 15	3.3a	14.0ab	1.7ab	1.5a
Mavrik 2EC	1.6	May 1, Jun 25, Jul 15	4.6a	10.8ab	1.7ab	4.0ab
Advantage 4EC	8.0	Jun 25, Aug 11		, in the control of t		1144
Plictran 50WP	4.0	Jun 25		, 43 mm		
	6.0	Jul 15	5.7a	26.7 bc	2.3ab	9.0 cd
Advantage 4EC	8.0	Apr 23, Jun 25, Aug 11				
Superior oil	128.0	Apr 23				
Plictran 50WP	4.0	Jun 25				
0.00	6.0	Jul 15	7.0ab	13.0ab	2.3ab	4.0ab
Check			19.7 b	33.7 c	2.3ab	7.8 bcd
Maans followed	by the	a cama lavarl are not a	1 1 1	1. 1166	L. D.	- I - Mulainl

Means followed by the same leverl are not significantly different by Duncan's Multiple

Range Test. p=0.05.

% injured fruit Treatment & oz Codling San Jose Dates of Variegated form./100 gal application moth scale leafroller Carzol 92SP 4.0 May 1 6.0 Jul 15.. .....14.3 bc 33.0 b 2.2 c Carzol 92SP 4.0 May 17 6.0 Jul 15.. 1.2abc 19.5ab Carzol 92SP 4.0 May 1,17 Jul 15......2.7a May 1,17 Jun 25,Jul 15......7.3ab 6.0 1.7ab 1.2abc Dylox 80SP 16.0 18.3 Kelthane 35WP 0.8ab 13.3ab 32.0 12.0 May 1,17 Jun 25,Jul 15......11.3 bc Dylox 80SP Kelthane 4F 0.0a 2.0 bc May 1,17
Jun 25,Jul 15.....2.7a
May 1,17
Jun 25,Jul 15.....1.8a Larvin 3.2F 10.0 18.3 Kelthane 35WP 0.7a 11.3ab Larvin 3.2F 20.0 12.8 Kelthane 4F 0.8a 0.7a May 1, Jun 25, Jul 15 Jun 25 Pydrin 2.4EC 2.6 PBO SEC 10.4 3.2 Jul 15.... 0.2a 0.0a 1.6 Mavrik 2EC May 1, Jun 25, Jul 15....3.7a 0.3a 0.0a 8.0 Jun 25, Aug 11 Jun 25 Advantage 4EC 4.0 Plictran 50WP Jul 15. 1.2a 0.3a .....1.0a Advantage 4EC 8.0 Apr 23, Jun 25, Aug 11 128.0 Apr 23 Jun 25 Superior oil 4.0 Plictran 50MP 6.0 Jul 15.. 0.3a0.2a16.5ab .....15.7 c Check... 1.0abc

Means followed by the same level are not significantly different by Duncan's Multiple

Range Test, p= 0.05.

## EAST BLOCK of smodel velle/ nosbill

Treatment & oz form./100 gal		Dates of application	<pre>% injured fruit European apple sawfly</pre>	% clean fruit	Mean russet rating/apple
Carzol 92SP	4.0	May 1 Jul 15	0.2a	39.8a	0.8
Carzol 92SP	4.0	May 17 Jul 15	0.0a	50.8ab	0.9
Carzol 92SP	4.0	May 1,17 Jul 15	0.2a	75.3 bc	0.9
Dylox 80SP Kelthane 35WP	16.0	May 1,17 Jun 25,Jul 15	0.2a	72.3 bc	0.7
Dylox 80SP Kelthane 4F	32.0 12.0	May 1,17 Jun 25,Jul 15	0.2a	73.8 bc	1.6
Larvin 3.2F Kelthane 35WP	10.0	May 1,17 Jun 25,Jul 15	0.0a	77.3 bc	0.7
Larvin 3.2F Kelthane 4F	20.0	May 1,17 Jun 25,Jul 15	0.2a	91.2 c	0.8
Pydrin 2.4EC PBO 8EC	2.6	May 1, Jun 25, Jul 15 Jun 25			gerwee underster
	3.2	Jul 15		84.2 c	0.7
Mavrik 2EC	1.6	May 1, Jun 25, Jul 15	0.0a	80.3 bc	0.7
Advantage 4EC Plictran 50WP	8.0 4.0 6.0	Jun 25, Aug 11 Jun 25 Jul 15	1.5a	65.8abc	1.1
		Apr 23, Jun 25, Aug 11 Apr 23			ுவை எறுக்குக்கு இது வக்கூற்ற மு. ந்தைவ என்று இதுக்குக்கு
Plictran	4.0	Jun 25 Jul 15	0.3a	83.2 c	0.7
Check			-	40.2a	0.8

Means followed by the same level are not significantly different by Duncan's Multiple Range Test, p=0.05.

- 21 -

APPLE: Malus domestica

Apple rust mite: Aculus schlechtendali European red mite: Panonychus ulmi (Koch)

Twospotted spider mite: Tetranychus urticae Koch

a predator mite: Amblyseius fallacis (Garman)

a preadtor mite: Zetzellia mali (Ewing)

R.W. Weires & J.R. VanKirk Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

APPLE, INSECTICIDE EFFECTS ON MITES, HUDSON VALLEY, HIGHLAND, NY, 1982: Insecticide treatments were applied to 8 tree plots replicated 3 times in a randomized complete block design. Treatments were applied by high-pressure handgun at 400 psi, using 4.2 gal/tree (403 gal/acre), dilute to runoff. Treatments were all applied at pink, May 4, petal fall May 17, 18, and in 5 cover sprays, Jun 3, 22, Jul 9, 23, and Aug 12, except Orthene, which was used in first 3 sprays, and Ambush, which was applied in the first 2 sprays only. The miticide Plictran 50WP (8 oz formulation/100 gal) was applied Jul 9 in combination with all treatments except SIR 8514, Pay-Off and FCR 1272. SLJ 0312 50MP (8 oz formulation/100 gal) was applied Jul 9 along with the FCR 1272 treatment. Vangard 10WP 7.5 oz/acre was applied May 3, 27, and Jul 7 while Rubigan IEC 9.0 oz/acre applied Jun 15 over the block for scab control. Mite bronzing was noted in the check plots starting approximately the 3rd week in Jun, and mites were counted on Jun 30.7 Mites were also counted on Jul 22 after the miticides had an opportunity to work. Mites were evaluated by sampling 25 'Red Delicious' leaves/tree, from one 'Red Delicious' tree in each plot, brushing the leaves with a mite brushing machine, and counting all live stages and species with a binocular scope.

Oncol, SIR 8514, and Guthion did not affect the predator Zetzellia mali and were apparently less toxic to Amblyseius fallacis than the other treatments. Plictran and SLJ 0312 effectively reduced European red mite and twospotted spider mite populations following the Jul 9 application, although the SLJ 0312 appeared to be less effective against the twospotted spider mite population. Predators were also reduced in these plots although whether through prey (food supply) elimination or direct toxicity was not possible to determine. Apple rust mite populations were reduced by the Oncol, Ambush, and Pay-Off treatments. Pay-Off mite suppression was found early but was less noticeable as the season progressed. Reduction of pest mites by biological control in the SIR 8514 treatments was evident on the final count date.

	1 ~	1						que	22 -					
	Zetzellia mali Jun 30 Jul 22	0.4 0.0	0.5	0.0		0.2 2.4	0.0	neni s	(dold)	indi			9	APPLE: Malus dong Apple sust titul Forocesn red min
	fallacis Jul 22	0.0	0.0	0.0	0.0	0.1	0.0	0.0	C C	0.0	0.0	0.0	0.0	Nemie sasta
	Amblyseius Jun 30	0.1	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	
mites/leaf	rust mite 0 Jul 22	0.0	0.0	0.0	2.3	50.2	0.0	7.5	18.7	30.7	, , ,	32.5	23.9	
Mean no.	Apple r Jun 30	2.2	0.0	37.6	192.7	42.0	4.0	36.6	8.00	2.2	6.	85.4	93.0	a en estado.
12	spotted ider mite 30 Jul 22	4.0	0.1	0.1	1.3	0.2	0.0	0.1	0.0	0.3	0.0	0.0	0.0	e engli viego noig La como los electores
	Twospo spider Jun 30	0.2	0.2	1.1	0.1	0.0	0.1	0	0.2	0.1	0.1	0.2	0.5	
	red mite Jul 22	4.0	0.0	0.7	8.0	0.5	0.0	0.1	0.0	6.3	0.5	0.0	0.0	e det e streine Julius de e Frits Julius des estreines
	and oz European gal Jun 30	Oncol 50MP 4.017.3	Oncol 50WP 8.00.4	2EC 1.217.9	25WP 6.80.4	SIR 8514 25WF 12.00.2	2M 8.0 2EC1.1	75SP 4.0 50WP 8.07.4	75SP 8.0 50WP 8.02.4	Pay-Off 2.5EC 2.02.5	C 3.2 EC 1.71.4	Guthion 50WP 8.06.7	Check27.2	
	Treatment form./100	Oncol 50%	Oncol 50h	FCR 1272	SIR 8514	SIR 8514	Penncap 2 +Ambush 2	Orthene 7 Suthion 5	Orthene 7 Guthion 5	Pay-Off 2	Ambush 2EC 3.2 Cymbush 3EC 1.	Guthion 5	Check	

Apple rust mite: Aculus schlechtendali (Nalepa)

European red mite: Panonychus ulmi (Koch)

Twospotted spider mite: Tetranychus urticae Koch

a predator: Amblyseius fallacis (Garman)

a predator: Zetzellia mali (Ewing)

R.W. Weires & J.R. VanKirk Hudson Valley Laboratory NYS Agric. Exp. Station Highland, NY 12528

APPLE, SEASONAL MITE CONTROL PROGRAMS, HUDSON VALLEY LABORATORY, HIGHLAND, NY 1982: Treatments were applied to 8 tree plots replicated 3 times in a randomized complete block design. All treatments were applied by handgun at 400 psi dilute to runoff using 4.2 gal spray/tree (403 gal/acre). Trees were 18-yrs-old, ca 12 ft high, spaced 15 x 30 ft, and on the EM2 rootstock. Additional sprays applied to the block included: Rubigan 1EC 9.0 oz/acre on May 3, 27 and Jul 7; Vangard 10WP 7.5 oz/acre on Jun 15; and NAA (napthaleneacetic acid) 5-15 ppm on May 26. Treatments were evaluated for mites on Jun 16, Jul 7, and Aug 3, by sampling 25 'Red Delicious' leaves/tree from I tree/plot. Leaves were then brushed and all live mites counted.

Back to back applications of Carzol at pink and petal fall provided mite control into Julywhile the single Carzol applications were not as effective. Summer applications of Carzol, Plictran, and Kelthane provided good mite control, but back to back application of Plictran and Kelthane were used as well as slightly higher than normal rates (6.0 oz/100 gal rather than 4.0 oz). The Pydrin + PBO and the Mavrik plots did not reduce mites sufficiently to prevent bronzing which was evident in the plots by early July. Zetzellia mali and Amblyseius fallacis were only found in the Carzol plots and in the case of A. fallacis, only after 1 1/2 months had elapsed following application.

- 24 -Mean no. mites/leaf

European red mite

Jun 16 Jul 7 Aug 3

Dates of

application

Treatment & oz

form./100 gal

Twospotted spider mite
Jun 16 Jul 7 Aug 3

rorm./100 gai		apprication	Jun 10	Jui /	Aug 5	Juli 10	Jui /	Aug 5
Carzol 92SP	4.0	MayT					- •	
	6.0	Jul 15	2.4	15.1	0.5	0.9	1.4	0.0
Carzol 92SP	4.0	May 17						
	6.0	Jul 15	4.2	21.7	0.2	0.1	2.2	0.0
Carzol 92SP	4.0	May 1,17						
	6.0	Jul 15	0.9	6.9	0.7	0.1	0.7	0.0
Dylox 80SP	16.0	May 1,17	•					
Kelthane 35WP	18.3	Jun 25, Jul 15	15.4	0.6	0.0	0.7	0.0	0.0
Dylox 80SP	32.0	May 1,17	-1 0			, m m	0.0	0.0
Kelthane 4F	12.0	Jun 25, Jul 15.	14.8	0.5	0.0	5.7	0.2	0.0
Larvin 3.2F	10.0	May 1,17	** (	0.6	0.0	0 0	1 0	0.0
Kelthane 35WP	18.3	Jun 25, Jul 15	11.0	2.6	0.0	2.3	1.8	0.2
Larvin 3.2F	20.0	May 1,17	0.5	0.1	0.0	1.8	0.3	0.0
Kelthane 4F	12.8	Jun 25, Jul 15	9.5	0.4	0.0	1.0	0.5	0.0
Pydrin 2.4EC	2.6	May 1, Jun 25,						
PBO BEC	10.4	Jul 15 Jun 25						
rou dec		Jul 15	E E	7.9	1.1	0.3	0.4	5.0
Mavrik 2EC	3.2 1.6	May 1, Jun 25,		1.3	1.1	0.3	0.4	2.0
Mavrik ZEC	1.0	Jul 15	6.0	10.1	1.0	0.5	2.1	7.1
Advantage 4EC	8.0	Jun 25, Aug 11		10.1	1.0	0.7	du s l	/ • 1
Plictran 50WP	4.0	Jun 25						
I IICCIAII JOWI	6.0	Jul 15	63	1.2	0.0	0.3	0.1	0.0
Advantage 4EC	8.0	Apr 23, Jun 25		1 8 400	0.0			
navaneago neo	0.0	Aug 11						
Superior oil	128.0	Apr 23						
Plictran	4.0	Jun 25		8				
	6.0	Jul 15	3.2	1.3	0.2	0.9	0.0	0.0
Chack		*	0 0	10 0	0 1	1 1	0.6	0.0
UIICUR			0 . 7	.18.5	0.1	1.1	0.0	0.0
OHCON	6 8 8 8 8 9: 0 8			Annual Control of the	mites/1	eaf .		the second secon
Value de la proposition de Antheriories de la manquelle de la general de Antheriories de Antheriories de Antheriories de la manuelle de Antheriories de Antheriories de la manuelle de Antheriories de Antheriories de Antheriories de la manuelle de Antheriories de Antherio		a diberative film e de nome emerce com elementario de la film de l		Annual Control of the	mites/1	eaf Amblyseius	Zetzel	TTa .
Treatment & oz		Dates of	Me	an no.	mites/1	eaf Amblyseius Fallacis	Zetzel	Tia ·
Val. Age and Agent fire in Anni Angerous and a recognitive fire of the Agent Adentification of the Agent fire in Anni Anni Anni Anni Anni Anni Anni		a diberative film e de nome emerce com elementario de la film de l		an no.	mites/1	eaf Amblyseius	Zetzel	Tia ·
Treatment & oz form./100 gal	en er den er eine er e Ein er eine er	Dates of application	Me	an no.	mites/1	eaf Amblyseius Fallacis	Zetzel	Tia ·
Treatment & oz form./100 gal	4.0 6.0	Dates of application May 1 Jul 15	Jun 16	an no. Jul 7 / 341.2	mites/I Aug 3	eaf Amblyseius Fallacis	Zetzel	Tia ·
Treatment & oz form./100 gal	4.0 6.0 4.0	Dates of application May 1 Jul 15	Jun 16	an no. Jul 7 / 341.2	mites/I Aug 3	leaf Amblyseius Fallacis Jul 7	Zetzel mali Jul 7	Tra Aug 3 0.2
Treatment & oz form./100 gal Carzol 92SP Carzol 92SP	4.0 6.0 4.0 6.0	Dates of application  May 1 Jul 15	Jun 166.38.2	Jul 7 / 341.2 63.8	Mites/1 Aug 3 34.3 9.0	leaf Amblyselus Fallacis Jul 7 0.2 0.2	Zetzel mali Jul 7	Aug 3 0.2 0.7
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP	4.0 6.0 4.0 6.0	Dates of application  May 1 Jul 15	Jun 166.38.2	an no. Jul 7 / 341.2	mites/I Aug 3	leaf Amblyseius Fallacis Jul 7	Zetzel mali Jul 7	Tra Aug 3 0.2
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP	4.0 6.0 4.0 6.0 16.0	Dates of application  May 1 Jul 15	Jun 166.38.23.5	an no.  Jul 7 / 341.2  63.8  417.0	mites/1 Aug 3 34.3 9.0 11.6	leaf Amblyselus Fallacis Jul 7 0.2 0.2 0.1	Zetzel mali Jul 7 0.1 0.5 0.1	Aug 3 0.2 0.7
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP	4.0 6.0 4.0 6.0	Dates of application  May 1 Jul 15	Jun 166.38.23.528.0	341.2 63.8 417.0 66.7	Mites/1 Aug 3 34.3 9.0 11.6 2.2	leaf Amblyselus Fallacis Jul 7  0.2  0.2  0.1  0.0	Zetzel mali Jul 7 0.1 0.5 0.1	Aug 3  0.2  0.7  1.2  0.0
Treatment & oz form./100 gal Carzol 92SP Carzol 92SP Carzol 92SP Dylox 80WP Kelthane 35WP Dylox 80SP Kelthane 4F	4.0 6.0 4.0 6.0 16.3 32.0	Dates of application  May 1 Jul 15	Jun 166.38.23.528.0	an no.  Jul 7 / 341.2  63.8  417.0	mites/1 Aug 3 34.3 9.0 11.6	leaf Amblyselus Fallacis Jul 7 0.2 0.2 0.1	Zetzel mali Jul 7 0.1 0.5 0.1	Aug 3  0.2  0.7  1.2
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F	4.0 6.0 4.0 6.0 16.0 18.3 32.0 12.0	Dates of application  May 1 Jul 15 May 17 Jul 15 May 1,17 Jul 15,17 Jul 15,17 Jun 25,Jul 15 May 1,17 Jun 25,Jul 15 May 1,17 Jun 25,Jul 15 May 1,17	Jun 16 6.3 8.2 3.5 28.0	341.2 63.8 417.0 66.7 0.0	Aug 3 34.3 9.0 11.6 2.2 0.0	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 35WP	4.0 6.0 4.0 6.0 16.3 32.0 12.0 10.0	Dates of application  May 1 Jul 15 May 17 Jul 15 May 1.17 Jul 15 May 1,17 Jun 25,Jul 15 May 1,17 Jun 25,Jul 15 May 1,17 Jun 25, Jul 15 May 1,17 Jun 25, Jul 15	Jun 16 6.3 8.2 3.5 28.0	341.2 63.8 417.0 66.7	Mites/1 Aug 3 34.3 9.0 11.6 2.2	leaf Amblyselus Fallacis Jul 7  0.2  0.2  0.1  0.0	Zetzel mali Jul 7 0.1 0.5 0.1	Aug 3  0.2  0.7  1.2  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 35WP  Larvin 3.2F	4.0 6.0 4.0 6.0 16.3 32.0 12.0 18.3 20.0	Dates of application  May 1 Jul 15	Jun 16 6.3 8.2 3.5 28.0 .180.7	an no.  Jul 7 /  341.2  63.8  417.0  66.7  0.0  133.0	Aug 3  34.3  9.0 11.6  2.2  0.0  0.2	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F	4.0 6.0 6.0 16.3 32.0 10.0 18.3 20.0 12.8	Dates of application  May 1 Jul 15 May 17 Jul 15 May 1,17 Jul 25,Jul 15 May 1,17 Jun 25,Jul 15 May 1,17 Jun 25, Jul 15	Jun 16 6.3 8.2 3.5 28.0 .180.7	341.2 63.8 417.0 66.7 0.0	Aug 3 34.3 9.0 11.6 2.2 0.0	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC	4.0 6.0 4.0 6.0 16.3 32.0 10.0 18.3 20.0 12.8 2.6	Dates of application  May 1 Jul 15	Jun 16 6.3 8.2 3.5 28.0 .180.7	an no.  Jul 7 /  341.2  63.8  417.0  66.7  0.0  133.0	Aug 3  34.3  9.0 11.6  2.2  0.0  0.2	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F	4.0 6.0 6.0 16.3 32.0 10.0 18.3 20.0 12.6	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5	an no.  Jul 7 /  341.2 63.8 417.0 66.7 0.0 133.0 108.0	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 35WP  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PBO 8EC	4.0 6.0 4.0 6.0 16.0 18.3 32.0 10.0 18.3 20.0 12.6 10.4	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5	an no.  Jul 7 /  341.2  63.8  417.0  66.7  0.0  133.0  108.0	Aug 3  34.3  9.0 11.6  2.2  0.0  0.2	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC	4.0 6.0 6.0 16.3 32.0 10.0 18.3 20.0 12.6	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.9	an no.  Jul 7 /  341.2 63.8 417.0 66.7 0.0 133.0 108.0	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyseius Fallacis Jul 7 0.2 0.2 0.1 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PBO 8EC  Mavrik 2EC  Advantage 4EC	4.0 6.0 6.0 16.3 32.0 10.0 18.3 20.8 20.8 21.6 8.0	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.9	an no.  Jul 7 /  341.2 63.8 417.0 66.7 0.0 133.0 108.0	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyselus Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.1
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PB0 8EC  Mavrik 2EC	4.0 6.0 6.0 16.3 12.0 10.3 12.0 12.6 10.3 12.6 10.3 12.6 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.9	an no.  Jul 7 / 341.2 63.8 417.0 66.7 0.0 133.0 108.0 21.0 301.3	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyselus Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0	Zetzel mali Jul 7  0.1  0.5  0.1  0.0  0.0  0.0  0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PBO 8EC  Mavrik 2EC  Advantage 4EC  Plictran 50WP	4.0 6.0 6.0 16.3 32.0 10.0 18.3 20.8 20.8 21.6 8.0	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.9	an no.  Jul 7 /  341.2 63.8 417.0 66.7 0.0 133.0 108.0	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyselus Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0	Zetzel mali Jul 7 0.1 0.5 0.1 0.0 0.0 0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.1
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PB0 8EC  Mavrik 2EC  Advantage 4EC  Plictran 50WP  Advantage 4EC	4.00 6.00 16.3 10.0 18.0 10.3	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.9	an no.  Jul 7 / 341.2 63.8 417.0 66.7 0.0 133.0 108.0 21.0 301.3	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0	leaf Amblyselus Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0	Zetzel mali Jul 7  0.1  0.5  0.1  0.0  0.0  0.0  0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PB0 8EC  Mavrik 2EC  Advantage 4EC  Plictran 50WP  Advantage 4EC  Superior oil	4.0 6.0 6.0 16.3 32.0 10.3 20.8 20.8 2.6 10.4 2.6 8.0 6.0 8.0	Dates of application  May 1 Jul 15	Me Jun 166.38.23.528.0 .180.7 .258.5 .188.910.471.338.6	an no.  Jul 7 / 341.2 63.8 417.0 66.7 0.0 133.0 108.0 21.0 301.3	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0 20.5 6.0 0.0	eaf Amblyseius Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0 0.0	Zetzel mali Jul 7  0.1  0.5  0.1  0.0  0.0  0.0  0.0  0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.0  0.1  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PBO 8EC  Mavrik 2EC  Advantage 4EC  Plictran 50WP  Advantage 4EC  Superior oil	4.0 6.0 6.0 16.3 10.3 12.0 10.3 12.6 10.0 10.	Dates of application  May 1 Jul 15	Me  Jun 16 6.38.23.528.0 .180.7 .258.5 .188.9 10.471.338.6	an no.  Jul 7 / 341.2 63.8 417.0 66.7 0.0 133.0 108.0 21.0 301.3	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0 20.5 6.0 0.0	leaf Amblyseius Fallacis Jul 7  0.2  0.2  0.1  0.0  0.0  0.0  0.0  0.0	Zetzel mali Jul 7  0.1  0.5  0.1  0.0  0.0  0.0  0.0  0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.0  0.1  0.0  0.0
Treatment & oz form./100 gal  Carzol 92SP  Carzol 92SP  Carzol 92SP  Dylox 80WP  Kelthane 35WP  Dylox 80SP  Kelthane 4F  Larvin 3.2F  Kelthane 4F  Pydrin 2.4EC  PBO 8EC  Mavrik 2EC  Advantage 4EC  Plictran 50WP  Advantage 4EC  Superior oil	4.0 6.0 6.0 16.3 10.3 12.0 10.3 12.6 10.0 10.	Dates of application  May 1 Jul 15	Me  Jun 16 6.38.23.528.0 .180.7 .258.5 .188.9 10.471.338.6	an no.  Jul 7 / 341.2 63.8 417.0 66.7 0.0 133.0 108.0 21.0 301.3	Mites/1 Aug 3 34.3 9.0 11.6 2.2 0.0 0.2 0.0 20.5 6.0 0.0	eaf Amblyseius Fallacis Jul 7  0.2 0.2 0.1 0.0 0.0 0.0 0.0 0.0	Zetzel mali Jul 7  0.1  0.5  0.1  0.0  0.0  0.0  0.0  0.0	Aug 3  0.2  0.7  1.2  0.0  0.0  0.0  0.0  0.1  0.0  0.0