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Update on Pest Management
and Crop Development

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

June 7, 1993

VOLUME 2

Geneva, NY

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IT SEEMS
HARD TO
BELIEVE

SUMMER
INSECTS
(Art Agnello)

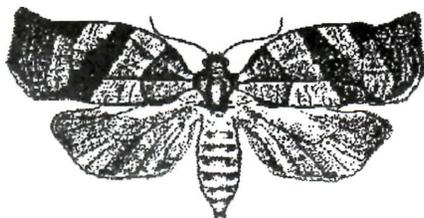


❖❖ PLUM CURCULIO

Although it is past the time when a material suitable for plum curculio control should have been included in your petal fall spray, I would remind you that our standard recommendations for this insect have always called for a second spray 10 days later in western New York whenever the population pressure is high or if the weather is unsettled. It's safe to say that at least one of these conditions apply this year. Oviposition activity is definitely present in the Geneva research plots, but it has been extremely slow to accumulate, which means that it will be at least another week, maybe longer, before the curcs finish their egg-laying duties this year. All of this adds up to an argument for backing up your petal fall application by including an organophosphate in your first cover spray.

OBLIQUEBANDED LEAFROLLER

There are no reports of adult catches yet, but they're due any time now; larval development is all over the place (everything from 3rd to 6th instars), and Harvey Reissig found a pupa in Eagle Harbor (near Albion) last Wednesday, June 2. It's not too



late to hang a wing-type pheromone trap in problem apple blocks, in order to fix the date of first emergence in your specific area. Recall that we recommend sampling larval populations 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" sampling date of July 10 turns out not to be accurate this year.



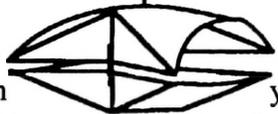
Larvae of the first OBLR summer brood cause two kinds of damage—foliar feeding injury and rolling of the leaves, and more important, injury caused by feeding on the surface of the developing fruits. This fruit damage is usually more serious than the spring feeding by overwintered larvae, because more of the fruit injured late 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 any sprays 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 for some locations from CENET (from the "CLIMOD" Menu) or from Cooperative Extension personnel. You can also calculate them yourself each day by using the following formula:

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

If you do not have access to any of this information, use July 10 as an estimated best sample date in a "normal" year.

Guidelines for sampling can be found on pp. 50, 61–62, and 179 (or 184) of the 1993 Recommends. Sample from random trees that are representative of the entire block, examining 10 expanding leaf terminals per tree. It is not necessary to pick the terminals. Record the number of samples infested with live larvae; do not count actual numbers of larvae in an infested terminal, and do not count damaged terminals that have no OBLR in them, or those containing only dead OBLR. To minimize bias, choose half of your samples 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. Effective materials include a B.t. product (such as Dipel, Biobit or MVP), 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

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waste of time (that is, 3–4 sprays are needed each year 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

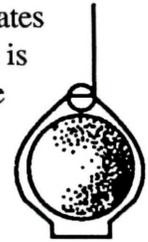


yellow panels have been in use for over 20 years, and can be very helpful in determining when AM flies are present.

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.

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. 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 towards 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).



A variety of traps and lures are currently available from commercial suppliers; among them: permanent sphere traps made of wood or stiff plastic, disposable sphere traps made of flexible plastic, and sphere-plus-panel (Ladd) traps. 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 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 also available from most suppliers.

Addresses of some suppliers follow (see also the "Sources List" on pp. 52-53 of the 1993 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., 311 River Dr., Hadley, MA 01035; 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, Lorsban, Penncap-M, and Sevin; these materials will also give protection from problem codling moth populations. If threshold numbers of adults persist, re-applications should be made at 10-12 day intervals.

THE GOOD OLE DAYS

Codling moth has been around for a long time, and it's often a good exercise to stop and take stock of how far we've come in the past 100 years. The following remedy for codling moth is taken from "Dr. Crane's Last Receipt Book and Household Physician", published by F.B. Dickerson, 1893. Our thanks to Dick Ackerman, Miles Inc., for passing this along:

"Codling Moth Effectually Disposed of —
A writer who signs himself "H," of Fenton, Mich., sends a plan to the Detroit *Tribune*, which he says effectually disposes of the codling moth. He says: "I take a piece of old woolen cloth, 5 or 6 inches wide, and long enough to go around the apple tree and lap an inch or two, and place this around the tree midway between the lower branches and the ground, and fasten it there with a tack driven in just far enough to hold. The moth will go under this cloth and deposit her egg, which matures in 12 days. Every 10 days I go through the orchard, draw the tacks carefully, unwind the cloth and mash every worm and moth I find, sometimes as many as 40 under a single cloth. This followed up will utterly destroy them."

"Remarks — It is said that the most successful fruit growers, east and west, have decided that there is no better remedy for the codling moth than to pasture hogs in the orchard to eat the wormy apples and moths or worms therein. Chickens running in the orchard are also very destructive to moths, by eating all the worms or bugs they see; and I have seen it stated that 2 or 3 pigs put into a pen of one length of boards around apple, peach, or plum trees will destroy all these depredators."

Sounds remarkably similar to some modern-day "sustainable" practices, except for that part about the pigs and the chickens.❖❖

GENEVA

APPLE SCAB UPDATE
(Wayne Wilcox)

DATE	MATURITY					DISCHARGE TEST
	1	2	3	4	5	
6/3	Tr.	1	3	39	57	179 Ascospores shot/L.P./1 hr.

F I E L D N O T I S

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva NY

HVL, Highland NY

	<u>5/27</u>	<u>6/1</u>	<u>6/3</u>	<u>6/7</u>		<u>5/24</u>	<u>6/1</u>	<u>6/7</u>
Redbanded Leafroller	0.3	1.0	0.5	0.1	Redbanded Leafroller	0.1	0	0
Spotted Tentiform Leafminer	28.7	29.8	14.0	6.4	Spotted Tentiform Leafminer	1.9	3.8	0.4
Oriental fruit moth (apple)	15.0	6.8	2.5	0.8	Sparganothis Fruitworm	0	0.9	0.8
Oriental fruit moth (peach)	0	0.6	0	0	Oriental fruit moth	0.6	0.8	0.8
Lesser appleworm	6.0	2.4	2.5	0.6	Fruittree leafroller	0	0	0
Codling moth	12.7	9.2	17.0	12.6	Lesser appleworm	0.6	0.3	0
Lesser peachtree borer (cherry)	0.7	1.4	0.5	0.5	Codling moth	0.7	1.2	0.8
Lesser peachtree borer (peach)0.3*	1.4	0	0		Variiegated leafroller	0	0.4*	0.6
American plum borer (plum)	0.7	0.2	0	0.6	Obliquebanded leafroller	0	0.1*	0.2
American plum borer (cherry)	1.3	0.6	1.0	0.9	Tufted apple bud moth	0	0.1*	0
					Green fruitworm	-	-	0

* 1st catch

(Dick Straub, Peter Jentsch)

PEST FOCUS

Geneva:

Pear psylla 1st summer gen. adults present

Highland:

Rose leafhopper and white apple leafhopper adults present in apple**Obliquebanded leafroller** 1st catch 6/1**UPCOMING PEST EVENTS**

	<u>43°E</u>	<u>50°E</u>
Current DD accumulations (Geneva 1/1 - 6/7):	743	407
(Highland 1/1 - 6/6):	969	566

Coming Events:

	<u>Ranges:</u>	
San Jose scale 1st adult catch	189-704	69-385
San Jose scale 1st flight peak	612-761	348-449
Codling moth 1st flight peak	547-1326	307-824
European red mite summer egg hatch	781-938	442-582
Obliquebanded leafroller 1st catch	686-1059	392-628
Oriental fruit moth 1st flight subsides	781-1066	442-672
Spotted tentiform leafminer pupating	778-807	454-456

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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