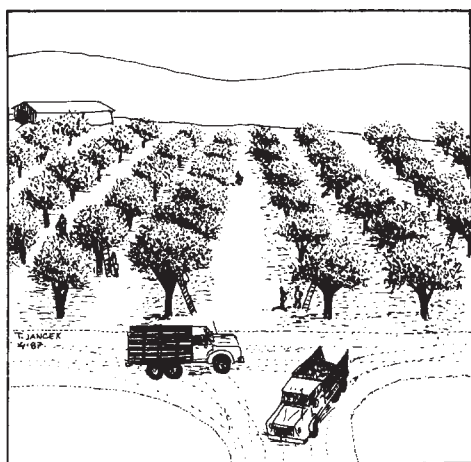


PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

JUNE 16, 1998



Nematode Management in Peach Orchards in SNJ

Jerome L. Frecon, Agricultural Agent

Many of you have recently received Nematode Reports and Recommendations from Rutgers Cooperative Extension. Most of these are generated from soil samples taken by Integrated Pest Management (IPM) scouts, or Dave Schmitt and Gene Rizio as part of the IPM subscriber program. Some were taken individually by you or me and sent to the Rutgers Plant Diagnostic Laboratory. The reports generated from the IPM samples were the result of nematode assays done at the Pennsylvania State University Laboratory in Biglerville, Pa. The reports and recommendations from both laboratories are similar.

Detailed information on these recommendations and the application of appropriate nematocides and fumigants is explained on pages 110 and 111 of the 1998 New Jersey Commercial Tree Fruit Production Guide. One control measure, green manure, is not described in the guide. This manure comes from planting rapeseed to control dagger nematode. The procedure for using rapeseed is outlined in PPA- Fruit Edition, Volume 2 No. 30, published March 10, 1998. Find complete details by Penn State Nematologist, Dr. John M. Halbrendt, on page 162 of the 1998 Pennsylvania Tree Fruit Production Guide.

A number of reports have shown nematode levels above treatment threshold. This may reflect a recent decline in use of recommended treatments in New Jersey due to environmental implications or cost.

Dagger nematode (*Xiphinema sp.*) is the most serious nematode problem in southern New Jersey peach orchards. It transmits the tomato ringspot virus (TmRSV) which causes prunus stem pitting. Only five nematodes per sample is considered serious enough for treatment. When dagger nematode levels go above a threshold of 100 nematodes per 100 cc sample of sandy soil and roots, treatment is then recommended. Yields can be reduced and trees stunted.

Replanted peach trees have difficulty getting established due to interactions between nematodes and root lesion (*Pratylenchus penetrans*). According to Dr. J M Halbrendt at Penn State, it is the most widespread and best known nematode pest of fruit trees. The threshold level is 50 nematodes per 100 cc sample of sandy soil and roots. Root damage by root lesion nematode promotes root rotting organisms, and damages the tissue in the root cortex. Trees damaged by root lesion lose vigor and have reduced yields.

SEE NEMATODES ON PAGE 2

INSIDE

Nematode Management in Peach Orchards	1
Atlantic City Farmers Market	2
'98 Apple Crop Projections	2
Pruning & Training Non-Bearing Peach Open-Centered Trees	3
Fruit Meeting Calendar	3
Fruit IPM	4

NEMATODES FROM PAGE 1

A number of other nematodes can parasitize peach trees in southern New Jersey. They are ring (*Cricomella xenoplax*), northern root knot (*Meloidogyne sp.*), and pin (*Paratylenchus sp.*).

These nematodes are associated with orchard replant and establishment problems. The threshold levels for treatment on sandy soils is 20 for ring; 50 for pin; and 50 for northern root knot in a 100 cc sample of roots and soil. The thresholds are generally slightly higher for heavier soils.

Peaches planted on old peach orchard sites should be sampled for nematodes. If trees are stunted, leaves are yellow, or root samples look necrotic, nematodes may be suspected.

A fact sheet, 'Proper Sampling of Soil and Plant Tissue for Detection of Plant Parasitic Nematodes' (FS757) by Rutgers Cooperative Extension is available from any county agricultural agent. It explains the sampling procedure and submitting samples to the Rutgers Diagnostic Laboratory. □

Atlantic City Farmers' Market

*Rick VanVranken, Atlantic County
Agricultural Agent*

The Atlantic City Farmers' Market will be moving to the parking lot of St. Michael's Church across the street from the original site. Plans are to have a grand opening on Saturday, July 18. Any farmers interested in participating in this growing market are invited to a planning meeting on Monday, June 22, 1998 at 6:30 p.m. at the Ducktown Revitalization Assoc. office, 30 N. Mississippi Ave, Atlantic City (take the AC Expressway into the city, turn right at the first street after the expressway ends, then first left onto Mississippi, continue to Artie, turn left, then park in the lot on the right. The meeting site is across Mississippi from where you are parked).

Any questions, contact me at 609-625-0056 or Mr. Jelani Garrett, Dept. of Planning & Development, Atlantic City at 609-347-5404. □

1998 Apple Crop Projections

*Winfred Cowgill, Agricultural Agent, and Jon Clements,
Research Technician, University of Vermont*

The following crop report was posted to the Virtual Orchard World Wide Web page in the Forum section <http://orchard.uvm.edu/forum/>.

New Jersey: In northern New Jersey the apple and peach crop is variable. Some blocks of peaches are light; several cold nights after bloom have reduced the crop. Some apple varieties are light in certain blocks; extended cloudy/rainy weather has caused fruit to drop. Twelve consecutive days of rain and cloudy weather in early May appear to be the cause.

New York: Western NY is variable. Similar to MI, they also had early frost. Hudson and Champlain Valleys' apple crops appear average, despite near record early bloom. Other tree fruits in Hudson Valley especially pears, plums, cherries are having problems (frost, rain), although peaches look OK.

Mid-Atlantic: Pennsylvania and New Jersey reports are variable, however, overall the situation is looking quite light. PA suffered frost in late April, which appears to have knocked-out colder blocks. Cloudy, rainy post-bloom weather hindered fruit set. A little further south in Virginia and West Virginia, the situation is not much better, but NC looks promising at this point.

New England: Massachusetts and Connecticut are looking light, especially on Macs. Poor pollination and fruit set weather during early-mid May are being blamed. Maine and New Hampshire reports are still trickling in, but it appears southern areas were plagued by the same post-bloom wet weather as southern New England, and will be light. Maine looks average, but frost hit some orchards worse than others.

Vermont: Overall fruit set is somewhat below average with some areas better set than others. In the eastern and southern parts of the state, there was poor pollination weather, and fruit set was less than optimal. Some orchards are seeing fruitless with incomplete seed numbers. Most orchards are reporting about 80%-90% of last year's crop. Some of these orchards may have hail damage and uprooted trees from the high winds during the weekend. In the Shoreham area, the crop is lighter than usual due to frost in late April with Empire having poor set. Some orchards in Northern Vermont experienced worse frost damage in late April than the rest of the state, and fruit set may be 50% of normal in these orchards.

Southern Ontario: Early evaluations vary considerably, anywhere from heavy to spotty. Frost on April 27 and 28 did considerable damage to emerging blossoms. This was followed by May being very dry with temperatures in the high 70's to low 80's. Thinning is an adventure this year because of the frost damage to king bloom. Excellent pollination weather the first week of May meant complete set in most cases.

Michigan: Due to early frost, the Delicious and Mac crops are light in the Southwest corner of the state. Rome and Golden have fared better and look good, which is typical of varieties in the remainder of MI. Expect overall production to be on the moderate side.

Mid-West: Reports from Ohio and Minnesota are looking good in general.

Washington: Details are sketchy, but rumors of a very large potential apple crop abound. I am not really sure they want to tell us just how *BIG* it will be. □

Pruning & Training Non-Bearing Peach Open-Centered Trees

Jerome L. Frecon, Agricultural Agent

Newly Planted - If your trees have fully expanded leaves and some terminal elongation, now is the time to begin training these trees. The tree should be first "lifted" by removing any low branches below the height of the first scaffold branches. If only one or two scaffold branches are originating at the proper level, one of the low shoots may be kept. Usually it's the highest one on the trunk if it has a good crotch angle. If only one or two low shoots are available, one should be removed. The top of the shootless trunk should be headed back to build a new scaffold system.

Once the tree is "lifted", select 4 to 5 scaffold shoots with a 45° angle. The shoots should not originate from the same point on the trunk. Shoots should be selected equidistant around the trunk. All other shoots should be removed. No heading cuts should be made at this time unless the shoot is excessively long, broken, diseased, or damaged. (Note: I always keep more shoots than needed for the final scaffold system.)

1998 will be a long growing season, so removal now will direct growth toward the selected scaffold system and reduce dormant pruning. Pruning now also reduces wounding and poor cuts later. Wounds heal quickly now and are generally protected from *Crytospora sp.* by fungicides. If the trees are not sprayed they should be painted with the recommended fungicide and carrier.

Pruning early in the second growing season - Pruning at this time directs growth to the scaffold branches and opens the center of the tree for light. This light initiates flower buds, and if any fruit is on the tree, will help improve its red color. Fruit does not have to be removed from healthy rigorous trees of this age.

Strong upright shoots in the center of the tree should be removed. Some of the small weaker center wood can be removed. Some may be kept to grow into good fruiting wood. Strong, growing, competing shoots on the scaffold branches can be removed as well as low hanging weak wood. These "hangers" and weak wood will be unproductive.

Again, pruning at this time will reduce dormant pruning and reduce *Crytospora sp.* development if cuts are sprayed or painted with a fungicide. This pruning should be reduced or eliminated if the tree is stressed from disease, physical injury, or insufficient moisture. Summer training can be devitalizing under these conditions. □

Viticulture Twilight Meeting

Friday, June 19, 1998, 6:00 p.m.

Rutgers Fruit Research & Extension Center
283 Route 539, Cream Ridge, NJ

Audience: Commercial Grape Growers, but all are invited as Rutgers Cooperative Extension provides information and educational services to all without regard to sex, age, race, color, national origin, or handicap.

Includes: Viticulture Field Tour

- Update on variety trials and variety importation
- Weed and disease diagnostics, and "new" pest control chemicals
- Update on 'VQA' Program
- Flame weed, sucker, and insect control demonstration (tentative)
- Verticle of 10+ year old commercial NJ Wines

Speakers: Dr. Joseph Fiola - Specialist in Small Fruit and Viticulture, RCE

Dr. Paul Steiner - Extension Plant Pathologist, UMD

Dr. Brad Majek - Specialist in Weed Management, RCE

Dr. Gary Pavlis - Atlantic County Agricultural Agent, RCE

Please RSVP by June 16. For further information and to RSVP, contact Dr. Joseph Fiola at 609-758-7311

Fruit Meeting Calendar

June 29-30, 1998 - International Dwarf Fruit Tree Association Summer (Peach & Apple Tour of Virginia). Pre-registration is required. Contact Charles Ax at 717-837-1551 before May 15 to register. Details are available from Jerry Frecon at 609-863-0110.

June 30, 1998 - Twilight Fruit, Vegetable and Flower Meeting, Demarest Farms, Hillsdale, NJ. Call Joel Flagler of Rutgers Cooperative Extension of Bergen County at (201) 599-6167 for information or directions, or call Demarest Farm at (201) 666-0472.

July 23 through July 26, 1998 - New Jersey Peach Festival at the Gloucester County 4-H Fair, 4-H Fairgrounds, Mullica Hill, NJ. Contact Chris Smith at 609-881-1411 or Marsha Gaventa at 609-467-8028.

August 18, 1998, 6:30 p.m. - Direct Marketing Twilight Meeting, Monmouth County, Atlantic Farms, 1506 Atlantic Avenue, Wall Township (Rt. 524), NJ 08736

Located in suburbia, John Tobia and family have carved out a wonderful market, serving consumers with Jersey produce, plants, farm entertainment and agriculture education tours. A steadily growing wholesale produce business serving restaurants and other marketers has been established, further diversifying the operation. For further information, please contact Ramu Govindasamy at (732) 932-9171 ext. 25.

Fruit IPM

Dean Polk, Agricultural Agent

Peach

✓ Tarnished Plant Bug (TPB) and Other Catfacing

Insects: Sweep samples indicate low pressure overall. However, one site was seen in Gloucester County where the groundcover was composed of many weed species that had not been recently mowed. Tarnished plant bug populations were close to 50 adults and nymphs per sample (of 50 sweeps). This is a much higher population than usually seen, and reflects the significance that groundcover can play in true bug populations. One site was seen in northern counties with close to 12% injury. Stink bugs, both nymphs and adults can also be found.

✓ **Oriental Fruit Moth:** Adult activity remains fairly low. Several farms were seen in Gloucester County with flagging injury from first brood larvae. Larvae enter the tip of the growing terminal and mine down inside the terminal for 2 to 4" before exiting. The tip of the terminal falls over or 'flags' and then dries out. Flagging is rarely seen in commercial blocks and may be indicative of higher than normal populations, insufficient spraying during first flight, wet weather that may have washed away spray residues, or tolerance of the insecticide by the insect.

✓ **Bacterial Spot:** Some new infections continue to be found, especially within 2-3 days of heavy rains. Overall, infections are much lighter than last year, although there are pockets of severe fruit infections on sensitive peach and nectarine varieties. Copper applications should be maintained as long as weather is favorable for infection to take place.

Apple

✓ **Apple/Spirea Aphid Complex:** Colony size has continued to increase statewide. Some farms show over 90% of terminals infested with healthy colonies. If growers wish to treat the crop, there are several options. Lorsban used in the cover sprays for TABM or codling moth will suppress aphids, but not function as a "rescue" treatment to knock down heavy populations. Dimethoate 4EC applied @ 2.5-3 pt/A will knock down heavy populations, as will Provado @6 oz/A. Growers should be aware of any cost differences between these two products. A combination of Lorsban and Pyramite

(applied for mites) was recently observed to knock down a fairly high aphid population. Combinations of Lorsban and Lannate will also control aphid populations, but may also suppress predator populations.

✓ **Codling Moth (CM):** Treatments are not required on most farms, since both first generation sprays have already been applied. However, trap counts remain above 5 moths per trap in localized areas. Treatments are still advised where this is the case.

✓ **Tufted Apple Budmoth (TABM):** The last of the first generation treatments was due this past weekend in southern counties, and will be mid- to late week in northern counties (see degree day table).

✓ **Apple Maggot:** This is an irregular pest in New Jersey and is usually more common in northern counties. There is one generation per year, with adults usually starting to emerge by mid-June and continuing through August. After females first emerge, they are not sexually mature. Therefore sprays that target AM should be applied a week to ten days after first emergence where the insect is a problem. We use a threshold of 5 adult flies per baited red ball sticky trap. If a cumulative catch between sprays is less than 5 flies, then sprays for this insect do not need to be applied. We started catching AM adults in southern counties during the week of June 5, with one fly per trap at several locations.

✓ **Apple Scab:** Spore tower counts done on 5/1 yielded 238 spores, 5/8 - 142 spores, 5/16 - 95, 5/21 - 60, 5/29 - 18, 6/3 - 10, and 6/14 - 0 spores per 30 minutes. From now on, any scab infection periods are secondary, and therefore easier to control than primary infections. Skybit weather forecasts and scab models indicate that additional scab infections will occur throughout southern to central Jersey through Thursday, and through the weekend in northern counties.

✓ **Fire Blight:** Weather forecasts predict that fire blight infections can occur through Thursday in southern and central counties, and through the weekend in northern counties.

Blueberry

✓ **Aphids:** Aphid populations are declining overall, with an average of 4% terminals infested with single aphids or light colonies. However, one count in Burlington County showed a 25% infestation level.

SEE IPM ON PAGE 5

Degree Day Accumulations Since Biofix and Spray Targets								
June 15								
Insect	Hammonton	Bridgeton	Hardingville	CreamRidge	Princeton	Oldwick	Pittstown	Hackettstown
OFM	Done	Done	Done	Done	Done	Done	Done	Done
TABM	973	947	984	874	866	848	667	593
CM	686	708	728	661	641	622	—	489
Spray Targets:								
OFM	200 & 400 DD ₄₅ after biofix (1 st generation).							
TABM	490, 625, 763, 898 DD ₄₅ after biofix (1 st generation). 2228, 2415, 2605, 2795 DD ₄₅ after biofix (2 nd generation).							
CM	250 DD ₅₀ after biofix plus 14 days later (1 st generation). 1250-1300 DD ₅₀ after biofix plus 14 days later (2 nd generation).							

✓ **Sharpnosed Leafhopper (SNLH):** Captures of SNLH continued to increase in Burlington County, where all insects have been found so far. Last year, the first of two flights peaked during the week of June 23. Populations seem lighter this year.

✓ **Cranberry Fruitworm (CBFW):** Larvae are present and causing injury where adults emerged early or sprays were not applied in time. A total of 12 samples showed CBFW injury, usually well under 1%. As insecticide continues to be applied for aphids and blueberry maggot, some CBFW larvae may be killed as they move from fruit to fruit.

✓ **Blueberry Maggot (BBM):** The first blueberry maggot fly was captured in Atlantic County on 6/4. Adults have continued to emerge at four sites in Atlantic

County and one site in Burlington County. The highest counts in commercial fields were .25 flies per trap. We have two sites of abandoned fields, one in the Hammonton area, and one in the Chatsworth area. The Hammonton abandoned field showed 1 fly/trap this week, while the Chatsworth site showed up to 26 flies per trap. As of this writing we are now 11 days since first adult catch, and continued fly emergence is well underway. Therefore, blueberry maggot now becomes the primary target in insecticide spray programs, in addition to aphids, if present. Most insecticides will also control sharpnosed leafhopper.

✓ **Mummy Berry:** Fruit infections were present in 13 samples, most with less than 1% of clusters with any infected fruit.

Trap Captures

Tree Fruit – South Jersey

WEEK END:	RBLR	STLM	TABM-A	CM	AM	OFM	TABM-PLPTB	PTB
1-May	0.75	1057	1.38	2.23		15.43	7.08	
8-May	0.33	953	19.58	5.31		14.54	23.58	
15-May	0.20	108	23.44	6.59		8.05	23.58	
22-May	0.80	119	41.20	5.39		8.57	59.55	52.83
29-May	0.00	315	65.25	8.51	0.00	13.33	78.76	63.74
5-Jun	0.20	875	58.49	5.51	0.25	8.75	84.20	55.87
12-Jun	6.80	850	59.83	2.83	0.08	5.31	67.72	62.29

Tree Fruit – North Jersey

WEEK END:	RBLR	STLM	TABM-A	CM	AM	OFM	TABM-PLPTB	PTB
1-May	23.53	803	0.11	0.11		11.27	0.04	0.00
8-May	14.02	346	0.91	1.56		7.04	0.63	2.00
15-May	3.20	79	2.66	1.69		2.46	1.98	5.72
22-May	1.64	71	11.87	7.52		11.94	11.07	46.47
29-May	0.41	203	24.67	10.11		9.64	26.25	51.39
5-Jun	0.30	658	42.30	10.09		8.49	33.14	53.26
12-Jun	0.61	429	23.05	2.65		1.87	21.15	2.53

Blueberry - Atlantic Co.

WEEK END:	RBLR	OBLR	CBFW	SNLH	BBM/HIGH	BBM/LOW
5/1	6.4	0.08				
5/8	2.2	0	0.2			
5/15	0.04	0.05	0.57			
5/22	0	4.05	0.61			
5/29	0.29	11.15	1.28			
6/5	12.4	7.5	0.53	0	0	0.04
6/12	26.25	2.025	0.41	0	0.06	0.01

Blueberry - Burlington Co.

WEEK END:	RBLR	OBLR	CBFW	SNLH	BBM/HIGH	BBM/LOW
5/1	2.5	0				
5/8	1.1	0.05	0			
5/15	1.06	0.06	0.00			
5/22	0	0.5	0.22			
5/29	0.1	13.3	8.8	0.08		
6/5	0.89	12.17	1.61	0.47	0	0
6/12	5.44	11.38	2.17	0.67	0	0.03

Rutgers Cooperative Extension - NJAES
U.S. DEPARTMENT OF AGRICULTURE
Rutgers - The State University of New Jersey
88 Lipman Drive
Cook College
New Brunswick, N.J. 08901-8525

PLANT & PEST ADVISORY

FRUIT EDITION - CONTRIBUTORS

Rutgers Cooperative Extension Specialists

Robert Belding, Ph.D., Pomology
Joseph A. Fiola, Ph.D., Small Fruit & Viticulture
George Hamilton, Ph.D., Pest Management
Norman Lalancette, Ph.D., Plant Pathology
Bradley A. Majek, Ph.D., Weed Science
Peter Oudemans, Ph.D., Plant Pathology
Sridhar Polavarapu, Ph.D., Entomology
Peter W. Shearer, Ph.D., Entomology
Craig A. Storlie, Ph.D. Agricultural Engineering
NJAES/Cook College
Joseph Goffreda, Ph.D., Breeding
Edward Durner, Ph.D., Plant Physiology
Rutgers Cooperative Extension Agricultural Agents
and Program Associates

Gloucester County, Jerome L. Frecon (609-863-0110)
Hunterdon County, Winfred P. Cowgill, Jr. (908-788-1338)
Morris County, Peter J. Nitzsche (973-285-8300)
Warren County, William H. Tietjen (908-475-6505)
Fruit IPM, Dean Polk (609-758-7311)
Meredith Peters, Program Associate (908-788-1338)
Gene Rizio, Program Associate (609-566-2900)
David Schmitt, Program Associate (609-863-0110)

Newsletter Production

Jack Rabin, Assistant Director, NJAES
Cindy Rovins, Editor and Designer

The Plant & Pest Advisory invites reproduction use of individual articles, only in their entirety, source cited with complete article name, author name, followed by Rutgers Cooperative Extension, Plant & Pest Advisory Newsletter.

Rutgers Cooperative Extension provides information and educational services to all people without regard to sex, race, color, national origin, disability or handicap or age. Rutgers Cooperative Extension is an Equal Opportunity Employer.

Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact Rutgers Cooperative Extension of your County.

Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label clearances.