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Update on Pest Management
and Crop Development

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

June 8, 1998

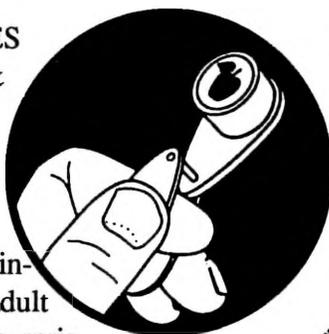
VOLUME 7, No. 12

Geneva, NY

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WHERE THERE'S SMOKE...

PSYLLA WOES
(R.W. Straub &
P. J. Jentsch,
Entomology,
Highland)



❖❖ Because pear psylla overwintered very well, summer-form adult populations are very high. Not surprisingly, egg counts are alarming in our pear plots at the Hudson Valley Lab. For example, in 10 of the 16 plots that include both standard or experimental materials, eggs average 77/leaf (range 58–110). Such populations will surely put to the test most of our conventional treatments. Encouragingly, single postbloom treatments of Agri-Mek or Provado are still maintaining nymph populations relatively low as of 29 May. I have heard verbal evidence however, that Agri-Mek is showing weakness in some commercial blocks and this will make for a very long season.

At this point, rescue choices for growers are few. Mitac continues to work in some orchards, but not in others. Currently, we do not have sufficient data on Pyramite to make a firm recommendation, but I presume growers will gain a lot of experience with this material before the season is complete.

We have good research evidence that the use of Asana during periods of high adult activity will effect significant reductions in adult numbers. Although there is a lot we still don't know about the ultimate sanity of controlling adults, the use of a pyrethroid (Asana, Ambush, Pounce) in orchards now having high adult populations may be advisable this season. These treatments may have only minimal impact on nymphs, but any reduction in the egg population will contribute to the effectiveness of other rescue treatments. ❖❖

BRIEF RESPITE

INSECT BITES
(Art Agnello,
Entomology,
Geneva)

Apple Maggot

❖❖ It will soon be time to expect the first appearance of these flies in abandoned orchards, particularly in eastern N.Y. (western N.Y. should be about a week behind if all goes normally, which has never been known to happen). Crop scouts and consultants have been using traps to monitor apple maggot (AM) populations for a long time. Some orchards have such high AM populations that monitoring for them is a waste of time; that is, sprays are needed predictably every season, and on a calendar basis. But 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

continued...

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.

Many flies pass this period outside of the orchard, however, and then begin searching for fruit only when they are ready to mate and lay eggs. That means 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, something that is not always possible during a busy summer.

To regain this time advantage, researchers have developed newer traps that have the form of a "super apple" — large, round, deep red, and sometimes with 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 in Geneva over a number of 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 has been found that sphere-type traps baited with a lure that emits apple volatiles attract AM flies so efficiently that an insecticide cover spray is not required until a threshold of 5 flies per trap is reached.

The recommended practice is to hang three volatile-baited sphere traps in a 10- to 15-acre orchard, on the outside row facing the most probable direction of AM migration (south, or else toward woods or abandoned apple trees). Then, periodically check the traps to get a total number of flies

caught; divide this by 3 to get the average catch per trap, and spray when the result 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 will protect the fruit if one trap is used for every 100–150 apples normally produced by the tree (i.e., a maximum of three to four 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 (from Gemplers) or stiff plastic (from Great Lakes IPM or Gemplers), disposable sphere traps made of flexible plastic (from Olson), and sphere-plus-panel traps (from Ladd). The disposable traps are cheaper than the others, of course, but only last 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 in field tests. Brush-on stickum is available

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to facilitate trap setup in the orchard. Apple volatile lures are available from Ladd Industries (septa) and Consep (membranes). Addresses of these suppliers follow:

- Consep, Inc., 213 S.W. Columbia St., Bend, OR 97702-1013, 1-800-367-8727
- Gemplers, P.O. Box 270, 100 Countryside Dr., Belleville, WI 53508, 1-800-382-8473
- Great Lakes IPM, 10220 Church Road NE, Vestaburg, MI 48891, 1-800-235-0285
- Ladd Research Industries, Inc., P.O. Box 1005, Burlington, VT 05402-1005, 802-878-6711
- Olson Products, Inc., P.O. Box 1043, Medina, OH 44258, 330-723-3210

By preparing now for the apple maggot season, you can simplify the decisions required to get your apples through the summer in good shape for harvest.

GREEN APHIDS

We have already begun to see some problem populations of green aphids in western N.Y. apple blocks, so it looks like this may be one of those years to keep a vigilant eye open. Although small numbers of these insects — primarily Apple Aphid, *Aphis pomi*, and Spirea Aphid, *Aphis spiraecola* — may be present on trees early in the season, populations generally start to increase in mid- to late June. Large numbers of both may build up on growing terminals on apple trees during summer. Both species are apparently common during the summer in N.Y. orchards, although no extensive surveys have been done to compare their relative abundance in different production areas throughout the season.

Nymphs and adults of both species suck sap from growing terminals and water sprouts. High populations cause leaves to curl and may stunt shoot growth on young trees. Aphids excrete large amounts of honeydew, which collects on fruit and foliage. Sooty mold fungi that develop on honeydew cause the fruit to turn black, reducing its quality. Aphids should be sampled several times throughout the

season starting in mid-June. Inspect 10 rapidly growing terminals from each of 5 trees throughout the orchard. Record the percentage of infested terminals. No formal studies have been done to develop an economic threshold for aphids in N.Y. orchards; however, treatment is currently recommended if 30% of the terminals are infested with either species of aphid.

The larvae of syrphid and cecidomyiid flies prey on aphids throughout the growing season. These predators complete about three generations during the summer. Most insecticides are somewhat toxic to these two predators, and they usually cannot build up sufficient numbers to control aphids adequately in regularly sprayed orchards. Both aphids are resistant to most organophosphates, but materials in other chemical classes control these pests effectively. Examples include Provado, Thiodan, Lorsban, Cygon, Lannate and Vydate (given roughly in order of decreasing effectiveness and increasing detrimental effect on predator mites).❖❖

PEST FOCUS

Geneva: Degree days (base 50°F) from 1st **codling moth** catch (5/7) = 394. Control sprays for **plum curculio** are no longer necessary whenever the last spray has been applied within 10–14 days after 340 DD₅₀ have accumulated since McIntosh petal fall (5/11). 355 DD₅₀ have accumulated since then.

1st **obliquebanded leafroller** trap catch in Western N.Y. = 5/28. DD (base 43 °F) since 1st catch = 173.

Highland: **Green aphid** numbers high, damage noted. 1st **obliquebanded leafroller** trap catch in Highland N.Y. = 5/26. DD (base 43 °F) since 1st catch = 264.

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1- 6/8):	1042	635
(Geneva 1997 1/1-6/8):	625	312
(Geneva "Normal" 1/1-6/8):	813	478
(Highland 1/1-6/8):	1261	763
<u>Coming Events(Geneva):</u>		
	<u>Ranges:</u>	
Obliquebanded leafroller 1st flight peak	869-1548	506-987
OBLR summer larvae hatch	1076-1513	630-980
Cherry fruit fly 1st catch	650-1500	368-961
Dogwood borer 1st catch	798-1182	456-718
Pear psylla 2nd brood hatches	992-1200	609-763
STLM 2nd flight begins	795-1379	449-880
San Jose scale 1st gen. crawlers present	987-1247	569-784
Apple maggot 1st catch	1045-1671	629-1078

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva, NY

HVL, Highland, NY

	<u>6/1</u>	<u>6/4</u>	<u>6/8</u>		<u>5/26</u>	<u>6/1</u>	<u>6/8</u>
Spotted tentiform leafminer	1.3	3.2	3.9	Pear psylla eggs/leaf	145	40	32
Redbanded leafroller	0	0	0	Pear psylla nymphs/leaf	3.3	3.0	3.5
Oriental fruit moth (apple)	1.3	0.2	0	Spotted tentiform leafminer	1.6	2.9	3.3
Lesser appleworm	5.8	1.3	0.3	Redbanded leafroller	0.1	0	0
Codling moth	31.8	4.8	0.1	Oriental fruit moth	0.4	0.2	0
San Jose scale	1.5	0.2	0	Lesser appleworm	0.1	0.2	0.1
American plum borer	0.8	0.2	0	Codling moth	2.3	2.9	0.1
Lesser peactree borer	5.0	0	0	Obliquebanded leafroller	0.1*	2.3	0.4
Peachtree borer	0.3	0	-	Variegated leafroller	-	2.2*	0.7
Pandemis leafroller	2.2	0.2	0.3	Tufted apple budmoth	-	5.0*	2.0
Obliquebanded leafroller	2.8	0.3	0	Fruittree leafroller	-	0	0

* 1st catch

(Dick Straub, Peter Jentsch)

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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