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Update on Pest Management and Crop Development

FRUIT JOURNAL

July 30, 2007 | VOLUME 16, No. 20 | Geneva, NY

INSECTS

FINAL APPROACH

ORCHAR RADAR DIGEST

[NOTE: Consult our mini expert system for arthropod pest management, the Apple Pest Degree Day Calculator:
http://www.nysaes.cornell.edu/ipm/specware/newa/appledd.php
Find accumulated degree days between dates with the Degree Day Calculator:
http://www.nysaes.cornell.edu/ipm/specware/newa/
Powered by the NYS IPM Program's NEWA weather data and the Baskerville-Emin formula]

Geneva Predictions:

Dogwood Borer

DWB peak egg hatch roughtly: July 28.

Codling Moth

Codling moth development as of July 30: 2nd generation adult emergence at 53% and 2nd generation egg hatch at 16%.

2nd generation 30% CM egg hatch: August 3 (= target date where one spray needed to control 2nd generation CM).

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MODEL BUILDING

Insect model degree day accumulations:

Codling Moth (Treatment period for the 2nd generation starts at 1260 DD base 50°F after biofix):

Location	Biofix	DD(as of 7/30)
Geneva	May 17	1296
Sodus	May 17	1156
Ithaca	May 24	1059
Lansing	May 24	1227
Albion	May 25	1284
Williamson	May 25	1204
Appleton (South)	May 25	1269
Appleton (North)	May 25	1202
Waterport	May 28	1307

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IN THIS ISSUE...

SUMMER SCHOOL

MIDSUMMER MIDTERMS
(Art Agnello, Entomology, Geneva)

❖❖ Now that the season's crops are heading for the homestrech, 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 quite the number of widespread mite outbreaks that would be expected during this hot and dry period, 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. 74 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.

[Late note: Jim Eve has reported an alarming number of peach plantings with high TSSM levels, particularly evident on the lower branches. This week's predicted high temperatures are sure to increase the severity of these infestations. Acramite would be the preferred material of choice, but if Nexter is used, opt for the high end of the rate range (10.7 oz/A).]

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 revealed at the packinghouse by the inspector's knife. Blocks with mealybug "issues" should receive a protective spray of Actara, Assail, Diazinon, or Provado; Calypso applied for internal worms should also be effective.

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). This week, most western NY sites will reach the 1260 DD mark corresponding to the preferred spray window for contacting the first 20% or so of the hatching second brood CM larvae (some sites reached it this past weekend). And OFM 2nd brood emergence continues, so a follow-up application against these larvae is advised in problem sites. ❖❖

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is published weekly from March to September by Cornell University—NYS Agricultural Experiment Station (Geneva) and Ithaca—with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions by 3 pm Monday to:

scaffolds FRUIT JOURNAL
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This newsletter is available on the World Wide Web at: http://www.nysaes.cornell.edu/ent/scaffolds/

ONE IN A HOLE

IT COMES IN GREEN
(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 abovementioned 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.)

GENERAL INFO

WHAT'S GOING ON

EVENT LINEUP

Spray Demo Reminder (Last Opportunity)

❖❖ The last in the series of extension demonstrations that have been organized on the use of sensor-controlled precision spray systems with tower orchard sprayers will take place at Circle R Farms, on Route 18 (between Wilson Rd. and Route 279, see map) on August 8 at 10:00 am. Growers are encouraged to attend, to view the latest technology at work and to hear about the potential savings in pesticide used.❖❖

September Field Tour – 2nd 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. 5 and 6, as dictated by tradition. This year, the dates fall on the Wednesday and Thursday of the week, with the Geneva installment taking place first (Wednesday Sept. 5), and the Hudson Valley installment on the second day (Thursday Sept. 6). Activities will commence in Geneva on the 5th, 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, bactericides, miticides, and insecticides on tree fruits and grapes. It is anticipated that the tour of field plots will be completed by noon. On the 6th, 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. ❖❖

Dock sawfly damage

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	7/23	7/26	7/30
Redbanded leafroller	0.4	0.7	4.0
Spotted tentiform leafminer	15.5	29.2	13.9
Oriental fruit moth	0.3	0.7	0.5
Lesser appleworm	0.2	0.0	0.0
San Jose scale	200	758	878
American plum borer	0.0	0.0	0.0
Lesser peachtree borer	0.0	0.0	0.0
Obliquebanded leafroller	0.0	0.0	0.0
Dogwood borer	–	0.0	–
Peachtree borer	0.0	0.0	0.0
Apple maggot	4.1	2.8	3.3

Highland, NY

	7/16	7/23	7/26
Redbanded leafroller	0.3	0.2	1.5
Spotted tentiform leafminer	67.0	17.8	20.3
Oriental fruit moth	3.3	1.4	1.8
Codling moth	2.4	1.1	4.2
Lesser appleworm	1.6	1.3	2.3
Obliquebanded leafroller	0.0	0.0	0.0
Variegated leafroller	0.1	0.0	0.0
Apple maggot	0.6	0.8	3.7

* first catch

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–7/30/07):	2197	1480
(Geneva 1/1–7/30/2006):	2323	1562
(Geneva "Normal"):	2204	1453
(Geneva 1/1–8/6/2007, Predicted):	2424	1658
(Highland 3/1–7/26/07):	2310	1637

Coming Events:	Ranges (Normal±StDev):	
Comstock mealybug 2nd gen. crawlers emerging	2234–2624	1505–1781
Codling moth 2nd flight peak	2005–2835	1337–1977
Redbanded leafroller 2nd flight subsides	2180–2688	1478–1860
Spotted tentiform leafminer 3rd flight begins	2281–2671	1527–1883
Apple maggot flight peak	2143–2579	1455–1763
American plum borer 2nd flight peak	1956–2454	1311–1701
Dogwood borer flight peak	1552–2042	976–1376
Lesser appleworm 2nd flight begins	1385–2005	903–1323
Obliquebanded leafroller 2nd flight begins	2273–2651	1528–1836
Oriental fruit moth 2nd flight subsides	2067–2533	1379–1771
San Jose scale 2nd flight peak	2103–2527	1426–1776

This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.