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Update on Pest Management
and Crop Development

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

August 10, 1992

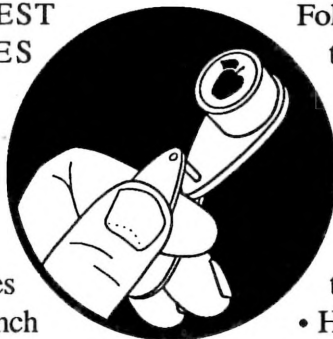
VOLUME 1

Geneva, NY

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DISEASE CONTROL MATERIALS

POSTHARVEST
FUNGICIDES
FOR
APPLES
(Dave
Rosenberger)



❖❖ Avoid postharvest fungicides when possible. Wetting fruit with a drench treatment after harvest increases the likelihood that fruit will decay because the recirculating water or drench material carries spores that find their way into wounds made during harvesting. All of our postharvest fungicides act by preventing spores of decay fungi from germinating. They do not directly kill spores. Thus, dirty drench water can accumulate large numbers of viable spores that will cause fruit decay if the levels of fungicide coverage on the fruit become marginal.

Except for cultivars that require a scald-inhibitor, fruit should be moved directly from the field into storage and should be cooled as rapidly as possible. Thus, cultivars like Empire and Golden Delicious, when grown under New York conditions, should not need a postharvest treatment. For cultivars like Cortland, Delicious, and Rome, which are susceptible to scald, a fungicide and scald-inhibitor are usually required to prevent postharvest disorders.

Fungicides available for postharvest use on apples this fall include Mertect 340F, Captan, and Topsin M. About a year ago, the postharvest label for Topsin M was voluntarily withdrawn by the manufacturer pending EPA review and reregistration of the product. However, it is still legal to use Topsin M for postharvest treatment of apples in 1992 if one still has (or can locate) old product with the postharvest use included on the label.

Following is my assessment of the advantages and disadvantages of each fungicide:

TOPSIN M

Advantages:

- Has a proven track record of effectiveness.
- Has a field-use label for apples so that disposal of spent solution should be legal if the solution is sprayed back in the apple orchard.
- Most benzimidazole-resistant strains of *Botrytis* and *Penicillium expansum* are controlled when Topsin M is used in combination with DPA.

Disadvantages:

- No accurate way to monitor levels of fungicide left in the tank or amounts of material needed when recharging tanks
- Could encounter bad publicity, especially as a result of the Supreme Court decision upholding the Delaney Clause. Topsin M is not currently listed as a potential carcinogen, but its chief metabolite (MBC) is on the list of potential human carcinogens along with other compounds like mancozeb and captan.

MERTECT 340F

Advantages:

- Clean bill of health (so far) as a postharvest fungicide.
- Method is available for monitoring levels of fungicide left in the tank (service is available from some ag chemical distributors).
- Most benzimidazole-resistant strains of *Botrytis* and *Penicillium expansum* are controlled when Mertect is used in combination with DPA.

continued...

Disadvantages:

- Does not have a field-use label for apples.
- Under severe disease pressure, may provide less protection than Topsin M for reasons that are not yet understood, but may be related to settling out of the fungicide in dirty solution.

CAPTAN (used in combination with Topsin M or Mertect 340F)

Advantages:

- May help to control some isolates of decay fungi that are resistant to Mertect and Topsin M.
- Has a field-use label for apples so that disposal of spent solution should be legal if the solution is sprayed back in the apple orchard.

Disadvantages:

- In controlled tests, activity of captan against postharvest pathogens is highly variable, but it is always much less effective than Mertect and Topsin M. Thus, captan should never be used alone as the only fungicide in a postharvest drench.
- Could encounter bad publicity, especially as a result of the Supreme Court decision upholding the Delaney Clause.

The final decision on which postharvest fungicides to use on apples in 1992 depends on how and where fruit is to be marketed and on each individual's perspectives concerning risks of negative publicity about certain fungicides. The risk of adverse publicity must be balanced against the risks of getting less than adequate control of decays in fruit that are treated with DPA.

Three cardinal rules for applying postharvest treatments to apples:

1. Keep drench solutions agitated.

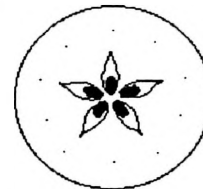
The agitation systems I have seen in most postharvest drench tanks are far from adequate. For those switching from Topsin M to Mertect, agitation becomes even more important. Mertect may go out of solution more quickly than Topsin M or it may be more difficult to resuspend after it is out of solution.

2. Keep drench solutions clean.

Introducing soil into the postharvest treatment tanks is undesirable for two reasons. First, orchard soil and debris washed from bins during drenching often contains spores of the fungi that cause postharvest decay. Second, the soil in the drench tank may settle to the bottom and trap the scald-inhibitor and fungicide materials in sediment on the bottom of the drench tank. Fork-lift operators need to be trained to avoid scooping up soil in the bin runners when they load bins. A pre-wash with a high-volume stream of non-recycling water may be needed to remove soil from bins or equipment before they enter the postharvest drencher. Filter systems are available to remove soil particles from drench solutions and thereby extend the useful life of the drenches.

3. Keep drench solutions properly recharged.

The drench solutions should be regularly recharged according to instructions included on the postharvest labels of the products being used. Amounts of DPA and Mertect needed for recharging can also be determined using chemical tests developed by the manufacturers. ❖❖



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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:

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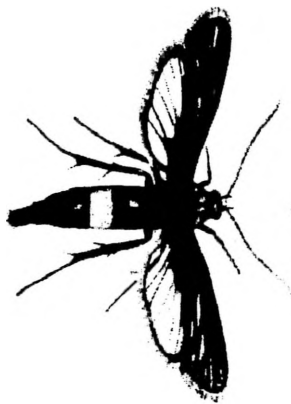
Editors: A. Agnello, D. Kain

This newsletter available on CENET, in the TNEWS bulletin board under FRUIT.

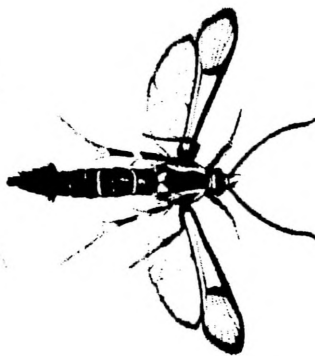
YOU'RE NOT
GETTING
BORED,
ARE YOU?

PEACHTREE
BORERS
(Art Agnello)

❖❖ Adults of both species are still flying, and it is still not too late for a spray to control new eggs being laid, in both peach and cherry orchards. For peaches, one effective approach is a post-harvest trunk and lower scaffold spray using Lorsban 4E at 3 qt, or Thiodan 50WP at 1.5 lb per 100 gallons. Alternatively, for varieties able to wait out the 14-day PHI, this is an appropriate time for the season's last treatment of Asana or Penncap-M, also applied to the trunk and scaffold limbs. In cherries, a coarse spray to the trunk and lower limbs can be applied now, using Lorsban, as above, or Ambush 25WP, at 3.2 oz/100.❖❖



FEMALE



MALE

UPDATE

COMSTOCK MEALYBUG
(Art Agnello)

❖❖ Despite the late date, we still have not caught any second generation crawlers in our Wayne Co. tape traps.



In fact, the last adult male was caught only last Thursday, August 6. However, while this is fully 17 calendar days later than our past records for this event, it is within only 8.0 (!) degree days of the latest occurrence we have recorded. Bearing this correlation in mind, you will see (over) that we are not yet at the 2106 degree day accumulation corresponding to the beginning of crawler emergence. This point should occur in a couple of days, accompanied (we presume) by this year's batch of summer crawlers. Don't treat until you see the whites of their eyes.❖❖

PHEROMONE TRAP CATCHES									
Number/Trap/Day, Geneva NY					Total Number, HVL, Highland NY				
	<u>7/30</u>	<u>8/3</u>	<u>8/6</u>	<u>8/10</u>		<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	
Redbanded Leafroller	2.5	2.5	4.0	2.6	Spotted Tentiform Leafminer	301	136	93	
Spotted Tentiform Leafminer	1691	1137	761.2	91.4	Redbanded Leafroller	3	1	0	
Oriental Fruit Moth (apple)	1.0	1.4	1.8	2.0	Obliquebanded Leafroller	0	0	0	
Oriental Fruit Moth (peach)	0	0.1	0.2	0	Lesser Appleworm	0	0	6	
Lesser Appleworm	0.8	0.4	0.2	0.3	Oriental Fruit Moth	11.5	5	3.5	
Codling Moth	5.7	11.4	18.3	18.3	Codling Moth	5	3	18	
San Jose Scale	0.3	6.3	6.0	11.1	Apple Maggot	4.5	1	0	
Lesser Peachtree Borer (cherry)	1.5	2.8	5.0	2.4	Variagated Leafroller	0	0	0	
Lesser Peachtree Borer (peach)	0.2	0.9	0.3	1.0	Sparganothis Fruitworm	2	2	1	
Peachtree Borer	1.3	1.4	4.0	2.4					
Obliquebanded Leafroller	0	0	0	0					
Apple Maggot	0.3	0.4	0.4	0.1					

(Dick Straub)

UPCOMING PEST EVENTS		
Current DD accumulations (Geneva 1/1 - 8/10):	<u>43°F</u> 2069	<u>50°F</u> 1321
Coming Events:	Ranges:	
Apple maggot adult peak flight	2168-2607	1495-1762
Comstock mealybug 2nd gen crawlers emerge	2106-2402	1447-1631
Redbanded leafroller 2nd flight subsides	2037-2665	1342-1777
Note: For current information in your area of the state, check PEST STATUS under FRUIT on CENET		

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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