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

Update on Pest Management
and Crop Development

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ON
GUARD

ORCHARD
RADAR
DIGEST

Geneva Predictions:

Roundheaded Appletree Borer

RAB adult emergence begins: June 6; Peak emergence: June 20.

RAB egglaying begins: June 15. Peak egglaying period roughly: July 4 to July 18.

Codling Moth

Codling moth development as of June 9: 1st generation adult emergence at 29% and 1st generation egg hatch at 0%.

1st generation 3% CM egg hatch: June 16. This is first spray date where multiple sprays needed to control 1st generation CM.

Second spray date if using Imidan, Avaunt, or azinphosmethyl is around June 28. If using Bt insecticide, the optimum initial spray date is June 11. The rain-adjusted second Bt spray date is around June 21, with a third Bt spray around July 1 needed to maintain protection through majority of CM egg hatch period.

1st generation 20% CM egg hatch: June 23 (= single spray date where one spray needed to control 1st generation codling moth).

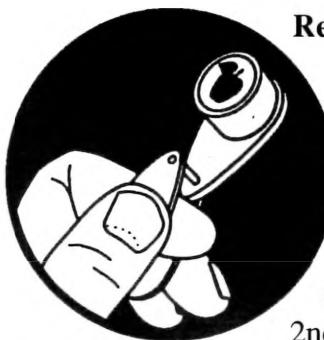
Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 16.

Oriental Fruit Moth

Optimum 1st generation second treatment date, if needed: June 8.

2nd generation OFM flight begins around: July 7.



Redbanded Leafroller

2nd RBLR flight begins: July 8.

San Jose Scale

1st generation SJS crawlers appear: June 25.

Spotted Tentiform Leafminer

2nd STLM flight begins around: June 22.

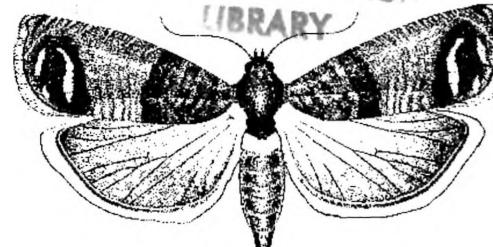
Rough guess of when 2nd generation sap-feeding mines begin showing: July 11.

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IN THIS ISSUE...

INSECTS

- ❖ Orchard Radar Digest
- ❖ Insect pest models update
- ❖ Insecticides for obliquebanded leafroller control

UPCOMING PEST EVENTS

PEST FOCUS

INSECT TRAP CATCHES

BUGS IN THE PROGRAM

MODEL BUILDING

North Appleton/Niagara Co. (1st catch of May 28) - 81
 Saratoga/Capital District (1st catch of May 22) - 203

Plum Curculio. Heat units are finally beginning to build, and the forecast calls for highs in the upper 70's this week; however, this is definitely one of those seasons when the egg-laying period promises to be prolonged, so growers will need to keep their fruit protected. Our numbers as of today:

Geneva (May 23 PF estimate) - 127

Highland (May 19 PF estimate) - 211

Lafayette (May 23 PF estimate) - 148

Lyndonville (May 28 PF estimate) - 149

North Appleton/Niagara Co. (May 28 PF estimate) - 81

Saratoga/Capital District (May 27 PF estimate) - 160

Sodus (May 27 PF estimate) - 116

Oriental Fruit Moth. The second application against the first brood in both peaches and apples should be applied at approximately 350-375 DD (base 45°F) from biofix:

SITE	BIOFIX	CUM DD-45	APPROX. % HATCH
Highland	4/21	651	99%
Geneva	5/1	438	79%
Lyndonville	5/4	431	77%
Albion	5/5	342	52%
N. Appleton	5/6	308	41%
Williamson	5/8	346	53%

Codling Moth. These accumulations are also still somewhat behind, but this first brood will likely be taken care of by curculio sprays in most locations. With 250 DD (base 50°F) as a first spray date, we currently have:

Geneva (1st catch of May 22) - 133

Highland (1st catch of May 19) - 211

Lafayette (1st catch of May 23) - 148

Lyndonville (1st catch of May 20) - 190

PEST FOCUS

Geneva:

San Jose scale trap catch increasing. 1st **lesser peachtree borer** trap catch.

Highland:

White apple leafhopper and **rose leafhopper** moving into apple. **Rosy apple aphid** leaf curl damage observed.

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DOWN, BUT NOT OUT

GREEN WRIGGLERS
(Harvey Reissig & Dave
Combs, Entomology,
Geneva)

❖❖ Obliquebanded leafroller moths have yet to start flying in both the Hudson Valley and in Geneva, but with a week or more seasonal temperatures forecast, we may eventually get back onto a nearly normal schedule for insect activity by mid-month. First hatch is generally assumed to occur from about 300–360 DD (base 43°F) after the flight starts, so we'll start updating you each week with values for Highland and Geneva once things get rolling. With some improved pesticide tools now available to NY growers, OBLR management has not appeared to be as much of a challenge recently as it has been in past years, although this pest has not faded entirely into obscurity, and many of the old problem orchards can still be counted on for a reality check if we start to get complacent. Accordingly, a brief synopsis of last year's research efficacy trials might be in order.

Pesticide control programs for the first summer brood of OBLR were conducted in a Wayne Co. orchard in 2002 containing 'Jonagold' and 'Fortune' varieties. Plots were rectangles of eight adjacent rows (approx. 0.25 A) with 6–8 trees in each row. Treatment blocks along with untreated check plots were arranged in a RCB design and replicated twice so that an equal distribution of both varieties were represented in each replicate. Treatments were applied based on estimated DD accumulations (base temp = 43°F) after the beginning of the summer flight of adults on 11 Jun. One application was made after an accumulation of 300 DD (estimated first egg hatch) on 25 Jun, while the rest of the treatments were applied at 360 DD (estimated mid-egg hatch) on 1 Jul. These sprays were then reapplied at 14-day intervals from the first application date (10 Jul and 24 Jul for the 300 DD plot and 16 Jul for the 360 DD plots).

The early application (300 DD) consisted of Intrepid 2F (12.0 oz/A) plus Latron B 1956 (16.0 oz/100), and the remainder of the treatments (360 DD) were: Deliver (8.0 oz/A), Dipel DF (1.5 lb./A), Spintor 2SC (5.0 oz/A) applied with LI-700 (16.0 oz/100), Danitol 2.4EC (10.7 oz/A) and an untreated check plot. Initial fruit damage from the summer generation of OBLR was estimated on 26 Jul by inspecting 300 fruits on trees from the center of each plot. Damage was assessed as present or absent, regardless of severity. Harvest evaluations were conducted on 28 Aug by randomly selecting 200 fruits from the center trees within each plot and inspecting them for damage. Fruit injury was classified on the USDA scale of Fancy, #1, or Cull. Data then was subjected to an analysis of variance, and means were separated using Fisher's Protected LSD Test ($P<0.05$). Data was transformed Arcsin (Sqrt X) prior to analysis.

Pressure from OBLR was relatively low in 2002 compared with past years, and fruit damage levels among the treatments and check plots were generally not statistically different. Fruit damage was considerably low in all of the treatments and the check plots at harvest and the relative effectiveness of treatments was different from that observed during the summer. Treatment rankings varied among the three levels of grading. However, the untreated check plots had the highest percentages of damage in all of the three grades. At harvest, Deliver, Spintor, and Intrepid were the only three treatments that had significantly less total fruit damage than that in the untreated check. Although various Bt products have been tested in NY against OBLR in previous years, Deliver is one of the few materials that has been more effective in preventing damage than the standard Bt product, Dipel, although the differences between these two products is not statistically significant. Danitol was less effective than any of the other treatments in protecting fruit, and damage in these plots at harvest was not significantly lower

continued...

than that in the untreated checks. The relative ineffectiveness of this material may have been due to a buildup of resistance by OBLR populations within this region from previous usage of various synthetic pyrethroids.♦♦



Table 1. Comparison of insecticides against obliquebanded leafroller, 2002

Treatment	Rate/A	Application Timing	Summer Damage[e]	% Damage at Harvest[f]				Total
				Fancy	#1	Cull		
Deliver	8.0 oz	360 DD[a]	1.5ab	1.8a	1.3ab	1.5ab	4.5a	
Dipel DF	1.5 lb.	360 DD[a]	0.7a	2.8ab	2.3ab	2.5ab	7.5ab	
Spintor 2SC[c]	5.0 oz	360 DD[a]	1.7ab	2.0a	1.0a	2.8ab	5.8a	
Intrepid 2F[d]	2.0 oz	300 DD[b]	2.3ab	2.8ab	1.5ab	0.8a	5.0a	
Danitol 2.4EC	10.7 oz	360 DD[a]	3.3ab	2.8ab	2.3ab	4.3ab	9.3ab	
Untreated Check			5.3b	5.0b	2.5b	6.3b	13.8b	

Means within a column followed by the same letter are not significantly different (Fisher's Protected LSD Test, $P<0.05$). Data transformed arcsine ($\text{sqrt}[x]$) prior to analysis.

- a) Applications made on 1 Jul and 16 Jul
 - b) Applications made on 25 Jun, 10 Jul and 24 Jul
 - c) Applied with LI-700 16.0 oz/100 gal
 - d) Applied with Latron B-1956 16.0 oz/100 gal
 - e) Estimates taken on 26 Jul
 - f) Harvest reading taken on 28 Aug

100 ties per acre. If the ties are applied at a higher rate, both species of borer can be controlled by the application of the LPTB ties. Now would be the proper timing *for application* because we have just caught the first LPTB moth in Geneva today; PTB flight is expected in a few weeks. This product performed very well in NY field trials, and is a recommended alternative to pesticide sprays of trunks and scaffold branches.

♦♦

❖❖ On Thursday, 5 June, the NYS DEC granted a registration for the use of Isomate-LPTB to control lesser peachtree borer and (“greater”) peachtree borer in a wide range of stone fruits in NY. The standard rate for control of lesser peach tree borer is

C H E M I C A L N E W S

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1–6/9):	749	400
(Geneva 1/1–6/9/2002):	822	468
(Geneva "Normal"):	839	480
(Geneva 6/16 Predicted):	911	516
(Highland 6/9):	972	549
Coming Events:		Ranges:
San Jose scale 1st flight peak	457–761	229–449
Obliquebanded leafroller pupae present	612–860	330–509
Codling moth 1st flight peak	547–1326	307–824
European red mite summer eggs hatch	773–938	442–582
Obliquebanded leafroller 1st catch	686–1104	392–681
Pandemis leafroller 1st catch	749–873	423–488
Pear psylla 1st summer adults present	759–864	443–512
Rose leafhopper adults on multiflora rose	668–916	336–519
Spotted tentiform leafminer 1st flight subsides	489–978	270–636

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

Highland, NY

	<u>6/2</u>	<u>6/5</u>	<u>6/9</u>		<u>6/2</u>	<u>6/9</u>
Redbanded leafroller	1.0	0.0	0.0	Redbanded leafroller	1.0	0.1
Spotted tentiform leafminer	26.9	40.5	18.4	Spotted tentiform leafminer	3.6	2.6
Oriental fruit moth	1.8	5.3	5.4	Oriental fruit moth	0.4	0.6
Lesser appleworm	0.3	0.5	0.5	Lesser appleworm	–	1.8
San Jose scale	3.5	2.7	91.9	Codling moth	0.9	0.7
Codling moth	1.3	1.8	2.6	Obliquebanded leafroller	0.0	0.0
Obliquebanded leafroller	0.0	0.0	0.0			
Pandemis leafroller	–	0.0	0.0			
American plum borer	1.3	0.8	0.4			
Lesser peachtree borer	0.0	0.0	0.3*			
Peachtree borer	–	–	0.0			

* first catch

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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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