

scaffolds

Update on Pest Management
and Crop Development

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

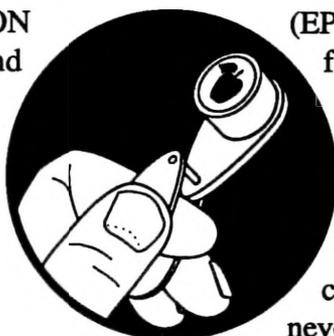
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Geneva, NY

INSECT BITES

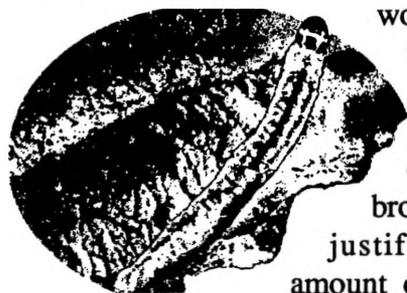
PARADE SEASON
(Art Agnello and
Harvey Reissig,
Entomology,
Geneva)



(EPA's words) quite soon, and we hope favorably, which would be in time for use against the July brood that causes the most problems. Last season's experiences with Confirm in N.Y. actually ran the gamut from very acceptable to anything but, and it's clear that even though this product will never be the silver bullet the industry has

OBLIQUEBANDED LEAFROLLER

❖❖ Whether it's an effect of the brisk temperatures during the past month, or only the unknown vagaries of population dynamics that govern OBLR incidence, leafroller numbers and general infestation levels are not quite up to their normal speed yet, and even specimens from our never-fail hot spots seem uncharacteristically tiny and inauspicious so far (that should rile the



worm gods if anything will). The economics of controlling the overwintered brood don't always justify the small amount of early season damage prevented, but we know that some growers like to establish a presence against the summer generation by including a material in the petal fall spray to do what they can against susceptible larvae. For problem blocks, we would recommend Dipel, Lorsban or Lannate (in order of increasing harm to predator mites), together with the usual advice to be timely with summer brood sprays when they become necessary.

Speaking of which, we haven't yet heard anything official, but we expect the Section 18 application for Confirm to be "acted upon"

been looking for, it can be a valuable alternative to our other chemical choices if used wisely. Harvey Reissig did extensive field tests with Confirm last year, and we have continued our talks with other apple researchers as well as the people at Rohm and Haas about the best strategy for using this product when it becomes available. There will be more testing this summer, but for the time being, the following points represent our consensus of the best way to proceed with Confirm, which is (we would reiterate) a very different kind of leafroller material than any other we've worked with before:

- Confirm's recommended use is for problem blocks where the previously available materials are NOT able to provide less than 3-5% fruit damage during a normal year. Based on last year's results, we feel that the application timing should be moved up to an earlier date for best effectiveness. Start with a spray at the 1st sustained moth catch of the summer brood, an event that normally occurs during the second week of the month (June 6-16 according to recent records, and probably tending more toward the later date this year because of the slow season). A second application would be indicated about 2 weeks later, which is roughly assumed to correspond with the 1st- to peak hatch period. A third application MAY be needed 3 weeks later, but

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frankly, last year's field tests tend not to bear this out too strongly; the early sprays appear to be the keys to the control you're able to get.

- It should be stated again that this product does not kill the larvae immediately as do the conventional contact toxicants, but feeding ceases during the first 24 hours after the sprayed tissue is ingested; death comes slowly, taking as long as 5–7 days or more, depending on larval size. If you see live larvae after the second spray, don't panic; most of these should have reached the new terminals to carry on their foliar feeding mainly because they were exposed to incomplete coverage before reaching the concealment of the terminals. Before they can make it to the developing fruits, they have to traverse tissue that's been treated since then, which will lessen the chances of their damaging the apples substantially.

- No orchard on a Confirm schedule should have any problem with codling moth, but this material will not affect apple maggot, so keep in mind the need for an OP around the beginning of August, which is historically the heaviest part of maggot season. This product has not been shown to be effective against oriental fruit moth, so a separate OP application would be necessary at about 2nd cover (late June to early July) if you feel OFM pressure is high, especially in any blocks near peach plantings, for instance.

- You may hear stories about how well Confirm works on tufted apple bud moth. This product will not necessarily wipe out all the OBLR on your farm, but it is at least as effective as any other available material that's still giving good control, and it has the advantage of not adding to the selection pressure for resistant populations. Plus, it's probably one of the best choices in terms of selectivity and compatibility with predator mites.



SUMMER OIL

For situations where European red mite pressure or the crop's sensitivity to them don't necessarily justify the expense of an early season treatment with Agri-Mek, Apollo or Savey, this is the time of year when a summer oil program might be considered as an alternative preventive approach. Field research trials conducted in commercial and experimental apple orchards in western N.Y. during the past few years have shown the effectiveness of using a highly refined oil in a seasonal program to control mites throughout the summer. Some examples of these products are Sunspray Ultra Fine Spray Oil (Sun Refining & Marketing, Philadelphia), and Stylet-Oil (JMS Flower Farms, Vero Beach, FL); others are labeled and may be available, although we haven't tested all brands.

Our approach is to make three applications, on a preventive schedule, immediately after the bloom period, before mite populations have a chance to build. The first application can be any time from petal fall to 1–2 weeks later, followed by two additional sprays at 10–14 day intervals.

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scaffolds

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The oil is not concentrated in the tank, but rather mixed on the basis of a rate per 100 gallons of finish spray solution; for instance, at the 1 gal. rate, a spray tank holding 500 gallons receives 5 gallons of oil. The sprays are applied at a volume sufficient to obtain adequate coverage of the canopies; in most cases, we recommend 100 gal. per acre. Dosages that we have tested are 6.5 oz., 1 qt., and 1, 2, and 3 gal./100 gal. of finish spray solution. Results of our tests can be summarized as follows: the 2 and 3 gal. rates effectively controlled mite populations for the entire season in all but the most extreme cases; the 1 gal. rate maintained control of moderate populations but was not effective against severe mite pressure (a fourth spray was necessary later in July); and the lower rates provided only minimal control (light population pressure), permitting unacceptable mite numbers by mid-July in orchards with moderate or severe populations.

One undesirable consequence of the oil treatments can be the occurrence of small necrotic lesions on some of the leaves in blocks receiving the highest rates, particularly 2 and 3 gal. Foliar injury tends to occur mainly in those portions of the canopy where the spray has dried unevenly or else accumulated after the application, especially in locations adjacent to the sprayer and at the ends of the terminals. However, the oil caused no leaf drop in our tests, even in cases where the trees were under moisture stress. Fruit samples taken at harvest to check for any effects on fruit quality showed no differences in fruit color between oil-treated and untreated apples in a range of varieties. 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 of a varietal stippling characteristic in the skin of Red Romes, 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 tended 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 motile stages of mites as it is on the eggs.

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. Although it is possible to kill some predator mites by directly spraying them, overall mortality is not very high. In general, the most important predator mites respond to oil sprays with a temporary population decrease, but their long-term survival is not 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 (not too much of a threat this year so far)
- the essential need for complete spray coverage to maximize effectiveness; and, most importantly,
 - potential compatibility problems with some fungicides needed to control summer diseases, particularly captan.

Some principles to guide its use:

- oil appears to be capable of killing both eggs and motile mite forms, but is probably acting more against the motile forms in summer airblast applications (which don't usually attain sufficient coverage to suffocate the eggs)
- multiple sprays are necessary to control even moderate populations
- summer oil sprays must be started when mite populations are low.

PEAR PSYLLA

We haven't yet seen evidence that psylla numbers are on the rise in most pear orchards in western N.Y., but the 1-2 nymph/leaf threshold we consider appropriate for an Agri-Mek application could be

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approaching in some parts of the Hudson Valley. This should be the week designated as a suitable time to begin those sprays where this product is elected, with western N.Y. orchards starting to come due by next week. Tree condition appears to be good, so foliage should be succulent enough to absorb the material. 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, to maximize the treatment's effectiveness.

CHERRY FRUIT FLIES

No adults have been reported caught on sticky board traps yet, but because of the zero tolerance in cherries for insect damage or presence, it's prudent to begin sprays in your cherries now (for this pest 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.



LESSER PEACHTREE BORER

Remember to get your trunk and scaffold sprays on peaches and cherries during the first week of June if borers are a problem in your blocks. This pest increases the severity of Cytospora canker infections in peaches and is often found within the canker; by feeding in the callous tissues, it interferes with the tree's natural defenses against the disease. Infestations can be determined by the presence of the insect's frass, which resembles sawdust, in the gum exuded from the wound. In peaches, you can use Lorsban, Thiodan, Asana, Ambush, Pounce, or Penncap-M for this application. In cherries, use Lorsban 4E, Thiodan 50WP, Asana, or Ambush 25WP as a trunk spray ONLY; do not spray the fruit. ♦♦

PEST FOCUS

Geneva: 1st **Codling moth** trap catch. 1st catch in Highland was 5/19. (Degree days base 50°F accumulated since the biofix, for use in the Michigan model to determine the best time for a codling moth spray, will be reported weekly beginning with the next Scaffolds.)

Highland: 1st **European red mite** summer eggs observed. 1st **plum curculio** and **European apple sawfly** scars observed.



PHENOLOGIES

Geneva:

Apple(Mac) - 50% petal fall
 Apple(Red Delicious) - bloom
 Pear (Bartlett) - petal fall
 Sweet cherry (Windsor) - fruit 10mm
 Tart cherry (Montmorency) - 50% petal fall
 Plum - petal fall
 Peach - petal fall

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva NY

HVL, Highland NY

	<u>5/19</u>	<u>5/22</u>	<u>5/27</u>		<u>5/19</u>	<u>5/27</u>
Green fruitworm	0	0	0	Green fruitworm	0	0
Redbanded leafroller	2.3	0.2	0.8	Redbanded Leafroller	3.2	0.4
Spotted tentiform leafminer	499	164	439	Spotted tentiform leafminer	28.6	3.5
Lesser appleworm	7.6	8.3	4.8	Oriental fruit moth	4.2	0.4
Oriental fruit moth (apple)	0.8	1.7	0.6	Lesser appleworm	0.3*	1.1
Oriental fruit moth (peach)	0.1*	0	0	Codling moth	0.3*	1.6
San Jose scale	0	0	0			
Codling moth	0	0	0.4*			
American plum borer	0.4*	0	0.1			

* 1st catch

(Dick Straub, Peter Jentsch)

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1- 5/27):	426	192
(Highland 1/1-5/27):	647	315

Coming Events:**Ranges:**

Apple grain aphid present	137-496	67-251
STLM 1st flight peak	180-544	65-275
San Jose scale 1st catch	189-704	69-385
Lesser peachtree borer 1st catch	224-946	110-553
White apple leafhopper nymphs on apple	236-708	123-404
Oriental fruit moth 1st flight peak	259-606	96-298
STLM sap-feeders present	295-628	130-325
Lesser appleworm 1st flight peak	372-851	181-483
European red mite 1st summer eggs	448-559	235-320
Pear psylla hardshells present	463-651	259-377
McIntosh at petal fall	418-649	210-340

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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