

## Fruit IPM for the Week Ending 7/20/13

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**Brown Marmorated Stink Bug (BMSB):** BMSB adults nymphs and egg masses are present in orchards, although far from a uniform pattern. Black light trap captures indicate a significant increase in trap captures over the past 2 weeks, but individual insects may be difficult to find in many locations. Early pickings of Sentry show significant feeding damage, depending on tree location. We are monitoring this insect in commercial orchards with a several methods. These include random 3 minute counts, 3 minute counts on transect lines, use of a new USDA experimental pheromone in several trap types, and the black light traps in the vegetable IPM network. The bottom line for growers is that every treatment should include a BMSB active material. These treatments should be frequent. If treatments are applied on more than a 7 day schedule, then a 7 day border spray should supplement whole block treatments. Pyrethroid insecticides (permethrin, Baythroid, Mustang, Warrior, Danitol) can be very effective, but with the high temperatures we are having, they should be avoided this week. The neonicotinoids, Belay and Actara can also be very effective. Lannate has a short residual, but can have knock down ability.

We are hoping that the 2 best insecticides will be able to be used soon. These are dinotefuran (Venom and Scorpion) and bifenthrin (Brigade and Bifenture). These products had section 18 labels during 2012 (Venom and Scorpion had them in 2011), and were requested again for 2013. Although Venom and Scorpion are currently labeled in peach and nectarine, they are not labeled in apples. Nor are they labeled at the rate required to control BMSB, which is almost double the current labeled rate. The current maximum rate for Scorpion is 7 oz/A, and 10-12 oz/A is needed for BMSB control. The current maximum rate for Venom is 4 oz/A, and 6-6.9 oz/A is needed for BMSB control. Section 18 label requests originate in the individual states (usually a DEP) and are authorized by EPA in Washington, D.C. The bifenthrin package is currently in Washington. The dinotefuran package is with the NJDEP and has yet to be submitted. Brigade and Bifenture are the best materials we have for BMSB control. Since there will be a 14 day PHI, and a maximum of 2 applications not less than 30 days apart, let's hope we get them soon, or they will see only minimal use.

### Peach

**Oriental Fruit Moth (OFM):** While we have a lull in internal worm activity, the timing for the third brood is coming up by the middle of the month. The first hatch for OFM is expected to start in southern counties about 7/17 and 7/23 in northern counties. Timing for third brood OFM applications are as follows:

Third Brood OFM Timing Dates				
County/Region	Degree Days by 7/13 base 45	Insecticide Type		
		Conventional	Intrepid / IGRs	Diamides
Gloucester – Southern	2045	1 <sup>st</sup> – 7/16-7/18 2 <sup>nd</sup> – 7/26-7/28	1 <sup>st</sup> – 7/15-7/16 2 <sup>nd</sup> – 7/25-7/26	1 <sup>st</sup> – 7/14-7/18 2 <sup>nd</sup> – 7/24-7/28
Hunterdon – Northern	1811	1 <sup>st</sup> – 7/24-7/27 2 <sup>nd</sup> – too far off	1 <sup>st</sup> – 7/22-7/24 2 <sup>nd</sup> – too far off	1 <sup>st</sup> – 7/21-7/25 2 <sup>nd</sup> – too far off

Overall moth pressure is low at this time, but localized populations are higher as indicated by trap captures of up to 11 moths per trap in one northern location. Captures at or above these levels indicate higher insect pressure that may lead to terminal and fruit infestations. High trap captures can also indicate that the 1<sup>st</sup> and second generations were not well controlled. These growers should continue an effective insecticide program, alternate insecticides and check coverage and sprayer calibration.

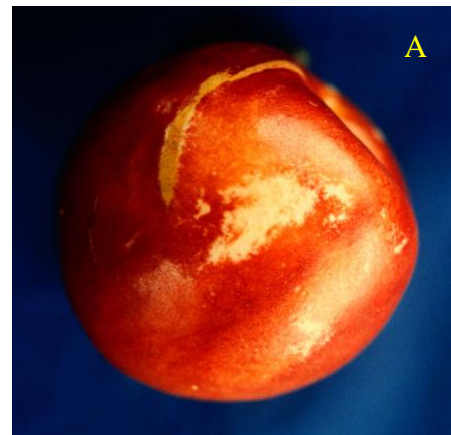
**Tufted Apple Budmoth (TABM):** Timings for second generation TABM control are outlined below.

	Conventional, Diamides	Conventional, Diamides	Intrepid, Rimon	Bt
County Area	AM – 4 middles	EM – 2 completes	EM – 2 completes	EM – 2 completes
Southern	1 <sup>st</sup> – 7/28-7/31	1 <sup>st</sup> – 7/30-8/2	1 <sup>st</sup> – 8/2-8/5	1 <sup>st</sup> – 8/2-8/5
Northern	Too far off	Too far off	Too far off	Too far off

**Peach Scab:** Peach scab is appearing in some blocks. Scab seen now is the result of infections that occurred 6 or more weeks ago. While some further scab infection is possible in orchards that had high levels of infection last year, for the most part scab treatments are over and nothing more can be done for control this year.

**San Jose Scale (SJS):** Crawlers have not yet been observed in southern counties, however emergence should begin sometime this week. Effective materials include Assail, Actara, Diazinon, Esteem, Centaur, and Movento. See the Production guide for rates. Note that Esteem should be applied at the beginning of crawler emergence while Centaur should be applied at peak crawler emergence. Peak crawler emergence usually occurs sometime in late July or early August in southern counties. Diazinon is limited to one in-season application per season, and may not be as effective as the other listed materials.

**Thrips:** Thrips activity usually continues until early to mid August in southern counties. The fruit injury will be different when late feeding occurs as opposed to early feeding at shuck off. Late feeding during the last 2 weeks before harvest will appear as “silvering injury” from the insect rasping at the skin surface. Photo “A” shows early season injury on the upper part of the fruit and silvering on the lower/middle of the fruit. Delegate and Lannate are the preferred materials for thrips control at this time. Lannate LV may NOT be used on nectarines in NJ, while the SP formulation can be used on both peaches and nectarines. Do not apply more than 3 applications of Lannate SP per season on nectarines or 6 applications per season on peaches. There is a 1 day PHI for nectarines and a 4 day PHI for peaches. Delegate can be used at the rate of 6-7 oz/A with a 1 day PHI for peaches and nectarines.



## Apple

**Tufted Apple Budmoth:** This is only a minor pest at the present time. We are between generations, however treatments will be due by late next week. See Peach Section above. If you are using a diamide for codling moth control you should be able to skip the early treatments for TABM.

**Codling Moth (CM):** The second codling moth treatment should have been applied last week in southern counties, and starting on 7/13-14 in northern counties, depending on the materials used. See the table below for codling moth timings. The following is reprinted from the last newsletter: “Do not use trap counts as a guide for this second generation degree day timed spray. Treatments should be completed at the optimum timing with the correct rate and volume. After 2 complete CM treatments have been applied, then trap counts can be used as a guide to help determine the need for supplemental applications.”

Codling Moth Degree Day Timing						
County Area	Application and Insecticide Type					
	Rimon, Intrepid, Diamides, Delegate: 1250-1300DD 1550-1600DD			Standard Insecticides (OP's, Lannate, Pyrethroids, Neonicotinoids, and (granulosis virus): 1350DD 1650-1700DD		
DD	1250	1300	1350	1500	1550	1600
Southern	past	past	past	7/15	7/16	7/18
Northern	7/11	7/13	7/15-16	7/20	7/22-23	7/23-24

## Grape

**Grape Berry Moth (GBM):** Treatments for the third brood will be on or about 7/26 if using Intrepid in southern counties.

Grape Berry Moth Trap Captures 2013		Grape Root Borer
Date	Average males/trap	Average males/trap
5/25	0	
6/1	2	
6/8	13	
6/15	3	
6/22	0	
6/29	2	0
7/5	6	1
7/12	5	1

## 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
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
Pit Hardening	June 19 +/- 5 Days	June 18
Third Generation Pear Psylla Hatch	June 30 +/- 2 Days	June 26
SJS Crawlers-second generation	July 21 +/- 4 Days	Not yet observed

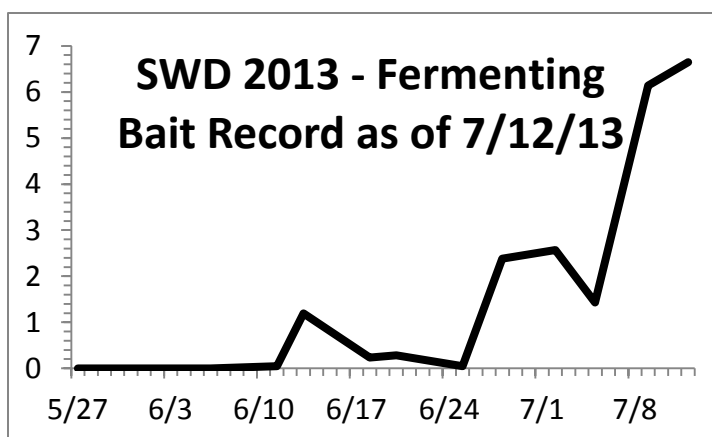
## Blueberry

**Spotted Wing Drosophila (SWD): Trap Captures** – Trap captures have showed a sharp increase over the last week. While this cannot be directly related to fruit injury, it does indicate that populations are much higher. Our trap study continues to show that the fermenting baited trap is the most efficient. Therefore a graph from that trap type is presented below for captures up through 7/12. The sharp increase in adult captures only reinforces the recommendation that treatments need to be continued.

**Larval Counts** – Overall salt water testing is showing that growers are doing a good job with SWD management. Fruit from unsprayed fields, including research fields at the Marucci Center are infested. We are pleased to report that growers doing their own on-farm tests continue to show good pack out quality.

**Treatments** – All growers are advised to continue on a 7 day program. Third pick and machine pick Bluecrop is coming up. It is critical to remain on a 7 day program, even for machine picked fruit. Post harvest treatments on neighboring Duke fields are advised if next to Bluecrop fields that still need to be picked.

**SWD Materials** – Some growers may be running out of available insecticides, especially for Canadian exports. Remember the following materials and maximum number of applications are available for Canadian export:



Insecticide	PHI	Max. No. of Applications & Amt. per Acre
Imidan	3 days	2 applications 1 lb each (by interpretation of Canadian label); 7 1/8 lb or 5 applications domestic consumption
Danitol	3 days	2 pt or 2 applications
Delegate	3 days	19.5 oz or 3 applications at the 5-6 oz rate
Lannate	3 days	4 applications at the 1 lb rate
Malathion	1 day	Section 18, 2 applications, 2-2.5 pt

**Blueberry Maggot (BBM):** Trap counts remain low. Only isolated fields have populations that require treatment.

**Oriental Beetle (OB) and Other Scarabs:** Japanese beetle is present in some fields. This is the last week or last opportunity to treat for oriental beetle if not already done so.

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
6/22	5	8	3		9	35	0	6	24
6/29	13	3	2		0	13	0	3	5
7/6	0	1	1		0	11	0	1	0
7/13	4	1	3		0	4	0	1	12

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
6/22	57.7	41.9	1.8		0.2	1.7	1.7	0.8	39	12.8
6/29	58.9	25.3	1.7		1.4	1.7	2	2.4	26	11.4
7/6	85.4	12.7	0.6		1.1	3.3	2.7	4.3	9.8	8.5
7/13	41.6	4.2	1.1		4.5	13	0	2	2.4	7.2

**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
6/22	80	0.08	12	0.5	350	0.005
6/29	47	0.005	3.7	0.13	1723	0.006
7/6	54.4	0.004	1.3	0.04	2159	0.1

**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
6/22	28.3	0.03	10.3	0.6	231	0
6/29	38.4	0.14	1	0.01	957	0.01
7/6	64.3	0.2	6	0.23	905	0.05