Fruit IPM for the Week of 6/3/13

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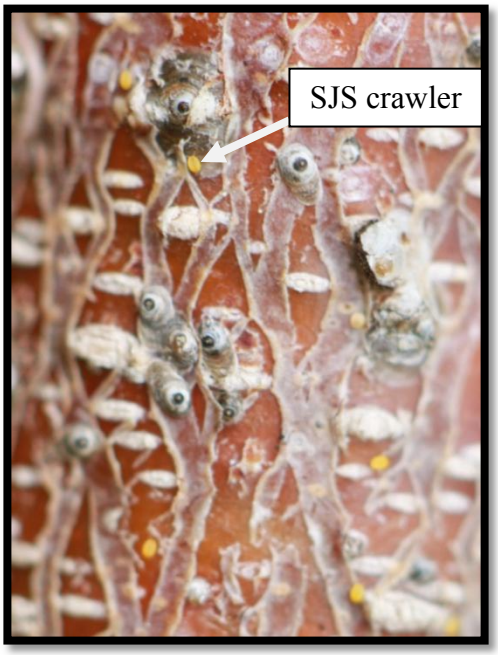
Peach

Bacterial Spot: Symptoms are now appearing on fruit from infections that occurred 3 weeks ago. Even where control seems to be working, growers should maintain aggressive coverage around rains. Low rates of copper compounds such as Kocide 3000 at .75 to 1.5 oz/A will suppress the disease. As always, the less water volume you use in the spray, then the less copper you can use before seeing phytotoxic effects. Spray volumes of less than 80 to 100 gpa have caused more leaf drop than higher volumes, especially in hot weather. The next 3 weeks will reveal the extent of injury from the very favorable weather for disease that occurred in May.



San Jose Scale (SJS): Scale crawlers are now active in southern counties. The best materials include Esteem and Centaur, and Movento. The neonicotinoid compounds have also shown good control when applied to the crawler stage. Spray volume is the name of the game when achieving good scale control. Diazinon can also be used with a maximum of 2 applications per year. The sprayer should be calibrated to soak all wood surfaces where there is known scale activity.

Tufted Apple Budmoth (TABM): Timings for TABM control are outlined below. If you are a grower who did have TABM damage last year, you are advised to use the timings that follow:

	Conventional, Diamides	Conventional, Diamides	Intrepid, Rimon	Bt
County Area	AM – 4 Alt Mid Sprays	EM – 2 Complete Sprays	EM – 2 Complete Sprays	EM - 2 Complete Sprays
Southern	2nd 6/7-6/9; 3rd 6/13-6/15	1st 6/4-6/7	1st 6/3-6/8	1st 6/7-6/8
Northern	1st 6/8-9; 2nd 6/15-17	1st 6/11-13	1st 6/10-16	1st 6/13-16

Brown Marmorated Stinkbug (BMSB): Adults are now leaving overwintering sites and mass movements will occur soon. Egg masses have been found in orchards in Va. and MD. Captures in black light traps started late last week in southern NJ counties. Going forward, growers should start to include materials that are effective for BMSB control

Apple

Cicada Notes: The first of 17-year periodical cicadas emerged in apple and peach orchards on a farm in Morris County on May 24. Appearance was pretty spontaneous and in the next two days

adult numbers were in very high. The grower sprayed on May 26 with a generic lambda-cyhalothrin (a pyrethroid insecticide - Grizzly, 5 oz/A). Counts taken on 5/31 indicated about a 99% kill. Only single adults (A) were seen in the canopy or flying around trees. All other cicadas were dead on the ground (B). No eggs had been laid, since the treatment came soon after emergence. Many cast skins remained are on the ground, trunks, or leaves (C). The orchard is partially surrounded by woods, which may have provided an additional non-sprayed host habitat. The cicada's most common habitat is woods/forests. Additional treatments may be needed in some cases, especially along border rows.

Codling Moth (CM): The following chart updates application timings for southern and northern counties. Overall, trap counts are low, but a few sites still show populations above treatment

levels, even though 2 timed treatments may have already been applied. Several farms in northern counties are showing trap averages ranging from 20-30 moths per trap. This is still considered high pest pressure, and additional controls need to be applied under those circumstances.

Codling Moth Degree Day Timing								
	Application and Insecticide Type							
County Area	Rimon: 75-100DD + 14-17 days later Intrepid: 150 + 450 DD			Intrepid 150 + 450 DD Delegate, Diamides - Altacor, Voliam mixes: (150-200 DD) + 14-21 days later		Cyd-X, Carpovirusine 250 DD + every 7-9 days during brood hatch (later if first spray is an IGR)	Standard Insecticides, Delegate, Diamides – Belt, Tourismo 250 DD + 550 DD	
DD	50	100	150	150	450	250	250	550
Southern	Past	Past	Past	Past	6/3	Past	Past	6/8
Northern	Past	Past	Past	Past	6/6-7	Past	Past	6/12-13

Plum Curculio (PC): Fresh egg injury was still being seen as of late this past week in several northern counties. If codling moth and PC sprays have not been applied, then use materials that are effective for both these insects. Avaunt, Imidan (or Guthion), and Voliam-Flexi are options.

Tufted Apple Budmoth (TABM): See peach section.

Apple Scab and Powdery Mildew: Scab symptoms are severe in some infected orchards. Fruit lesions are present in a number of counties. The infections are most likely caused from fungicides being washed off from rain and resulting infection periods around May 7-12. Be aware of the weathering ability of fungicides, and reapply materials after sustained precipitation.

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. Predation by lady beetles or other predators is occurring in many blocks. In most cases biological control is possible if 20% or more of the infested terminals have beneficial insects actively feeding. When terminals begin to stop growth and harden, aphid populations will diminish, however this does usually not occur until early July.

Wooly Apple Aphid (WAA): Wooly aphid colonies are now appearing in a few apple blocks in southern and northern counties. This secondary pest has become more of a problem in recent years, probably due to increased use of pyrethroids. Wooly aphids will feed on pruning wounds, one year old wood, and suckers. They cause injury by secreting honeydew onto developing fruit, and can injure the buds for the following year. During the current year's growth, sooty mold can grow on the honeydew making the fruit unmarketable. Beneficial insects will usually control WAA in orchards that are on "soft" insecticide programs. Since pyrethroids and Lannate kill most predators and parasitoids, treatable populations often develop in orchards relying on those materials. Movento, which is a new chemistry, is labeled @ 6-9 oz./ac and is effective for WAA control. Movento will also control scale and aphids at this time. Other controls include Thionex 3EC applied at 1.3-2.6 qt./ac if good coverage is achieved (or 50W @ 4lb/ac). Thionex applied at this time may also suppress GAA, and BMSB. Thionex is being phased out, and can be used in

apples only until July of 2015. Diazinon 50W @ 3-4#/ac may also be effective and is another choice where scale suppression is also needed.

European Red Mite (ERM): Mites are present in a few apple blocks statewide. Most levels are below the treatment threshold of 5 mites/leaf for late June through mid-July. The most effective miticides at this time are Nexter, Portal or Fujimite, Kanemite, and Zeal. See the New Jersey Tree Fruit Production Guide for rates.

Pear

Pear Rust Mite: Pear rust mites should be appearing soon. Whereas apple rust mite is desirable in apple orchards to provide a food source for predatory mites, the threshold for rust mites in pears is much lower. In the mid-Atlantic area you can generally tolerate up to 10 rust mites per fruit, which is a very low number since rust mites can easily be found in excess of 200-300 per leaf or fruit when the population starts to increase. Examine the calyx end of individual fruit with a strong hand lens. Russet damage appears starting from the calyx end and progresses up toward the stem. If this russet inhibits marketing of the non-russet varieties, rust mites should not be tolerated past the treatment threshold. However, higher populations may be tolerated on russet varieties like Bosc, especially if direct marketed. Pictures of rust mite on pear can be found here. Rust mites can be controlled with most miticides available. See the Commercial tree Fruit Production Guide for recommended materials. Effective materials include Agri-Flex and Agri-Mek, Envidor, Nextar, Onager, and Savey (on early, low populations). M-pede applied @ 2 gals/100 will also do a good job controlling rust mite and will help to suppress any remaining psylla populations. M-pede should not be applied in hot weather, since it can cause poor finish. Use caution if applying M-pede to oriental pears as some varieties may defoliate. Thionex is labeled for rust mite and should provide good suppression, but can only be used on pear until July 31 of this year.

Grapes

Grape Berry Moth (GBM): Trap captures of first generation adults have begun. Adults will soon lay eggs on newly set fruit. These adults come from wild grapes in adjacent wood edges. Some species of wild grapes bloom earlier than vinifera varieties, which helps explain why the adults are present even before the cultivated grapes come into bloom. While growers can treat for the first generation just after bloom, the more critical timing is for the second generation. The phenology model used in Michigan, Pennsylvania and New York, uses wild grape bloom as the biofix and counts 810 degree days (base 47) until the timing for the first insecticide application. Last week wild grapes were just beginning to bloom. *V. aestivalus* was 50% bloom on May 29 and *V. labrusca* was trace bloom on June 1. Concord was about 10% bloom on May 29. We are using the Skybit models to accumulate degree days and will provide updates later in the season.

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

Aphids: The frequency of positive shoot samples as well as infestation levels have increased since the previous week. Sampling shows that 83% of shoot samples were positive, and that 31% of the samples are above the 10% infestation level. This is about 3 times the infestation level previously seen, and indicates that aphids remain the number one insect target at this time, unless recently treated.

Cranberry Fruitworm (CBFW): Overall most farms do not seem to have pressure, but trap catches have increased in certain areas that have been problem spots in the past. One site in Burlington County had 38 adults in a 1 week count, and this was the 1st catch there this season. No fruit injury has been seen. If treatments have not been applied for CBFW, they effective insecticides should be used in the next cover, especially where trap counts are high.

Putnam Scale: Tape traps monitored on Tuesday 6/4 showed the start of crawler activity in the Hammonton area. There are 2 generations per season of this insect. If growers had scales present on the fruit during 2012, or known infested sited, then, treatment can be initiated for this 1st generation. Esteem has a 7 day PHI and is best used when crawlers first emerge. High volume coverage provides the best control.

Plum Curculio (PC): Only 1 PC adult was seen in 105 beating tray samples – or about 1% positive. This is a sharp drop since previous week. For the week ending 5/12 this value was 7% positive, the week after was 6%, followed by 4%. These 3 averages were taken from samples that had not as yet been treated with insecticides. The most recent value of 1% does reflect treated fields. However, known active sites including organic fields were sampled on 6/3 without any catch. Therefore PC activity is over for the season, and no longer needs to be treated on most farms. In total, we have seen a considerable amount of PC injury. Field fruit samples show that 52% of samples are positive for some level of pc injury. Growers should be aware of this as they pack the first Duke in a few weeks.

Spotted Wing Drosophila (SWD): Traps were collected and examined for the third time this season. No SWD adults have been captured in these traps as of this writing.

Leafrollers and Other Leps: There has been little change since the last newsletter. Sampling indicates that 11% of shoot samples were positive for low levels of larvae. None of the levels seen exceed the 5% threshold.

Tree Fruit Trap Counts – Southern Counties

Week Ending	STLM	TABM_A	CM	AM	OFM-A	DWB	OFM-P	TABM_P	LPTB	PTB
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	

Tree Fruit Trap Counts – Northern Counties

Week Ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OBLR	OFM-P	TABM-P	LPTB	PTB
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	0
5/25	33.2	8.9	6.6		12.2			10.3	5.3	17.5	0
6/1	16.6	15.1	5		8.6			2.5	20.6	20	0

Blueberry Insect Trap Counts - Atlantic County							
Week Ending	RBLR	CBFW	OBLR	SNLH	Or. Beetle	BBM	BMSB
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					

Blueberry Insect Trap Counts - Burlington County							
Week Ending	RBLR	CBFW	OBLR	SNLH	Or. Beetle	BBM	BMSB
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					