scaffolds Update on Pest Management and Crop Development

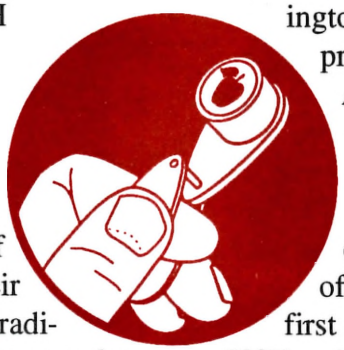
FRUIT JOURNAL

June ~~1~~ 6, 1994 VOLUME 3 Geneva, NY

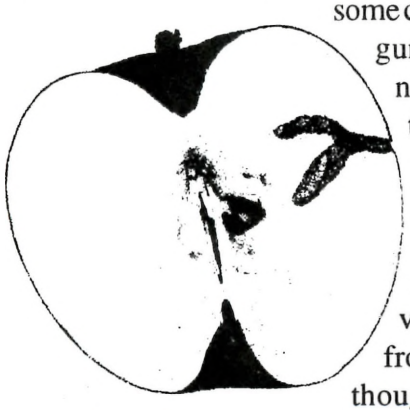
INSECTS

INSECT BITES

ANOTHER MOTH TO FEED
(Art Agnello)



❖❖ Most New York apple growers used to have the luxury of ignoring the potential threat to their crop posed by codling moth, the traditional worm of the wormy apple. Between the fairly regular OP sprays being applied against plum curculio and the apple maggot between petal fall and mid-August, fruit infestations by codling moth were effectively prevented and people tended to forget that it was even present in the state (let alone widely endemic). During the past few years, however, with the advent of trapping-based spray decisions for apple maggot, and a resulting decrease in cover sprays in some cases, we have begun to hear about nasty surprises in the packinghouse as this character has moved back in without warning. To prevent very much of this from occurring, we thought it would be useful to publicize suggested codling moth treatment windows for those growers who don't necessarily spray certain blocks for maggot each year, and who have evidence (or fear) that codling moth is starting to pose a significant threat.



A field model for predicting this insect's development was produced in 1976 at Michigan State University, and has been validated many places since then, including there and in Washington. It was found to give very accurate predictions of codling moth activity. As many as 2 insecticide applications may be made for each of the 2 generations per year, depending on the severity of pressure. Degree days are accumulated from the date of first sustained moth catch, and the first spray is applied at 250 DD (base 50°F), which corresponds with predicted 3% egg hatch. A second spray may be applied 10–14 days later. If pressure is not too severe, one spray will suffice, applied instead at 360 DD after the biofix date (5/23 in Geneva). In Geneva today (6/6), we have accumulated 154 DD. To control the second generation, the timing is 1260 DD after this same biofix date. We will be providing regular updates via this newsletter and to the agents' code-a-phones to alert you to the imminent spray dates.❖❖

MORE

SPEAKING OF WHICH...
(Art Agnello)

❖❖ Other concerns to keep in mind at this time have to do with plum curculio, which you will recall is highly responsive (or not) to the weather patterns. We've had some warm days, and also many cool ones, so our guess is that most of the curcs are not about to get flushed from their cover in one great mass, but will likely trickle out over a rather prolonged period. The lousy petal fall conditions mean that many people may feel they are/were a little late getting into the orchards with this spray, but it might actually work out to

continued...

the good for purposes of plum curculio, since they don't really start working until a few days past petal fall. However, this may be one year when most people might want to consider the benefits of a 1st cover backup spray for PC, because they'll almost surely still be around by the time that leaf of the calendar comes up.

Pear psylla seems not to be taking off too quickly in most areas, so this would appear to be the designated week to begin applying Agri-Mek if you're using it this year. If psylla numbers are quite low still (much less than an average 1–2 nymphs per leaf), waiting a week longer probably would be all right.❖❖

FIELD NOTES

HUDSON VALLEY

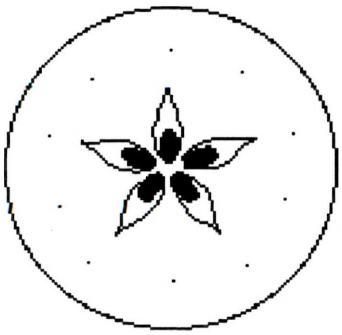
HUDSON VALLEY DISEASE UPDATE
(Dave Rosenberger)

Apple scab ascospore maturity counts, Highland, NY, June 3.

Immature	Mature	Discharged	Tower shoot
4%	23%	74%	925

APPLE SCAB

❖❖ With no rain during the past week, ascospore maturity remained virtually identical to the previous week. As noted in previous reports, most of these spores will never get airborne. However, we really need one more good rain before we can conclude that the threat from primary scab is completely over.❖❖



GENEVA

(Wayne Wilcox)

APPLE SCAB
ASCOSPORE MATURITY (6/3)

	Maturity category (%)**					Discharge test
DD 32*	1	2	3	4	5	(Spores/LP field)
–	3	9	11	15	62	118

*Accumulated degree days (base 32°F) between first date of green tip and date of assessment. Ability to discharge ascospores usually begins to increase rapidly at approx. 175–225 DD after green tip.
**Categories: 1–3 = immature; 4 = morphologically (apparently) mature; 5 = discharged. Growth stage on 5/25: McIntosh = Petal fall

Various spore-trapping studies in previous years suggest that our counts probably overstate the number of ascospores still available at this time. Bottom line is that a contact fungicide should be going on at first cover; by the time it wears off, the ascospores should be worn out.

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This newsletter available on CENET, on the Tree Fruit News bulletin board under FRUIT.

DISEASES

SUMMER DISEASES

SOOTY BLOTCH/ FLY SPECK
(Wayne Wilcox)

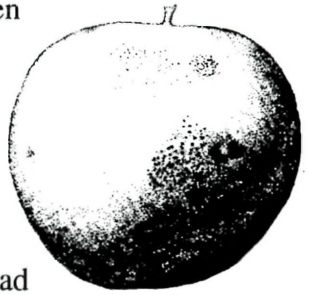
❖❖ Sooty blotch and fly speck have always been problems downstate, but until recently were considered "oddities" in western and central NY. However, with the reduced use or elimination of EBDC fungicides in the summer and an increasing percentage of the crop harvested for the fresh market, these diseases have become increasingly important in upstate production districts as well. A brief reminder on biology and control:

Sooty blotch and fly speck are caused by two different fungi, but often occur together due to similar habitats and requirements for infection. Fly speck is somewhat more difficult to control chemically (especially with captan), so it is not uncommon to see this single disease "sneak through" minimal cover spray programs and/or those primarily reliant upon captan.

Both fungi live in dead wood of apple twigs and on numerous trees and shrubs found in hedgerows and woodlands next to orchards. Wild brambles appear to be one of the most important of these "reservoir hosts", particularly with respect to fly speck.

Dispersal of the spores that cause primary infection begins during bloom (fly speck) or the early cover spray period (sooty blotch). These spores are blown to apple fruit and can cause "infection" by slowly establishing fungus colonies on the SURFACE of the fruit, but only while the environment is extremely humid. More specifically, the sooty blotch fungus requires a MINIMUM relative humidity of 90% to grow and the fly speck fungus requires a MINIMUM of 95%. (Optimum temperatures are 60–80° F). The amount of time necessary for symptoms to appear is, therefore, highly dependent on the

duration of rains and high humidities within tree canopies. Under optimum conditions, e.g., 1992, symptoms can occur within 3 weeks of initial infection. In other years, infections initiated during June can be put on hold if weather becomes hot and dry during July and August, then finish incubating when conditions become more favorable in late summer/early fall. Once colonies do become established, the fungi produce new spores or spore-like bodies which can be spread by rain to cause secondary infections.



Therefore, these diseases will be most severe (1) in wet years; (2) where inoculum is high (brambles in the orchard, brambles/shrubs in the hedgerows, next to a wooded area, lots of dead wood in the apple trees); and (3) in orchards where the fruit don't dry out after the sky does (big old unpruned trees, orchards surrounded by woods that slow down air movement, trees in low fog pockets, etc.). Because of differences in inoculum availability and within-tree microclimate, orchard-to-orchard variability in disease pressure is often quite remarkable. Previous disease history is probably the best indicator of the relative risk among individual blocks in any given year.

CONTROL. (1) Prune. Removes some inoculum, improves spray coverage, promotes air circulation. Supplemental summer pruning can be of great value in some years that are only marginally favorable for disease development, but can have practically no effect in extremely wet years. (2) Get the brambles out of your orchard; bush-hog the brambles and shrubs around the edge of the orchard to whatever extent is possible and necessary based on previous disease history. (3) Apply fungicides in the cover sprays as warranted by weather conditions and

continued...

previous block history. A discussion of various fungicide characteristics and options is included on page 65 of the 1994 Recommends. Not included in this discussion are results of some of Dave Rosenberger's recent work showing that (a) ziram is quite effective for control of sooty blotch/fly speck (weak on scab, though); (b) Benlate/Topsin-M have some curative or "kickback" activity against these diseases; and (c) Benlate can be somewhat more effective than Topsin-M.

BLISTER SPOT

Just a reminder that blister spot control programs should start 10–14 days after petal fall, as always. Although there are numerous folk remedies that have been tried as a streptomycin replacement, and Tom Burr's program is actively researching alternatives, there is still nothing as good, even where resistance has reduced its effectiveness. Note that where resistance has occurred, orchard populations typically consist of a "mixed" population of blister spot bacteria; i.e., some are resistant and some are susceptible. Until the resistant portion becomes too high, control of the susceptible population will still provide an economic benefit.

One encouraging piece of information that has recently come out of Tom's program is that the percentage of resistant blister spot bacteria in an orchard appears to decline dramatically in just one year if strep isn't sprayed. Thus, growers who previously gave up on strep due to resistance may want to try it again, since the population as a whole has probably become more susceptible. Growers who are only getting marginal levels of control might think about giving strep a rest for a year, then trying again. Although resumption of strep use is likely to push the resistant population back up in these situations, we might be able to get into an alternate year cycle of strep effectiveness. Now we just have to figure out what to do in the "off" year! ❖❖

INSECT TRAP CATCHES (Number/Trap/Day)

Geneva NY

	5/31	6/2	6/6
Spotted tentiform leafminer	95.2	22.5	55.6
San Jose scale	28.3	1.8	5.9
Lesser appleworm	2	1.2	0.3
Oriental fruit moth(apple)	1.6	1.5	0.4
Oriental fruit moth(peach)	0	0	0
Codling moth	3.8	10.3	20.9
American plum borer(plum)	0.2	0.2	1.1
American plum borer(cherry)	0.5	0	2
Lesser peachtree borer(peach)	0.1*	0	0.3
Lesser peachtree borer(cherry)	0.3*	0.7	2.5
Peachtree borer	0	0	1*
Obliquebanded leafroller	–	–	0

** We are not catching any RBLR in designated traps, but have seen them in other traps at the *Station, and in* Wayne County.

* = 1st catch

HVL, Highland NY

	5/27	5/31	6/6
Green fruitworm	0	0	0
Redbanded leafroller	0.4	0	0
Spotted tentiform leafminer	8	7.5	1.1
Oriental fruit moth	0.4	0.2	0.4
Fruittree leafroller	0	0	0
Lesser appleworm	1.1	3.5	1.2
Codling moth	4.6	6.8	2.1
American plum borer	0	3.8	0.3
Sparganothis fruitworm	0	0	0
Tufted apple bud moth	0.4	3	0.6
Variegated leafroller	0	0	0.5*
Obliquebanded leafroller	0	0	0.4*

(Dick Straub, Peter Jentsch)

UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations		
(Geneva 1/1 – 6/6):	692	380
(Highland 1/1 – 6/6):	-	-

Coming Events:	**Ranges:**	
Oriental fruit moth 1st flight subsides	781–1548	442–999
Redbanded leafroller 1st flight subsides	518–893	255–562
STLM 1st flight subsides	489–969	270–566
STLM pupating	778–807	454–456
Codling moth 1st flight peak	547–1326	307–824
San Jose scale 1st flight subsides	768–1058	434–648
European red mite summer egg hatch	773–938	442–582
Obliquebanded leafroller pupae present	612–860	330–509
Obliquebanded leafroller 1st catch	686–1059	392–681
Pear psylla 1st summer adults present	759–864	443–512

PEST FOCUS

Geneva:
Peachtree borer 1st catch

Highland:
Obliquebanded leafroller 1st catch
Variegated leafroller 1st catch
Rose leafhopper adults moving into apples
1st **white apple leafhopper** adults observed
Spotted tentiform leafminer 1st tissue-feeding mines evident

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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