

# SCAFFOLDS Fruit Journal, Geneva, NY

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Update on Pest Management and Crop Development

May 23, 2011

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## COMING EVENTS

	43°F	50°F
Current DD accumulations		
(Geneva 1/1-5/23):	537	284
(Geneva 1/1-5/23/2010):	690	389
(Geneva "Normal"):	546	291
(Geneva 1/1-5/30 Predicted):	696	395
(Highland 1/1-5/23):	645	338
Coming Events – Ranges (Normal +/- Std Dev):		
Codling moth 1st catch	400-578	201-313
European red mite 1st summer eggs	447-555	237-309
Lesser appleworm 1st catch	263-567	120-306
Lesser appleworm 1st flight peak	355-773	174-440
Lesser peachtree borer 1st catch	479-685	250-380
Mullein bug egg hatch complete	508-656	264-358
OBLR pupae present	601-821	328-482
Oriental fruit moth 1st flight peak	350-552	177-295
Pear psylla hardshells present	493-643	271-361
Plum curculio		
oviposition scars present	485-589	256-310

San Jose scale 1st flight peak	593-735	317-411
STLM sap-feeders present	343-601	165-317
McIntosh at fruit set	507-597	264-324

Phenologies 5/23

Geneva:

- Apple (McIntosh): fruit set
- Apple (Empire): petal fall – king fruit set
- Apple (Red Delicious): petal fall
- Pear (Bartlett): fruit set (5/19)
- Sw. cherry (Hedelfingen): shuck split (5/19)
- Tart cherry (Montmorency): shuck split
- Peach (Red Haven): fruit set, shucks on

## TRAP CATCHES (Number/trap/day)

### Geneva

	5/12	5/16	5/19	5/23
Redbanded Leafroller	2.7	7.0	3.2	6.5
Spotted Tentiform Leafminer	2.8	5.3	8.2	2.5
San Jose scale	9.7	1.1	2.2	0.6
Oriental Fruit Moth	5.2*	2.5	8.8	4.1
Lesser Appleworm	0.0	0.0	0.0	0.0
Codling Moth	0.0	0.0	0.0	0.0
Lesser Peachtree Borer	0.0	0.0	0.0	0.0
American Plum Borer	0.0	0.0	0.0	0.3*

### Highland (Peter Jentsch)

	5/2	5/9	5/16	5/23
Green Fruitworm	0.6	0.1	0.0	0.0
Redbanded Leafroller	10.6	5.9	3.2	1.3
Spotted Tentiform Leafminer	37.5	30.6	12.1	2.4
Oriental Fruit Moth	5.6*	21.6	13.3	6.2
Lesser Appleworm	0.0	0.0	0.0	0.1
Codling Moth	-	0.0	0.4*	1.9

\* = 1st catch

## PEST FOCUS

Geneva: American Plum Borer 1st catch today, 5/23

Highland: Lesser Appleworm 1st trap catch today, 5/23

# ORCHARD RADAR DIGEST

## [Box Text: MAY DAY]

### [M = Marlboro, Ulster Co.; G = Geneva]

#### Roundheaded Appletree Borer

RAB egg laying begins: May 31 [M]/June 8 [G]. Peak egg laying period roughly: June 21 to July 5 [M]/June 28 to July 13 [G].

#### Dogwood Borer

First DWB egg hatch roughly: June 24 [M]/July 2 [G].

#### Codling Moth

1st generation, first sustained trap catch biofix: May 11 [M]; CM development as of May 23: 1st gen adult emergence at 15% [M]/1% [G] and 1st gen egg hatch at 0%.

#### Lesser Appleworm

Peak LAW trap catch: May 17 [M]/May 24 [G].

#### Mullein Plant Bug

Expected 50% egg hatch date: May 21 [G], which is 5 days before rough estimate of Red Delicious petal fall date.

The most accurate time for limb tapping counts, but possibly after MPB damage has occurred, is when 90% of eggs have hatched.

90% egg hatch date: May 23 [G].

## Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected:  
June 3 [M]/June 12 [G].

## Oriental Fruit Moth

1st generation 55% egg hatch and first treatment  
date, if needed: May 24 [M]/June 1 [G].

## Spotted Tentiform Leafminer

1st generation sapfeeding mines start showing: May  
27 [G].

Optimum sample date is around May 19 [M]/May 28  
[G], when a larger portion of the mines have become  
detectable.

## White Apple Leafhopper

1st generation WALH found on apple foliage: May 20  
[G].

## **[Section: INSECTS]**

### ROLLER COASTER ROLL CALL

(Art Agnello, Entomology, Geneva)

### **[Box Text: LET ME OFF!]**

The up-and-down weather over the past couple of weeks has brought us curiously close to what might pass for a normal schedule as far as arthropods are concerned. Most regular biological events like insect

development respond positively to warmer conditions, so assuming that we'll eventually get there, pest management decisions will tend to need addressing on a fairly predictable schedule. Although this week's temperatures probably won't translate into a lot of management decisions having to be made all at once, the following is a snapshot update of some of the traditional crop protection scenarios during this period. Dates in parentheses, where present, are the mean date of occurrence in Geneva, according to our recent records.

### **Plum Curculio (May 24 - scars present)**

Curcs have only so much egg-laying activity programmed into their behavior, and it's directly related to the temperature. The cooler the post-petal fall period is, the slower they finish, so the long-term forecast will be instrumental in determining how many cover sprays might be needed after petal fall to adequately protect the region's orchards until the ovipositing is finished. Most orchards probably will have received their petal fall spray this week. We've just begun to notice a few instances of injury from this pest in western NY, and the **Apple IPM Insect Models**

### **Website**

([http://newa.nrcc.cornell.edu/newaModel/apple\\_pest](http://newa.nrcc.cornell.edu/newaModel/apple_pest))

puts curculios just barely into their egg-laying activity. For apples, if you additionally have **Rosy Apple Aphid** colonies active in your trees, consider using Actara or Calypso now, both of which have good activity against both species.

## **European Apple Sawfly**

Traditionally confined to the eastern half of the state, but steadily making westward progress in recent years, the adults will be laying eggs on or near newly set fruitlets starting at petal fall, so the plum curculio applications will do double duty against this pest as well.

## **Obliquebanded Leafroller (June 9)**

We have yet to catch the first obliquebanded leafroller adult in western N.Y., but populations in the Hudson Valley should be at least a week ahead of us, so don't be surprised to begin seeing them in the near future. Depending on the location, larvae can be found now in all stages of development, although inspections are turning up sparse populations in most WNY orchards. This would therefore be an advisable time to be sure a pheromone trap is hung in problem apple blocks, to fix the date of first emergence in your specific area. Recall that we recommend sampling at 600 DD

(base 43°F) after the first adult catch, to determine the need and timing for treatment. For problem orchards with a reliable OBLR history where sampling is generally not needed, egg hatch (which equates to the first occurrence of susceptible larvae) occurs 350 DD (more or less) after the 1st adult catch. It pays to keep an eye on the daily highs and lows for your area if you are doing your own trapping, as it's likely that our "normal" first sampling date of July 5 won't turn out to be necessarily appropriate this year; once again, the **Apple IPM Insect Models Website** can help you zero in on these events in your specific area. In orchards not too removed from petal fall and containing large larvae, an application of Altacor, Belt, Delegate, Intrepid, Proclaim, Rimon, or a B.t. product (e.g., Agree, Dipel, Deliver) at this time will help diminish the population for better management during the summer.

## **Stone Fruit Aphids**

Although green peach aphids are not always a serious pest every year, colonies of these greenish, smooth-looking aphids are likely to occur in peach blocks during this period, along with their damage. They cause curled leaves that may turn yellow or red in severe cases, and more importantly, they are vectors of Plum Pox Virus, which continues to be a threat in the western part of



the state. The young aphids begin to hatch about the time of peach bloom and remain on the trees for 2–3 generations, until early summer, when they seek other hosts (mainly vegetable truck crops). Green peach aphids suck the sap from the new fruits and twigs, and are also found on plum, apricot, cherry, and many ornamental shrubs. These insects are difficult to control; the recommended options, where needed, include Actara, Assail, Beleaf, Movento, and Provado. Lannate and Thionex are alternatives, but are possibly less effective. Applications are recommended before excessive leaf curling occurs, in order to maximize the spray's effectiveness. Also, keep an eye out for black cherry aphid in your cherry trees after shuck fall. If colonies are building up on the foliage, recommended materials include Assail, Beleaf, Lorsban, Movento, Provado, Sevin, Thionex, and pyrethroids such as Asana, and Baythroid.

### **Cherry Fruit Flies (June 16)**

It's too early for catches of adults on sticky board traps, but because of the zero tolerance in cherries for insect damage or presence, it's prudent to begin sprays in your cherries soon after shuck split (for this pest as well as for curculio). Guthion, Imidan (tart cherries only), Sevin, Diazinon, Assail, Actara, Delegate or the

pyrethroids are all effective treatments. Sevin will also control black cherry aphid.

## **Lesser Peachtree Borer (May 24)**

The first adults should soon be caught in Geneva; their flight generally starts around Memorial Day. Remember to get your trunk and scaffold sprays on peaches and cherries during the next couple of weeks if borers are a problem in your blocks. An effective alternative is Isomate-PTB Dual for pheromone disruption. Now is a good time to think about hanging the ties (150-250/acre will disrupt both species -- Peachtree Borer appears about mid-month in our region; use the higher rate where pressure is more severe). This pest increases the severity of *Cytospora* canker infections in peaches and is often found within the canker; by feeding in the callous tissues, it interferes with the tree's natural defenses against the disease. Infestations can be determined by the presence of the insect's frass, which resembles sawdust, in the gum exuded from the wound. In peaches, you can use Ambush, Asana, Baythroid, Leverage, Lorsban (all formulations), Pounce, Proaxis, Thionex, Voliam Xpress or Warrior for this application. In cherries, use Ambush, Asana, Baythroid, [Lorsban (tarts only), as a trunk spray ONLY; do not spray the

fruit], Pounce, Proaxis, Thionex, Voliam Xpress or Warrior, and observe the proper PHIs for these respective materials. Check the labels of all products for the recommended target area, where applicable (trunk vs. foliar).

## **European Red Mite**

Mite populations have been slow to build so far this season, but adults should be present soon, which means that they'll be laying summer eggs that will hatch into potential problems before long. We once again had at least some favorable pre-bloom weather for early season oil or miticide applications this year; however, if you failed to take advantage of these opportunities before bloom, it's not too late to use one of the preventive materials such as Savey/Onager, Apollo, Agri-Mek, Portal, or Zeal in problem blocks or where you may have noted ERM eggs.

In situations where European red mite pressure or the crop's sensitivity to them haven't necessarily justified an early season treatment with any of the above options, this is the time of year when a summer oil program also might be considered as an alternate preventive approach, particularly considering this species' slow start during the spring. Our field research

trials have shown the effectiveness of using a highly refined oil in a seasonal program to control mites throughout the summer. Some examples of these products are PureSpray Spray Oil 10E, BioCover UL, or PureSpray Green (all from Petro Canada), Stylet-Oil (JMS Flower Farms), and Omni (an ExxonMobil product formulated using Orchex 796 and distributed by Helena); others are available, such as Damoil (Drexel), Saf-T-Side (Brandt Consolidated) and Mite-E-Oil (Helena) although we haven't tested all brands.

Our approach is to make three applications, on a preventive schedule, immediately after the petal fall period, before mite populations have a chance to build. The first application can be any time from petal fall to 1–2 weeks later, followed by two additional sprays at 10–14-day intervals. The oil is not concentrated in the tank, but rather mixed on the basis of a rate per 100 gallons of finish spray solution; in most cases, we recommend 100 gal per acre. A rate of 1–2 gal/100 should maintain control of most moderate populations. Don't apply without leaving at least a 10–14-day interval before or after a captan spray.

**San Jose Scale (June 19 - 1st crawlers)**

Minute SJS adult males emerge in the spring from beneath scale covers on the trees, usually during bloom, and mate; 1st catch in Geneva was early this year at May 9. The females produce live crawlers within 4–6 weeks of mating; these make their way to new sites and insert their mouthparts into the tree, secreting a white waxy covering that eventually darkens to black. SJS infestations on the bark contribute to an overall decline in tree vigor, growth, and productivity. Fruit feeding causes distinct red-purple spots that decrease the cosmetic appeal of the fruit. Insecticidal sprays are most effective when directed against the first generation crawlers, specifically timed for the first and peak crawler activity, which are usually 7–10 days apart.

In the Geneva area, first crawler emergence has tended to occur sometime around mid-June. If and when a treatment against this stage is needed, Esteem 35WP is quite effective. It should be applied at 4-5 oz/acre at first crawler emergence; a low rate (0.25% or 1 qt/100) of a highly refined summer oil (see above) has been shown to improve penetration and, therefore, control. More recently registered alternatives include Centaur (except Nassau and Suffolk Counties) and Movento (which must be mixed with an organosilicone

or nonionic spray adjuvant). Assail, OPs such as Guthion and Imidan, or Provado or Leverage, are additional options.

## **Oriental Fruit Moth (May 2)**

We're generally calling biofix May 15-17 in western NY. In problem blocks (i.e., those with a history of more than 1–2% fruit infestation over the past 10 years), the first spray against the first larval brood in apples is recommended at 350–375 DD (base 45°F) from biofix, which corresponds with 55–60% hatch. The records as of today show the DD accumulation in Geneva to be about 150 (our biofix was May 12), and 280 DD for the Highland Lab (May 2 biofix). Therefore, it's still a bit of time until the window for a timely treatment in apples. If you're more than 7–10 days past your PF sprays and will need something specific against OFM, Altacor, Assail, Avaunt, Belt, Calypso, Delegate, Intrepid, and Rimon are recommended options in apples, and Altacor, Assail, Belt, Delegate, Asana, Danitol or Warrior in peaches.

## **Pear Psylla**

These insects have also been slow to start this season, but the gradually warming temperatures will eventually result in the production of summer nymphs.

Particularly if you weren't able to get an oil spray on before bloom, populations of 1–2 per leaf would be an indication of the need for a prudent application of Agri-Mek at this time; alternatively, Actara, Asana, Assail, Calypso, Centaur, Danitol, Delegate, Esteem, Movento, Nexter, Portal, Proclaim, Provado, and Warrior also have varying degrees of effectiveness against this pest, usually negatively correlated with frequency of past use.

## **[Section: DISEASES]**

### PEAR BLAST

(Dave Rosenberger, Plant Pathology, Highland)

#### **[Box Text: NO PARTY]**

Pear blast, a disease caused by the bacterium *Pseudomonas syringae*, is showing up in some Hudson Valley pear orchards. In eastern United States, this disease usually occurs only in years when flowers and/or leaves are slightly injured by a spring frost. The bacteria grow as epiphytes on many different species of plants, so they are almost always present in the orchard. However, they usually need the cell damage created by a light frost to gain entry into pear tissue. Affected tissues turn black, and dieback can be severe

enough to kill entire spurs (Fig. 1). Sometimes the infection is limited to the calyx end of young pear fruits, causing the calyx to appear black when looking directly at the old flower parts. This year we also noted some blackening on the sides of young pear fruit. We had a light frost in the Hudson Valley on April 22, and that probably allowed the infections that we started seeing last week.



Fig. 1

Pear blast usually causes relatively little damage to trees, at least for European pears grown under east-coast conditions, because the infections almost never extend beyond the individual spurs that are affected. No extra sprays or remedial measures are required to deal with this disease. Affected fruit fall from the tree naturally and the disease is only noticeable for a few weeks.



The biggest danger with pear blast is that it is sometimes confused with early symptoms of fire blight. Fire blight infections generally spread more rapidly into leaves and wood, causing wilting and blackening of leaf veins well in advance of the leaves that are blackened and dead. By comparison, pear blast can affect limited areas on spurs or fruit without creating any evidence of dieback or water-soaking in the subtending tissues.

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Editors: A. Agnello, D. Kain

Dept. of Entomology, NYSAES

630 W. North St.

Geneva, NY 14456-1371

Phone: 315-787-2341 FAX: 315-787-2326

E-mail: ama4@cornell.edu

Online at

<<http://www.scaffolds.entomology.cornell.edu/index.html>>