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Update on Pest Management
and Crop Development

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

August 23, 1993

VOLUME 2

Geneva, NY

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STLM

LEAFMINER
REPRISE
(Art Agnello)

❖❖ It has become apparent that spotted tentiform leafminer (STLM) is laying claim to this year's title of most noxious late-season pest. We were all pretty confident back in May, when generally crummy spring weather kept the first brood out of commission and our biggest worries were whether the orchards would ever dry out enough for tractors to get through. However, quick inspections at nearly any western N.Y. block, never mind the phone calls from the Hudson Valley and Long Island, attest to the seriousness of the second and third brood STLM infestations this year, and call for a re-evaluation of our standard control recommendations.

Repeated field observations underlie our longstanding generalization that third generation STLM is rarely a problem if second generation infestations are properly diagnosed and treated. Unfortunately, things that occur rarely, don't come with a warning when they actually do occur, and there's always some know-it-all ready to offer plenty of explanations after it's too late to do anything useful. So, right on cue...

The case of a somewhat hypothetical eastern N.Y. grower will illustrate the situation: Fruit cluster leaves on this farm are scouted for eggs and sapfeeding mines of the first generation; counts are well below threshold, so no treatment is made. Sometime after petal fall, a number of mines are noted on these leaves, a bit later than they would normally appear, but the average numbers are not too high, so no real harm done. Suddenly, the



growing season turns hot, and no rain falls.

After an appropriate period past the beginning of the second flight, sapfeeding mines are found on foliar terminals, and coincident with the first appearance of tissue feeders, a sampling count indicates an above-threshold population. A spray is made in early July, and a follow-up examination shows nearly a 90% kill. This sounds like a fairly sharp grower; still, the hot and dry weather continues with a vengeance, and he must irrigate constantly to keep the foliage in good shape. Now it is mid-August, and his scouting report brings the shocking news that there are many new sapfeeding mines on the terminals, anywhere between 1 and 5 per leaf, depending on variety. Naturally, there are also some mites and leafhoppers in these trees, and he had been hoping go easy on destructive pesticide sprays, in light of his fledgling predator population. Should he spray? sample? what's the threshold for this situation?

Obviously, the solution is not cut and dried, and we won't even pretend to have all the answers. To start with, he probably acted correctly against the first and second generation STLM; such variable population patterns are normal for this insect. The problem was that the 10% of the second brood that survived the treatment was still a very large number, which, together with the highly favorable weather and good quality foliage, combined to produce an unusually strong third generation, and quite a bit earlier than the picking date for many varieties. For trees that are still a month or more away from harvest, the



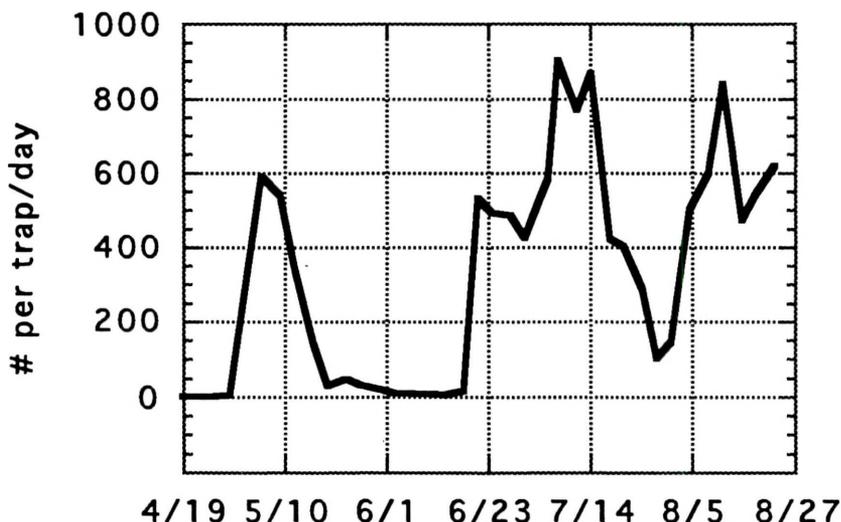
continued...

presence of new (nearly any number) sapfeeding mines should probably prompt another pesticide spray; the adult flight of this brood is quite extended, so there are probably still some eggs being laid, which means that more mines would eventually show up if left alone. Predator mite populations will suffer, but there aren't many choices at this point, and you're weighing short-term tree stress effects on fruit against long-term mite effects on foliage. Varieties that will be harvested soon (2 weeks or less) can probably tough it out, depending on how much moisture stress and leaf drop is already present.

As for those varieties occupying the middle ground in terms of harvest maturity, we simply don't have any

information on the effects of this type of leafminer situation to make a good recommendation. Certainly, some trees without any STLM mines have already begun dropping fruit solely because of moisture stress in the region. Growers facing the unknown effects of a third brood leafminer population may opt for a treatment simply to play it safe; this might be justified in the long run, even considering the detrimental effects on predators, but we just don't know at this point. Playing it safe may be the best fallback for now, and with any luck, we'll hear from some growers later on who weren't able to spray despite intending to do so, and their outcomes will help us to be better informed for the next rare occurrence of this type. ❖❖

SPOTTED TENTIFORM LEAFMINER - 1993



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 Dept. of Entomology
 NYSAES, Barton Laboratory
 Geneva, NY 14456-0462

Phone: 315-787-2341 FAX: 315-787-2326
 Email: art_agnello@cornell.edu

Editors: A. Agnello, D. Kain

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INSECT TRAP CATCHES (Number/Trap/Day)**Geneva NY****HVL, Highland NY**

	8/12	8/16	8/19	8/23		8/6	8/15	8/22
Redbanded Leafroller	0.5	0	0.5	0.4	Redbanded Leafroller	0	0	0
Spotted Tentiform Leafminer	838	472	540	616	Spotted Tentiform Leafminer	124	20.4	18.6
Oriental fruit moth (apple)	0	1.1	1.8	1.1	Sparganothis Fruitworm	0.25	0.3	0.2
Oriental fruit moth (peach)	4	1.4	1.5	1.5	Oriental fruit moth	0.75	1.2	1.9
Lesser appleworm	0.3	0.5	0.3	0.9	Fruittree leafroller	0	0	0
Codling moth	7.2	3.5	5.8	4.5	Lesser appleworm	0	0	0
Obliquebanded leafroller	0.5	0	0.3	0.9	Codling moth	5.6	1.3	0.4
Lesser peachtree borer (cherry)	2.2	2.6	0.7	1.3	Variiegated leafroller	0.5	0.05	0.6
Lesser peachtree borer (peach)	1.3	0.4	0.5	0.5	Obliquebanded leafroller	0.7	0.5	0.6
American plum borer (plum)	1.8	0.6	0.5	0.1	Apple maggot	0.17	0.07	0.05
American plum borer (cherry)	0.7	0.4	0.3	0.3	Tufted apple budmoth	0	1.0*	1.0
Peachtree borer	0.8	0.3	0.3	0.1				
Apple maggot	3.4	1.5	1.1	0.4				
San Jose scale	2.2	6.1	3.3	3.4				

* 1st catch

(Dick Straub, Peter Jentsch)

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1 - 8/23):	2704	1941
(Highland 1/1 -8/21):	3250	2316

Coming Events:

	Ranges:	
Redbanded leafroller 3rd flight peak	2603-3174	1798-2196
Obliquebanded leafroller 2nd flight peak	2634-3267	1789-2228
Codling moth 2nd flight subsiding	2782-3433	1796-2332
Lesser peachtree borer flight subsiding	2782-3253	1796-2247
Peachtree borer flight subsiding	2230-3255	1497-2309
San Jose scale 2nd flight finished	2494-2576	1662-1678
San Jose scale 2nd generation crawlers emerging	2761-2836	1943-2076
Lesser appleworm 2nd flight peak	2961-3176	1927-2146
Oriental fruit moth 3rd flight peak	2866-3267	1927-2236

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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Dept. of Entomology
NYS Agricultural Exp. Sta.
Barton Laboratory
Geneva, NY 14456-0462
