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Weekly Update on Pest  
and Crop Development

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

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VOLUME 1

Geneva, NY

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## APPLES

SUMMER APPLE  
INSECTS  
(Art Agnello)

### OBLIQUEBANDED LEAF- ROLLER

❖❖ There are no reports of adult catches yet, but they're due any time now. It's not too late to get a wing-type pheromone trap hung in problem apple blocks, in order to fix the date of first emergence in your specific area. Recall that we recommend sampling at 600 DD (base 43°F) after the first adult catch. It pays to keep an eye on the daily highs and lows for your area if you are doing your own trapping, in case our "normal" sample date of July 5 turns out not to be accurate this year.

Larvae of the first OBLR summer brood cause two kinds of damage — foliar feeding injury and rolling of the leaves, and more important, injury caused by feeding on the surface of the developing fruits. This fruit damage is usually more serious than the spring feeding by overwintered larvae, because more of the fruit injured later in the season remains on the tree at harvest. There is increasing



evidence of rather heavy-handed programs against overwintered OBLR populations in many commercial orchards, including Lorsban+oil at tight cluster, followed by a pyrethroid at pink, plus Lannate or Lorsban at petal fall. I will state for the record that this seems to us to be an unwise strategy—the petal fall spray alone, when justified by scouting, has been adequate in our experience, and

extra sprays, besides being difficult to justify economically, serve only to burn out materials more quickly and increase potential mite problems. Also, remember that even an excellent control program against the overwintered brood does not eliminate the possibility of a problem summer population. To maximize the effectiveness of a spray against the first summer generation OBLR infestation, you should sample leaf and fruit clusters at the proper time. You will need to know the date of the first adult flight in your area; the value of knowing the precise date of this event on your own farm cannot be emphasized too strongly, and maintaining a few pheromone traps is not very difficult or time consuming. Check traps two or three times a week until the first adult is caught. Wait for 600 degree-days (43°F base) after this date. Degree-day (DD) values can be obtained from CENET (from "Weatherdata" in the "WEATHER" Menu, and from "Pest Status" in the "FRUIT" Menu) or from Cooperative Extension personnel. You can also calculate them yourself each day by using the following formula:

$$\text{Degree Days for 1 Day} = \frac{1}{2} \times [\text{Daily Maximum Temp.} + \text{Daily Minimum Temp.}] - 43.$$

If you do not have access to any of this information, use July 5 as an estimated best sample date in a "normal" year.

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Guidelines for sampling can be found on pp. 51, 60, and 183 (or 188) of the 1992 Recommendations. Sample from random trees that are representative of the entire block, examining 10 leaf and fruit clusters per tree. It is not necessary to pick the clusters or terminals. Record the number of clusters infested; do not count actual numbers of larvae in an infested cluster, and do not count damaged clusters that have no OBLR in them, or clusters containing only dead OBLR. To maintain a fair sample, choose half of your clusters or terminals from inside the tree canopy, including some watersprouts, and the other half from near the outside of the canopy. If the tree is more than 10 ft tall, try to include some clusters from the mid- to upper canopy area. Use a 3% infestation threshold for fresh fruit, and 10% for processing fruit. A "Stop Sampling and Treat" decision means that a spray to control OBLR is recommended at this time. A "Stop Sampling, Don't Treat" decision indicates that you should return in 3-5 days, after 100 more degree-days have accumulated, and repeat the sample. A second "Below Threshold" decision indicates that no treatment against this generation of OBLR is recommended. Recommended materials include a B.t. product (such as Dipel, Javelin or Biobit), Lorsban, Lannate, Phosdrin, or possibly Asana or PennCap-M, if these products have still been giving adequate control in your orchards. We have a 2(ee) recommendation for Dipel plus a 1/10 rate of Asana, but please note that this strategy tends to be variable in its success rate from block to block. More on this pest in the next issue. ❖❖

## APPLE MAGGOT

❖❖ It is not too early this week to expect the first appearance of these adults (flies) in abandoned orchards throughout the state, particularly in Eastern N.Y. (Western N.Y. should be a couple of weeks from now if all goes normally). Crop scouts and consultants have been using traps to monitor apple maggot (AM) populations for a long time. Although some orchards have such perennially high AM populations that monitoring for them is a waste of time (that is, 3-4 sprays each year are needed on a calendar basis), most commercial N.Y. orchards have moderate or erratic pressure from this pest, and monitoring to determine when

damaging numbers of them are present can reduce the number of sprays used in the summer with no decrease in fruit quality. Sticky yellow panels have been in use for over 20 years, and can be very helpful in determining when AM flies are present.

These insects emerge from their hibernation sites in the soil from mid-June to early July in New York, and spend the first 7-10 days of their adult life feeding on substances such as aphid honeydew until they are sexually mature. Because honeydew is most likely to be found on foliage, and because the flies see the yellow panel as a "super leaf", they are naturally attracted to it during this early adult stage. A few of these panels hung in an orchard can serve as an early-warning device for growers if there is an AM emergence site nearby. However, because many flies pass this period outside of the orchard, and then begin searching for fruit only when they are ready to mate and lay eggs, this advance warning doesn't always have a chance to take place—the catch of a single (sexually mature) fly then means that a spray is necessary immediately to adequately protect the fruit. This can translate into an undesirable risk if the traps are not being checked daily, which is often the case.

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### scaffolds FRUIT JOURNAL

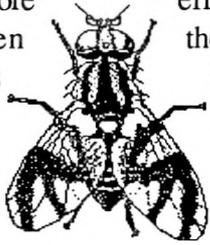
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This newsletter available on CENET, in the TNEWS bulletin board under FRUIT.

In order to regain this time advantage, researchers have developed newer traps that have the form of a "super apple"—large, round, deep red, and even possessing the smell of a ripe apple—in an attempt to catch that first AM fly in the orchard. Because this kind of trap is so much more efficient at detecting AM flies when they are still at relatively low levels in the orchard, the traps can usually be checked twice a week to allow a one- or two-day response period (before spraying) after a catch is recorded, without incurring any risk to the fruit. In fact, research done at Geneva and in Wayne Co. in recent years indicates that some of these traps work so well, it is possible to use a higher threshold than the old "one fly and spray" guidelines recommended for the panel traps. Specifically, it was found that sphere-type traps baited with a lure that emits apple volatiles attract AM flies so efficiently, an insecticide cover spray is not required until a threshold of 5 flies per trap is reached. The recommended practice is to hang 3 volatile-baited sphere traps per 10-15-acre orchard, on the outside row facing the most probable direction of AM migration (preferably toward woods or abandoned apple trees, or else on the south side). Then, periodic checking of the traps would give a total number of flies caught; divide this by 3, and spray when the average is 5 or more. In home apple plantings, these traps can be used to "trap out" local populations of AM flies, by attracting any adult female in the tree's vicinity to the sticky surface of the red sphere before it can lay eggs in the fruit. Research done in Massachusetts suggests that this strategy can often protect the fruit if 1 trap is used for every 100-150 apples normally produced by the tree (i.e., a maximum of 3-4 traps per tree in most cases).



flies, but are harder to keep clean, and performed no better than any other sphere trap we tested. Brush-on stickum is now available to facilitate application in the field. Apple volatile lures are available from Ladd Industries (septa) and Consep (membranes).

Addresses of these suppliers follow (see also the "Sources List" on pp. 53-54 of the 1992 Recommendations):

-Consep Membranes, Inc., P.O. Box 6069, Bend, OR 97708; 1-800-367-8727

-Great Lakes IPM, 10220 Church Road NE, Vestaburg, MI 48891; 517-268-5693

-Ladd Research Industries, Inc., P.O. Box 1005, Burlington, VT 05402; 802-658-4961

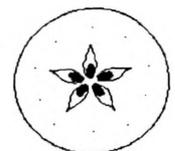
-Olson Products, Inc., P.O. Box 1043, Medina, OH 44258; 216-723-3210

-Pest Management Supply Co., P.O. Box 938, Amherst, MA 01004; 1-800-272-7672

Be sure you can correctly identify the apple maggot fly, because several other species are similar. Its body is dark brown to black (not pale brown like the walnut husk fly), and the wing pattern looks like a forward-leaning "F". Bring it to your local agent if you're not sure. Materials suggested for use against apple maggot include Guthion, Imidan, Lannate, Penncap-M, and malathion; use Lorsban or Sevin if you are also treating for problem codling moth populations. These materials should be re-applied at 10-12 day periods. ❖❖

## PLUM CURCULIO

❖❖ It's beginning to look like this is another one of those years that define the extremes of variability in curculio activity, and it's important not to underestimate the likelihood that there are more of these insects waiting in the wings for warmer temperatures. If your apples have not received at least two separate sprays of an organophosphate for plum curculio (preferably at petal fall and 1st cover), I would suggest you include a suitable material in the next application you make. If you generally use two sprays during a "normal" year, it might be prudent to add a third one this season. ❖❖



A variety of traps and lures are currently available from commercial suppliers; among them: permanent sphere traps made of wood ("Pest Management Supply") or stiff plastic ("Consep", "Great Lakes IPM" or "Pest Management Supply"), disposable sphere traps made of flexible plastic ("Olson"), and sphere-plus-panel traps ("Ladd"). The disposable traps are cheaper than the others, of course, but only last a maximum of one season. Ladd traps are very effective at catching

### PHEROMONE TRAP CATCHES Number/Trap/Day, Geneva NY

	<u>5/29</u>	<u>6/1</u>	<u>6/4</u>	<u>6/8</u>
Redbanded Leafroller	0.1	0.3	0.2	0
Spotted Tentiform Leafminer	22	12	16	10
Oriental Fruit Moth (apple)	2.5	4.2	1.2	3.5
Oriental Fruit Moth (peach)	0	0.2	0	0.1
Lesser Appleworm	0.1	0	0.2	0.1
Codling Moth	7.1	31.2	38.3	36.8
San Jose Scale	0.1	2.0	12.2	2.5
Lesser Peachtree Borer (cherry)	0.8	2.2	19.5	8.6
Lesser Peachtree Borer (peach)	0	1.5	2.7	0.8
Peachtree Borer	0	0.2	2.5	3.1
Apple Maggot	-	-	-	0

### UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1 - 6/8):	715	401
<b><u>Coming Events:</u></b>	<b><u>Ranges:</u></b>	
Cherry fruit fly 1st adult catch	807-1500	456-961
Dogwood borer 1st adult catch	798-1182	456-718
European red mite summer eggs hatch	781-938	442-582
Obliquebanded leafroller 1st adult catch	686-1059	392-628
Oriental fruit moth 1st flight subsides	781-1066	442-672
Pear psylla 1st summer generation adults present	759-864	443-512
Peachtree borer 1st adult catch	776-1557	437-988
San Jose scale 1st flight subsides	860-1058	508-648
Spotted tentiform leafminer pupating	778-807	454-456
Spotted tentiform leafminer 2nd flight starts	795-1197	449-746

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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