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Update on Pest Management and Crop Development

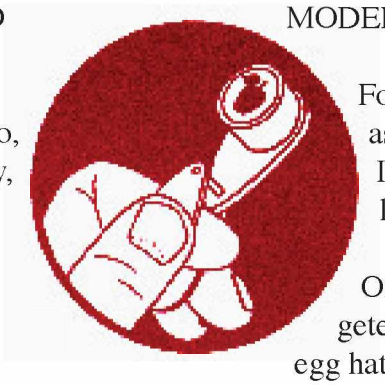
F R U I T J O U R N A L

May 26, 2009 VOLUME 18, No. 10 Geneva, NY

INSECTS

NUMBERS RACKET

ORCHARD RADAR DIGEST (Art Agnello, Entomology, Geneva)



MODEL BUILDING

Following are the available readings as of today.

Insect model degree day accumulations:

Oriental Fruit Moth (Apples - targeted spray application at 55–60% egg hatch, predicted at 350-375 DD base 45°F after biofix):

Location	Biofix	DD (as of 5/25)
Geneva	April 27	360
Albion	May 4 *	265
Appleton (South)	May 4 *	225
Sodus	May 4 *	221
Williamson	May 4 *	257

* (estimated)

❖❖ Geneva Predictions:

Roundheaded Appletree Borer

RAB adult emergence begins: May 26; Peak emergence: June 11.

RAB egglaying begins: June 6. Peak egglaying period roughly: June 26 to July 11.

Codling Moth

Codling Moth development as of May 24: 1st generation adult emergence at 15% and 1st generation egg hatch at 0%.

1st generation 3% CM egg hatch: June 6 (= target date for first spray where multiple sprays needed to control 1st generation CM).

1st generation 20% CM egg hatch: June 13 (= target date where one spray needed to control 1st generation codling moth).

Lesser Appleworm

1st LAW flight, peak trap catch: May 21.

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 9.

Oriental Fruit Moth

1st OFM generation 55% hatch and treatment date, if needed: May 25.

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continued...

IN THIS ISSUE...

Codling Moth (targeted spray application at newly hatching larvae, predicted at 250–360 DD base 50°F after biofix):

Location	Biofix	DD (as of 5/25)
Highland*	May 11	210
Sodus	May 14	108
Williamson	May 14	120
Albion	May 15	113
Geneva	May 18	96

* (as of 5/26 for Highland)

Plum Curculio (spray coverage required until 308 DD base 50°F after biofix; i.e., McIntosh petal fall):

Location	Biofix	DD (as of 5/25)
Highland*	May 5**	183
Sodus	May 15	95
Geneva	May 18	96
Albion	May 18	95

* (as of 5/26 for Highland)
** (estimated)

[NOTE: Consult our mini expert system for arthropod pest management, the **NEWA Apple Insect Models Degree Day Calculator**: 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] ❖❖

HOT AIR

ON SEASONAL BREEZES AND GOSSAMER WINGS (Art Agnello, Entomology, Geneva)

❖❖ 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 unrest occurring in the middle states 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 come 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) and later turn brown or scorched. Damage

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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.

Nymphs and adults should be counted on 50–100 randomly selected terminal leaves in an orchard. Older trees should be sampled 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) 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 leafhopper (WALH), rose leafhopper (RLH) and aphids are present, control measures are often warranted.

Field trials were conducted during 2000 in the Hudson Valley to evaluate 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.

Although data on aphids were not taken, we know that Provado is an excellent aphicide, and the same principle would hold as for PLH — maintaining coverage of new growth is more important than 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 include Actara, Agri-Mek, Assail, Avaunt, Calypso, Lannate, Leverage, Thionex, or any of the pyrethroids. ❖❖

PEST FOCUS

Geneva:
1st **San Jose scale** and **lesser appleworm** trap catches on 5/21.

Highland:
Pear psylla 2nd generation nymphs emerging. **Rosy apple aphid** observed on apple. **Codling moth** egg hatch predicted for 5/29, **San Jose scale** emergence expected to begin after 6/3, **plum curculio** migration into apples expected to be complete on 6/5.

DISEASES

LEAF IT TO US

UPDATE ON APPLE SCAB FUNGICIDE RESISTANCE TESTING 2009

(Kerik Cox, Plant Pathology, Geneva)

❖❖ Apple scab is beginning to show up throughout the state on unsprayed trees. If you are seeing scab and want to participate in the 2009 apple scab fungicide resistance survey, please prepare to make a sample submission. Go here: http://www.nysaes.cornell.edu/pp/extension/tfabp/smor.htm

Fresh young scab lesions on cluster leaves are ideal. Fresh terminal leaf scab is even better. If you want to send cluster leaf scab now and terminal leaf scab later, that's fine with us. There are a lot of potential sources of attrition with this test, and it doesn't hurt to have an extra set of leaves to fall back on in case the first ones fail. We have only a limited number of spots open for each region in NY, so be the first to get your scab samples in.

If you are ready to submit samples, go to our website and download the instructions and sample submission form. If you don't have internet access contact your local Cornell Cooperative Extension office for a copy of the instructions and submission form. ❖❖

Apple scab on cluster leaf

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY	5/18	5/21	5/26	Highland, NY	5/18	5/26
Redbanded leafroller	5.5	2.8	2.0	Redbanded leafroller	2.4	0.3
Spotted tentiform leafminer	12.1	13.0	2.5	Spotted tentiform leafminer	6.3	3.6
Oriental fruit moth	6.5	1.2	0.5	Oriental fruit moth	4.2	2.3
Lesser appleworm	0.0	0.3*	0.5	Lesser appleworm	2.9	12.9
Codling moth	4.2*	3.0	1.8	Codling moth	1.5	3.1
San Jose scale	0.0	1083*	500	Lesser peachtree borer	0.0	0.6
American plum borer	0.3	0.3	0.6	Obliquebanded leafroller	0.0	0.0
Lesser peachtree borer	0.3*	2.0	0.6	Dogwood borer	0.0	0.6*
				Peachtree borer	0.0	0.0

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–5/26/09):	636	355
(Geneva 1/1–5/26/2008):	583	304
(Geneva "Normal"):	592	312
(Geneva 1/1–6/1 Predicted):	741	419
(Highland 3/1–5/26/09):	740	402

Coming Events:	Ranges (Normal ±StDev):	
Lesser appleworm 1st flight peak	347–739	169–417
Mirid bugs hatch complete	508–656	264–358
Lesser peachtree borer 1st catch	486–692	253–385
Pear psylla hardshell present	493–643	271–361
Obliquebanded leafroller pupae present	601–821	328–482
Redbanded leafroller 1st flight subsides	567–873	313–549
American plum borer 1st flight peak	617–953	336–576
Black cherry fruit fly 1st catch	702–934	380–576
Codling moth 1st flight peak	593–1017	325–603
Rose leafhopper adult on multiflora rose	689–893	366–498
San Jose scale 1st flight peak	600–734	321–411
Spotted tentiform leafminer 1st flight subsides	666–944	366–572

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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