

Fruit IPM Report May 14, 2014

Dean Polk, Dave Schmitt, and Atanas Atanassov

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This week in Fruit IPM

Brown Marmorated Stink Bug (BMSB):

Emergence from overwintering sites has started!

Both male and females are being found in pheromone traps and blacklight traps throughout the state. Any insecticides or insecticide mixes that are used for oriental fruit moth, plum curculio, codling moth or other pests should now include materials effective for BMSB.

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Peach

Oriental Fruit Moth (OFM): For those growers using the diamide insecticides (Altacor, Belt, Voliam mixes, and Tourismo), the timing for the second application in southern counties is 5/14 and about 5/21-22 in northern counties. Insecticides are required according to the following degree day timings. These timings should be used for most farms. If you have high insect pressure, then additional sprays may be needed. Pheromone trap counts indicate lower than normal insect pressure on most farms, but high populations do exist in some locations where trap counts exceed 90-100 moths per trap. If your trap counts exceed 6-8 males per trap 7 to 10 days after the second spray, then additional controls may be required.

First Generation OFM Timing Dates				
County/Region	Degree Days by 5/12 base 45	Insecticide Type		
		Conventional	Intrepid/IGRs	Diamides
Gloucester – Southern	339	1st – Past 2nd – 5/12-14	Not Recommended	1st – Past 2nd – 5/11-13
Hunterdon – Northern	185	1st – 5/11-13 2nd – 5/23-24	Not Recommended	1st – Past 2nd – 5/21-22

Tufted Apple Budmoth (TABM): The first tufted apple budmoth adults were caught on 5/11, therefore we are setting the Biofix to start the degree day model as of that date. More on this over the next couple of weeks.

Plum Curculio (PC): This is an edge related pest that normally disperses from alternate hosts in the surrounding woods and hedgerows. If you see injury, think about border treatments, treating the edge crop trees (not the woods), rather than applying extra broadcast sprays to the entire orchard. Avaunt is a good choice for the first PC treatment, and covers Leps (like OFM and CM). If pyrethroids (Ambush/Pounce/Perm-up, Asana, Baythroid, Danitol, Mustang, Warrior)

are used for PC, they should be used at the high rates. Pyrethroid effectiveness decreases at temperatures above 80-85°F, so if using these materials try to use them during cooler weather or in combination with another active ingredient. A number of pre-mixes are on the market. See the production guide for efficacy ratings.

A Note on Pre-Mixes: At this time of the season your primary pests are PC, OFM, Tarnished Plant Bug and Native Stink Bugs, and some BMSB as they start to move into the orchard.

Avaunt is one of the best materials for PC and covers OFM, but is weak on tarnished plant bugs and stink bugs. The pyrethroids do work on tarnished plant bug and stink bugs. Some neonicotinoids also work well on PC and stink bugs (Actara and Belay).

One combination material we recently discussed with a grower was Endigo®. This, like other pre-mixes is not a simple 1:1 addition of 2 other insecticides.

Let's look at the active ingredients (ai) and amounts in each product. This is just one example of what you might need to consider when using these products. Endigo is a combination of Lambda-cyhalothrin (Warrior or Warrior II), and Thiamethoxam (Actara). It has 9.8% ai lambda-Cy and 12.6% thiamethoxam with a maximum use rate in peaches of 6 oz/A. This is equivalent to .885 oz thiamethoxam and .66 oz lambda-cy. A full rate of Warrior II gives you .66 oz ai, and Warrior – .64 oz ai. or the same amount as the high rate of Endigo. But, a high rate of Actara alone (5.5 oz/A) is equal to 1.375 oz ai thiamethoxam per acre, while the Endigo only gives you 2/3 of that. If using Endigo, to get the full rate of each ai, you would need to add another 1/3 rate of Actara. This discussion does not include costs, but since you are trying to control multiple pests at this time, it is worth a thought.

Bacterial Spot: Both Mycoshield and FireLine are registered to control Bacterial Spot on peaches and nectarines. The active ingredient (a.i.) in both materials is Oxytetracycline. In Mycoshield the oxytet is in the form of a calcium complex. In FireLine, it is in a hydrochloride salt form. In both cases the a.i. is the same percentage in the formulated product. Therefore the use rates will be the same for each product. The use rate should be calculated based on the dilute volume it takes to cover mature peach trees. In this case, the full rate should be 1.25 – 1.5 lb/A. The idea with using any antibiotic is to kill as many bacteria as possible just before an infection period. It is best not to assume a calendar schedule will be adequate. Treat just prior to significant rains. Neither coppers nor oxytetracycline will weather. New research has shown that 60% of Mycoshield a.i. is gone after 1 warm sunny day. With cloudy and overcast days, 60% is gone after 2 days. Under heavy rains, 65% is gone after the first few minutes of a downpour. So during the times that the fruit is most susceptible to infection (now), Mycoshield or FireLine use may be justified for the first few sprays, as long as it is applied shortly before a rain. After a few weeks then move to the coppers, or use Mycoshield/FireLine just before a rain and coppers after a rain event.

Apple

Codling Moth (CM): The first codling moth flight has started. Diamides (Altacor, Belt and Voliam premixes) should be applied at the end of this week in southern counties, and by early to the middle of next week in northern counties. Delegate can be applied slightly later. Growers with high populations are especially advised to use these newer materials and not Imidan or Lannate. The 2nd complete spray timing for CM generally coincides with timings for TABM. Materials used for TABM should also be very effective for CM.

Codling Moth Degree Day Timing							
	Application and Insecticide Type						
County Area	Rimon: 75-100DD + 14-17 days later		Intrepid: 150 + 450 DD 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, Avaunt, OP's, carbamates, pyrethroids 250 DD + 550 DD	
DD	75	100	150	450	250	250	550
Southern	Past	5/12	5/15	About 6/4-6	5/24	5/24	About 6/8-10
Northern	5/16	5/18	5/20	About 6/14-16	About 6/1-3	About 6/1-3	About 6/20-22

Tufted Apple Budmoth (TABM): See peach section.

Plum Curculio (PC): Heavy activity was seen earlier this week in a block that sustained significant damage last year. Plum curculio is a key pest during the petal fall and first cover sprays. Please see the peach section for a more complete discussion.

Aphids (Spirea and Apple Aphids, and Rosy Apple Aphids):

Use a conservative average of **1 colony/tree** for a rosy aphid treatment level. Beneficials may be present. Unfurl curled leaves to see if aphids are either parasitized or have [syrphid larvae](#) feeding on them. [Parasitized aphids](#) appear brown and swollen and may have exit holes in the abdomen. If predators are present, and **All Colonies** are either parasitized or have predators present, then treatments may not be needed; **otherwise treat with a neonicotinoid insecticide or Closer, in enough volume to thoroughly wet the entire tree.** Closer can be used at 1.5 oz/A (green and spirea aphid complex), but increased rates to 2.75 oz/A are better for rosy aphids. At the high rate of 5.75 oz/A, tarnished plant bugs are also controlled. **Do Not Mix** neonicotinoid insecticides and DMI fungicides (Rally, Procure, Topguard, Vintage, Indar) together at petal fall, especially if flowering weeds are present in the orchard. This mixture can be very toxic to bees.

Apple Scab and Other Diseases: According to the [NEWA](#) models, about 96-97% of the overwintering ascospores are mature from southern counties up through most of Hunterdon County. This means that essentially all of the mature ascospores have been released. Rains forecast for later this week will be the next scab infection periods, and should release most of the remaining mature ascospores. If your orchards are still scab free by Memorial Day, then you will be able to rest easier and concentrate on summer diseases for the remainder of the season. Scab symptoms from earlier infections should become visible this week. Other diseases important at this time are powdery mildew, rusts, and black rot.



Blueberry

Aphids: No aphids were seen last week in either Atlantic or Burlington Counties.

Plum Curculio (PC): PC activity is rare, but up to 3 adults per bush were seen on one Atlantic County farm this past week.

Leps. and Leafroller Larvae: There is a considerable amount of “tip damage” that on first glance looks like leafroller or other Lep. activity. These tips look infested but upon examination no webbing, feeding or larvae were found. Leaves were wrinkled, stuck together, preventing shoot growth. This is probably relate to either cold temperatures during the winter or the cold spring. In a few locations, young leafroller larvae and spanworms were seen in several blocks along wooded edges. Shoot infestation is less than 1% or a maximum of .2 larvae per 100 blossom clusters. One location had 2% of shoots infested.

Thrips: Thrips are not present on most farms, but were found at one location in Atlantic County at very low levels of 2 thrips per 100 blossom clusters.

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 since 1995 in Gloucester County. Events in northern New Jersey should occur 7-10 days later.

Pest Event or Growth Stage	Approximate Date	2014 Observed Date
1/4" Green Tip Red Delicious	March 27 +/- 10 Days	April 11
Tight Cluster Red Delicious	April 8 +/- 10 Days	April 17

Oriental Fruit Moth Biofix	April 8 +/- 10 Days	April 14
Pink Peach (Redhaven)	April 10 +/- 9 Days	April 13
Pink Apple (Red Delicious)	April 13 +/- 11 Days	April 24
Full Bloom Peach (Redhaven)	April 16 +/- 7 Days	April 21
Green Peach Aphid Observed	April 16 +/- 16 Days	May 1
Full Bloom Apple (Red Delicious)	April 20 +/- 9 Days	May 3
Petal Fall (Redhaven)	April 21 +/- 9 Days	May 2
Petal Fall (Red Delicious)	April 27 +/- 13 Days	Not yet observed
Shuck Split (Redhaven)	April 29 +/- 7 Days	May 11
Tufted Apple Bud Moth Biofix	May 4 +/- 10 Days	May 11

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			
5/3	19				51		1			
5/10	41	0	3		36		5	0		

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			
5/3	41		0		3.5			1.3			
5/10	91.5	0	0		31			18.2	0	0	