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Update on Pest Management
and Crop Development

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

June 1, 1993

VOLUME 2

Geneva, NY

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INSECT BITES

(Art Agnello)

❖❖ PEAR PSYLLA

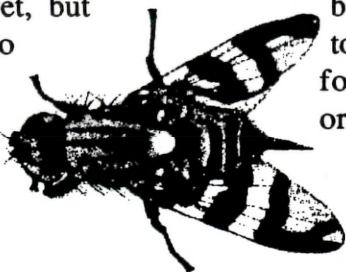
According to all we have been seeing in western New York and in the Hudson Valley regarding pear tree condition and psylla numbers, this week should be the designated time to begin treating orchards with Agri-Mek. The 10-14-day post-petal fall period should occur sometime this week for most of the western N.Y.



orchards, and the cool weather over the past couple of weeks should have kept foliage relatively succulent, so that this timing should also be appropriate in the state's eastern orchards as well. We would reiterate our recommendation to use the high rate of 20 fl. oz. of product mixed with 1 gallon of Ultra Fine oil per acre, in order to maximize the treatment's effectiveness.

CHERRY FRUIT FLIES

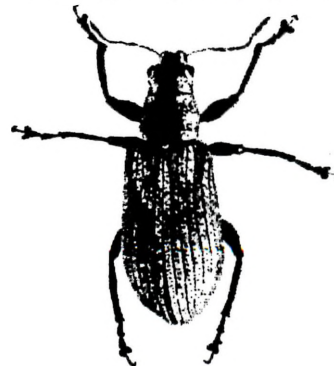
No adults have been reported caught on sticky boards yet, but because of the zero tolerance in cherries for insect damage or presence,



this absence does not diminish the need for sprays in your cherries now (for these pests as well as for curculio). Guthion, Imidan (tart cherries only), Sevin, the synthetic pyrethroids, or PennCap-M are all effective treatments. Sevin, Imidan and PennCap-M will also control black cherry aphid.

LEAF WEEVIL

Every year about this time, a metallic green snout beetle about 1/5" in length appears in apple orchards and strawberry fields, sometimes in considerable numbers. We saw our first in Geneva in mid-May, but not on trees. This weevil is most likely *Polydrusus impressifrons*, also called the leaf weevil. It is of European origin and was first reported in New York in 1906. The larvae live in soil, where they feed on roots of various plants. The adult weevils feed on the foliage of many host plants, including birch, poplar, and willow, but also apple, pear, and strawberry. Leaf feeding is usually not extensive enough to justify special sprays. In



commercial orchards, the normal cover spray program will take care of this problem. If the weevil appears in great numbers in a nursery, control may be necessary.

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MITES

So far, there seem to be relatively few problems out there, and most blocks are still below threshold, as would be expected. Any hot weather that comes along now is sure to accelerate ERM hatch and development. We are using the presence/absence threshold of 62% infested leaves, which corresponds to a mean density of 2.5/leaf. Refer to Table 11 (p. 60) or the sampling chart (p. 181) of the 1993 Cornell Recommends. Because of recent questions about the use of highly refined oil to control summer populations of ERM, I'm reprinting the following portion of an article dealing with this practice:

Apple growers have traditionally used petroleum oil sprays in the dormant and delayed dormant period to kill ERM eggs on the trees before much foliage is present. The original "dormant" oils were quite heavy, and contained impurities that made them phytotoxic to green tissue. Later refining modifications removed many of these impurities and resulted in a so-called "superior-type" oil that can be used until nearly the pink bud stage. Until the 1970's, when a number of highly effective contact miticides became available, it was common for growers to include a low rate (1 qt/100 gal water) of these superior-type oils in their summer sprays to provide constant, although incomplete, suppression of ERM populations by controlling the most susceptible stages—primarily eggs. Higher dosages were avoided to prevent potential foliar damage. However, mite populations have begun to develop resistance to conventional miticides, and more sophisticated oil refining techniques are available to remove even more impurities to produce a grade of oil that is less damaging to green tissue. The highly refined oil that is currently available has a narrower distillation range, which excludes some of the heavier plant-damaging components without affecting its effectiveness against mite pests.

The postbloom oil program has been tested in orchards that had received a prebloom (half-inch green or tight cluster) application of standard superior oil for early season control. Our approach was to make three applications, on a preventive schedule, immediately

after the bloom period, before mite populations had a chance to build. The first application was at petal fall (generally mid- to late May), followed by two additional sprays at 10–14 day intervals. Dosages that have been tested are 6.5 oz, 1 qt, and 1, 2, and 3 gal/100 gal of finish spray solution. The oil is not concentrated in the tank, but rather mixed on a dilute basis; for instance, at the 1 qt rate, a spray tank holding 500 gallons receives 5 quarts of oil. The sprays are applied at a volume sufficient to obtain adequate coverage of the canopies—in our case, 100 gal per acre. Mite populations were monitored constantly to be sure numbers were within acceptable limits. In some of the lower-dose plots where mite population pressure was severe, an additional application was necessary in mid-July. Results of the tests can be summarized as follows: the 2 and 3 gal rates effectively controlled mite populations for the entire season in all cases, the 1 gal rate maintained control of moderate populations but was not effective against severe mite pressure, and the lower rates provided only minimal control (light population pressure), allowing unacceptable mite numbers by mid-July in orchards with moderate or severe populations.

One undesirable consequence of the oil treatments was the occurrence of small necrotic lesions on some of the leaves in the plots receiving the

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highest rates, particularly 2 and 3 gal. Foliar injury tended to occur mainly in those portions of the canopy where the spray had dried unevenly or else accumulated after the application, especially in locations adjacent to the sprayer and at the ends of leaf terminals, but oil caused no leaf drop even in cases where the trees were under moisture stress. Fruit samples were taken at harvest to check for any effects on fruit quality. Four varieties treated— 'Ida Red', 'Cortland', 'Empire', and 'Red Rome' —were graded for color according to USDA guidelines, and no differences in fruit coloring trends were found between the oil-treated and untreated apples. Also, there was no evidence of other anomalies such as a roughened surface, raised lenticels, or finish problems in the treated fruits. The only adverse result was an increase with oil rate in the 'Red Romes' of a varietal stippling characteristic in the skin, known as "scarf". Certain other varieties, such as 'Stayman', 'Jonathan', and some 'Red Delicious' strains, also exhibit this characteristic to some degree, but the oil did tend to make it worse in our trials. Related tests we conducted using handgun oil sprays gave encouraging indications that summer oil sprays may be as effective against moving stages of mites as it is on the eggs. This would represent an additional argument for its use in the summer on an as-needed basis, to help control populations of mixed life stages as they appear.

Overall, the results of this work demonstrate that summer oil applications can be used to effectively control European red mite populations in many

orchard situations. So far, mites have not demonstrated an ability to develop a resistance to oil, and oil is less toxic to at least some beneficial species than are traditional toxicants. The most important predator mites respond to oil sprays with a temporary population decrease, but their long-term survival may not be seriously hampered. Some potential drawbacks to this management strategy are: the relatively high cost of a complete summer program; phytotoxicity or fruit finish defects in some situations or on certain varieties, especially when applications take place at high temperatures or under conditions of moisture stress; the essential need for complete spray coverage to maximize effectiveness; and potential compatibility problems with some fungicides needed to control summer diseases, particularly captan. Some principles to guide its use: oil appears capable of killing both eggs and motile mite forms, but is probably acting more against the motile forms in summer airblast applications; multiple sprays are necessary to control even moderate populations, and summer oil sprays must be started when mite populations are low.❖❖



INSECT TRAP CATCHES (Number/Trap/Day)

Geneva NY

HVL, Highland NY

	<u>5/20</u>	<u>5/24</u>	<u>5/27</u>	<u>6/1</u>		<u>5/9</u>	<u>5/17</u>	<u>5/24</u>
Redbanded Leafroller	2.0	0.9	0.3	1.0	Redbanded Leafroller	2.1	0.3	0.1
Spotted Tentiform Leafminer	26.3	45.3	28.7	29.8	Spotted Tentiform Leafminer	20.5	12.5	1.9
Oriental fruit moth (apple)	3.0	4.8	15.0	6.8	Sparganothis Fruitworm	0	0.4*	0
Oriental fruit moth (peach)	0	0.4	0	0.6	Oriental fruit moth	11.1	6.2	0.6
Lesser appleworm	9.8	8.0	6.0	2.4	Fruitree leafroller	0.1	0.2	0
Codling moth	0.2	4.8	12.7	9.2	Lesser appleworm	0	0.4*	0.6
Lesser peachtree borer (cherry)	0	0.3*	0.7	1.4	Codling moth	0	1.9*	0.7
American plum borer (plum)	0.2*	0.6	0.7	0.2				
American plum borer (cherry)	0.2*	0.4	1.3	0.6				

* 1st catch

(Dick Straub, Peter Jentsch)

PHENOLOGIES

Geneva: Apple(McIntosh) – **Fruit set 5/27**
 Peach – **Fruit set 5/27**

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1– 6/1):	660	363
(Highland 1/1– 5/31):	881	515

Coming Events:**Ranges:**

San Jose scale 1st adult catch	189-704	69-385
Codling moth 1st flight peak	547-1326	307-824
San Jose scale 1st flight peak	612-761	331-449
Obliquebanded leafroller pupae present	612-860	330-509
Obliquebanded leafroller 1st catch	686-1059	392-681
Lesser appleworm 1st flight peak	612-851	351-471
European red mite summer egg hatch	781-938	442-582
Pear psylla 1st summer adults present	759-864	443-512
Spotted tentiform leafminer pupating	778-807	454-456
Black cherry fruit fly 1st catch	686-985	392-636

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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