scaffolds

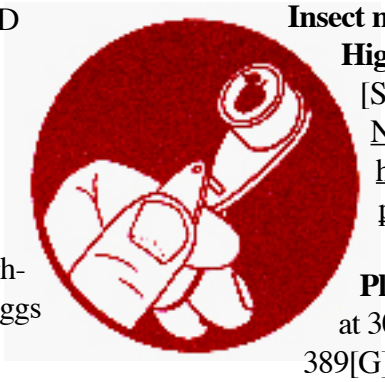
Update on Pest Management and Crop Development

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

June 13, 2016 VOLUME 25, No. 13 Geneva, NY

INSECTS

WINGING THEIR WAY ORCHARD RADAR DIGEST



❖❖ **Geneva Predictions**:

Roundheaded Appletree Borer
RAB Peak egglaying period roughly: June 24 to July 8. First RAB eggs hatch roughly: June 17.

Dogwood Borer
First DWB egg hatch roughly: June 22.

Codling Moth
Codling moth development as of June 13: 1st generation adult emergence at 73% and 1st generation egg hatch at 20%.
1st generation 20% CM egg hatch: June 13 (= target date where one spray needed to control 1st generation CM).

Obliquebanded Leafroller
Early egg hatch and optimum date for initial application of insecticide effective against OBLR (with follow-up applications as needed): June 23.

Oriental Fruit Moth
2nd generation OFM flight begins around: June 28.

Redbanded Leafroller
2nd RBLR flight begins around June 28.

San Jose Scale
1st generation SJS crawlers appear: June 18.

Spotted Tentiform Leafminer
2nd STLM flight begins around: June 16.

Insect model predictions for Highland[H] / Geneva[G]
[Source: NEWA Apple Insect Models, http://newa.cornell.edu/index.php?page=apple-insects]

Plum curculio emergence complete at 308 DD50 (currently @ 520[H] / 389[G]).
Obliquebanded Leafroller larval emergence @ 360 DD43; 25% hatch @450 DD43; 50% hatch @630 DD43 (currently @ 542[H] / 276[G]).
San Jose Scale crawler emergence @ 310 DD50 after 1st flight (currently @ 460[H] / 303[G]).

PEST FOCUS

Geneva: 1st trap captures of San Jose Scale crawlers today, 6/13.

Editor's Note: Next week's *Scaffolds* will be delayed until Tuesday, June 21, as I will be out of the office with another commitment - A.A.

IN THIS ISSUE…

CLOUD DOWN-LOAD

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

❖❖ Potato leafhopper (PLH) does not overwinter in the northeast but instead migrates on thermals (warm air masses) from the south. It is generally a more serious problem in the Hudson Valley than in western N.Y. or the Champlain Valley; however, weather fronts such as those resulting from the recent storms occurring in the middle states as well as in our region provide ample opportunity for most of the region to share the wealth, so it doesn't hurt to tour observantly through a few orchards now. Because PLH comes in constantly during the season, there are no distinct broods or generations and the pest may be present continuously in orchards from June through harvest.

PLH feeds on tender young terminal leaves. Initially, injured leaves turn yellow around the edges, then become chlorotic and deformed (cupping upward, Fig. 1) and later turn brown or scorched. Damage is caused by a toxin injected by PLH while feeding. PLH also occasionally causes symptoms similar to the effects of growth regulators, such as excessive branching preceding or beyond the point of extensive feeding. PLH damage is often mistaken for injury caused by herbicides, nutrient deficiency, or over-fertilization. PLH injury may not be serious on mature trees but can severely stunt the growth of young trees.

Fig. 1. Potato leafhopper feeding damage.

Nymphs and adults should be assessed on 50–100 randomly selected terminal leaves in an orchard. Older trees should be inspected approximately every three weeks during the summer. Young trees should be sampled weekly through July. PLH nymphs are often described as moving sideways like crabs, whereas WALH generally move forward and back. No formal studies have been conducted in N.Y. to determine the economic injury level for PLH on apples, so we suggest a tentative threshold of an average of one PLH (nymph or adult, Fig. 2) per leaf. Little is known about the natural enemies of PLH, but it is assumed that they cannot effectively prevent damage by this pest in commercial New York orchards.

Damage by this migratory pest is usually worse when it shows up early. PLH can cause significant damage to newly planted trees that are not yet established. When PLH, white apple

continued...

scaffolds
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leafhopper (WALH), rose leafhopper (RLH) and aphids are present, control measures are often warranted.

Fig. 2. Potato leafhopper adult and nymph

Field trials conducted some years ago in the Hudson Valley evaluated reduced rates of Provado against all three species of leafhoppers. Provado was applied in combinations at a full rate (2 oz/100 gal) and a quarter rate (0.5 oz/100 gal), at varying intervals (3rd–5th cover). Nymphs of PLH, WALH, and RLH were sampled and leaf damage by PLH was monitored.

Because of Provado's translaminar activity, all rates and schedules produced excellent control of WALH/RLH nymphs (however, reduced rates will not control leafminer). Against PLH nymphs, the number of applications was shown to be more important than rate; i.e., better protection of new foliage. Considering the percentage of leaves with PLH damage, the number of applications again appeared to be more important than application rate.

Admire Pro, the currently available imidacloprid formulation from Bayer, is also an excellent aphicide, and the same principle would hold as for PLH — maintaining coverage of new growth is more important than the rate. Moreover, reduced rates are likely to increase the survival of cecidomyiid and syrphid predators that are common and effective biological control agents. Other management options for these leaf feeding hoppers can be found in the "Additional Summer Sprays" section starting on p. 145 in the Recommends. Check Table 7.1.2 (p. 65) for impacts of any of these products on beneficials. ❖❖

BULLET POINTS

BMSB IN ORCHARD CROPS GUIDANCE DOCUMENT

❖❖ A new publication on principles of managing BMSB in orchard crops has just been made available on the StopBMSB.org website. This 4-page document, "Integrated Pest Management for Brown Marmorated Stink Bug in Orchard Crops", authored by the BMSB SCRI Orchard Crop Commodity Team, provides a synopsis of what researchers have learned so far and management recommendations using an integrated approach. Topics, supplemented by over a dozen photos, include:

- Basic Biology and Life Cycle of BMSB
- Orchard Crops at Risk / Crops Not at Risk
- Orchard Crop Injury Diagnostics
- Period of Risk/Susceptibility
- Provisional Monitoring and Scouting Recommendations
- Provisional Management Strategies
- Biological Control
- Effective Insecticides for Controlling BMSB in Orchard Crops
- Problems That May Arise from Multiple Post-Bloom Applications of Broad-Spectrum Insecticides in Orchard Crops

This publication is available as a PDF at: http://www.stopbmsb.org/stopBMSB/assets/File/BMSB-in-Orchard-Crops.pdf

GENERAL INFO

INFIELD CATCH

The Cornell Fruit Field Day will be held in Geneva on Wednesday, July 20. This event, being organized by Cornell University, the NYS Agric. Experiment Station, CALS Fruit Program Work Team, and Cornell Cooperative Extension, will feature ongoing research in berries, hops, grapes, and tree fruit. All interested persons are invited to learn about the fruit research under way at Cornell University. Attendees will be able to select from tours of different fruit commodities. It will be based at the NYSAES Fruit and Vegetable Research Farm South, 1097 County Road No. 4, 1 mile west of Pre-emption Rd. in Geneva, NY. Admission is $50/person ($40 for additional attendees from the same farm or business). Pre-registration is required; walk-in registration may be available for a $10 surcharge on the day of the event. Please use the registration link below to register via credit card:
http://events.cals.cornell.edu/ffd2016

CORNELL AND CCE EMPLOYEES get free admission, but please pre-register using the same link; there's a **Cornell Staff** tab at the top of the home page, which will take you to a page to pre-register and select a lunch option.

To participate as a sponsor, see the website page or contact Shelly Cowles (315-787-2274; mw69@cornell.edu).

NOTE: This year's IFTA (International Fruit Tree Association) Summer Study Tour is taking place in western NY and will focus on the Cornell Fruit Field Day, with complementary tours on the day before and after (July 19, Orleans Co. and July 21, Wayne Co.) For more information on this tour, see their website: http://www.ifruittree.org

INSECT TRAP CATCHES (Number/Trap)

Geneva, NY

	6/6	6/9	6/13
Redbanded leafroller	0.0	0.0	0.0
Spotted Tentiform Leafminer	1.5	0.0	1.5
Oriental Fruit Moth	4.5	0.0	0.0
San Jose Scale	0.0	0.5	0.0
Codling Moth	2.5	0.0	1.0
American Plum Borer	0.0	0.5	0.0
Lesser Peachtree Borer	8.0	0.5	4.5
Obliquebanded Leafroller	1.0	1.0	2.0
Pandemis Leafroller	5.5	2.0	31.0
Dogwood Borer	2.0	0.5	-

Highland, NY

	6/6	6/13
Redbanded leafroller	0.0	0.5
Spotted Tentiform Leafminer	60.0	96.0
Oriental Fruit Moth	1.0	0.0
Lesser Appleworm	4.0	1.0
San Jose Scale	0.0	0.0
Codling Moth	44.5	35.5
Obliquebanded Leafroller	21.0	41.5
Dogwood Borer	2.0	1.1
Brown Marmorate Stink Bug	0.0	0.0

* = 1st catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–6/13/16):	959.3	557.4
(Geneva 1/1–6/13/2015):	963.1	611.6
(Geneva "Normal"):	997.7	602.4
(Geneva 1/1-6/20, predicted):	1130.8	680.4
(Highland 1/1–6/13/16):	1328.7	783.5

Coming Events:	Ranges (Normal ±StDev):	
Cherry fruit fly 1st catch	755-1289	424-806
Lesser appleworm 1st flight subsides	989-1515	604-974
Obliquebanded leafroller 1st flight peak	833-1219	486-766
Obliquebanded leafroller summer larvae hatch	1038-1460	625-957
Oriental fruit moth 1st flight subsides	829-1111	488-688
Pandemis leafroller flight peak	891-1195	514-742
Peachtree borer 1st catch	799-1331	462-824
Pear psylla 2nd brood hatch	967-1185	584-750
San Jose scale 1st flight subsiding	864-1238	515-769
San Jose scale 1st generation crawlers present	1033-1215	619-757
Spotted tentiform leafminer 2nd flight start	993-1163	592-726
White apple leafhopper 1st gen adults present	679-1041	380-694

all DDs Baskerville-Emin, B.E.

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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