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Weekly Update on Pest
and Crop Development

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

April 20, 1992

VOLUME 1

Geneva, NY

GENERAL

BRANCH- ING OUT

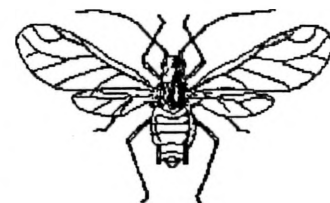
❖❖With this issue, we are expanding our mailing list to include another segment of the fruit audience. With

our original intention of the information this newsletter would contain, it seemed logical to limit its distribution somewhat, so as not to duplicate or preempt the efforts of county and regional extension programs. However, considering the kinds of articles that have ended up on these pages in the first few issues, it is obviously not very likely that everything we write will be picked up and reprinted by local service letters. To preserve our connection with all the readership we wish to reach, this publication is now being sent also to the private consultants and agricultural industry representatives in our area.❖❖



As with most aphids, this species has a complex life cycle, starting with black overwintering eggs that give rise to wingless "stem mothers", who then give birth to living young, most of whom are also wingless. By early summer, winged adults of the third and fourth generations leave the trees and move to weed hosts such as narrow-leaved plantain and dock. Generally they will remain on these plants as wingless forms until early fall, when black winged adults are produced, which migrate back to the apple trees to eventually produce the eggs present during the winter.

Our control recommendations for RAA span the period from 1/2-inch green to the pink bud stage, using any of a number of materials: Thiodan, Lorsban, Lannate, Vydate, or Asana, listed roughly in order of increasing harm to beneficial mites. Field trials during the recent past generally indicate that pink applications of any of these products should do a better job than an earlier spray. This is because, in those cases where aphid populations build up during early summer on vegetative growth inside the canopy, a pink spray is more effective than an earlier treatment at half-inch green. This is advantageous from the point of view of management practicality, as it is easier and more natural to consider the need for aphid control at the time of the pink spray. It should be noted that phosphamidon was our last truly systemic aphicide, and its absence (because of voluntary cancellation by the manufacturer) will seriously detract from our RAA control efforts.



ROSY APPLE APHID

CONSIDERATIONS FOR
CONTROL OF ROSY
APPLE APHID
(Art Agnello)

❖❖Rosy apple aphid is the season's first aphid species of concern to apple growers in New York, and one of the most difficult insect pests to predict from year to year. This aphid feeds mainly on apple foliage, causing leaf chlorosis and curling, but of more importance is the indirect effect of this feeding on the fruits, which become bunched, stunted, and malformed. The Rosy Apple Aphid (RAA) will attack all apple varieties, but varieties such as Cortland, Monroe, R.I. Greening, Ida Red, and Golden Delicious are particularly susceptible, and those in the McIntosh family are relatively tolerant.

INSECTS

We advise sampling your orchards to determine the need for a Rosy Apple Aphid spray, and if you are inspecting fruit clusters for STLMEggs at pink anyway, it is not much more trouble to note the presence of RAA nymphs or damage at the same time. We recommend, however, that a few more clusters per tree be checked for RAA. Try to select 10 from the interior canopy area of each of 10 trees distributed throughout the block. Also, you should try to pick out damaged clusters to inspect. RAA nymphs are of course present at pink, and large enough to see without difficulty, but they do occur on the same tree and in the midst of colonies of Green Aphids, which are not usually a problem until the summer.

In order to distinguish among the species, you can use color and leaf damage as a cue. RAA nymphs are usually a pinkish color, but sometimes varying to a light brown, slate gray, or greenish black, and with the body covered with a whitish mealy coating. Most importantly, they have pronounced cornicles (tailpipes), and long antennae (more than half the body length). Green Aphid nymphs are clearly green, and without the whitish cast. Their cornicles are little more than buttons, and the antennae are clearly less than half of the body length. Also, aphids found inside curled or distorted leaves at pink are almost always Rosy aphids. If you find ONE infested cluster (1%, or stop as soon as you find one), we would advise including a good RAA material in your pink spray; this threshold may be a little conservative for people who are skilled at finding the aphids. ♦♦

APPLE SCAB NEWS

(Wayne Wilcox)

♦♦EBDC FUNGICIDES. The New York State DEC has now approved all four EBDC registrants' labels (Dithane, Manzate, Penncozeb, Polyram) for use on apples

and pears (no Polyram on pears). For anyone who hasn't already heard, the new labels allow two different use patterns: (1) 1.5-2 lb/100 gal (depends on the label) or a maximum of 6 lb/acre, applied no later than petal fall, maximum of 24 lb/acre total; (2) 0.75-1 lb/100 gal (depends on the label) or a maximum of 3 lb/acre, applied through 2nd cover or no later than 77 days before harvest, maximum of 21 lb/acre total. This second option is primarily intended for tank mix uses. The labels specifically state that the two use patterns cannot be combined, so you can't legally use the high rate alone around your oil and then switch to the lower rate in combination to extend usage after bloom. As you know, some processors have their own post-bloom restrictions.

Most growers are very familiar with the strengths and limitations of these fungicides, and will figure out if and how to use them most efficiently in their own operations. Those looking for additional advice shouldn't have trouble finding it from the usual sources.

COPPER SPRAYS. Weather willing, there will be a lot of copper sprays going on after green tip this year. Remember that these sprays usually provide about a week of protective activity against scab as well. Although pg. 15 of

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is published weekly from March to September by Cornell University—NYS Agricultural Experiment Station (Geneva) and Ithaca—with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions and inquiries to:

scaffolds FRUIT JOURNAL
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this year's "Recommends" calls for inclusion of 1 gal of oil with the copper spray, this is an old recommendation that we've now reduced to 1 quart of oil per 100 gal of ACTUAL spray solution (in other words, don't concentrate the oil).

DODINE (CYPREX, SYLLIT). For some time now, the "safe" recommendation has been not to use it. This also used to be a pretty easy recommendation to defend, since there were plenty of good alternatives. However, some growers have continued to use dodine effectively, and there are valid reasons to reconsider the recommendation against the product: relatively low cost, oil-compatible, reduce the number of Rubigan and Nova sprays (resistance and pocketbook management) or the number of mancozeb sprays (seasonal use limitations). Of course, these reasons are valid only if the material still provides control!

Last year, Dr. Wolfram Koeller (my colleague in the office next door) tested the dodine sensitivities of scab populations in 20 orchards throughout New York, half of which were in the central/western part of the state. This was probably the most thorough study of dodine resistance ever conducted. The results showed that (1) Dodine resistance does not "go away"—it's still present at unacceptably high levels in some orchards where resistance was documented 20 yr ago, even though the material has not been used since then. (2) Dodine resistance is not universal, even in "hot spots" like Wayne Co. Resistance should be considered on an individual orchard-by-orchard basis. (3) The best predictor of an orchard's resistance status is the previous intensity of use. Where resistance has developed, it is almost always associated with a number of years of intensive use (at least 4 or 5 applications per year), often at low rates. In contrast, there were several examples of orchards in which dodine has been used once or twice early in the season for 20+

years, with no resistance development.

The "safe" recommendation is still not to use it, but this is unnecessarily conservative for many (most?) orchards. Everybody's got to make their own call, but I see it this way: (1) If you've had previous resistance problems, don't use it. Remember, though, that control failure is not always caused by resistance! (2) Orchards in which dodine has been applied three or more times per season for three or more seasons should be considered at risk (particularly if rates have regularly been cut), and I don't think the potential benefits are worth that risk. If you don't know the history of the orchard, be suspicious (and careful) if it's old enough to have been getting sprayed in the 60's and early 70's. (3) Orchards that don't fit either of the above categories are "good bets" for limited dodine usage. Until we get more information, this means one or two sprays in the early season (through tight cluster) and don't cheat on the rate. That is, don't go below the label minimum and go above it if there's pressure.

SI FUNGICIDES. The major change is the Rubigan label, now specifying a minimum of 8 oz/A and priced to encourage compliance. (A tank-mix minimum of 6 oz/A is still allowed on small trees where tree-row-volume calculations indicate no more than 200 gal/A for full dilute coverage, about M.26 size or smaller). It's too bad this wasn't the original recommended rate, I think some earlier problems might have been avoided. Remember that the main reason for tank-mixing with a protectant is for fruit scab control. I still don't think you need the protectant at tight cluster, but strongly recommend a tank mix with Rubigan from pink onwards. A protectant with Nova at pink won't hurt anything, but appears to be less necessary than with Rubigan.

There's been plenty written and spoken about SI use strategies for the last few years,
continued...

including the "4-spray" program. This program (tight cluster, pink, petal fall, first cover) has worked well in many cases, but not so well in others. Some causes of the not-so-well that are not "faults" of the program include adoption in high inoculum orchards and poor spray coverage, especially in very tall (20+ ft) or thick trees. Remember, these materials are rate-sensitive, and the rate in the tank is not necessarily the rate on all of the tree!

The most likely causes of scab that are "faults" of the 4-spray program are the long

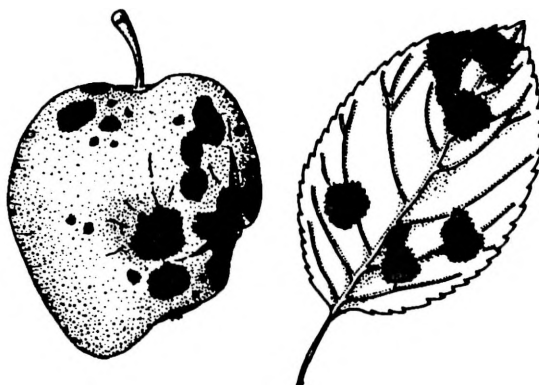
pink-to-petal fall interval and the recommendation to use Nova alone at petal fall. These can be remedied by (a) including a protectant with Nova at petal fall (a good idea, I think) and (b) putting a shot of captan or mancozeb on in mid-bloom if significant infection pressure develops (we've generally gotten good control without doing this, but it's relatively cheap insurance for those who like to be insured). I still think there are good reasons, both from a pocketbook and resistance management standpoint, for limiting the number of SI sprays to 4 per season.❖❖

ASCOSPORE MATURITY DETERMINATIONS

Date	Location	DD(32)*	Maturity category (%)					Discharge test
			1	2	3	4	5	
4/16	Geneva	0	70	11	7	12	0	0.2 spores/LP field

*Accumulated degree days (base 32° F) since first date of McIntosh green tip. See 4/13/92 issue.

Warm weather this week should start the scab season in terms of both green tissue and ascospore availability. As has been said before, the low PERCENTAGE of available spores is relatively insignificant at this time if good control was obtained last year, but could be important in orchards with high overwintering scab populations.



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FIELD NOTES

HUDSON VALLEY LAB, Highland (Dave Rosenberger, Dick Straub):

Apple (McIntosh) phenology: Green tip - 4/16
Sweet cherry phenology: Swollen bud - 4/15

Apple scab ascospore maturity from leaves collected before the rain began:

Date	Immature	Mature	Discharged	Tower shoot
4/10	99%	1%	0%	1 spore
4/16	81%	19%	<1%	35 spores

Apple scab ascospores matured rapidly during the past week, but leaf-to-leaf variability in the levels of mature ascospores is high. For the count made April 16, one of the 20 pseudothecia we examined was unusually mature and accounted for one-third of the total number of mature spores we found. Without this unusually advanced pseudothecium, spore maturity would have been only 13%.

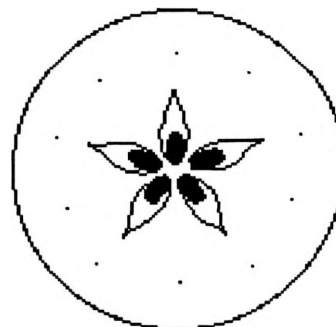
Significant levels of apple scab infection usually begin in the Hudson Valley after we reach 15-20% mature asci and tower discharge counts of 60-100 spores. With warmer weather predicted for the weekend, I suspect that we will have reached our commercial thresholds for mature ascospores by Sunday or Monday, April 19-20. This means that if infection periods develop late during the weekend of April 18-20, orchards with high inoculum carry-over from last year should be protected from infection prior to rains on Sunday April 19. Alternatively, such orchards should receive eradicant sprays of dodine (where it still works) or SI fungicides April 20-22. Orchards that were clean last fall should not need fungicides until at least the middle of next week, possibly later if dodine or SI fungicides are used in the first applications.

Spring has been slow to get started, but the apple scab ascospore counts indicate spring is finally

just around the corner. What's that old saying spring weather usually shows up about Easter time?

Pheromone Trap Catches:	4/7	4/9	4/11	4/20
Green Fruitworm:	1	1	-	1
Redbanded Leafroller	-	-	-	1

Cool and rainy - pests and hosts moving slowly.



PHENOLOGIES (Geneva)

Apple: silver tip
 Pear, Cherry, Peach: swollen bud
 Plum: dormant

PHEROMONE TRAP CATCHES

Number/Trap/Day, Geneva NY

	4/9	4/13	4/20
Green Fruitworm	0	0	0
Redbanded Leafroller	0	0	0
Spotted Tentiform Leafminer	0	0	0

UPCOMING PEST EVENTS

Current DD accumulations (Geneva 1/1-4/20): 43°F 50°F
 70 20

Coming Events:**Ranges:**

Green fruitworm peak flight	64-221	19-108
Spotted tentiform leafminer 1st adult catch	73-433	17-251
Tarnished plant bug adults present, active	71-536	34-299
Redbanded leafroller 1st adult catch	32-480	17-251
Pears at Bud Burst	68-237	33-117

Note: For current information in your area of the state, check PEST STATUS under FRUIT on CENET.

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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