

Fruit IPM for the Week Ending 6/22/13

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Peach

Oriental Fruit Moth (OFM): Timing for second brood OFM applications using OP's, Carbamates, Diamides, and Pyrethroids are as follows:

Second Generation OFM Timing Dates				
County/Region	Degree Days by 6/17 base 45	Insecticide Type		
		Conventional	Intrepid / IGRs	Diamides
Gloucester - Southern	1138	1 st – 6/17-20 2 nd – 6/28-30	1 st – 6/16-18 2 nd – 6/26-28	1 st – 6/15-18 2 nd – 6/25-27
Hunterdon - Northern	944	1 st – 6/25-27 2 nd – About 7/7-9	1 st – 6/24-26 2 nd – About 7/5-6	1 st – 6/22-26 2 nd – About 7/4-6

Tufted Apple Budmoth (TABM): Timings for TABM control are outlined below.

	Conventional, Diamides	Conventional, Diamides	Intrepid, Rimon	Bt
County Area	AM – 4 middles	EM – 2 completes	EM – 2 completes	EM – 2 completes
Southern	4 th – 6/18-19	2 nd – 6/16-17	2 nd – 6/16-17	2 nd – 6/16-17
Northern	2 nd 6/15-16; 3 rd 6/22-23	2 nd - 6/22-24	2 nd 6/22-24	2 nd 6/22-24

Brown Rot; Anthracnose: Brown rot was found in one orchard in southern counties where blossom blight was present. Thundershowers and overhead irrigation done around periods of warm temperatures and high humidity can provide good opportunities for brown rot infection, particularly in blocks with damaged fruit or blossom blight. An improved fungicide schedule should be initiated 2 to 3 weeks prior to the first picking.

Apple

Obliquebanded Leafroller (OBLR): Adults are mating and females laying eggs. Larval emergence is about 10% complete. Treatments should be targeted for this insect if it was a problem in previous years. We have only seen occasional issues with OBLR in northern counties. Insecticides used for TABM will also control OBLR.

European Red Mites (ERM): ERM were starting to increase 10 days to 2 weeks ago in a few locations. The recent heavy rains have served to decrease populations, and these 'building' populations are no longer a problem. If using continued harsh broad spectrum insecticides for BMSB control, mite populations can easily return, and mite controls will be needed.

Codling Moth (CM): Degree day timed treatments are over in all counties. Some locations in southern counties still have populations that exceed the treatment threshold of 5 males per trap. These populations still require treatments.

Aphids: Spirea and Apple (green) Aphids: Populations continue to build, and are at treatment levels in some orchards statewide. Our treatment threshold is set at 50% of the terminals infested with healthy colonies. Now that **BMSB** is present in orchards, growers will start targeting these early **Low Populations of BMSB**. Use of effective neonicotinoids at this stage such as Belay or Actara can be helpful. These treatments will also reduce aphid populations.

Brown Marmorated Stink Bug (BMSB): Adults are being found in both peach and apple blocks. Egg masses are also present, along with early stage nymphs. These insects are at low levels, but still present, and at higher levels than seen last year at this time. This insect is a border related pest, and higher populations are routinely seen on the edges of blocks that border wooded areas or certain other crops. Adults consistently move in and out of orchards, dispersing from these alternate hosts. Once in the orchard, they can feed, mate, and lay eggs. Nymphs will remain in the orchard and feed throughout their life until as adults they can start moving to alternate hosts. Every effort should be made to keep adults out of the orchard, and/or kill young nymphs. Therefore to control this insect, a constant dose of fresh insecticide is needed. Both research and monitoring has shown that 7 day alternate middle insecticide applications keep BMSB in check better than more widely spaced full (every middle) cover sprays. Weekly supplemental border sprays, or applications in the border/edge rows will also help. Some growers have found that this can be a substitute for the more frequent 7 day alternate middle applications and cost considerably less.

Summer Diseases – Sooty Blotch and Fly Speck, White Rot and Black Rot, plus anthracnose, are critical diseases to control at this time. Topsin-M, Sovran, Pristine or Flint can be included for control. Good coverage is essential for control.

Pear

Pear Rust Mite: [Pear rust mites](#) were observed feeding on fruit in southern counties. Rust mite feeding causes severe russet on smooth skinned European varieties. Rust mites are less of a problem on naturally russeted varieties. Rust mites are easily controlled with most miticides. Thionex, which has a pear label until the end of July of this year, is also effective.

Grapes

Grape Berry Moth (GBM): The critical timing for treatment of second generation grape berry moth will be just after July 4-5. We set the phenology model biofix for June 1. The timing is an accumulation and a forecast of 810 degree days base 47 starting at June 1.

Grape Berry Moth Trap Captures 2013	
Date	Average males/trap
5/25	0
6/1	2
6/8	13
6/15	3

Scouting Calendar

The following table is intended as an aid for orchard scouting. It should *not* be used to time pesticide applications. Median dates for pest events and crop phenology are displayed. These dates are compiled from observations made over the past 5-10 years in Gloucester County. Events in northern New Jersey should occur 7-10 days later.

Pest Event or Growth Stage	Approximate Date	2013 Observed Date
Full Bloom Peach (Redhaven)	April 16 +/- 7 Days	April 11
1/4" Green Tip Red Delicious	March 27 +/- 10 Days	March 29
Oriental Fruit Moth Biofix	April 8 +/- 10 Days	April 16
Oriental Fruit Moth – 170 DD target	April 19 +/- 12 Days	May 2
Full Bloom Apple (Red Delicious)	April 20 +/- 9 Days	May 1
Petal Fall (Red Delicious)	April 27 +/- 13 Days	May 9
Shuck Split (Redhaven)	April 29 +/- 7 Days	May 8
White Peach Scale Crawler Emergence	May 29 +/- 7 Days	May 24
Second Generation Pear Psylla Hatch	May 29 +/- 3 Days	May 27
SJS Crawlers-first generation	June 6 +/- 4 Days	June 1
Pit Hardening	June 19 +/- 5 Days	Not yet observed

Blueberry

Spotted Wing Drosophila (SWD): SWD is now the main insect target for the remainder of the season. The first adult was caught early last week, and by the end of the week, captures were seen in multiple locations. As of Friday 6/14, 11 of our 21 trap sites were positive for SWD adults. Both males and females are present. Other insects like blueberry maggot and aphids should be controlled with the same insecticides used for SWD. There will be 3 main factors in successful SWD management:

- 1) Frequency of application – Always maintain a cover of active insecticide by targeting a 7 day application schedule. Significant precipitation may change this schedule.
- 2) Coverage – Make sure the **Entire Bush**, including the bottom fruit is covered with each application.
- 3) Choose the correct material. Not all insecticides are effective for SWD control.

The following summary is an edited version of the fax alert that was sent out late last week:

“Trapping for SWD began 3 weeks ago using 4 different types of attractants. The first positive trap was collected on 6/10 in Burlington County with a single male. On 6/13, 2 females were picked up at another site near the first one. We expect most other locations to test positive soon. This indicates that flies will be mating and laying eggs on ripening fruit. We assume that the population is low at the present time, but will build up over the next several weeks. This will be reflected in higher trap captures at additional sites. However, we also feel that population pressure must be suppressed over the entire season in order to avoid ‘out of control’ populations that result in infested fruit.

Therefore Growers Must Be On A 7 Day Treatment Schedule Using Materials That Are Effective For SWD Control.

Last season this pest was responsible for wormy fruit contamination at many farms including some that were treating for the risk, however the level of contamination was in general proportion to the quality of the spray program. We expect SWD pressure to be at least as strong as last season. Data collected last season also demonstrated that pressure was present in all of our growing areas.

Due to the serious risk of SWD we are recommending that ALL farms begin a 7 day treatment program now. Of course several factors may alter the need for a strict “7 day” program such as rainfall and the residual properties of the pesticide. The attached table will provide most of the information about your pesticide options so that you can make the best decisions for your particular situation. Please note that 2 neonicotinoid materials (Assail and Actara) are included in the SWD list. Conflicting research has shown some activity by these materials. We feel that their place in a SWD program is only early in the SWD season when populations are low, and you may still need something with aphid activity. SWD may prefer shaded areas and therefore may pose greater risk in the sheltered zones of the bush (interior/low). For this reason it is important to achieve the best possible coverage practical for your situation.”

Table of SWD Insecticides:

Insecticides Active on Spotted Wing Drosophila

INSECTICIDES	Blueberry ¹ Label Rate/Ac	Residual Days	Max Residue Limits U.S./Canada - ppm	Rainfastness High vs Mod	BB PHI Days	BB REI Hrs	MAX APP/ AMT/AC/YR	% AI	Chemical Class	Comments	Active Ingredient
LANNATE SP ³	.25-1lb	4	6/6	M	3	48	4	90	Carbamate 1A	Hard on Beneficials	methomyl
LANNATE LV ³	.8-3pt	4	6/6	M	3	48	4	2.4lb/gal	Carbamate 1A	Hard on Beneficials	methomyl
ACTARA ³	3-4oz	5	.2/2	H	3	12	12oz	25	Neonicotinoid 4A	WEAK for SWD	thiamethoxam
ASSAIL	2.5--5.3 oz/ac	5	1.6/1.6	H	1	12	27oz	30	Neonicotinoid 4A	WEAK for SWD	acetamiprid
DIAZINON 50 WP	1lb/ac	7 - 10	.5/NT	M	7	5	1	50	OP 1B	no aerial appl	diazinon
IMIDAN 70 WP	1.3lb	7 - 10	10/5	M	3	24	5 or 7.1 lb	70	OP 1B		phosmet
MALATHION 8F ⁴	2-2.5pt	5 - 7	8/8	M	1	12	2 / 5lb ai	8lb/gal	OP 1B	24C Label	malathion
MALATHION 8 Aquamul	2-2.5pt	5 - 7	8/8	M	1	12	2 / 5lb ai	8lb/gal	OP 1B	24C Label	malathion
ASANA XL	4.8--9.6 oz/ac	6 - 7	1/NT	H	14	12	38oz	.66lb/gal	Pyrethroid 3A	weak w/heat	esfenvalerate
BRIGADE WSB ³	5.3-16 oz/ac	6 - 7	1.8/NT	H	1	12	80 oz	10	Pyrethroid 3A	weak w/heat	bifenthrin
BIFENTURE 10DF ³	5.3-16	6 - 7	1.8/NT	H	1	12	80 oz	10	Pyrethroid 3A	weak w/heat	bifenthrin
DANITOL 2.4 EC ³	10.7-16oz	6 - 7	3/3	H	3	24	2 / 2pts	2.4lb/gal	Pyrethroid 3A	weak w/heat	fenpropathrin
MUSTANG [*]	4.3oz	6 - 7	.8/NT	H	1	12	25.8oz	1.5lb/gal	Pyrethroid 3A	weak w/heat	pyrethroid
MUSTANG MAX ³	4oz	6 - 7	.8/NT	H	1	12	24oz	.8lb/gal	Pyrethroid 3A	weak w/heat	pyrethroid
DELEGATE WG	3-6oz	7	.25/.5	H	3	4	6	25	Spinosyn 5	tank mix ph 5-9	spinetoram
ENTRUST ²	1.25-2oz	5	.25/.5	H	3	4	3 / 9oz	80	Spinosyn 5		spinosad

¹NOTE: IT IS SUGGESTED TO USE THE MAX. RATES LISTED IN ORDER TO GET BEST PROTECTION FOR SWD

BBM NOTE: ALL PRODUCTS ABOVE ARE LABELED FOR BBM CONTROL OR SUPPRESSION EXCEPT ACTARA, MUSTANG (MAX is) AND ENTRUST

NEONICOTINOID NOTE: USE NEONICOTINOIDS FOR SWD ONLY EARLY IN THE SEASON TO ALSO CONTROL APHIDS. THESE INSECTICIDES ARE WEAK ON SWD.

²Approved for Organic Use

³Also controls BMSB

⁴The Gowan Malathion 8F and Loveland Malathion 8 Aquamul are the only 2 formulations labeled in NJ at the maximum rates of 2-2.5 pt/A sufficient for SWD control.

Oriental Beetle (OB): There was a sharp increase in trap captures this past week, indicating that the adult emergence is well underway. Along with this comes mating and egg laying that produces the damaging larvae (grubs) that feed on blueberry roots. Now is the time to apply imidacloprid to the ground beneath the bushes, either Admire-Pro or generics. This should be done wherever high populations of OB are present, and be timed as soon as possible, but before mid-July.

Leafrollers and Other Leps: Trap captures of adult redbanded leafrollers (RBLR) and obliquebanded leafrollers (OBLR) have both increased. This is the start of the second RBLR generation and the OBLR summer flight. Both species are mating and laying eggs. Both species will be controlled by insecticide applications made for SWD. About 13% of shoot samples have been positive for larvae, with only 3 samples exceeding the treatment threshold. Frequent populations of teepee maker (blueberry leafminer) are present. This is normally a heavily parasitized insect and not a pest. However, given the heavier insecticide programs now required for SWD, leafminers may gain pest status as their natural enemies are killed by insecticides.

Aphids: The current pest status of aphids is at a frequency of 67% positive shoot samples and 34% of samples at or above the 10% infestation level. This is almost unchanged since last week.

Putnam Scale: Field fruit samples of Duke are now showing some injury at many locations. About 44% of fruit samples are positive for injury with 18% of these exceeding the 1% injury level. A few sites were seen in the 5-6% injury range. Scale insects in general is a pest group that is well known to increase to pest status when parasitoids and predators are killed from the intense use of broad spectrum insecticides. This makes scale monitoring for crawlers and the timing of crawler stage controls important as we move forward in the new world of SWD. First generation controls are only possible for Bluecrop and later at this time. Otherwise you will need to wait for the second generation crawlers in early August.

Cranberry Fruitworm (CBFW): Recent trap levels are lower compared to the previous week. Of 125 fruit samples only 6 were positive for CBFW presence. This season appears to have produced a low population, with risk areas in only small pockets. No additional treatments should be needed for this pest.

Blueberry Maggot (BBM): The first adult captures were seen on June 7, but sharply decreased this past week. This is likely due to a combination of hard rains, soaked ground (maggot adults emerge from puparia in the ground), and early insecticide treatments.

Disease: Some residual **Botrytis** is still visible in the form of fruit rot, but only a minor concern.

Tree Fruit Trap Counts – Southern Counties									
Week Ending	STLM	TABM_A	CM	AM	OFM-A	DWB	OFM-P	TABM_P	LPTB
4/13					0		0		
4/20	14				5		0		
4/27	0				51		1		
5/4	4	0	0		83		4	0	
5/11	3	1	27		17		2	0	
5/18	5	2	12		28		5	3	28
5/25	1	16	17		23		5	15	38
6/1	1	17	8		30		0	18	12
6/8	1	29	8		1	44	0	37	52
6/15	13	18	7		1	73	0	15	16

Tree Fruit Trap Counts – Northern Counties										
Week Ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OBLR	OFM-P	TABM-P	LPTB
4/13	1									
4/20	2							0		
4/27	71.5		0					1.1		
5/4	74		0					9.3	0	
5/11	87		1.3		29.4			14.1	0	
5/18	41	0	3.9		36			9.4	0	0
5/25	33.2	8.9	6.6		12.2			10.3	5.3	17.5
6/1	16.6	15.1	5		8.6			2.5	20.6	20
6/8	29.3	40.4	6.3		1.2	4.3	2.7	0.5	45.6	27.5
6/15	43.3	46.3	1.6		0.2	1.5	5	0.2	59.4	22.4

Blueberry Insect Trap Counts - Atlantic County						
Week Ending	RBLR	CBFW	OBLR	SNLH	Or. Beetle	BBM
4/13	116					
4/20	120					
4/27	100					
5/4	72	0				
5/11	28	0.01				
5/18	12.4	0.15				
5/25	3.1	0.1				
6/1	1.6	0.83				1.6
6/8	4.7	0.89	0	4.5	0	4.7
6/15	58	0.48	7.3	0.3	189	0

Blueberry Insect Trap Counts - Burlington County						
Week Ending	RBLR	CBFW	OBLR	SNLH	Or. Beetle	BBM
4/13	71					
4/20	44					
4/27	38					
5/4	26	0				
5/11	9	0				
5/18	1	0.04				
5/25	2	0.13				
6/1	0.2	2.1				
6/8	2.8	1.2	0.33	1	0.07	2.8
6/15	4.8	0.91	8	0.24	26	0