

scaffolds

Update on Pest Management
and Crop Development

F R U I T J O U R N A L

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Geneva, NY

PAINT
BY
NUMBERS

ORCHARD
RADAR
DIGEST



Spotted Tentiform Leafminer

2nd STLM flight begins around: June
10 (H)/June 12 (G).



[H = Highland; G = Geneva]:

Roundheaded Appletree Borer

RAB egg laying begins: May 30 (H)/May 31 (G).
Peak egg laying period roughly: June 20 to July 5
(H)/June 23 to July 8 (G).

Dogwood Borer

First DWB egg hatch roughly: June 19 (H)/June
21 (G).

Codling Moth

Codling moth development as of May 26:
1st generation adult emergence at 10% (H) and
1st generation egg hatch at 0% (H)
1st generation 3% egg hatch expected: June 10
(H)/June 12 (G).

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch ex-
pected: June 2 (H)/June 4 (G).

Oriental Fruit Moth

2nd generation OFM flight begins around: June
23 (H)/June 26 (G).

San Jose Scale

1st generation SJS crawlers appear: June 12 (H)/
June 15 (G).



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(Art Agnello, Entomology, Geneva; ama4@cornell.edu)

❖❖ Like most regular biological events, insect development responds positively to warmer conditions, so anticipating that this week's forecast of 80-plus degree weather will provide the needed push, pest management decisions for most major 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 long-view 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 25 - 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 is, the quicker 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 should just begin to notice a few instances of injury from this pest in western NY, and the Apple IPM Insect Models Website (http://newa.nrc.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 now, which has 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 start laying eggs on or near newly set fruitlets 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 should be able to be found now in various stages of development. This week 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 more or less 350 DD 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

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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. Although Altacor, Belt, Delegate, or Exirel are also very effective against OBLR, it would be advisable to save these big guns for the summer generation larvae, which are more of a direct threat to the developing fruits.

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, which causes curled leaves that may turn yellow or red in severe cases. 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, Admire, Assail, Beleaf, and Movento. Lannate is an alternative, but possibly less effective choice. 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 Admire, Assail, Beleaf, Lorsban, Movento, Sevin, and pyrethroids such as Asana, and Baythroid. Pre-mixes labeled for this use include Endigo, Leverage, Voliam Flexi and Voliam Xpress.

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). 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 were caught in Geneva last week (5/18). 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 and you are electing this approach. A better and 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, Lorsban (all formulations), Pounce, Voliam Xpress or Warrior for this application (or pre-mixes such as Endigo, Gladiator, Leverage, or Voliam Xpress). In cherries, use Ambush, Asana, Baythroid, [Lorsban (tarts only), as a trunk spray ONLY; do not spray the fruit], Pounce, Warrior, Endigo, Gladiator or Voliam Xpress, 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 are already starting to build this season, and adults may already be present, 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.

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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 Orhex 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, or an application of any thinning materials.

San Jose Scale (June 19 - 1st crawlers)

Minute SJS adult males emerge in the spring from beneath scale covers on the trees, usually following petal fall, and mate; 1st catch should occur in Geneva any day now. 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 cosmet-

ic 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 one option. 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. Additional products showing control efficacy include Assail, Centaur (except Nassau and Suffolk Counties) and Movento (which must be mixed with an organosilicone or nonionic spray adjuvant). Other options include Imidan, Admire, or pre-mixes such as Endigo, Leverage, or Voliam Xpress. These applications will also be effective against White Prunicola Scale, which has gotten to be increasingly common of in our area, in apples as well as peaches.

Oriental Fruit Moth (May 2)

We're generally calling biofix May 4-5 in western NY this year. 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 354, and 432 DD for the Highland Lab (May 4 biofix). This would put us solidly inside 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, Delegate, Exirel, Intrepid, and Rimon are recommended options in apples, and Altacor, Assail, Belt, Delegate, Exirel, Asana, Danitol or Warrior in peaches.

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Pear Psylla

These insects have also been making steady progress, and 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, 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. ❖❖

results from last year's summer disease trials.

Registration fees are \$15/person or \$25 for two or more people/farm.

Please pre-register online at: <http://www.cvent.com/events/organic-apple-production-managing-productivity-insects-disease-and-weeds/event-summary-dd51400a20b0417e89d847bae3565cf2.aspx>

Pre-registration closes at 4pm on June 8th. [NOTE: This field day is free to Cornell faculty and CCE staff; please sign in at the event, as pre-registration is not necessary.]

This event is produced by NOFA-NY in partnership with the NYS Agricultural Experiment Station and support from the NYS Dept. of Ag & Mkts Specialty Crop Block Grant Program.



EVENT
ANNOUNCEMENT

ORGANIC
APPLE
WORKSHOP

❖❖ On Wednesday, June 10, NOFA-NY will be joining with Cornell to sponsor a Field Day Workshop entitled "Organic Production: Managing Productivity, Insects, Diseases and Weeds" at the NYSAES Loomis Farm, 3135 County Rd. 6, Geneva, from 1:00–4:30 PM. Presentations by entomologist Arthur Agnello, horticulturists Terence Robinson and Susan Brown, and plant pathologist Kerik Cox will focus on organic orchard practices informed by their ongoing research in the Station's 3-acre organic apple planting. Growth and productivity will be discussed, including new and upcoming disease-resistant varieties, rootstocks, training systems, pruning, weed control options, and nitrogen fertilization. Basic and advanced seasonal management approaches to insect control will be shared such as the use of entomopathogenic nematodes for biological control of plum curculio, and predatory mite seeding for the control of European red mite. The group will also go over organic fire blight management techniques and

PHENOLOGIES

Geneva:

Apple (McIntosh, Empire, Red Delicious): fruit 1/4"
Peach: fruit set

PEST FOCUS

Geneva: 1st **plum curculio** oviposition scars noted 5/20–22.

GENERAL INFORMATION

INSECT TRAP CATCHES						
(Number/Trap/Day)						
Geneva, NY				Highland, NY		
	<u>5/18</u>	<u>5/22</u>	<u>5/26</u>		<u>5/18</u>	<u>5/26</u>
Redbanded leafroller	3.0	2.8	4.4	Redbanded leafroller	5.1	0.6
Spotted tentiform leafminer	4.5	1.1	2.0	Lesser appleworm	1.1	0.6
Oriental fruit moth	3.0	1.0	2.1	Oriental fruit moth	1.4	1.3
Lesser appleworm	0.5	0.0	0.4	Codling moth	4.7	5.1
Codling moth	1.2	0.8	1.4	Spotted tentiform leafminer	7.7	0.4
San Jose scale	0.0	0.0	0.0	San Jose scale	19.9	2.3
American plum borer	0.1*	0.4	0.0	Dogwood borer	0.7	1.4
Lesser peachtree borer	2.1*	2.4	3.5			
* first catch						

UPCOMING PEST EVENTS		
	<u>43°F</u>	<u>50°F</u>
Current DD* accumulations (Geneva 1/1–5/26/15):	633	393
(Geneva 1/1–5/26/2014):	551	309
(Geneva "Normal"):	628	321
(Geneva 1/1–6/1, predicted):	798	516
(Highland 1/1–5/26/15):	797	493
<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Spotted tentiform leafminer 1st flight subsides	671–949	372–576
Lesser appleworm 1st flight peak	359–781	176–448
Mullein bug hatch complete	508–656	264–358
American plum borer 1st flight peak	594–966	323–585
Codling moth 1st flight peak	555–983	302–580
Plum curculio oviposition scars present	485–589	256–310
Pear psylla 1st summer adults	737–885	428–526
San Jose scale 1st catch	435–615	218–340
San Jose scale 1st flight peak	555–739	297–415
European red mite summer egg hatch	737–923	424–572
Black cherry fruit fly 1st catch	702–934	380–576
Obliquebanded leafroller pupae present	601–821	328–482
Pandemis leafroller 1st catch	768–898	441–523
Redbanded leafroller 1st flight subsides	596–896	334–558

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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