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R U I T J O U R N A L

Update on Pest Management  
and Crop Development

July 31, 2006

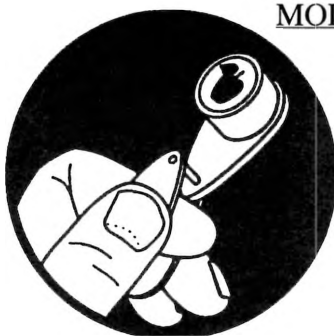
VOLUME 15, No. 20

Geneva, NY

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## HOT SHOTS

ORCHARD  
RADAR  
DIGEST



## MODEL BUILDING:

Insect model degree day accumulations:

DD45 since 1st Oriental Fruit Moth  
2nd generation catch, July 5 (50%  
egg hatch @ 705-730):

APPLETON: 667

ALBION: 667

SODUS: 622

WILLIAMSON: 652

DD50 since 1st Codling Moth 1st generation  
catch (2nd brood management sprays recom-  
mended @ 1260-1370):

APPLETON: 1297

ALBION: 1297

SODUS: 987

WILLIAMSON: 1239

HIGHLAND: 1340

## Geneva Predictions:

### Roundheaded Appletree Borer

Peak hatch roughly: July 12 to July 30.

### Dogwood Borer

Peak Dogwood borer egg hatch roughly: Au-  
gust 1.

### Codling Moth

Codling moth development as of July 31: 2nd  
generation adult emergence at 63% and 2nd  
generation egg hatch at 24%.

2nd generation 30% CM egg hatch: Aug 1 (= target date where one spray needed to control 2nd generation CM).

### Spotted Tentiform Leafminer

Optimum third sample date for 2nd generation  
STLM sap-feeding mines: July 28.

### White Apple Leafhopper

2nd generation WAL found on apple foliage:  
Aug 3.



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- ❖ Plum pox detected in NY

### INSECT TRAP CATCHES

### UPCOMING PEST EVENTS

## IN THE WINGS

INSECT REPELLENT  
(Art Agnello,  
Entomology, Geneva)

❖❖ Now that this season's crops are most of the way to being made, it's tempting to start paying less attention to the potential pests threatening them, but there are still a few to be aware of, including some that have been covered in previous issues.

### European Red Mite

We haven't experienced the widespread mite outbreaks that would be expected during a more hot and dry period than we've seen, but we're not quite done yet. Keep an eye on your foliar populations, using the 7.5 motiles-per-leaf threshold that we recommend during August as a hedge against the need for any late season miticide applications (see p. 84 in the Recommends). Twospotted spider mite can also show up at this time of year, and has a tendency to increase in number even more rapidly than ERM.

### Apple Maggot

This week traditionally sees the heaviest flight of this pest in commercial orchards, and the heat plus ample moisture will promote successful adult emergence of adults from their developmental sites in the soil. Diligent attention to either your protective sprays (in blocks that are perennially high-population areas) or monitoring traps (in blocks that are hard to predict) would be advised.

### Comstock Mealybug

In pears especially, this is the period of greatest migration of 2nd generation nymphs into the fruit calyx, where they will be concealed until exposed at the packinghouse by the inspector's knife. Blocks with a history should receive a protective spray of Actara, Assail, Diazinon, or Provado; Calypso applied for internal worms should also have an effect.

### Woolly Apple Aphid

If you failed to prevent their migration from the lower trunk areas in June, there should be aerial colonies evident in canopies now. This is a difficult pest to control completely, but now will be better than later in the month. The best material we have available (still) is Diazinon; Thionex is another, albeit less effective, option. Alternatively, if you're not on a captan program, a summer horticultural mineral oil application, using as much water as you can manage, has been shown to be effective.

### Oriental Fruit Moth & Codling Moth

The earliest feeding injury from the second generation larvae is starting to become noticeable in problem blocks (apples and peaches). In apples, add Calypso to the list of recommended materials in the Recommends if you elect to apply a designated spray for these internal worms now.❖❖

## scaffolds

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## UN- HOLEY

WHAT'S PEST IS  
PROLEG  
(Art Agnello,  
Entomology, Geneva)

❖❖ The dock sawfly always sneaks in during the waning days of summer. Following is a repeat of our annual write-up on this pest:

Before and during apple harvest in recent years, a number of growers and fieldmen have been unpleasantly surprised by the appearance of neat little (2 mm) holes bored into the side of their fruit, similar in appearance to those caused by a stem puncture. Although graders sometimes attribute this damage to apple maggot or European corn borer, cutting open these apples reveals a bright green worm with a light brown head, 3 pairs of true legs and 7 pairs of prolegs, not feeding but lying inactive, in the burrow extending in from each hole. These are larvae of the dock sawfly, *Ametastegia glabrata*, a highly sporadic but nonetheless well documented apple pest that has been known to show up in our area since 1908.

Dock sawfly probably confines its feeding almost entirely to plants belonging to the buckwheat family (Polygonaceae), including numerous docks and sorrels, the knotweeds and bindweeds, or else wild buckwheat or alfalfa. In feeding on any of these plants, the larvae devour the leaf tissue and the smaller veins, eating out irregular holes in the leaves. Ordinarily, the midribs and the larger veins are untouched. This insect should not be confused with the related European apple sawfly, *Hoplocampa testudinea*, which has a whitish larva that lives and feeds in young apples, particularly prevalent in the eastern apple regions of N.Y.

Injury to apples by the dock sawfly is known to occur generally in the late summer and early fall, when the fruit is approaching maturity and the sawfly is searching for an overwintering site. The greater hardness of immature apples probably deters

the larvae from burrowing into these, so although 4 generations per year have been identified, only the last one or two are of concern to apple growers. The injury to apples consists externally of the small round holes bored by the larvae, which after a few days show a slightly sunken, brownish ring around them and occasionally may be surrounded by a larger discolored halo. These holes may occur anywhere on the surface, but are most numerous around the calyx and stem ends, or at a point where the apple touches a leaf or another apple, since it is easier for the larva to obtain a foothold here. Inside, the injury is usually more serious, since the larva often burrows to the core and usually hollows out a pupal cell somewhat larger than itself. Apples may have three or four, or sometimes even eight, holes in them of varying depths, but contain only one or two worms.

Since the dock sawfly does not feed upon any part of the apple tree, but must live on the above-mentioned succulent weeds, it becomes an apple pest only where these plants are growing in or around the orchard. There is little danger from this insect in orchards where the food plants don't exist. Likewise, the possibility of the larvae coming into the orchard from neighboring meadows, ditch banks, or roadsides is slight, for the larvae are incapable of finding their way over any extent of bare soil. The adults, though active, are not strong fliers, and it is not possible for the insect to travel far in this stage. Now would be a good time to assess the weed situation in your orchard and make plans for such selective herbicide applications as may be appropriate regarding this insect. Even though common wisdom says this sawfly is a pest only every 10–12 years, this is only an average estimation, and it's not a bad idea to anticipate the unexpected when hardly any season is considered to be "average".

(Information adapted from Newcomer, E. J. 1916. The dock false-worm: An apple pest. USDA Bull. 265, 40 pp.) ❖❖

## SPOTTED

PLUM POX DETECTED  
IN NY BY NYSDAM,  
CORNELL DIAGNOSTIC  
LAB, AND USDA  
(Deborah Breth, Area  
Extension Educator, Lake  
Ontario Fruit Program)

### Plum Pox has been found in New York for the first time

❖❖ Plum pox virus (PPV) was detected in samples collected by USDA and New York State Dept. of Agriculture and Markets (NYSDAM) officials as part of an ongoing, seven-year survey in various parts of the state, but focused mainly in Niagara County. As part of the 2006 survey, leaf samples were collected from a plum orchard in Niagara county in early July. The Cornell diagnostic lab reported the positive samples and sent samples to The U.S. Department of Agriculture's National Plant Germplasm and Biotechnology Laboratory in Beltsville, MD, to determine the strain of the virus. It was confirmed that it is the D strain that affects peaches, nectarines, apricots, plums and almonds. The D strain has never been detected in cherries.

NYS Department of Ag and Markets and USDA are working closely to determine the extent of infection in the Niagara County area, in the town of Porter. To date, only 2 trees in the 108-tree plum block were identified as infected. The initial trees were treated with aphicide, the infected trees have been destroyed, and the trunks treated to prevent resprouting. Within the 2.25-mile radius of that orchard, every *Prunus* tree (except cherries) will have a leaf sample collected (8 leaves per tree). Between the 2.25- and 5-mile radius, 4 leaves per tree from every *Prunus* tree will be collected (2 trees per test) and tested for PPV. The remainder of plantings will be sampled using the quadrat sampling protocol, which results in 25% of the trees tested in plantings, but results in 98% probability of detection of the virus in

an orchard if it is present. The limited resources and time will not allow for sampling homeowner trees this season, but there are collections being taken from old abandoned orchards in the area of the infected trees.

In the town of Porter, Niagara County, there is a regulated area now that does not allow for nursery stock or budwood to leave the affected area. The borders of the regulated area are currently marked by Lake Ontario to the north, Porter Center Rd. to the east, Johnston Dr. or Robert Moses Parkway to the west, and Balmer Rd. to the south. If you are suspicious of any trees in your neighborhood, you can contact USDA, NYSDAM officials, or call Debbie Breth (585-798-4265, ext. 36) and she will contact the PPV team for you. The USDA, NYSDAM, Pennsylvania Dept. of Ag., and the PPV Science panel will plan to work with Canada to review what they have done to address the PPV infection in Canada. Information from this meeting will be considered in making recommendations for New York.

This is a slow spreading disease if transmitted by aphids, but can be spread in budwood and transferred horticulturally. There are 2 vectors known to spread PPV, aphids and humans. The D strain of the virus detected in NY and PA is not known to be seed-transmitted. There are several species of aphids that have been reported to vector the virus on their mouthparts after feeding on an infected plant. The virus is viable on the aphids' mouthparts for only a short time — about an hour — and is referred to as non-persistent transmission. Aphids are mainly responsible for the short-distance transmission of the virus from infected areas to uninfected areas. Aphids in the migratory or winged phase feed on virus-infected leaves, sucking sap and consequently picking up virus particles in or on their stylets. If the virus particles are picked up by the aphid, the aphid may fly to another tree or plant to test feed on it, and will transmit the virus particle to the next tree it feeds on. The virus

continued...



moves from leaf cell to leaf cell, eventually reaching the phloem cells, where it can be spread more rapidly throughout the tree.

Humans have been responsible for some of the greater-distance spread where the disease has crossed natural barriers like mountains and oceans. If budwood collected from an infected area is used for grafting and budding new trees, virus-infected budwood will result in a PPV-infected tree being transported to various locations. It is critical that any budwood collected or shared for the purpose of grafting new trees is certified to be clean of the PPV!

This virus disease will not impact fruit movement in and out of the infected zone. Don Albright, USDA-APHIS, and Ray Jablonski, NYSDAM, report that the 2006 crop will not be impacted by this detection. Don Albright and Ray Jablonski will provide an update on the PPV survey and regulation at the LOF Summer Tour (Aug 2) during the lunch hour.❖❖

## OUT STANDING

### SEPTEMBER FIELD TOUR - 1ST NOTICE

❖❖ We're a little more than a month away from the annual N.Y. Fruit Pest Control Field Day, which will take place during Labor Day week on Sept. 7 and 8, as dictated by tradition. As we have done in the past to accommodate participants who may wish to attend other area tours earlier in the week, the dates fall on the Thursday and Friday of the week, with the Geneva installment taking place first (Thursday Sept. 7), and the Hudson Valley installment on the second day (Friday Sept. 8). Activities will commence in Geneva on the 7th, with registration, coffee, etc., in the lobby of Barton Lab at 8:30 am. The tour will proceed to the orchards to view plots and preliminary data from field trials involving new fungicides, miticides, and insecticides on tree fruits and grapes. It is anticipated that the tour of field plots will be completed by noon. On the 8th, participants will register at the Hudson Valley Laboratory starting at 8:30, after which we will view and discuss results from field trials on apples.❖❖

### INSECT TRAP CATCHES (Number/Trap/Day)

#### Geneva, NY

#### Highland, NY

	<u>7/24</u>	<u>7/27</u>	<u>7/31</u>		<u>7/24</u>	<u>7/31</u>
Redbanded leafroller	4.3	2.8	2.3	Spotted tentiform leafminer	83.7	33.4
Spotted tentiform leafminer	9.5	17.2	4.3	Oriental fruit moth	1.0	0.9
Lesser appleworm	0.1	1.0	0.0	Codling moth	1.4	1.7
Oriental fruit moth	0.0	0.0	0.0	Obliquebanded leafroller	0.0	0.0
San Jose scale	314	1071	450	Fruit tree leafroller	0.0	0.0
American plum borer	0.5*	0.0	—	Tufted apple budmoth	0.0	0.0
Lesser peachtree borer	0.1	0.2	0.3	Variegated leafroller	0.0	0.0
Dogwood borer	3.0	—	0.6	Lesser peachtree borer	0.2	2.4
Obliquebanded leafroller	0.0	0.0	0.0	Dogwood borer	0.4	0.1
Peachtree borer	0.0	0.2	0.3	Lesser appleworm	1.1	2.4
Apple maggot	0.0	0.0	0.0	Apple maggot	0.1	0.4
				Redbanded leafroller	1.7	0.0

\* first catch

**scaffolds**

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 NYS Agricultural Exp. Sta.  
 Barton Laboratory  
 Geneva, NY 14456-0462

**UPCOMING PEST EVENTS**

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1–7/31/06):	2353	1585
(Geneva 1/1–7/31/2005):	2340	1609
(Geneva "Normal"):	2216	1465
(Geneva 1/1–8/7 Predicted):	2599	1782
(Highland 3/1–7/31/06):	2372	1607
<u>Coming Events:</u>	<u>Ranges(Normal±StDev):</u>	
Spotted tentiform leafminer 2nd flight subsides	2013–2393	1328–1672
Spotted tentiform leafminer 3rd flight begins	2281–2635	1522–1864
American plum borer 2nd flight peak	1958–2414	1310–1676
Redbanded leafroller 2nd flight subsides	2169–2679	1469–1855
Codling moth 2nd flight peak	2005–2835	1337–1977
Obliquebanded leafroller 2nd flight begins	2273–2651	1528–1836
Oriental fruit moth 3rd flight begins	2337–2743	1597–1893
San Jose scale 2nd flight peak	2103–2543	1432–1790
Apple maggot flight peak	2143–2579	1455–1763
Comstock mealybug 2nd gen. crawlers emerging	2234–2624	1505–1781
Comstock mealybug 2nd gen. crawlers peak	2380–2624	1658–1737

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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