

## Fruit IPM for the Week Ending 7/27/13

Dean Polk, David Schmitt, Gene Rizio and Atanas Atanassov

### Pear

**Brown Marmorated Stink Bug (BMSB):** Adults, nymphs, and feeding damage were observed in a block of Bartlett Pears in Gloucester County this week. No damage or populations were observed in nearby pear, plum, or apple blocks. This illustrates how localized this pest can be at this time of the season. Adults will rapidly move from woods edges or other crops into fruit plantings. They may only stay long enough to feed and lay eggs before moving again to other trees or crops.



Experimental traps have shown adult and nymph captures, but vary greatly even on the same farm, or by location in the same block. Regardless of the specific tree fruit crop you have, insecticide programs need to target BMSB in every application. If covers are more than 7 days apart, then supplemental border sprays will help. Registered materials for the crop should be used if border sprays include the outer 1-2 rows of the block, but Acephate (Orthene) may be used if directing the spray to the outside border for a non-crop application (on your own land).

### Peach

**Brown Marmorated Stink Bug (BMSB):** All growers should be using BMSB effective materials. Supplement regular covers with border sprays every 7 days if surrounded by woods, hedgerows, and alternative BMSB crop hosts like corn and soybeans.

**Oriental Fruit Moth (OFM):** Timings for third brood OFM applications are updated as follows:

Third Brood OFM Timing Dates				
County/Region	Degree Days by 7/19 base 45	Insecticide Type		
		Conventional	Intrepid / IGRs	Diamides
Gloucester – Southern	2312	1 <sup>st</sup> – past 2 <sup>nd</sup> – 7/26-7/28	1 <sup>st</sup> – past 2 <sup>nd</sup> – 7/25-7/26	1 <sup>st</sup> – past 2 <sup>nd</sup> – 7/24-7/28
Hunterdon – Northern	2070	1 <sup>st</sup> – 7/23-7/27 2 <sup>nd</sup> – too far off	1 <sup>st</sup> – 7/22-7/23 2 <sup>nd</sup> – too far off	1 <sup>st</sup> – 7/21-7/25 2 <sup>nd</sup> – too far off

**Tufted Apple Budmoth (TABM):** Timings for second generation TABM control are outlined below. Tap counts remain very low, since we are between generations.

	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> – 7/27-7/28	1 <sup>st</sup> – 7/29-7/31	1 <sup>st</sup> – 7/31-8/2	1 <sup>st</sup> – 7/31-8/2
Northern	Too far off	Too far off	Too far off	Too far off

## Apple

**Brown Marmorated Stink Bug (BMSB):** See other sections on this insect.

**Tufted Apple Budmoth:** See Peach Section above.

**Codling Moth (CM):** Trap captures are starting to increase in southern and northern counties where populations are high. Second brood larval emergence is almost complete in southern counties and about 60% complete in northern counties. Degree day timings are updated as follows. While degree timed treatments have been completed in southern counties, additional insecticides are needed when trap captures reach over 5 males per trap per week.

Codling Moth Degree Day Timing						
	Application and Insecticide Type					
County Area	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	past	past	past
Northern	past	past	past	7/20	7/21-22	7/23-24

**Bitter Rot:** Bitter rot was observed on apples and pears last week. This is somewhat earlier than normal and is probably a result of the heavy rains in June. One block of Granny Smith had moderate levels of incidence. Granny Smith is more susceptible than other apple varieties. Diseased fruit were found mostly in the upper center of the canopy next to pruning stubs. Bitter rot builds up on dead wood first before infecting fruit. Growers had been using Sovran in these blocks during June for disease control. Sovran is only rated "Fair" for Bitter Rot. Pristine, Captan/Topsin, or Captan/Ziram combinations should provide good control of summer diseases during July and August.

**Woolly Apple Aphid (WAA):** WAA colonies are becoming more common. On one commercial farm in North Jersey, the colony count increased to 38 colonies per tree. Most of these aphids overwinter on apple roots and start to emerge in the spring, forming aerial colonies in the canopy on pruning cuts and succulent growth. In the past, most of these aphids have been controlled by parasitoids, or small parasitic wasps like *Aphelinus mali*, but with the increased use of broad spectrum insecticides used for brown marmorated stink bug (BMSB), most of these parasitoids are killed. Insecticides like Lannate and pyrethroids are known to be toxic to many parasitoids. So unfortunately, at least for the short term, we may see more of this insect.

The insect reproduces without mating, females producing more females. Nymphs are from .6 to 1.3 mm long. As the insects mature, a bluish white waxy covering is the most pronounced characteristic. Heavy infestations can leave honey dew and cause sooty mold on fruit. They can cause galls on fruit buds, decrease crop load the following year, and kill branches.

Heavy root infestations have been known to kill young trees. Partially due to its waxy covering, the insect can be difficult to control. Diazinon and Movento can give good control, but at this time of year, Movento may be the more effective option. If using Movento, make sure to include an adjuvant/penetrant (Do Not Use Induce), apply in sufficient volume for the tree size, use the 8-9 oz/A rate, and reapply 14 days later if populations are high.

## Grape

**Grape Berry Moth (GBM):** Treatments for the third brood will be on or about 7/25 if using Intrepid or diamides (Altacor, Belt) in southern counties. Timing will be a couple of days later if using pyrethroids or other standard materials.

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
7/6	6	1
7/13	5	1
7/20	4	4

**Brown Marmorated Stink Bug (BMSB):** Some adults and nymphs are being seen at low levels in plantings that have woods and hedgerow borders. While the extent of BMSB damage is difficult to define at these low levels, growers should check plantings, especially if surrounded by woods.

## Scouting Calendar

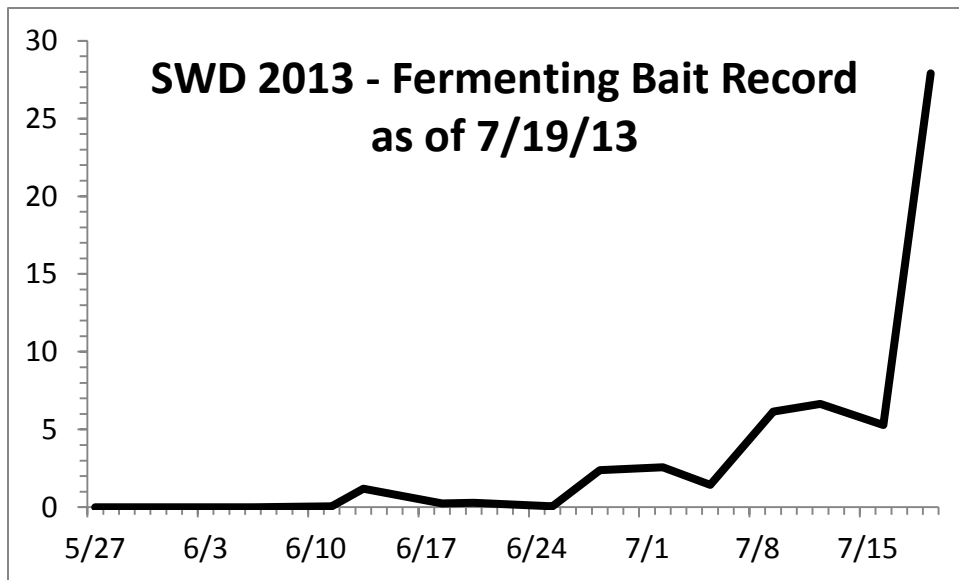
The following table is intended as an aid for orchard scouting. It should *not* be used to time pesticide applications. Median dates for pest events and crop phenology are displayed. These dates are compiled from observations made over the past 5-10 years in Gloucester County. Events in northern New 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 shown a sharp increase again this past week. This higher population pressure shows why a consistent 7 day insecticide program is still required, especially on any Elliott or other late varieties. Softer fruit also seems to be more attractive to the insect. Anyone still harvesting Bluecrop, either by hand or machine, should still be treating those fields.

**Larval Counts** – All machine harvested fruit should be checked with a salt water floatation test. Some growers are testing each machined load, in order to have multiple samples over an entire field. So far, results have been very good in both our tests and grower performed tests.



**Blueberry Maggot (BBM):** Trap counts remain low, but counts have increased slightly in some locations. If you are still picking, be aware of BBM trap counts when treating for SWD, and choose materials for both insects.

**Putnam Scale:** Crawler tape traps have not yet registered second generation crawlers. Therefore it is still too early to treat at this time.

**Aphids:** Overall populations are lower on most farms. Some low populations are present in Elliott.

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
7/20	7	3	5		12	3	1	3	4

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
7/20	18.7	1.6	2.1	0	1.2	7.7	0	0.8	1.1	6.9

<b>Blueberry Insect Trap Counts - Atlantic County</b>						
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
7/13	25.4	0	0.7	0.43	1966	0.1
7/20	8	0	4.3	0.02	897	0.12

<b>Blueberry Insect Trap Counts - Burlington County</b>						
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
7/13	22.3	0.04	0	0.05	878	0.02
7/20	2	0.15	0	0	330	0