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FRUIT JOURNAL

Update on Pest Management and Crop Development

May 29, 2007 VOLUME 16, No. 11 Geneva, NY

INSECTS

HOSTILES

ORCHARD RADAR DIGEST

Geneva Predictions:

Roundheaded Appletree Borer

RAB adult emergence begins: May 27;
Peak emergence: June 7.
RAB egglaying begins: June 3. Peak egglaying period roughly: June 24 to July 9.

Codling Moth

Codling moth development as of May 29: 1st generation adult emergence at 19% and 1st generation egg hatch at 0%.
1st generation 3% CM egg hatch: June 4 (= target date for first spray where multiple sprays needed to control 1st generation CM).
1st generation 20% CM egg hatch: June 12 (= target date where one spray needed to control 1st generation codling moth).

Lesser Appleworm

1st LAW flight, peak trap catch: May 24.

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 8.
Where waiting to sample late instar OBLR larvae is not an option (= where OBLR is known to be a problem, and will be managed with insecticide against young larvae):
Early egg hatch and optimum date for initial application of B.t., Intrepid, SpinTor or other insecticide with comparable efficacy against OBLR (with follow-up applications as needed): June 25.

Oriental Fruit Moth

Optimum 1st generation second treatment date, if needed: May 31.

San Jose Scale

1st generation crawlers appear: June 17.

Spotted Tentiform Leafminer

1st generation sapfeeding mines start showing: May 26.
Optimum sample date is around May 27, when a larger portion of the mines have become detectable.
2nd flight begins around: June 15.

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IN THIS ISSUE...

BY DEGREES

MODEL BUILDING

Insect model degree day accumulations:

Oriental Fruit Moth (Apples — targeted spray application at 55–60% egg hatch, predicted at 350–375 DD base 45°F after biofix):

Location	Biofix	DD (as of 5/29)
Albion	May 7	341
Knowlesville	May 7	338
Williamson	May 7	310
Waterport	May 9	306
Appleton (S)	May 9	290
Appleton (N)	May 9	239
Sodus	May 10	230

Codling Moth (targeted spray application at newly hatching larvae, predicted at 250–360 DD base 50°F after biofix):

Location	Biofix	DD (as of 5/29)
Geneva	May 17	133
Albion	May 20 (est.)	123
Sodus	May 18 (est.)	114

Plum Curculio (spray coverage required until 308 DD base 50°F after biofix; i.e., McIntosh petal fall):

Location	Biofix	DD (as of 5/29)
Clintondale (Ulster Co.)	5/14	210
Geneva	5/21	122
Albion	5/21 (est.)	121
Sodus	5/24 (est.)	79

[NOTE: Consult our mini expert system for arthropod pest management, the Apple Pest Degree Day Calculator:
http://www.nysaes.cornell.edu/ipm/specware/newa/appledd.php
Find accumulated degree days between dates with the Degree Day Calculator:
http://www.nysaes.cornell.edu/ipm/specware/newa/
Powered by the NYS IPM Program's NEWA weather data and the Baskerville-Emin formula]

TODAY'S MENU

INSECTS OF INTEREST
(Art Agnello, Entomology, Geneva)

❖❖ With high temperatures forecast for the 80s, summer will be getting off to its unofficial Memorial Day start this week, and although arthropods respond positively to hotter conditions, pest management decisions tend to be more straightforward than they are during cool and wet weather, as things tend to happen on a more predictable schedule. However, this week's heat may increase the likelihood that a lot of management decisions might have to be made all at once. The following are updates on 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 warmer the post-petal fall period, the quicker they get done, so the warm 7–10 days we have in the long-term forecast

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Dept. of Entomology
NYSAES, Barton Laboratory
P.O. Box 462
Geneva, NY 14456-0462
Phone: 315-787-2341 FAX: 315-787-2326
E-mail: ama4@cornell.edu

Editors: A. Agnello, D. Kain

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could mean that a petal fall plus possibly one additional spray at 1st cover will adequately protect most of the region's orchards until the ovipositing is finished. We'll keep you posted, but most orchards should definitely receive their petal fall spray this week. Jim Eve reports finding fresh scars in his trees near Naples, and the NEWA Apple Pest DD Calculator (http://www.nysaes.cornell.edu/ipm/specware/newa/appledd.php) puts curculios somewhere about one-third of the way through their egglaying activity as of last night. 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 10)

We have yet to catch the first obliquebanded leafroller adult in western N.Y., but populations in the Hudson Valley should be something like a week ahead of us, so don't be surprised to begin seeing them this week. Depending on the location, larvae can be found now in several stages of development, although our extensive sampling in WNY turned up nothing past 3rd instar last week. 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. In orchards still not too removed from petal fall and containing large larvae, an application of a B.t. product (e.g., Dipel, Deliver), Proclaim, or Intrepid at this time can 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 has been documented in the far 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; Provado would be our recommended option, where needed. Lannate and Thiodan 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 Provado, Sevin and Imidan (for tart cherries only).

Cherry Fruit Flies (June 16)

No adult catches have been reported 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 now (for this pest as well as for curculio). Guthion, Imidan (tart cherries only), Sevin, Diazinon or the pyrethroids are all effective treatments. Sevin and Imidan will also control black cherry aphid.

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Lesser Peachtree Borer (May 25)

The first adults were found in traps today. Remember to get your trunk and scaffold sprays on peaches and cherries during the first 10 days of June if borers are a problem in your blocks. An effective alternative is Isomate-L for pheromone disruption. Now is still not too late to hang the ties (100–150/acre will disrupt both species -- Peachtree Borer appears about mid-month -- in our region, but use 200/acre if Peachtree Borer is the predominant species). 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 Lorsban 4E, Thionex, Asana, Ambush, Pounce, Proaxis or Warrior for this application. In cherries, use Thionex, Asana, Pounce, Ambush, Proaxis, Warrior or Lorsban (tarts only), as a trunk spray ONLY; do not spray the fruit, and observe the proper PHIs for these respective materials.

European Red Mite

Mite populations have been slow to build so far this season, but adults should be present by now, which means that they'll be laying summer eggs that will hatch into potential problems before long. The pre-bloom period was once again favorable 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 ovicidal materials such as Savey, Apollo, Agri-Mek, 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 labeled, 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 on 5/24. 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.

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In the Geneva area, first crawler emergence has tended to occur sometime around mid-June. The NEWA Apple Pest DD Calculator predictions are for this to occur in 140 DD (base 50°F) around western NY, which means slightly sooner in the Hudson Valley. For this treatment, Esteem 35WP is available and quite effective against this pest. 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. OPs such as Guthion and Imidan, as well as Provado, are alternative options.

Oriental Fruit Moth

We're calling biofix May 7–10 in western NY. In problem blocks (i.e., those with a history of more than 1–2% fruit infestation since 2002), 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 (See Model Building section, above) show the DD accumulations to be between 230–340. Therefore, this week would be a timely window for such a treatment. If you're applying petal fall sprays, you should be covered by most materials that are effective against plum curculio. If you're more than 7–10 days past your PF sprays and need something specific against OFM, Assail, Calypso, Intrepid and Avaunt are recommended options in apples, and Asana or Warrior in peaches.

Pear Psylla

These insects have also been slow to start this season, but the warm temperatures will doubtless spur 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, Esteem, Proclaim, Provado, Nexter, and Warrior also have varying degrees of effectiveness against this pest, usually negatively correlated with past history of use. ❖❖

ERRATUM

❖❖ Speaking of Pears and Petal Fall, it's been pointed out to us that a crucial phenological development divider bar was inadvertently omitted from the Tree Fruit Guidelines on p. 150, making it appear as though we are recommending sprays for aphids, mealybug, green fruitworms, etc., during the bloom period, which is not the case, as those are Petal Fall recommendations. So, immediately after the "Fire Blight" entry and just before "Pear Scab, Fabraea Leaf Spot", there should be an entry that says:

"Pear Scab, Fabraea Leaf Spot - Choose from materials listed previously"

And then a bold section divider saying "PETAL FALL". ❖❖

PEST FOCUS

Geneva:
Lesser appleworm and **San Jose scale** 1st catch 5/24. **Lesser peachtree borer** 1st catch today (5/29).

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	5/21	5/24	5/29
Redbanded leafroller	0.1	1.8	2.4
Spotted tentiform leafminer	2.6	7.5	8.1
Oriental fruit moth	0.4	6.5	0.8
Codling moth	0.0	0.0	0.1
Lesser appleworm	0.0	0.3*	1.5
San Jose scale	–	187*	127
American plum borer	0.3*	0.0	0.3
Lesser peachtree borer	–	–	0.2*

Highland, NY

	5/14	5/21
Spotted tentiform leafminer	42.5	2.9
Oriental fruit moth	9.8	1.1
Codling moth	0.1*	0.4
Lesser appleworm	0.0	0.6*

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–5/29/07):	642	362
(Geneva 1/1–5/29/2006):	630	305
(Geneva "Normal"):	633	356
(Geneva 1/1–6/4/2007, Predicted):	800	479

Coming Events:	Ranges(Normal±StDev):	
American plum borer 1st flight peak	360–1175	278–514
Spotted tentiform leafminer 1st flight peak	180–544	114–208
Oriental fruit moth first flight peak	259–700	159–285
Lesser appleworm 1st flight peak	372–1125	180–436
San Jose scale 1st flight peak	457–761	319–411
Black cherry fruit fly 1st catch	686–985	380–576
Redbanded leafroller 1st flight subsides	417–1104	325–561
Spotted tentiform leafminer 1st flight subsides	489–1051	356–566

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