

## Fruit IPM for the Week Ending 6/29/13

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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 6/25 base 45	Insecticide Type		
		Conventional	Intrepid / IGRs	Diamides
Gloucester - Southern	1361	1 <sup>st</sup> – past 2 <sup>nd</sup> – 6/27-29	1 <sup>st</sup> – past 2 <sup>nd</sup> – 6/26-28	1 <sup>st</sup> – past 2 <sup>nd</sup> – 6/25-27
Hunterdon - Northern	1161	1 <sup>st</sup> – 6/25-27 2 <sup>nd</sup> – 7/5-7	1 <sup>st</sup> – 6/23-25 2 <sup>nd</sup> – 7/3-5	1 <sup>st</sup> – 6/23-25 2 <sup>nd</sup> – 7/3-5

**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	Past	Past	Past	Past
Northern	4 <sup>th</sup> – 6/25-26	Past	Past	Past

**Anthracnose:** Where anthracnose has been a problem, consider the use of Captan during rainy periods. Most important, include a stobilurin or a premix containing a strobilurin in pre-harvest sprays. Pristine or Gem are obvious choices. Merivon which has the same strobilurin component as Pristine, should be effective as well. Quadris Top should also work but remember that it contains azoxystrobin and will be phytotoxic to some apple varieties if the same sprayer is used even after it has been emptied and flushed.

**Brown Marmorated Stink Bug (BMSB):** Adults are reproducing in scattered orchard sites throughout the state. As of this date, it appears that BMSB is at slightly higher levels in northern county orchards than in southern counties. Remember that border treatments have been shown to improve BMSB control. On Tuesday a few BMSB were seen in an on-farm research trial. The recent hot weather, combined with the cutting of winter grain crops near orchards, may be contributing to the increased activity we are seeing.

**Brown Rot:** Increased brown rot levels are being seen on green fruit in mid to late season nectarine blocks. We also noticed that this was occurring in blocks that were thinned just prior to recent heavy rains and windy thunderstorms. Any recently thinned blocks, and certainly nectarines should receive upgraded fungicide programs over the next couple of weeks.

## Apple

**European Red Mites (ERM):** Mite activity has increased in a number of orchards, and is at treatment levels in some blocks. Since broad spectrum insecticides will kill most mite predators, be aware that the continued use of materials that target BMSB will likely contribute to increased ERM populations. Do not let these populations go since they will get out of hand, and BMSB will require continued treatments through the rest of the season.

**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. One farm in northern counties had 89% of new shoots infested with aphids. Now that **BMSB** is present in orchards, growers will be targeting 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.

**San Jose Scale (SJS):** Crawlers are still 'on the move' in northern counties. Infestations should be treated with Esteem, Centaur or Movento. Some neonicotinoids have also done a good job on crawlers.

**Apple Scab:** A number of blocks in southern counties have scab infections from the primary infection period. We have been able to suppress further infection with higher rates of Captan (2.5-4# a.i.) mixed with our normal summer fungicide programs. Captan applied during periods of heat, such as the current weather pattern, can burn out infections. In New York combinations of Captan with Fontelis was found to be phytotoxic under certain conditions. There is no good reason to be applying Fontelis at this time so it should be easy to avoid that combination.

**Brown Marmorated Stink Bug (BMSB):** Both 3 minute counts and beating tray samples are being used to monitor BMSB. Populations / presence of BMSB are in general greater this past week than the previous week.

## Grape

**Grape Berry Moth (GBM):** The first flight of adults has bottomed out in southern counties. Larvae and webbing was observed last week. Most larvae had completed development and dropped to the soil to pupate. The next flight should start next week. If you are trapping it is important not to depend on the number caught as an indication of the need to treat. GBM females are highly competitive with trap lures so traps are not a good indicator of the actual population in the vineyard.

We set the phenology model biofix (wild grape bloom) for June 1. The timing is an accumulation and a forecast of 810 degree days base 47 starting at June 1. The critical timing for treatment of second generation grape berry moth will be about July 2 if using Intrepid. The timing for Delegate and the use of diamides like Altacor and Belt is similar. If using standard materials like any of the pyrethroids or OP's then time the application for a few days later.

Date	Average males/trap
5/25	0
6/1	2
6/8	13
6/15	3
6/22	0

## 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	Not yet observed
SJS Crawlers-second generation	July 21 +/- 4 Days	Not yet observed

## Blueberry

**Spotted Wing Drosophila (SWD):** These year both the IPM Program, and Cesar Rodriguez's Lab groups are taking part in a multi-state trap comparison experiment. The IPM program has 4 different trap types set up at 21 locations for 84 traps. The traps are all of the clear "deli cup" design with 4 different baits. As of 6/21 we have captured a total of 44 adults at 12 sites, or 57% of our sites positive. The bait types used in the IPM program part are:

- 1) Apple cider vinegar (ACV) with a drop of unscented soap.
- 2) Yeast and Sugar – yeast, sugar, and water, + unscented soap.
- 3) Fermenting Bait – whole wheat flour, water, sugar, apple cider vinegar and yeast in a separate ventilated specimen cup within the larger deli cup containing a drowning solution of apple cider vinegar, ethanol and unscented soap. And
- 4) DroskiDrink – apple cider vinegar, red wine, brown (muscovado) sugar, and soap.

While the ACV traps have been the standard, and were used last year, none of the trap captures to date have been in those traps. Almost all the trap captures have been in the traps with the fermenting bait. Some growers have asked about how trap captures can be used as a tool to start SWD spray programs. There are several answers to this question:

- 1) ACV traps, at least in the early part of the season are almost worthless to be used as an indicator to judge if SWD populations are present.
- 2) At this point in time, no matter where you are in the state, SWD are likely present in and around susceptible crops. Therefore any blueberry or raspberry grower needs to be on a 7 day (or less) SWD program.

**Thoughts on SWD and BBM Management:** At this point in time SWD must be the number one insect target, but along with blueberry maggot (BBM). The materials that commercial growers have available (if you export to Canada) and have Canadian MRL's, include: Imidan, Lannate, Delegate, Danitol, and Malathion. Of these materials, the Canadian MRL for Imidan is half of the level allowed in the U.S. Therefore the most prudent option is to discontinue any additional use of that product if not already done so. This leaves the other 4 products. While all of these are excellent for SWD control, only Lannate and Malathion are excellent for BBM control, Danitol is OK, and Delegate is only suppressive. Since BBM pressure is usually only very light on most farms (0-1 per week in trap captures), Danitol should be fine in these situations, but use it just before or after Lannate or Malathion. Delegate also needs to be rotated with effective BBM materials, be used when trap counts are "0", or possibly combined with another dry formulation.

**Oriental Beetle (OB):** Trap captures have increased, illustrating a strong flight where the insect is present. Growers should make every effort to treat with imidacloprid during the next 2-3 weeks. Growers who have already placed mating disruption dispensers for OB control do not have to treat, since these will disrupt OB reproduction for the entire season.

**Aphids:** Aphids were found at a frequency of 68% positive shoot samples, with 42% of samples above the 10% infestation level. This is slightly greater than levels seen during the previous week. Aphid predators have been seen at several sites.

**Leafrollers and Other Leps:** No new worm activity has been seen since last week. About 11% of shoot samples have been positive for larvae, but most of these were shelters for blueberry leafminers (teepees). No worm injury on the fruit is present. Trap counts of adult redbanded leafrollers and obliquebanded leafrollers have increased, as adults mate and lay eggs.

**Putnam Scale:** About 48% of fruit samples (mostly Duke) are showing some level of injury. The levels of damage range from 0.1% to almost 10% of samples with injury. The majority of these positive samples are in the area of under 0.5% actual fruit injury. Scale crawler tape traps are showing a significant drop in numbers, which indicates that the 1<sup>st</sup> generation of crawler activity is almost over. Therefore, if you identify infested fruit from a field that has not yet been treated, you will need to wait and treat the second generation crawler stage in August.

**Cranberry Fruitworm (CBFW):** Fruit injury is being seen in 9% of our samples (11 positive in 123 samples). About half of these samples exceeded the 1% fruit injury level. About 2.5% injury was our maximum injury level reported. These statistics represent the season wrap up (and maximum extent) of CBFW injury in our area since trap levels are down to almost 0 and most of these samples were taken just prior to the first picking of Duke, so as not to lose injury that had been there. Again this season the majority of farms did not have significant pressure to treat.

**Disease: Anthracnose** - The first infected hanging fruit was seen on 6/19 in Duke. This field had only received a light fungicide program at bloom with 1 Ziram treatment. No other locations have been positive to date. **Mummy Berry** – Is being seen at a number of sites where the disease is usually not present.

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

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

<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

<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