

Crop and Pest Management Guidelines

A Cornell Cooperative Extension Publication

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Pest	IRAC & FRAC	Product	Rates	PHI (days)	REI (hrs)	Efficacy	Comments (see text)
Additional Summer Sprays							
American plum borer	1B	*Lorsban 4EC	1.5 qt/100 gal water	PB/28(A)	96	High	[17.1]
	1B	*Lorsban 75WG	2 lb/100 gal water	PB/28(A)	96	High	[17.1]
Apple aphid, Spirea aphid		§M-Pede	2 gal/100 gal water		12	Moderate	[11.1]
	1A	*Lannate 90SP	0.5-1 lb/acre 0.25 lb/100 gal water	14	72	High	[11.1]
	1A	*Lannate LV 2.4L	1.5-3 pt/acre 0.75 pt/100 gal water	14	72	High	[11.1]
	1A	*†Vydate 2L	4-8 pt/acre	14	48	High	[11.1,11.1e]
	23	Movento 240SC	6-9 fl.oz./acre	7	24	High	[11.1,11.1d]
	2A	*Thionex 3EC	2.6 qt/acre 0.5 qt/100 gal water	21	7	High	[11.1,35.1b]
	2A	*Thionex 50WP	4 lb/acre 0.75 lb/100 gal water	21	20	High	[11.1,35.1b]
	3	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	High	[11.1]
	3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	High	[11.1]
	3A	*Danitol 2.4EC	16 fl.oz./acre	14	24	High	[11.1,11.1c]
	4A	*Admire Pro 4.6SC	2.8 fl.oz./acre see label	7	12	High	[11.1]
	4A	Assail 30SG	2.5-4 oz/acre	7	12	High	[11.1]
	4A	*†Calypso 4F	2-4 fl.oz./acre 0.5-1 fl.oz./100 gal water	30	12	High	[11.1,11.1b]
3A	§Pyrenone 6L	12 fl.oz./acre		12	Moderate	[11.1]	
9C	Beleaf 50SG	2-2.8 oz/acre	21	12	High	[11.1]	

	UN	§Aza-Direct 1.2L	12.5-42 fl.oz./acre	0	4	Moderate	[11.1]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	High	[1.0]
	4A/28	*†Voliam Flexi WDG	6-7 oz/acre	35	12	High	[1.0,11.1]
	4A/3A	*Leverage 360 oil	2.4-2.8 fl.oz./acre 1 gal/acre 1 qt/100 gal water plus	7	12	High	[1.0,11.1] [1.0,11.1,11.1a]
	6/4A	*†Agri-Flex SC	5.5-8.5 fl.oz./acre 1.5-2 fl.oz./100 gal water	35	12		
Apple maggot		§Surround 95WP	25-50 lb/acre	0	4	Moderate	[12.2,12.1]
	1A	*Lannate LV 2.4L	1.5 pt/100 gal water	14	72	Moderate	[12.1,12.1c,12.1d]
	1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High	[12.1,12.1a]
	22	Avaunt 30WDG	5-6 oz/acre	14	12	Moderate	[12.1,12.1a]
	3A	*Baythroid XL 1EC	2.4-2.8 fl.oz./acre	7	12	High	[12.1,12.1a]
	3A	*Danitol 2.4EC	16 fl.oz./acre	14	24	High	[12.1,12.1a,12.1b]
	4A	Assail 30SG	8 oz/acre	7	12	High	[12.1,12.1a]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0]
	4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	High	[1.0,12.1,12.1a, 15.4]
Apple rust mite	21A	†Nexter 75WS	5.2-10.7 oz/acre	25	12	Moderate	[13.2]
	21A	Portal 0.4EC	2 pts/acre	14	12	High	[13.2]
	23	*†Envidor	16-18 fl.oz./acre	7	12	High	[13.2]
Apple scab		Captec 4L	0.5-1.0 qt/100 gal water	Up to day of harvest	24		
		Flint	2.0-2.5 oz/acre 0.67-0.8 oz/100 gal water	14	12		[2.14,2.4]
		Indar 2F	6.0-8.0 fl.oz./acre	14	12		[2.13]
		Manzate ProStik	3.0-6.0 lb/acre 1.0-2.0 lb/100 gal water	BL, 77(A)	24		[2.8]
		Penncozeb 75DF	3.0-6.0 lb/acre 1.0-2.0 lb/100 gal water	BL, 77(A)	24		[1.3,2.2,2.8]
		Polyram 80DF	3.0 lb/acre	BL, 77(A)	24		[2.8]
		Sovran 50WDG	3.2-6.4 oz/acre 1.0-1.6 oz/100 gal water	30	12		[2.14,2.4]
	M4	Captan 50WP	8.0 lb/acre 1.0-2.0 lb/100 gal water	0	24		[2.9]
		Cabrio EG	5.0-8.0 oz/acre 4.0 oz/100 gal water	0	12		[2.14,2.4]
		Inspire Super	8.5-12.0 fl.oz./acre	14	12		[2.13]
		*†Luna Tranquility	11.2-16 fl.oz./acre	72	12	High	
		*†Merivon	4-5.5 fl.oz./acre	0	12	High	

	3	†Topguard	13 fl.oz./acre	14	12	
Bitter Rot		Captan 80WDG	2.5-5.0 lb/acre 0.625 lb/100 gal water	0	24	
		Captec 4L	1.0 pt/100 gal water	Up to day of harvest	24	
	M4	Captan 50WP	4.0 lb/acre 1.0 lb/100 gal water	0	24	
		*†Merivon	4-5.5 fl.oz./acre	0	12	High
Black Rot & White Rot		Captan 80WDG	5.0 lb/acre 0.65-1.25 lb/100 gal water	0	24	
		Captec 4L	0.5-1.0 qt/100 gal water	Up to day of harvest	24	
		Flint	1.5 oz/acre 0.5 oz/100 gal water	14	12	[2.14]
		Sovran 50WDG	3.2-6.4 oz/acre 1.0-1.6 oz/100 gal water	30	12	[2.14]
	M4	Captan 50WP	8.0 lb/acre 1.2-2.0 lb/100 gal water	0	24	
		*†Merivon	4-5.5 fl.oz./acre	0	12	High
	7+11	Pristine 38WDG	14.5-18.5 fl.oz./acre	0	12	
Blister Spot	33	Aliette WDG	2.5-5.0 lb/acre 0.5-1.0 lb/100 gal water	14	12	[5.1]
	33	Phostrol	2.5-5.0 pts/acre	0	4	High [5.1]
Cedar Apple Rust		*†Merivon	4-5.5 fl.oz./acre	0	12	Moderate
	3	†Topguard	12 fl.oz./acre	14	12	
Climbing cutworms: Darksided, Dingy, Mottled, Spotted, Variegated	1A	*Lannate LV 2.4L	3 pt/acre	14	72	High [16.2,16.2a]
	11A	§Dipel 10.3DF	0.5-2 lb/acre	0	4	Moderate [16.2]
Codling moth		§Isomate-CM/OFM TT	200 ties/ acre		0	High [14.2]
		§Checkmate CM-F 14.3S	2.4-4.8 fl.oz./acre		4	Moderate [14.2]
		§Checkmate CM-OFM Duel	150-200 dispensers/ acre		0	High [14.2]
		§Checkmate Puffer CM-OFM	1-2 units/ acre		0	Moderate [14.2]
	15	*Rimon 0.83EC	20-40 fl.oz./acre	14	12	High [14.1,14.3,14.3i]
	18	*†Intrepid 2F	12-16 fl.oz./acre	14	4	Moderate [14.1,14.3,14.3b]
	1A	*Lannate 90SP	0.5-1 lb/acre 0.25 lb/100 gal water	14	72	High [14.1,14.3,14.3g]
	1A	*Lannate LV 2.4L	1.5-3 pts/acre 1.5 pts/100 gal water	14	72	High [14.1,14.3,14.3g]

	1A	Sevin 80 Solupak	1.25-3.75 lb/acre	3	12	Moderate	[14.1,14.3,14.3j]
	1A	Sevin XLR Plus	1-3 qt/acre	3	12	Moderate	[14.1,14.3,14.3j]
	1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High	[14.1,14.3,14.3e]
	22	Avaunt 30WDG	5-6 oz/acre	14	12	Moderate	[14.1,14.3,14.3a]
	28	*†Altacor 35WDG	2.5-4.5 oz/acre	5	4	High	[14.1,14.3,14.3a, 14.3b]
	28	*†Belt 4SC	3-5 fl.oz./acre	14	12	High	[14.1,14.3]
	3A	*Baythroid XL 1EC	2-2.4 fl.oz./acre	7	12	Moderate	[14.1,14.3]
	4A	Assail 30SG	4-8 oz/acre	7	12	High	[14.1,14.3,14.3a, 14.3c]
	5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[14.1,14.3]
		§Carpovirusine 0.99SC	0.25-0.4 qt/acre 0.5-1 pt/100 gal water	0	4	Moderate	[14.1,14.3,14.3f]
		§Cyd-X 0.06SC	1-6 fl.oz./acre	0	4	Moderate	[14.1,14.3,14.3f]
	11A	§Deliver	0.5-2 lb/acre	0	4	Moderate	[14.1,14.3]
		§Madex HP	0.5-3 fl.oz./acre	0	4	Moderate	[14.1,14.3]
		§Surround 95WP	25-50 lb/acre	0	4	Moderate	[14.1,14.3,12.2]
	11A	§Dipel 10.3DF	0.5-2 lb/acre	0	4	Moderate	[14.1,14.3,14.3e]
	5	§Entrust 2SC	6-10 fl.oz./acre	7	4	Moderate	[14.1,14.3]
	5	§Entrust 80WP	2-3 oz/acre 0.67-1 oz/100 gal water	7	4	Moderate	[14.1,14.3]
	UN	§Neemix	7-16 fl.oz./acre	0	12	Moderate	[14.1,14.3]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0]
	4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,14.1,14.3, 14.3k]
	4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	Moderate	[1.0,14.1,14.3, 14.3k]
	4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	High	[1.0,14.1,14.3]
Comstock mealybug	16	*†Centaur 0.7WDG	34.5 oz/acre	14	12	High	[15.2a,15.3a,15.3b]
	21A	Portal 0.4EC	2 pts/acre	14	12	High	[15.2a,15.3a,15.3b]
	23	Movento 240SC	6-9 fl.oz./acre	7	24	High	[15.2a,15.3a,15.2b, 15.3b]
	4A	Assail 30SG	4-8 oz/acre	7	12	High	[15.2a,15.3a,15.3b]
		oil	1 gal/acre 1 qt/100 gal water plus			High	[1.0,15.2a,15.3a, 15.3b,15.4]
	6/4A	*†Agri-Flex SC	5.5-8.5 fl.oz./acre 1.5-2 fl.oz./100 gal water	35	12		
Crown rot	33	Phostrol	2.5-5.0 pts/acre	0	4	High	
	33	Prophyt	2-4 pt/100 gal water	0	4	High	[7.3]
Dogwood borer	1B	*Lorsban 4EC	1.5 qt/100 gal water	PB/28(A)	96	High	[17.1]
	1B	*Lorsban 75WG	2 lb/100 gal water	PB/28(A)	96	High	[17.1]
	4A	Assail 30SG	8 oz/acre	7	12	Moderate	[17.2]
European corn borer	5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[19.2]
	11A	§Dipel 10.3DF	0.5-2 lb/acre	0	4	Moderate	[19.2]
	10A	Apollo 4SC	4-8 fl.oz./acre	45	12	High	

European red mite							[20.5,20.5a,20.6,20.11,20.11a]
10A	Onager 1 EC	12-24 fl.oz./acre	28	12	High		[20.5,20.5b,20.11,20.11a]
10A	Savey 50DF	3 oz/acre	28	12	High		[20.5,20.5b,20.6,20.11,20.11a]
10B	Zeal	2-3 oz/acre	14	12	High		[20.5,20.5b,20.9,20.11]
20B	Kanemite 15SC	31 fl.oz./acre	14	12	High		[20.9,20.9b,20.11,20.11c]
21A	†Nexter 75WS	4.4-5.2 oz/acre	25	12	High		[20.9,20.9a,20.9c,20.11]
21A	Portal 0.4EC	2 pt/acre	14	12	High		[20.9,20.9a,20.11]
6	*Agri-Mek 8SC	2.25-4.25 fl.oz./acre 0.5-1 fl.oz./100 gal water	28	12	High		[20.8,20.9]
UN	Acramite 50WS	0.75-1 lb/acre	7	12	High		[20.9,20.9a,20.11]
23	*†Envidor	16-18 fl.oz./acre	7	12	High		[20.9,20.9a,20.9c,20.11]
	PureSpray Green	1 qt-1.5 gal/100 gal water			High		[20.10]
12B	*Vendex 50WP	1-2 lb/acre 4-8 oz/100 gal water	14	48	Low		[20.11,20.11c]
3A/6	*Gladiator EC	19 fl.oz./acre 4.75 fl.oz./100 gal water	28	12	High		[1.0,20.8,20.9]
Fire blight							
	Apogee 27.5%	4.5-9.0 oz/100 gal water	45	12			[8.6]
	Firewall	24.0 oz/acre 8.0 oz/100 gal water	50	12			[8.5]
M1	Cueva Fungicide Concentrate	2-3 qt/acre	Up to day of harvest	4			[8.4]
Japanese beetle							
1A	Sevin 4F	1.5-3 qt/acre	3	12	High		[22.2]
1A	Sevin 80 Solupak	1.88-3.75 lb/acre	3	12	High		[22.2]
1A	Sevin XLR Plus	1.5-3 qt/acre	3	12	High		[22.2]
1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High		[22.2]
4A	Assail 30SG	5-8 oz/acre	7	12	High		[22.2]
3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate		[1.0,22.2]
4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	High		[1.0,22.2]
Lesser appleworm							
	§Isomate-CM/OFM TT	200 ties/ acre		0	High		[14.2]
	§Checkmate CM-OFM Duel	150-200 dispensers/ acre		0	High		[14.2]
	§Checkmate Puffer CM-OFM	1-2 units/ acre		0	High		[14.2]
15	*Rimon 0.83EC	20-40 fl.oz./acre	14	12	High		[14.3i,14.1a]
18	*†Intrepid 2F	12-16 fl.oz./acre	14	4	Moderate		[14.3b,14.1a]
22	Avaunt 30WDG	5-6 oz/acre	14	12	Moderate		[14.3a,14.1a]
28	*+Belt 4SC	3-5 fl oz /acre	14	12	High		[14.1a]

3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	High	[14.1a]	
3A	*Baythroid XL 1EC	2-2.4 fl.oz./acre	7	12	Moderate	[14.1a]	
4A	Assail 30SG	4-8 oz/acre	7	12	High	[14.3a,14.3c,14.1a]	
5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[14.1a]	
3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0,14.1a]	
4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,14.3k,14.1a]	
4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	Moderate	[1.0,14.3k,14.1a]	
4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	High	[1.0,14.1a]	
Obliquebanded leafroller	11A	§Agree 3.8WS	1-2 lb/acre	0	4	Moderate	[24.1,24.2,24.3, 24.3a]
	11A	§Deliver	0.5-2 lb/acre	0	4	Moderate	[24.1,24.2,24.3, 24.3a]
	11A	§Dipel 10.3DF	0.5-2 lb/acre	0	4	High	[24.1,24.2,24.3, 24.3a]
	11A	§Javelin 7.5WDG	0.5-4 lb/acre 0.13-1 lb/100 gal water	0	4	Moderate	[24.1,24.2,24.3, 24.3a]
	15	*Rimon 0.83EC	20-40 fl.oz./acre	14	12	High	[14.3i,24.2,24.3]
	18	*†Intrepid 2F	8-16 oz/acre	14	4	High	[24.2,24.2f,24.3, 24.3b]
	1A	*Lannate 90SP	1 lb/acre	14	72	Moderate	[24.2,24.2a,24.2c]
	1A	*Lannate LV 2.4L	3 pt/acre	14	72	Moderate	[24.2,24.2a,24.2c]
	28	*†Altacor 35WDG	2.5-4.5 oz/acre	5	4	High	[24.2,24.2f,24.3, 24.3b]
	28	*†Belt 4SC	3-5 fl.oz./acre	14	12	High	[24.2,24.3,24.3b]
	3A	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	Moderate	[24.2,24.3,24.3b, 24.3c]
	3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	Moderate	[24.2,24.3,24.3b, 24.3c,24.3d]
	3A	*Baythroid XL 1EC	2.4-2.8 fl.oz./acre	7	12	Moderate	[24.2,24.3,24.3c]
	3A	*Danitol 2.4EC	16 fl.oz./acre	14	24	Moderate	[24.2,24.2d,24.3, 24.3b,24.3c]
	5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[24.2,24.3,24.3b]
	6	*Proclaim 5SG	3.2-4.8 oz/acre 0.8-1.2 oz/100 gal water	14	12	High	[24.2,24.2e,24.3, 24.3b]
	5	§Entrust 2SC	6-10 fl.oz./acre	7	4	High	[24.2,24.3,24.3b]
	5	§Entrust 80WP	2-3 oz/acre 0.67-1 oz/100 gal water	7	4	High	[24.2,24.3,24.3b]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0,24.2,24.3, 24.3b,24.3c]
	4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,24.2,24.3, 24.3b,24.4]
	4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	Moderate	[1.0,24.2,24.3, 24.3b,24.3c,24.4]
Oriental fruit moth		§Isomate-CM/OFM TT	200 ties/ acre		0	High	[14.2]
		§Isomate OFM TT	100 ties acre		0	High	[14.2]

	§Checkmate CM-OFM Duel	150-200 dispensers/ acre		0	High	[14.2]	
	§Checkmate OFM-F 24.6S	1.32-2.93 fl.oz./acre		0	Moderate	[14.2]	
15	*Rimon 0.83EC	20-40 fl.oz./acre	14	12	High	[14.3i]	
18	*†Intrepid 2F	12-16 fl.oz./acre	14	4	Moderate	[14.3b,14.1a]	
1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High	[14.1a]	
22	Avaunt 30WDG	5-6 oz/acre	14	12	Moderate	[14.3a,14.1a]	
28	*†Altacor 35WDG	2.5-4.5 oz/acre	5	4	High	[14.1,14.3,14.3a, 14.3b]	
28	*†Belt 4SC	3-5 fl.oz./acre	14	12	High	[14.1a]	
3A	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	Moderate	[14.1a]	
3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	High	[14.1a]	
3A	*Baythroid XL 1EC	2-2.4 fl.oz./acre	7	12	Moderate	[14.1a]	
4A	Assail 30SG	4-8 oz/acre	7	12	High	[14.3,14.3a,14.3c, 14.1a]	
5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[14.1a]	
	§Madex HP	0.5-3 fl.oz./acre	0	4	Moderate	[14.1a,14.3i]	
5	§Entrust 2SC	6-10 fl.oz./acre	7	4	Moderate	[14.1a]	
5	§Entrust 80WP	2-3 oz/acre 0.67-1 oz/100 gal water	7	4	Moderate	[14.1a]	
3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0,14.1a]	
4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,14.3k,14.1a]	
4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	Moderate	[1.0,14.3k,14.1a]	
4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	High	[1.0,14.1a]	
Oystershell scale	16	*†Centaur 0.7WDG	34.5 oz/acre	14	12	High	
	1A	Sevin 4F	1.5-3 qt/acre	3	12	High	[25.1]
	1A	Sevin 80 Solupak	1.88-3.75 lb/acre	3	12	High	[25.1]
	1A	Sevin XLR Plus 4EC	1.5-3 qt/acre	3	12	High	[25.1]
Phytophthora Rots	33	Phostrol	2.5-5.0 pts/acre	0	4	High	[7.3]
	33	Prophyt	2-4 pt/100 gal water	0	4	High	[7.3]
Plum curculio	1A	Sevin 4F	1.5-3 qt/acre	3	12	Moderate	[26.2,26.4c]
	1A	Sevin 80 Solupak	1.88-3.75 lb/acre	3	12	Moderate	[26.2,26.4c]
	1A	Sevin XLR Plus	1.5-3 qt/acre	3	12	Moderate	[26.2,26.4c]
	1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High	[26.2,26.4a]
	22	Avaunt 30WDG	5-6 oz/acre	14	12	High	[26.2,26.4a]
	3A	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	Moderate	[26.2]
	3A	*Baythroid XL 1EC	2.4-2.8 fl.oz./acre	7	12	Moderate	[26.2]
	3A	*Danitol 2.4EC	16 fl.oz./acre	14	24	Moderate	[26.2]
	4A	*†Actara 25WDG	4.5-5.5 oz/acre	14/35(A)	12	High	[26.2,26.4a,26.4b]
	5	§Entrust 2SC	6-10 fl.oz./acre	7	4	Moderate	[14.1a]

	Surround Spray	Rate/acre	U			
	4A/28 *†Voliam Flexi WDG	6-7 oz/acre	35	12	High	[1.0,26.2,26.4b]
	oil	1 gal/acre			High	[1.0,26.2,26.4b]
	1 qt/100 gal water					
	plus					
	6/4A *†Agri-Flex SC	5.5-8.5 fl.oz./acre	35	12		
		1.5-2 fl.oz./100 gal water				
Powdery Mildew	Indar 2F	6.0-8.0 fl.oz./acre	14	12		
	JMS Stylet-Oil	1.0-2.0 gal/100 gal water	0	4		[9.3,9.4]
	*Procure 480SC	8.0-16.0 fl.oz./acre	14	12		
	Rally 40WSP	5.0-10.0 oz/acre	14	24		
		1.6-3.3 oz/100 gal water				
	Sovran 50WDG	4.0-6.4 oz/acre	30	12		
		1.0-1.6 oz/100 gal water				
	Vintage SC	3.0 fl.oz./100 gal water	30	24		
	*†Luna Tranquility	11.2-16 fl.oz./acre	72	12	Moderate	
	*†Merivon	4-5.5 fl.oz./acre	0	12	High	
Redbanded leafroller	11A §Agree 3.8WS	1-2 lb/acre	0	4	High	[24.1,27.2]
	11A §Deliver	0.5-2 lb/acre	0	4	High	[24.1,27.2]
	11A §Dipel 10.3DF	0.5-2 lb/acre	0	4	High	[24.1,27.2]
	11A §Javelin 7.5WDG	0.5-4 lb/acre	0	4	High	[24.1,27.2]
		0.13-1 lb/100 gal water				
	15 *Rimon 0.83EC	20-40 fl.oz./acre	14	12	High	[14.3i]
	1A *Lannate 90SP	1 lb/acre	14	72	High	[12.1d,27.2]
	1A *Lannate LV 2.4L	3 pt/acre	14	72	High	[12.1d,27.2]
	1B *Imidan 70W	2.13-5.75 lb/acre	7	4	High	[27.1]
		0.75-1.0 lb/100 gal water				
	28 *†Altacor 35WDG	2.5-4.5 oz/acre	5	4	High	[27.2,27.2a]
	28 *†Belt 4SC	3-5 fl.oz./acre	14	12	High	[27.2]
	3A *Baythroid XL 1EC	2.4-2.8 fl.oz./acre	7	12	High	[27.2]
	5 Delegate 25WG	4.5-7 oz/acre	7	4	High	[27.2]
	6 *Proclaim 5SG	3.2-4.8 oz/acre	14	12	High	[27.2]
		0.8-1.2 oz/100 gal water				
	3A/6 *Gladiator EC	14-19 fl.oz./acre	28	12	High	[1.0,27.2]
		3.5-4.75 fl.oz./100 gal water				
	4A/3A *†Endigo ZC	5-6 fl.oz./acre	35	24	High	[1.0,27.2]
	4A/3A *Leverage 360	2.4-2.8 fl.oz./acre	7	12	High	[1.0,27.2]
San Jose scale	16 *†Centaur 0.7WDG	34.5 oz/acre	14	12	High	[29.3,29.4]
	1B *Imidan 70W	2.13-5.75 lb/acre	7	4	Moderate	[29.4]
		0.75-1.0 lb/100 gal water				
	23 Movento 240SC	6-9 fl.oz./acre	7	24	High	[29.4,29.4b]
	4A *Admire Pro 4.6SC	2.8 fl.oz./acre	7	12	Moderate	[29.4]
	4A Assail 30SG	8 oz/acre	7	12	Moderate	[29.4,29.4a]
	7C Esteem 35WP	4-5 oz/acre	45	12	High	[29.4]

	4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	Moderate	[1.0,15.4,29.4]
	4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	Moderate	[1.0,29.4]
Sooty Blotch & Flyspeck		Captan 80WDG	2.5 lb/acre 0.625 lb/100 gal water	0	24		
		Captec 4L	1 pt/100 gal water	Up to day of harvest	24		
		Flint	2.0-2.5 oz/acre 0.67-0.8 oz/100 gal water	14	12		
		Indar 2F	6.0-8.0 lb/acre	14	12		
		Penncozeb 75DF	3.0 lb/acre 1.0 lb/100 gal water	BL, 77(A)	24		
		Penncozeb 80WP	3.0 lb/acre 1.0 lb/100 gal water	BL, 77(A)	24		
		Polyram 80DF	3.0 lb/acre 1.0 lb/100 gal water	BL, 77(A)	24		[2.8]
		Sovran 50WDG	4.0-6.4 oz/acre 1.0-1.6 oz/100 gal water	30	12		[2.14]
		Thiophanate Methyl 85WDG	0.6-0.8 lb/acre 0.2-0.3 lb/100 gal water	1	48		
		Topsin M 70WP	3.2-4.0 oz/100 gal water	1	48		[10.1,10.2]
		Topsin M WSB	3.2-4.0 oz/100 gal water	1	48		[10.1,10.2]
		Ziram 76DF	1.0 lb/100 gal water	14	48		
	M4	Captan 50WP	4.0 lb/acre 1.0 lb/100 gal water	0	24		
		§Double Nickel 55	0.5-1 lb/acre	0	4		[2.16]
	§Double Nickel LC	1-2 qt/acre	0	4		[2.16]	
	Inspire Super	8.5-12.0 fl.oz./acre	14	12			
	*†Merivon	4-5.5 fl.oz./acre	0	12	High		
7+11	Pristine 38WDG	14.5-18.5 oz/acre	0	12			
M1	Cueva Fungicide Concentrate	2-3 qt/acre	Up to day of harvest	4			
Spotted tentiform leafminer, Apple blotch leafminer	15	*Rimon 0.83EC	20-40 fl.oz./acre	14	12	High	[14.3i,30.2]
	1A	*Lannate 90SP	1 lb/acre	14	72	High	[12.1d,30.2,30.2a, 30.2b,30.3]
	1A	*Lannate LV 2.4L	3 pts/acre	14	72	High	[12.1d,30.2,30.2a, 30.3]
	1A	*†Vydate 2L	2-4 pts/acre 1 pt/100 gal water	14	48	High	[30.1,30.1c,30.2, 30.2a,30.3,30.3a]
	28	*†Altacor 35WDG	2.5-4 oz/acre	5	4	High	[30.1,30.1c,30.2, 30.2d,30.3]
	28	*†Belt 4SC	3-5 fl.oz./acre	14	12	High	[30.1,30.2,30.2d, 30.3]
	3	*Warrior II 2.08CS	1.28-2.56	21	24	High	[30.1,30.1a,30.2, 30.2i]

		fl.oz./acre				30.3]	
3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	High	[30.1,30.1a,30.1b, 30.2,30.3]	
3A	*Baythroid XL 1EC	2-2.4 fl.oz./acre	7	12	High	[30.1,30.1a,30.2, 30.3]	
3A	*Danitol 2.4EC	10.67-16 fl.oz./acre	14	24	High	[30.1,30.1a,30.1b, 30.2,30.2a,30.2b, 30.3]	
4A	*†Actara 25WDG	4.5 oz/acre	14/35(A)	12	High	[15.4,30.1,30.1c, 30.1d,30.2,30.2a, 30.2c,30.3]	
4A	*Admire Pro 4.6SC	2.8 fl.oz./acre	7	12	High	[30.2,30.2a,30.3]	
4A	Assail 30SG	2.5 oz/acre	7	12	High	[30.1,30.2,30.2a, 30.3]	
5	Delegate 25WG	4.5-7 oz/acre	7	4	High	[30.1,30.1e,30.2, 30.2a,30.3]	
6	*Agri-Mek 8SC	2.25-4.25 fl.oz./acre 0.5-1 fl.oz./100 gal water	28	12	High	[30.3]	
6	*Proclaim 5SG	3.2-4.8 oz/acre 0.8-1.2 oz/100 gal water	14	12	High	[30.1,30.2,30.3]	
5	§Entrust 2SC	6-10 fl.oz./acre	7	4	High	[30.2,30.3]	
5	§Entrust 80WP	2-3 oz/acre 0.67-1 oz/100 gal water	7	4	High	[30.2,30.3]	
UN	§Aza-Direct 1.2L	11.5-42 fl.oz./acre	0	4	High	[30.1,30.2,30.3]	
UN	§Azatin XL 0.27EC	10-16 fl.oz./acre	0	4	High	[30.1,30.2,30.3]	
3A/6	*Gladiator EC	19 fl.oz./acre 4.75 fl.oz./100 gal water	28	12	High	[1.0,30.1,30.1a, 30.2,30.3]	
4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,15.4,30.2, 30.3]	
4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	High	[1.0,15.4,30.2, 30.3]	
4A/3A	*Leverage 360 oil	2.4-2.8 fl.oz./acre 1 gal/acre 1 qt/100 gal water plus	7	12	High High	[1.0,30.2,30.3] [1.0,15.4,30.2]	
6/4A	*†Agri-Flex SC	5.5-8.5 fl.oz./acre 1.5-2 fl.oz./100 gal water	35	12			
Spotted wing Drosophila	1B	*Imidan 70W	2.13-5.75 lb/acre 0.75-1.0 lb/100 gal water	7	4	High	[31.2]
	3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre	21	12	High	[31.2]
	5	Delegate 25WG	4.5-7 oz/acre	7	4	Moderate	[31.2,31.2a]
	5	§Entrust 2SC	6-10 fl.oz./acre	7	4	Moderate	[31.2,31.2a,31.2b]
	5	§Entrust 80WP	1.5-3 oz/acre	7	4	Moderate	[31.2,31.2a,31.2b]
Stink bugs, incl. Brown marmorated stink bug	1A	*Lannate 90SP	0.75 lb/acre	14	72	High	[32.2a,32.2b]
	1A	*Lannate LV 2.4L	2.25 pt/acre	14	72	High	[32.2a,32.2b]
	1A	*†Vydate 2L	1.5-3 pt/acre	14	48	Moderate	[32.2a,32.2b]
	2A	*Thionex 3EC	2.67 qt/acre 0.5 qt/100 gal	21	7	High	[32.2a,32.2b,32.2c]

			water				
	2A	*Thionex 50WP	4 lb/acre 0.75 lb/100 gal	21	20	High	[32.2a,32.2b,32.2c]
	3A	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	Moderate	[32.2a]
	3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal	21	12	Moderate	[32.2a]
	3A	*Baythroid XL 1EC	2.0-2.4 fl.oz./acre	7	12	Moderate	[32.2a]
	3A	*Danitol 2.4EC	10.7-21.3 fl.oz./acre	14	24	Moderate	[32.2a,32.2b]
	4A	*†Actara 25WDG	4.5-5.5 oz/acre	14/35(A)	12	Moderate	[32.2a,32.2b,15.4]
		§Surround 95WP	25-50 lb/acre	0	4	Moderate	[12.2,32.2a]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	Moderate	[1.0,32.2a]
	4A/28	*†Voliam Flexi WDG	6.0-7.0 oz/acre	35	12	Moderate	[1.0,32.2a,15.4]
	4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	High	[1.0,32.2a,15.4]
	4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	Moderate	[1.0,32.2a]
Twospotted spider mite	10B	Zeal	2-3 oz/acre	14	12	High	
	20B	Kanemite 15SC	31 fl.oz./acre	14	12	High	
	21A	†Nexter 75WS	8.8-10.7 oz/acre	25	12	Moderate	
	21A	Portal 0.4EC	2 pt/acre	14	12	High	
	UN	Acramite 50WS	0.75-1 lb/acre	7	12	High	
	23	*†Envidor	16-18 fl.oz./acre	7	12	High	[20.9a,20.9c]
	12B	*Vendex 50WP	1-2 lb/acre 4-8 oz/100 gal water	14	48	Moderate	
Variiegated leafroller, Sparganothis fruitworm	1A	*Lannate 90SP	1 lb/acre	14	72	High	[12.1d,34.1]
	1A	*Lannate LV 2.4L	3 pt/acre	14	72	High	[12.1d,34.1]
	11A	§Deliver	0.5-2 lb/acre	0	4	Moderate	[24.1,34.1,34.1a]
	11A	§Dipel 10.3DF	0.5-2 lb/acre	0	4	Moderate	[24.1,34.1,34.1a]
	11A	§Javelin 7.5WDG	0.5-4 lb/acre 0.13-1 lb/100 gal water	0	4	Moderate	[24.1,34.1,34.1a]
	3A/6	*Gladiator EC	14-19 fl.oz./acre 3.5-4.75 fl.oz./100 gal water	28	12	High	[1.0,34.1]
	4A/3A	*Leverage 360	2.4-2.8 fl.oz./acre	7	12	High	[1.0,34.1,34.1a]
White apple leafhopper, Potato leafhopper	16	*†Centaur 0.7WDG	9-12 oz/acre	14	12	Moderate	[35.1]
	1A	*Lannate 90SP	1 lb/acre	14	72	High	[12.1d,35.1]
	1A	*Lannate LV 2.4L	3 pt/acre	14	72	High	[12.1d,35.1]
	1A	Sevin 4F	0.5-1.5 qt/acre	3	12	High	[35.1,35.1a]
	1A	Sevin 80 Solupak	0.63-1.88 lb/acre	3	12	High	[35.1,35.1a]
	1A	Sevin XLR Plus	0.5-1.5 qt/acre	3	12	High	[35.1,35.1a]
	1A	*†Vydate 2L	2-4 pt/acre 1-2 pt/100 gal water	14	48	High	[35.1,35.1a]
	21A	Portal 0.4EC	2 pt/acre	14	12	High	[35.1]
	22	Avaunt 30WDG	5-6 oz/acre	14	12	High	[35.1,35.1c]
	2A	*Thionex 3EC	2.6 qt/acre 0.5 qt/100 gal water	21	7	High	[35.1,35.1b]

2A	*Thionex 50WP	4 lb/acre 0.75 lb/100 gal water	21	20	High	[35.1,35.1b]	
3A	*Warrior II 2.08CS	1.28-2.56 fl.oz./acre	21	24	High	[35.1]	
3A	*Asana XL 0.66EC	4.8-14.5 fl.oz./acre 2-5.8 fl.oz./100 gal water	21	12	High	[35.1]	
3A	*Baythroid XL 1EC	1.4-2 fl.oz./acre	7	12	High	[35.1]	
3A	*Danitol 2.4EC	10.67-16 fl.oz./acre	14	24	High	[35.1]	
4A	*†Actara 25WDG	2-2.75 oz/acre	14/35(A)	12	High	[15.4,35.1,35.1c]	
4A	*Admire Pro 4.6SC	2.8 fl.oz./acre	7	12	High	[35.1]	
4A	Assail 30SG	2.5-4 oz/acre	7	12	High	[35.1]	
UN	§Aza-Direct 1.2L	12.5-42 fl.oz./acre	0	4	Moderate	[35.1]	
UN	§Neemix	7-16 fl.oz./acre	0	12	Moderate	[35.1]	
4A/28	*†Voliam Flexi WDG	4-7 oz/acre	35	12	High	[1.0,15.4,35.1]	
4A/3A	*†Endigo ZC	5-6 fl.oz./acre	35	24	High	[1.0,15.4,35.1]	
4A/3A	*Leverage 360 oil	2.4-2.8 fl.oz./acre 1 gal/acre 1 qt/100 gal water plus	7	12	High	[1.0,35.1] [1.0,15.4,35.1]	
6/4A	*†Agri-Flex SC	5.5-8.5 fl.oz./acre 1.5-2 fl.oz./100 gal water	35	12			
Woolly apple aphid	1B	*Diazinon 50WP	1 lb/100 gal water	21/PF(A)	96	High	[36.1,36.1b]
	23	Movento 240SC	6-9 fl.oz./acre	7	24	High	[29.4b,36.1]
	2A	*Thionex 3EC	2.6 qt/acre 0.5 qt/100 gal water	21	7	Moderate	[35.1b,36.1]
	2A	*Thionex 50WP	4 lb/acre 0.75 lb/100 gal water	21	20	Moderate	[35.1b,36.1]
	4A	*Admire Pro 4.6SC	7-10.5 fl.oz./acre	7	12	Moderate	[36.2]
	4A	Assail 30SG	2.5-4 oz/acre	7	12	Moderate	[36.1,36.1a]
9C	Beleaf 50SG	2.0-2.8 oz/acre	21	12	Moderate	[36.1]	



[\(/Guidelines/TreeFruit/index82.aspx\)](/Guidelines/TreeFruit/index82.aspx) [\(/Guidelines/TreeFruit/index82.aspx\)](/Guidelines/TreeFruit/index82.aspx)

Petal Fall

Postharvest

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