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Update on Pest Management and Crop Development

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INSECTS

THE HEAT IS ON

ORCHARD RADAR DIGEST

Roundheaded Appletree Borer
RAB peak emergence: June 1.
RAB egglaying begins: May 26. Peak egglaying period roughly: June 19 to July 5.

Codling Moth
Codling moth development as of May 24: 1st generation adult emergence at 35% and 1st generation egg hatch at 0%.
1st generation 3% CM egg hatch: May 27 (= target date for first spray where multiple sprays needed to control 1st generation CM).
1st generation 20% CM egg hatch: June 6 (= target date where one spray needed to control 1st generation codling moth).

Obliquebanded Leafroller
1st generation OBLR flight, first trap catch expected: May 29.

Oriental Fruit Moth
1st generation - 55% egg hatch and first treatment date, if needed: May 22.

San Jose Scale
1st generation SJS crawlers appear: June 9.

Spotted Tentiform Leafminer
2nd STLM flight begins around: June 6.

IN THIS ISSUE...

NOW SESIID HERE

PERFECTLY CLEAR-WING
(Art Agnello, Entomology, Geneva)

❖❖ In NY, there are two species of sesiid moths that attack peaches — the peachtree borer (PTB), *Synanthedon exitiosa*, and the lesser peachtree borer (LPTB), *S. pictipes*. The adult borers are striking clear-winged moths with yellow and steel-blue body markings. The adults of these insects have from one to four yellow-orange stripes across the abdomen, depending upon species and sex. The PTB enters the tree near soil level and does not require the presence of wounds or breaks in the bark for entry, but the LPTB nearly always enters the tree at a pruning scar, canker, mechanical injury, or winter-injured area. The LPTB additionally attacks cherries, causing the same type of injury in the upper trunk and scaffold branches of these trees. Both species pass the winter as borers inside the tree, and in the spring emerge as moths that lay eggs on or in the trunk during the summer. The LPTB moth emerges first, normally in late May (although we caught our first of this season a couple of weeks ago), and the PTB doesn't show up until mid-June; both stay active (laying eggs) through August. When the borer stages hatch, the PTB tends to crawl down the tree to soil level and burrow in there, but the LPTB will move to the nearest injured area, which may be on the lower trunk or just as easily up in the scaffold limbs. LPTB completes its development in one year, but some PTB larvae take two years to develop, so any control measure a grower would elect will require repeating for at least 2–3 years.

Injury is caused by larval feeding on the cambium and inner bark of the trunk close to the soil level (PTB) or on the upper trunk and lower scaffold branches (LPTB). Occasionally, larger roots are also attacked by PTB. Areas attacked often have masses of gum, mixed with frass, exuding from the bark. All ages of trees are injured. Young trees are at times completely girdled and subsequently die. Older trees are often so severely injured that their vitality is lowered and they are rendered especially susceptible to attack by other insects or by diseases. Although both species may be found in infested trees, younger plantings and those not afflicted by extensive cankers or other bark splits are attacked primarily by PTB.

Control is difficult, owing to the concealed habit of the larvae. Growers have traditionally relied on one or more coarse insecticide sprays (e.g., Asana, Lorsban, Proaxis, Thionex, Warrior) of the trunks and lower scaffold branches to deter egg laying and kill newly established larvae. Because this is a labor-intensive measure that often fails to completely control these pests, many growers choose not to elect treatment, or else do an incomplete job, with the intention of getting what they can out of a planting until infestations combine with other peach production factors to warrant tree removal. However, there is a good alternative in the form of pheromone mating disruption (MD) tools for the control of these perennial pests.

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Isomate-PTB Dual (Pacific Biocontrol/CBC America, EPA Reg. No: 53575-34) is a new twist-tie pheromone dispenser labeled for use against both of these species in all NYS stone fruits. They are placed in the trees at a rate of 150-250 ties/A at or before the first flight, with the higher rate (250/A) recommended when pest pressure is high. This product replaces the Isomate-LPTB formalulation. We have conducted trials on the efficacy of Isomate-LPTB with and without the addition of directed trunk sprays in peaches, and after 2 years we saw that the pheromone dispensers completely suppressed trap catches of both PTB and LPTB for both seasons, compared with relatively heavy flights noted in the non-disrupted comparison blocks, showing that pheromone treatment was highly successful in disrupting the chemical communication of males and females of these two species.

These trials provided sufficient evidence that mating disruption alone is able to provide adequate protection from borer infestations in commercial orchards, giving growers an effective non-chemical alternative to trunk sprays for managing this pest complex in their stone fruit plantings. Growers interested in this approach should be placing the pheromone ties during these next 1-2 weeks, before the LPTB flight gets solidly under way statewide.❖❖

STATEUS

REGIONAL TRAP NUMBERS

Week Ending 5/24, Avg No./trap

Location/County	STLM	OFM	LAW	CM
Lyndonville/Orleans	67.0	0.3	0.7	0.3
Waterport/Orleans	15.3	6.3	0.7	0.3
Hilton/Monroe	73.3	0.0	0.3	0.3
Lincoln/Wayne	38.7	0.0	1.3	0.7
Sodus-Lakesite/Wayne	7.3	0.7	0.0	0.0
Sodus-Inland/Wayne	11.7	0.0	0.0	0.0
Alton/Wayne	32.7	0.0	0.0	0.0
Wolcott/Wayne	14.0	0.0	0.0	0.0
Newfield/Tompkins	333	1.7	23.0	4.7
Lafayette/Onondaga	274	0.3	3.0	0.0
Chazy/Clinton	1083	0.7	7.0	0.3
Valcour/Clinton	364	0.0	8.7	0.0
Peru/Clinton	418	0.0	3.0	0.0
Granville/Washington	97.7	0.0	210	3.7
Burnt Hills/Saratoga	171	0.5	45	49.5
Altamont/Albany	39.5	0.0	8.0	3.5
Modena/Ulster	0.0	0.3	0.3	2.0
Marlboro/Ulster	27.0	0.5	2.0	1.0
Accord/Ulster	111	0.0	0.0	7.0

DISEASES

SOUND THE ALARM

FIRE BLIGHT ALERT
(Dave Rosenberger, Plant Pathology, Highland)

❖❖ On May 19, we found the first blossom blight symptoms of fire blight in one of our orchards at the Hudson Valley Lab. Early symptoms of blossom blight include blackening of the flower/fruitlet stems, dying cluster leaves, and ooze droplets on the surface of affected tissues (Fig. 1). Blossom clusters with fire blight generally remain attached to the tree and do not drop off as would be expected for non-pollinated flowers. Eventually, bourse shoots arising from blighted flower clusters will be killed, the subtending twigs will be girdled by the infection, and the terminal shoots farther out on affected twigs or limbs will develop the classic "shepherd's crook" symptoms that occur when fire blight kills shoots (Fig. 2).

Fig 1. Blossom blight symptoms on a flower cluster from a Royal Court tree found at the Hudson Valley Lab on May 19. Note the light tan droplets of ooze at the base of the flower stems.

The blight infections we found presumably resulted from the ideal blossom blight infection conditions that occurred May 1 to 3 in the Hudson Valley when trees were at full bloom. Warm weather (near 80°F) over the past weekend and predicted for the early part of this week will likely cause blight strikes to "pop out" during the next few days in Hudson Valley orchards that were not adequately protected from fire blight during bloom.

Fig 2. Typical "shepherds crook" that develops on blighted terminal shoots.

In orchards with only an occasional infection here and there, scouting and immediate removal of the blighted shoots can significantly reduce secondary spread that occurs when blowing rain or pesticide applications distribute bacteria to susceptible shoot tips. Careful scouting and removal of infections is especially critical for orchards less than seven years old because the blight bacteria that enter through blossoms can rapidly move downward into branches, scaffold limbs, and rootstocks in young trees. Bud pinching or any other tree training work

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that might create wounds should be discontinued for the next several weeks in any orchards where fire blight is active because the bacteria can also enter through man-made wounds.

With inoculum now being produced by blossom clusters that were infected in early May, there will be an abundance of inoculum for infecting flowers on newly planted trees if new orchards are located within a half-mile of older orchards that have active fire blight. Flowers on newly planted trees generally open two to six weeks after established trees have completed bloom. Open flowers on newly planted trees should be protected using streptomycin if weather is conducive for blossom blight. Cougar blight infection periods for fire blight can be found on the NEWA website at http://newa.cornell.edu/index.php?page=apple-diseases-fire-blight. More than one application of streptomycin may be needed to cover the flowering period in new plantings, especially where orchards contain multiple cultivars that may bloom at slightly different times. Flowers that open after a strep spray is applied will not be protected from subsequent infection, so repeated streptomycin sprays may be required if conditions favoring fire blight persist as flowers continue to open.

Streptomycin should NOT be applied to mature orchards after petal fall unless it is needed to protect rattail bloom or to prevent trauma blight immediately following a hailstorm. In other parts of the country, repeated applications of streptomycin after bloom have consistently resulted in development of strep resistant strains of fire blight. Streptomycin remains the most effective tool for controlling fire blight. If we select for strep-resistant strains of fire blight, it will be much more difficult to control fire blight in the future. ❖❖

PEST FOCUS

Geneva: 1st **lesser appleworm** trap catch today, 5/24.

Highland:
Pear psylla egg laying continues. Egg numbers increasing and early-stage 2nd generation nymphs present. **Plum curculio** oviposition continues.

Pest model status (Highland):

Current accumulation	
270.0	**PC** (308 DD50 from petal fall (28 April) signals end of oviposition)
481.5	**OFM** DD45 from Biofix (1st gen larvae emerge 175 DD45 from biofix)
141.5	**CM** DD50 from Biofix (1st gen larva appear 250 DD50 after adult biofix)
438.5	**SJS** DD50 from March 1 (crawler emergence begins at 500 DD50)

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

	5/17	5/20	5/24
Redbanded leafroller	0.8	–	0.7
Spotted tentiform leafminer	0.6	0.8	1.1
Oriental fruit moth	0.9	8.7	4.6
Lesser appleworm	0.0	0.0	0.3*
American plum borer	0.0	0.2	0.0
Lesser peachtree borer	0.0	0.8	0.5
San Jose scale	0.6*	–	6.6
Codling moth	0.0	0.2	0.0

* first catch

Highland, NY

	5/17	5/24
Redbanded leafroller	0.6	0.4
Spotted tentiform leafminer	5.5	2.6
Oriental fruit moth	0.6	0.9
Lesser appleworm	0.5	0.5
Codling moth	4.6	3.2

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–5/24/10):	716	407
(Geneva 1/1–5/24/2009):	607	337
(Geneva "Normal"):	568	298
(Geneva 1/1–5/31 predicted):	891	534
(Highland 3/1–5/24/10):	762	431

Coming Events:	Ranges (Normal ±StDev):	
Lesser appleworm 1st flight peak	355–773	174–440
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
Black cherry fruit fly 1st catch	702–934	380–576
Cherry fruit fly 1st catch	755–1289	424–806
European red mite summer egg hatch	737–923	424–572
Pandemis leafroller 1st catch	768–910	434–520
Pear psylla summer adults present	737–885	428–526
Peachtree borer 1st catch	779–1347	444–830
1st rose leafhopper adult on multiflora rose	689–893	366–498
Spotted tentiform leafminer 1st flight subsides	661–939	362–568

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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