

scaffolds

Update on Pest Management
and Crop Development

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

June 21, 2010

VOLUME 19, No. 14

Geneva, NY

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ANOTHER ROUND

ORCHARD
RADAR
DIGEST



Roundheaded Appletree Borer

Peak egglaying period roughly: June 14
to June 28.

Dogwood Borer

Peak DWB egg hatch roughly: June 21.

Codling Moth

Codling moth development as of June 21: 1st genera-
tion adult emergence at 97% and 1st generation egg
hatch at 73%.

Lesser Appleworm

2nd LAW flight begins around: June 27.

Obliquebanded Leafroller

Where waiting to sample late instar OBLR larvae to
determine need for treatment
is an option, or to check on results from earlier
sprays:

Optimum sample date for late instar summer genera-
tion OBLR larvae: June 27.

Oriental Fruit Moth

2nd generation OFM flight begins around: June 19.
2nd generation - first treatment date, if needed: June 26.

Redbanded Leafroller

2nd RBLR flight begins around: June 21.

Spotted Tentiform Leafminer

Optimum first sample date for 2nd generation
STLM sapfeeding mines is June 30.



IN THIS ISSUE...

INSECTS

- ❖ Orchard Radar
- ❖ Model Building
- ❖ Summer insects

GENERAL INFO

- ❖ Fruit Field Day reminder

FIELD NOTES

- ❖ Regional trap catches

PEST FOCUS

INSECT TRAP CATCHES

UPCOMING PEST EVENTS

MODEL BUILDING

Following are the available readings as of today.

Insect model degree day accumulations:

Codling Moth (1st targeted spray application at newly hatching larvae, predicted at 250–360 DD base 50°F after biofix; 2nd targeted spray 14–21 days later):

Location (Weather Sta.)	Biofix	DD (50°F)			
		June 21	Date		
			250 DD reached	Date	360 DD reached
Highland	May 7	660	May 28	June 3	
Burnt Hills (Glens Falls)	May 7	545	May 30	June 5	
Marlboro	May 10	644	May 29	June 3	
Modena (Clintondale)	May 10	565	May 31	June 5	
Newfield (Cornell Orch)	May 11	596	May 30	June 4	
Waterport	May 19	622	May 31	June 5	
Hilton (Waterport)	May 19	622	May 31	June 5	
Lincoln (Farmington)	May 19	536	June 1	June 9	
Lyndonville	May 19	538	June 1	June 8	
Granville (Clifton Park)	May 21	528	June 2	June 9	
Altamont (Guilderland)	May 21	539	June 2	June 8	
Lafayette	May 25	416	June 9	June 18	
Sodus	May 27	373	June 13	June 20	
Wolcott (Sodus)	May 27	373	June 13	June 20	
Chazy	May 31	344	June 17	-	
Alton (Williamson)	June 3	256	June 21	-	

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):

Location (Weather Sta.)	Biofix	DD (as of 6/21)
Highland	May 26	655
Waterport	May 28	613
Newfield (Cornell Orch)	June 1	449
Geneva	June 1	457
Lafayette	June 1	425
Wolcott (Sodus)	June 2	397
Lincoln (Farmington)	June 3	383
Sodus	June 3	372
Alton (Williamson)	June 3	382
Hilton (Waterport)	June 4	415
Lyndonville	June 4	348

scaffolds

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 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 online at: <http://www.nysaes.cornell.edu/ent/scaffolds/>

[NOTE: Consult our insect pest predictions on the NEWA Apple Insect Models web page:

http://newa.nrcc.cornell.edu/newaModel/apple_pest

Find accumulated degree days for the current date with the

Degree Day Calculator:

<http://newa.nrcc.cornell.edu/newaLister/dday>

Powered by the NYS IPM Program's NEWA weather data and ACIS, Northeast Regional Climate Center]

READY FOR
FALL?

WELCOME TO
SUMMER
(Art Agnello and
Harvey Reissig,
Entomology, Geneva)

Obliquebanded Leafroller

❖❖ Assuming a biofix (1st adult catch) of OBLR anywhere from about May 26–June 4 (see the Model Building section), many sites have accumulated a total of 350–450 DD (base 43°F) as of this morning, which means that we will soon reach the 600 DD point in the insect's development that roughly corresponds to 50% egg hatch. Two of our plot sites (Highland and Waterport) have already surpassed this accumulation. 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. 71 in the Recommends, using a 3% action threshold that would lead to a recommended spray of an effective leafroller material. Delegate (or Spintor), 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.

Not Easy Being Green

Although small numbers of green aphids (Spirea aphid, *Aphis spiraeicola*, 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. Record 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 terminals with predators (below). An alternative threshold is given as 10% of the fruits exhibiting either aphids or honeydew.

continued...

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. 65) and 7.1.2 (p. 67) in the Recommends for toxicity ratings of 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, 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 last week's (June 14) 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 are being seen in WNY as well this season. Refer to the May 17 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., but this year's early season could advance this date by a week or so this year.

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, Calypso, Voliam Xpress or Sevin (in apple) or Assail, Leverage, Voliam Xpress, or Provado (in cherries; add Sevin to the list for peaches) when the first beetles appear. Note that Leverage 360 is now registered in NY, which is the new formulation that replaces the pyrethroid component, cyfluthrin, with the more active isomer beta-cyfluthrin.

(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.) ❖❖

STILL ON TAP

EVENT
REMINDER

PEST FOCUS

Geneva: **Apple maggot** 1st trap catch 6/17. Peachtree borer flight began 6/17. **Red-banded leafroller** 2nd flight began today.

South Sodus: 1st **apple maggot** adult captured in abandoned block on June 19 (J. Eve)

Highland:
2nd flight of **Oriental fruit moth** and **lesser appleworm** beginning. **Potato leafhopper** adults and nymphs present.

Cornell Fruit Field Days, July 28–29

❖❖ Cornell University will host the 2010 Fruit Field Days at the New York State Agricultural Experiment Station in Geneva, NY, on Wednesday and Thursday, July 28 & 29, from 8:00 a.m. to 5:00 p.m. each day. Grapes and berry fruits will be the focus on July 28, and tree fruits will be covered on July 29.

Pre-registration is required, and can be done either online (via credit card) or by mailing in a check plus the registration form. Both registration methods, as well as tentative presentation titles, are available through the NYSAES web page (<http://www.nysaes.cornell.edu/>) and the Cornell Fruit web page (<http://www.fruit.cornell.edu/>). The cost of registration is \$15 per person for single-day attendance and \$25 for both days; lunch will be provided each day. For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu. ❖❖



Regional Trap Numbers**Week Ending 6/21, Avg No./trap**

<u>Location/County</u>	<u>Date</u>	<u>STLM</u>	<u>OFM</u>	<u>LAW</u>	<u>CM</u>	<u>OBLR</u>
Lyndonville/Orleans	6/18	136	0.0	21.7	0.3	3.3
Waterport/Orleans	6/18	76.7	0.3	42.0	0.7	0.7
Hilton/Monroe	6/18	1395	0.0	15.3	8.3	12.7
Lincoln/Wayne	6/17	81.3	0.0	13.7	3.0	2.0
Sodus-Inland/Wayne	6/17	16.3	0.7	2.0	1.3	5.0
Alton/Wayne	6/17	22.3	0.3	2.0	0.3	6.3
Wolcott/Wayne	6/17	33.3	0.0	2.0	3.0	0.7
Newfield/Tompkins	6/15	1134	0.0	0.0	1.0	3.7
Lafayette/Onondaga	6/15	183	0.0	22.3	3.0	1.0
Chazy/Clinton	6/15	156	0.0	5.0	0.0	0.0
Valcour/Clinton	6/15	32.7	0.0	5.3	0.0	0.3
Peru/Clinton	6/15	531	0.0	3.3	0.0	0.0
Granville/Washington	6/18	368	0.0	0.0	1.3	8.7
Burnt Hills/Saratoga	6/18	607	0.0	0.5	10.0	2.0
Altamont/Albany	6/18	954	1.0	8.0	17.5	6.0
Modena/Ulster	6/17	71	0.0	127	1.0	31.5
Marlboro/Ulster	6/17	397	0.0	7.0	4.0	36.5
Accord/Ulster	6/21	196	0.0	8.0	0.0	-

INSECT TRAP CATCHES (Number/Trap/Day)

	Geneva, NY			Highland, NY		
	<u>6/14</u>	<u>6/17</u>	<u>6/21</u>		<u>6/14</u>	<u>6/21</u>
Redbanded leafroller	0.0	0.0	0.3*	Redbanded leafroller	0.0	0.0
Spotted tentiform leafminer	2.5*	2.8	4.3	Spotted tentiform leafminer	28.1	105
Oriental fruit moth	0.0	0.2	0.3	Oriental fruit moth	0.0	1.6
Lesser appleworm	0.0	0.0	0.1	Lesser appleworm	0.5	2.6
American plum borer	0.0	0.0	0.1	Codling moth	0.3	0.4
Lesser peachtree borer	0.0	0.0	0.0	Obliquebanded leafroller	4.4	8.9
San Jose scale	0.0	0.0	0.0			
Codling moth	0.0	0.0	0.0			
Pandemis leafroller	0.4	1.2	0.6			
Obliquebanded leafroller	0.0	0.0	0.0			
Peachtree borer	0.0	0.3*	0.4			
Apple maggot	-	0.5*	0.3			

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–6/21/10):	1369	871
(Geneva 1/1–6/21/2009):	1111	644
(Geneva "Normal"):	1142	691
(Geneva 1/1–6/28 predicted):	1578	1031
(Highland 3/1–6/21/10):	1548	937
<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Lesser appleworm 2nd flight begins	1409–1951	916–1280
Obliquebanded leafroller summer larvae hatch	1038–1460	625–957
Spotted tentiform leafminer 2nd flight peak	1360–1790	846–1190
American plum borer 2nd flight begins	1494–2034	988–1340
Codling moth 1st flight subsides	1280–1858	811–1225
Comstock mealybug 1st adult catch	1308–1554	809–1015
Comstock mealybug 1st flight peak	1505–1731	931–1143
Oriental fruit moth 2nd flight begins	1277–1487	785–965
Oriental fruit moth 2nd flight peak	1455–1935	925–1295
Pandemis leafroller flight subsides	1403–1633	874–1040

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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