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Update on Pest Management and Crop Development

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

June 22, 2015 VOLUME 24, No. 13 Geneva, NY

INSECTS

HEAT WAVE

ORCHARD RADAR DIGEST

[H = Highland; G = Geneva]:

Oriental Fruit Moth

2nd generation OFM flight begins around: June 22 (H)/June 25 (G).

2nd generation, first treatment date, if needed: June 30 (H)/July 3 (G).

Redbanded Leafroller

2nd RBLR flight begins around June 23 (H)/June 26 (G).

Roundheaded Appletree Borer

RAB Peak egglaying period roughly: June 19 to July 3 (H)/June 22 to July 7 (G).

Peak RAB egg hatch roughly: July 4 to July 23 (H)/July 7 to July 27 (G).

Dogwood Borer

Peak DWB egg hatch roughly: July 23 (H)/July 27 (G).

Codling Moth

Codling moth development as of June 22:

1st generation adult emergence at 67% (H)/59% (G) and 1st generation egg hatch at 12% (H)/ 6% (G).

1st generation 3% egg hatch expected: June 14 (H)/June 18 (G).

Lesser Appleworm

2nd LAW flight begins around: July 4 (H)/July 8 (G).

Obliquebanded Leafroller

Where waiting to sample late instar OBLR larvae to determine need for treatment, ptimum sample date for late instar summer generation OBLR larvae: June 26 (H)/June 30 (G).

Spotted Tentiform Leafminer

Rough guess of when 2nd generation sap-feeding mines begin showing: June 27 (H)/July 2 (G). Optimum first sample date for 2nd generation STLM sapfeeding mines is July 5 (H)/July 9 (G).

PEST FOCUS

Geneva: **Redbanded leafroller** 2nd flight began today, 6/22.

Highland: **San Jose scale** crawlers, and early fruit injury, noted on 6/19.

Insect model predictions for Highland/Geneva:
Obliquebanded leafroller larval emergence @350 DD43 (currently @ 568[H]/447[G]) (Hatch in Highland is predicted to be approx. 25%. Hatch in Geneva is predicted to be just beginning.)

IN THIS ISSUE…

JAM SESSION

SUMMER TRAFFIC
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Obliquebanded Leafroller

❖❖ Assuming a biofix (1st adult catch) of OBLR this year from about May 29 (Highland) to 6/1 (Geneva) to Sodus (6/8) to Chazy (6/10), sites around the state have accumulated a total of anywhere from 330-568 DD (base 43°F) in the most advanced sites, with perhaps 270 DD in later northerly regions. First egg hatch is generally expected at about 360 DD, which has already passed in Highland and Geneva, and should occur sometime this week in Sodus and somewhat later in the Champlain Valley. The 630 DD point in the insect's development roughly corresponds to 50% egg hatch, and at 720 DD, the earliest emerging larvae have reached the middle instars that are large enough to start doing noticeable damage to foliar terminals and, eventually, the young fruits. This is also the earliest point at which visual inspection for the larvae is practical, so sampling for evidence of a treatable OBLR infestation would be recommended at that time in orchards where pressure has not been high enough to justify a preventive spray.

Guidelines for sampling OBLR terminal infestations can be found on p. 71 in the Recommends, using a 3% action threshold that would lead to a recommended spray of an effective leafroller material. Delegate, Belt, Altacor, Proclaim and Exirel are our preferred choices in most cases; Rimon, Intrepid, a B.t. material or a pyrethroid are also options, depending on block history and previous spray efficacy against specific populations. If the average percentage of terminals infested with live larvae is less than 3%, no treatment is required right away, but another sample should be taken three to five days (100 DD) later, to be sure populations were not underestimated.

Green Aphids

Although small numbers of green aphids (Spirea aphid, Aphis spiraecola, and Apple aphid, Aphis pomi) may have been present on trees early in the season, populations have been increasing regularly as the summer weather patterns gradually become established. Both species are common during the summer in most N.Y. orchards, although no extensive surveys have been done to compare their relative abundance in different production areas throughout the season. It's generally assumed that infestations in our area are mostly Spirea aphid.

Nymphs and adults suck sap from growing terminals and water sprouts. High populations cause leaves to curl and may stunt shoot growth on young trees. Aphids excrete large amounts of honeydew, which collects on fruit and foliage. Sooty mold fungi that develop on honeydew cause the fruit to turn black, reducing its quality.

Aphids should be sampled several times throughout this season starting now. Inspect 10 rapidly growing terminals from each of 5 trees throughout the orchard, noting the percentage of infested terminals, including rosy aphid-infestations, since they tend to affect the foliage similarly

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to the green species at this time of the year. No formal studies have been done to develop an economic threshold for aphids in N.Y. orchards. Currently, treatment is recommended if 30% of the terminals are infested with either species of aphid, or at 50% terminal infestation and less than 20% of the terminals with predators (below). An alternative threshold is given as 10% of the fruits exhibiting either aphids or honeydew.

The larvae of syrphid (hoverflies) and cecidomyiid flies (midges) prey on aphids throughout the summer. These predators complete about three generations during the summer. Most insecticides are somewhat toxic to these two predators, and they usually cannot build up sufficient numbers to control aphids adequately in regularly sprayed orchards. Check Tables 7.1.1 (p. 63) and 7.1.2 (p. 65) in the Recommends for ratings of efficacy and impact on beneficials, respectively, for common spray materials. Both aphid species are resistant to most organophosphates, but materials in other chemical classes that control these pests effectively include: Admire, Asana, Assail, Aza-Direct, Beleaf, Danitol, Lannate, Movento, Proaxis, Pyrenone, Thionex, Vydate and Warrior.

Woolly Apple Aphid

WAA colonizes both aboveground parts of the apple tree and the roots and commonly overwinters on the roots. In the spring, nymphs crawl up on apple trees from the roots to initiate aerial colonies. Colonies initially build up on the inside of the canopy on sites such as wounds or pruning scars and later become numerous in the outer portion of the tree canopy, usually during late July to early August, but you may already begin to notice these aerial colonies in high pressure orchards in the region. Refer to the June 9 issue of Scaffolds for an overview of some control recommendations.

Potato leafhopper

PLH is generally a more serious problem in the Hudson Valley than in western New York or the Champlain Valley; however, healthy populations can be found in WNY as well this season. Refer to the June 1 issue of Scaffolds for an overview of its biology and some control recommendations.

Japanese Beetle

This perennial pest overwinters as a partially grown grub in the soil below the frost line. In the spring the grub resumes feeding, primarily on the roots of grasses, and then pupates near the soil surface. Adults normally begin to emerge during the first week of July in upstate N.Y. The adults fly to any of 300 species of trees and shrubs to feed; upon emergence, they usually feed on the foliage and flowers of low-growing plants such as roses, grapes, and shrubs, and later on tree foliage. On tree leaves, beetles devour the tissue between the veins, leaving a lacelike skeleton. Severely injured leaves turn brown and often drop. Adults are most active during the warmest parts of the day and prefer to feed on plants that are fully exposed to the sun.

Although damage to peaches is most commonly noted in our area, the fruits of apple, cherry, peach and plum trees may also be attacked, all of which have been suffering increasing damage from these insects in recent years. Fruits that mature before the beetles are abundant, such as cherries, may escape injury. Ripening or diseased fruit is particularly attractive to the beetles. Pheromone traps are available and can be hung in the orchard in early July to detect the beetles' presence; these products are generally NOT effective at trapping out the beetles. Fruit and foliage may be protected from damage by spraying an insecticide such as Assail, Sevin, Endigo or Voliam Xpress (in apple) or Admire, Assail, Sevin, Endigo, Leverage or Voliam Xpress (in cherries or peaches) when the first beetles appear.

(Information adapted from: Johnson, W.T. & H.H. Lyon. 1988. Insects that feed on trees and shrubs. Cornell Univ. Press.; and Howitt, A.H. 1993. Common tree fruit pests. Mich. State. Univ. Ext. NCR 63.) ❖❖

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INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	6/15	6/19	6/22
Redbanded leafroller	0.0	0.1	1.2*
Spotted tentiform leafminer	1.1*	6.0	15.3
Oriental fruit moth	0.1	0.3	0.0
Lesser appleworm	0.5	0.0	0.0
Codling moth	0.6	0.1	0.7
San Jose scale	0.0	0.0	0.0
American plum borer	0.0	0.0	0.0
Lesser peachtree borer	1.6	0.9	0.5
Peachtree borer	0.0	0.0	0.0
Dogwood borer	3.1	2.1	5.3
Pandemis leafroller	5.3	2.0	6.5
Obliquebanded leafroller	1.6	1.1	0.8

* first catch

Highland, NY

	6/15	6/22
Redbanded leafroller	0.0	0.0
Lesser appleworm	0.0	0.4
Oriental fruit moth	0.4	0.0
Codling moth	6.8	6.4
Spotted tentiform leafminer	39.9	35.4
San Jose scale	0.0	0.0
Dogwood borer	1.6	0.9
Obliquebanded leafroller	12.6	6.2

UPCOMING PEST EVENTS

	43°F	50°F
Current DD* accumulations (Geneva 1/1–6/22/15):	1174	760
(Geneva 1/1–6/22/2014):	1140	711
(Geneva "Normal"):	1217	696
(Geneva 1/1–6/29, predicted):	1362	899
(Highland 1/1–6/22/15):	1463	969

Coming Events:	Ranges (Normal ±StDev):	
Pear psylla 2nd brood hatch	967–1185	584–750
San Jose scale 1st flight subsides	864–1238	515–769
San Jose scale 1st gen. crawlers present	1033–1215	619–757
Cherry fruit fly 1st catch	755–1289	424–806
Obliquebanded leafroller 1st flight peak	834–1226	485–771
Obliquebanded leafroller summer larvae hatch	1038–1460	625–957
Pandemis leafroller flight peak	883–1189	507–733
Oriental fruit moth 2nd flight begins	1269–1503	784–976
Lesser appleworm 1st flight subsides	992–1528	603–983
Apple maggot 1st catch	1249–1669	795–1075
American plum borer 1st flight subsides	1200–1488	745–967
Comstock mealybug 1st adult catch	1308–1554	809–1015

*[all DDs are 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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