

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

AT
YOUR
SURFACE

ORCHARD
RADAR
DIGEST



Oriental Fruit Moth

2nd generation OFM flight begins around: June 20 [M]/June 29 [G].

2nd generation – first treatment date, if needed: June 28 [M]/July 7 [G].

Redbanded Leafroller

2nd RLBR flight begins around: June 21 [M]/July 1 [G].

[M = Marlboro, Ulster Co.;
G = Geneva]

Roundheaded Appletree Borer

Peak RAB egg-laying period roughly: June 17 to June 30 [M]/June 25 to July 9 [G].

First RAB eggs hatch roughly: June 14 [M]/June 22 [G].

Peak RAB hatch: July 2 to July 20 [M].

Codling Moth

1st generation CM development as of June 27:
1st gen adult emergence at 100% [M]/98% [G]
and 1st gen egg hatch at 94% [M]/77% [G].

Lesser Appleworm

2nd LAW flight begins around: July 2 [M].

Obliquebanded Leafroller

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 an insecticide against young larvae) – Early egg hatch and optimum date for initial application of an effective insecticide: June 16 [M]/June 25 [G].

Optimum sample date for late instar summer generation OBLR larvae: June 25 [M]/ July 4 [G].



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PEST FOCUS

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BUMMER TO BUMMER

SUMMER TRAFFIC
(Art Agnello and Harvey
Reissig, Entomology,
Geneva)

Obliquebanded Leafroller

❖❖ Assuming a biofix (1st adult catch) of OBLR anywhere from about June 1–13 (see the Pest Focus section), sites around the state have accumulated a total of 350–630 DD (base 43°F) as of this morning, which means that most areas will soon reach the 600 DD point in the insect's development that roughly corresponds to 50% egg hatch. This is the period during which the earliest emerging larvae begin to reach 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 is recommended now in orchards where pressure has not been high enough to justify a preventive spray already.

Guidelines for sampling OBLR terminal infestations can be found on p. 69 in the Recommends, using a 3% action threshold that would lead to a recommended spray of an effective leafroller material. Delegate, Belt, Altacor and Proclaim 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 at this time, 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 (*Spiraea* 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 *Spiraea* 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 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 termi-

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nals 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. 61) and 7.1.2 (p. 63) in the Recommends for ratings of efficacy and impact on beneficials for common spray materials. Both aphid species are resistant to most organophosphates, but materials in other chemical classes that control these pests effectively include: Asana, Assail, Aza-Direct, Beleaf, Calypso, Danitol, Lannate, Leverage, Movento, M-Pede, Proaxis, Provado, Pyrenone, Thionex, Voliam Xpress, 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. Refer to the June 6 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 May 31 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 begin to emerge during the first week of July in upstate N.Y., so this activity could be starting this week in the Hudson Valley and other warmer sites. 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 lace-like 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 these 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, Calypso, Sevin or Voliam Xpress (in apple) or Assail, Leverage, Provado, Sevin, 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.)

INSECT TRAP CATCHES (Number/Trap/Day)						
Geneva, NY				Highland, NY		
	<u>6/20</u>	<u>6/23</u>	<u>6/27</u>		<u>6/20</u>	<u>6/27</u>
Redbanded leafroller	0.0	0.0	0.1	Redbanded leafroller	1.1	3.0
Spotted tentiform leafminer	4.1*	8.5	16.6	Spotted tentiform leafminer	42.8	68.5
San Jose scale	0.5	0.5	0.0	Oriental fruit moth	0.8	3.2
Oriental fruit moth	0.1	0.3	0.0	Lesser appleworm	0.2	0.2
Lesser peachtree borer	0.0	0.0	0.0	Codling moth	2.2	1.9
American plum borer	0.1	0.2	0.4	Obliquebanded leafroller	6.4	6.9
Pandemis leafroller	0.0	0.0	0.3	Apple maggot	0.0	0.1*
Obliquebanded leafroller	0.1	0.0	0.0			
Peachtree borer	0.0	0.0	0.0			
Apple maggot	-	-	0.0			
Sodus Center trap catches:	<u>6/17</u>	<u>6/22</u>	<u>6/24</u>			
Oriental fruit moth	2.0	3.5	0.0			
Lesser appleworm	0.5	1.0	2.0			
Codling moth	1.5	3.0	3.0			

* first catch

PEST FOCUS

Geneva: **Peachtree borer** 1st trap catch 6/16.
Spotted tentiform leafminer 2nd flight beginning.
Obliquebanded leafroller estimated start of egg hatch in DD base 43°F after biofix - 360 DD; 25% egg hatch - 450 DD; 50% egg hatch - 630 DD. Current DD43 since biofix (June 13): 339.

Wayne Co: **Obliquebanded leafroller** DD43 since biofix (June 7): Sodus, 477; Williamson, 483; Farmington, 478.

Highland:
San Jose scale damage (red dots) observed on fruit. 1st **apple maggot** trap catch. **Obliquebanded leafroller** DD43 since biofix (June 1): 632. Surface feeding on fruit observed. **Tent caterpillar** feeding observed.

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1–6/27/11):	1378	859
(Geneva 1/1–6/27/2010):	1369	872
(Geneva "Normal"):	1121	671
(Geneva 1/1–7/5 Predicted):	1628	1028
(Highland 1/1–6/27/11):	1525	973

<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Obliquebanded leafroller summer larvae hatch	1038–1460	625–957
Apple maggot 1st catch	1230–1632	785–1039
American plum borer 1st flight subsides	1211–1425	751–919
Codling moth 1st flight subsides	1280–1858	811–1225
Comstock mealybug 1st adult trap catch	1308–1554	809–1015
Comstock mealybug 1st flight peak	1505–1731	931–1143
Lesser appleworm 1st flight subsides	990–1466	604–932
Lesser appleworm 2nd flight begins	1418–2002	918–1326
Oriental fruit moth 2nd flight begins	1281–1491	788–968
Oriental fruit moth 2nd flight peak	1455–1995	924–1342
Redbanded leafroller 2nd flight begins	1244–1576	764–1028
Redbanded leafroller 2nd flight peak	1546–1978	991–1323
Pandemis leafroller flight subsides	1412–1644	880–1052
Spotted tentiform leafminer 2nd flight peak	1368–1798	852–1196

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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