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Update on Pest Management
and Crop Development

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

May 17, 2010

VOLUME 19, No. 9

Geneva, NY

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MAY
DAY

ORCHARD
RADAR
DIGEST



Roundheaded Appletree Borer

RAB adult emergence begins: May 20;

Peak emergence: June 6.

RAB egg laying begins: May 31. Peak egg laying period roughly: June 23 to July 8.

Codling Moth

Codling moth development as of May 17: 1st generation adult emergence at 7% and 1st generation egg hatch at 0%.

1st generation 3% CM egg hatch: June 2 (= target date for first spray where multiple sprays needed to control 1st generation CM).

1st generation 20% CM egg hatch: June 10 (= target date where one spray needed to control 1st generation codling moth).

Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 2.

Oriental Fruit Moth

1st generation - 55% egg hatch and first treatment date, if needed: May 23.



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PEST FOCUS

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UPCOMING PEST EVENTS

AHHHH

BREATHING ROOM
(Art Agnello, Entomology,
Geneva)

❖❖ The unusual spring weather has brought some good news and some bad news. The bad is the frost and freeze damage many growers have already experienced in a range of varieties and locations throughout the state, together with the challenge they now have in figuring out appropriate thinning programs for the fruit that's left to make a crop. The good, to put the most optimistic spin on it, is that we have yet to see the insect mayhem that typically descends on us during the petal fall period. Insect development is closely tied to ambient temperatures, especially during the start of the season, and the extended cool and even cold stretches we have seen during the past couple of weeks has meant that most of the major players have not had a chance to kick into action, so that feeling of being behind the "pest curve" that usually afflicts everyone about now hasn't really happened — yet.

A look ahead at the extended forecast shows lots of temperatures in the 70s and even 80s during the next 7–10 days, which means that things will start to move quickly, especially our friends with wings and jointed legs. Plum curculios have only made their first tentative forays into area orchards, so they will have plenty of egg-laying potential left in them; the same goes for European apple sawfly. We haven't seen much in the way of leafrollers, and although their populations may be down, this will be an opportunity for those that do occur to grab a mouthful and get better established for the summer brood. Likewise, some of the indirect pests such as mites and pear psylla, which have been pretty sparse recently, can use this warm-up to expand their populations quickly, so don't put off inspecting the foliage for potential infestations. Finally, this is the season of frequent weather fronts moving through, so while you're out there, have a look also for immigrating potato leafhoppers from the southern climes (see below).❖❖

HIGH
PRESSURE

AT THE FRONT
(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

continued...

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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.

We also 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, Centaur, Lannate, Leverage, Sevin, Thionex, Vydate, or any of the pyrethroids. ❖❖

IN YOUR CORNER

REGIONAL TRAP NUMBERS

Week Ending 5/17, Avg No./trap

Location/County	STLM	OFM	LAW	CM
Lyndonville/Orleans	64.5	0.7	0.0	0.0
Waterport/Orleans	14.0	0.0	0.0	0.0
Hilton/Monroe	56.5	0.0	0.0	0.0
Lincoln/Wayne	3.3	0.0	0.3	0.0
Sodus-Lakesite/Wayne	5.0	0.0	0.0	0.0
Sodus-Inland/Wayne	1.3	0.3	0.0	0.0
Alton/Wayne	9.3	0.0	0.0	0.0
Wolcott/Wayne	0.7	0.0	0.0	0.0
Newfield/Tompkins	482	1.0	10.3	3.0
Lafayette/Onondaga	193	0.0	0.7	0.0
Granville/Washington	93	0.0	28.7	0.0
Burnt Hills/Saratoga	347	0.0	17.5	9.0
Altamont/Albany	38.5	0.0	0.5	1.0
Modena/Ulster	0.0	0.3	0.0	2.0
Marlboro/Ulster	27	0.5	2.0	1.0
Accord/Ulster	229	47	0.0	42

PEST FOCUS

Geneva: 1st **San Jose scale** trap catch today, 5/17.

Highland:
1st summer generation adult **pear psylla** present, laying eggs. 1st generation hardshells and early-stage 2nd generation nymphs also present. **Rosy apple aphid** colonies increasing. **Plum curculio** oviposition continues.

Pest model status (Highland):

Current
accumulation

188.1	PC (308 DD50 from petal fall (28 April) signals end of oviposition)
361.5	OFM DD45 from Biofix (1st gen larvae emerge 175 DD45 from biofix)
55.6	CM DD50 from Biofix (1st gen larva appear 250 DD50 after adult biofix)
428.7	SJS DD50 from March 1 (crawler emergence begins at 500 DD50)

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

Highland, NY

	<u>5/6</u>	<u>5/10</u>	<u>5/17</u>		<u>5/10</u>	<u>5/17</u>
Redbanded leafroller	3.8	–	0.8	Redbanded leafroller	1.7	0.6
Spotted tentiform leafminer	6.5	0.9	0.6	Spotted tentiform leafminer	24.0	5.5
Oriental fruit moth	3.5	0.0	0.9	Oriental fruit moth	0.1	0.6
Lesser appleworm	0.0	0.0	0.0	Lesser appleworm	0.6*	0.5
American plum borer	0.2	0.0	0.0	Codling moth	2.0*	4.6
Lesser peachtree borer	0.2*	0.0	0.0			
San Jose scale	0.0	–	0.6*			
Codling moth	0.2*	0.0	0.0			

* first catch

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1–5/17/10):	570	310
(Geneva 1/1–5/17/2009):	487	256
(Geneva "Normal"):	474	242
(Geneva 1/1–5/24 predicted):	701	393
(Highland 3/1–5/17/10):	762	431
<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Spotted tentiform leafminer sap-feeders present	343–601	165–317
Lesser appleworm 1st flight peak	355–773	174–440
Mirid bugs 90% hatch	472–610	247–323
Mirid bugs hatch complete	508–656	264–358
Plum curculio oviposition scars present	485–589	256–310
Pear psylla hardshells present	493–643	271–361
San Jose scale 1st catch	446–618	223–339
San Jose scale 1st flight peak	590–732	315–409
Redbanded leafroller 1st flight subsides	574–882	317–551
American plum borer 1st flight peak	621–947	339–571
Codling moth 1st flight peak	574–1008	313–597
Obliquebanded leafroller pupae present	601–821	328–482

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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