scaffolds

Update on Pest Management and Crop Development

FRUIT JOURNAL

May 19, 2008 VOLUME 17, No. 9 Geneva, NY

INSECTS

IT'S FLYING TIME AGAIN

ORCHARD RADAR DIGEST

Geneva Predictions:

Roundheaded Appletree Borer

RAB adult emergence begins: June 1; Peak emergence: June 15.

RAB egglaying begins: June 10. Peak egglaying period roughly: June 30 to July 14.

Codling Moth

1st generation, first sustained trap catch biofix date: May 16

Codling moth development as of May 19: 1st generation adult emergence at 1% and 1st generation egg hatch at 0%

1st generation 3% CM egg hatch: June 11 (= target date for first spray where multiple sprays needed to control 1st generation CM).

1st generation 20% CM egg hatch: June 18 (= target date where one spray needed to control 1st generation codling moth).

Lesser Appleworm

1st LAW flight, peak trap catch: May 23.

Mullein Plant Bug

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 22.

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 12.

Oriental Fruit Moth

1st generation second treatment date, if needed: May 30.

San Jose Scale

First adult SJS caught on trap: May 17.

Spotted Tentiform Leafminer

1st generation sapfeeding mines start showing: May 20.

Optimum sample date is around May 24, when a larger portion of the mines have become detectable.

❖❖

IN THIS ISSUE...

BUG SOUP

"MAY"lee
(Art Agnello,
Entomology, Geneva)

❖❖ With the prolonged cool-down forecast for the coming week, summer won't be getting off to its typical unofficial Memorial Day start very quickly this season. Although arthropods respond positively to hotter conditions, pest management decisions will still tend to need addressing on a fairly predictable schedule, at least until we get into the actual meat of the hot season. Although this week's temperatures probably won't translate into a lot of management decisions having to be made all at once, the following might be a useful update 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 cooler the post-petal fall period, the slower they get finished, 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. We'll keep you posted, but most orchards probably should have received their petal fall spray this week. Jim Eve reports finding no evidence of injury from this pest in several known hot spots as of Saturday the 17th, and the NEWA Apple Pest DD Calculator (http://www.nysaes.cornell.edu/ipm/specware/newa/appledd.php) puts curculios just barely into their egglaying activity as of last night. Recall that Avaunt is now labeled for stone fruit, and is an additional alternative to the standard OPs and pyrethroids. 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 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 later this week or early next week. Depending on the location, larvae can be found now in several stages of development, although sampling forays in WNY turned up nothing past 3rd instar by 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

continued...

scaffolds
is published weekly from March to September by Cornell University—NYS Agricultural Experiment Station (Geneva) and Ithaca—with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions by 3 pm Monday to:

scaffolds FRUIT JOURNAL
Dept. of Entomology
NYSAES, Barton Laboratory
Geneva, NY 14456-1371
Phone: 315-787-2341 FAX: 315-787-2326
E-mail: ama4@cornell.edu

Editors: A. Agnello, D. Kain

This newsletter available on CENET at: news://newsstand.cce.cornell.edu/cce.ag.tree-fruit
and on the World Wide Web at:
http://www.nysaes.cornell.edu/ent/scaffolds/

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 continues to be found 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 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 Provado, Sevin and Imidan (for tart cherries only).

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 or the pyrethroids are all effective treatments. Sevin and Imidan will also control black cherry aphid.

Lesser Peachtree Borer (May 25)

The first adults should be caught by the end of the month; their flight generally starts around (the traditional) Memorial Day. 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-LPTB for pheromone disruption. Now is a good time to think about hanging 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, Baythroid, Pounce, Proaxis or Warrior for this application. In cherries, use Thionex, Asana, Baythroid, 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 soon, 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/Onager, Apollo, Agri-Mek, or Zeal in problem blocks or where you may have noted ERM eggs.

continued...

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 should be imminent. 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. We're somewhat behind the norm this season, and the NEWA Apple Pest DD Calculator predictions are for this to occur in something over 230 DD (base 50°F) around western NY, so this wouldn't be considered imminent. However, for when this treatment is needed, Esteem 35WP is 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 April 24-29 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 show the DD accumulations to be between 165-205. Therefore, it's still not too late for a timely treatment in apples. 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 (Avaunt provides suppression only).

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 applica-

continued...

tion of Agri-Mek at this time; alternatively, Actara, Asana, Assail, Calypso, Danitol, Esteem, Proclaim, Provado, Nexter, and Warrior also have varying degrees of effectiveness against this pest, usually negatively correlated with past history of use. ❖❖

GENERAL INFO

LEST YOU FORGET

REMINDER OF TOWER AND SENSORS FIELD DEMONSTRATIONS (Andrew Landers, Entomology, Geneva)

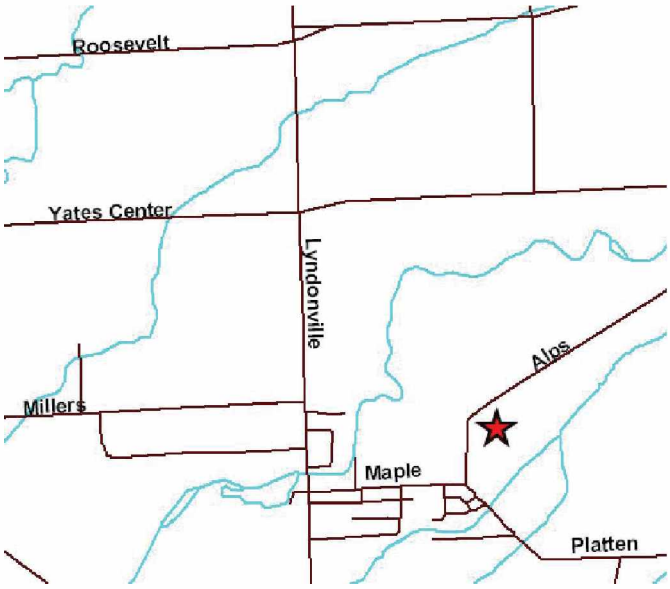
❖❖ There will be two demonstrations that will showcase equipment that was purchased through a USDA Conservation Innovation Grant. The purpose of this grant was to bring a new concept or technology to an area that will reduce environmental impact and increase profitability for agriculture producers. Ten Farmers received cost-share to purchase ten new sprayers in 2007. The District is hoping this program will lead to more cost–share opportunities in the future for farmers to purchase conservation type equipment.

• May 29, 2008 at 2:30 pm at Joe Heberle's Farm, Lakeshore Road, Town of Kendall

• June 10, 2008 at 10:00 am, LynOaken Farms, Alps Road, Town of Yates

❖❖

Heberle Farm



Oakes Farm

PEST FOCUS

Geneva:
Lesser peachtree borer 1st catch 5/15. **American plum borer** 1st trap catch today, 5/19.

Highland:
Pear psylla nymphs above threshold on Bartlett pear but egg numbers decreasing. **Leaf curl midge** and **lep** damage observed on pear. **Plum curculio** oviposition and feeding damage and **European apple sawfly** damage observed on apple.

PHENOLOGIES

Geneva:

	5/19
Apple(McIntosh):	fruit set
Apple(Red Delicious):	petal fall–fruit set
Apple(Empire):	fruit set
Pear(Bartlett):	fruit set
Sweet cherry(Hedelfingen):	fruit set, shucks off
Tart cherry(Montmorency):	fruit set, shucks off
Plum (Stanley):	fruit set, shuck split
Peach:	fruit set, shucks on

Highland:
Apple (Ginger Gold): fruit set
Apple (McIntosh): fruit set
Apple (Red Delicious): fruit set

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	5/12	5/15	5/19
Green fruitworm	0.0	0.0	0.0
Redbanded leafroller	5.6	3.0	1.1
Spotted tentiform leafminer	11.6	12.2	7.1
Oriental fruit moth	1.0	2.3	0.1
American plum borer	0.0	0.0	0.3*
Lesser peachtree borer	0.0	0.3*	0.0
Lesser appleworm	0.0	0.3*	0.4

Highland, NY

	5/12	5/19
Green fruitworm	0.0	0.0
Redbanded leafroller	1.5	0.9
Spotted tentiform leafminer	29.3	6.0
Oriental fruit moth	2.6	0.4
Codling moth	0.1*	0.5
Lesser appleworm	0.4	0.4

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–5/19/08):	518	274
(Geneva 1/1–5/19/2007):	444	228
(Geneva "Normal"):	529	302
(Geneva 1/1–5/26 Predicted):	589	309
(Highland 3/1–5/19/08):	511	244

Coming Events:	Ranges (Normal ±StDev):	
Spotted tentiform leafminer sap-feeders present	343–601	165–317
European red mite 1st summer eggs	447–555	237–309
Oriental fruit moth 1st flight peak	332–538	161–287
American plum borer 1st flight peak	561–869	279–511
Lesser appleworm 1st flight peak	379–791	186–448
Codling moth 1st catch	389–609	191–335
San Jose scale 1st catch	381–605	189–325
Mirid bugs 90% hatch	467–615	240–322
Plum curculio oviposition scars present	485–589	256–310
Pear psylla hardshell present	493–643	271–361
Redbanded leafroller 1st flight subsides	591–911	329–563

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.

This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.