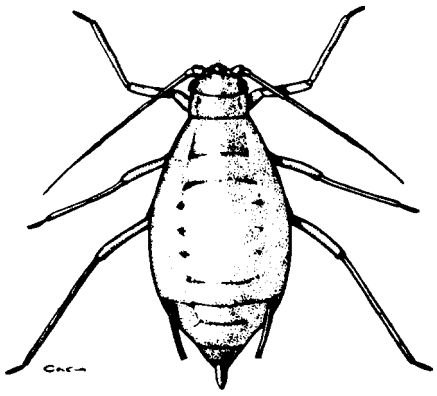
RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

FRUIT EDITION $1.50 APRIL 24, 2001



INSIDE

Fruit IPM

Dean Polk, Fruit IPM Agent

Peach

✔ **Oriental Fruit Moth (OFM)**: Consistent trap captures started in southern counties late last week, with a biofix recorded on 4/13. Since then we have accumulated approximately 131 degree days (base 45). Given newer modeling information, growers in southern counties should plan on treating OFM starting this coming weekend. Compounds that control OFM include the OP's - Guthion, Imidan and Diazinon, the carbamates - Lannate and Sevin, and the synthetic pyrethroids - Ambush, Pounce and Asana. Given its effectiveness and its ability not to harm predators, Guthion has been the usual choice. However, given the new reentry period of 14 days for hand thinning and hand picking, using Guthion (azinphos-methyl) becomes very difficult when working around thinning crews. The reentry for other activities is still 48 hours. While the synthetic pyrethroids and Sevin have very short reentry periods (12 hrs), repeated applications of these materials will likely kill mite predator populations and contribute to the build-up of mite populations. Repeated use of Lannate with a 3-4 day reentry period, will also contribute to mite build-up. Growers should also be aware that we have seen an increased incidence of scale populations in orchards. Use of these materials will also contribute to the build-up of San Jose Scale. At the present time Imidan still has a 24 hr reentry, and like Guthion is relatively "predator safe." Therefore, many growers will find that this is the most attractive option at this time if they choose not to use Guthion. Given a history of OP tolerance on some farms, be prepared to use the higher rate of 1.5 lb/Ac of Guthion and 3 lb/Ac of Imidan. If growers have experienced unsatisfactory results with OP's then an alternative compound is needed.

✔ **Catfacing Insects (CFI)**: Very little activity from tarnished plant bugs and stink bugs has been seen. However, with warmer weather we are likely to see increased CFI activity. All the materials listed above for OFM are effective for CFI. Be aware that plum curculio (PC) is also active during the first warm weather. Lannate and Sevin are not really effective for PC.

✔ **Green Peach Aphids (GPA):** Aphids are starting to appear in beating tray samples from orchards in Gloucester County. Since these are young colonies living in the flower parts and newly emerging leaf

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Registrant Announces Worldwide Phase-Out of Benomyl

EPA has been informed by Dupont that it will announce a business decision to discontinue the manufacture of the widely used fungicide benomyl throughout the global market by the end of this year. The company has informed us that it expects to phase out distribution and sales of all benomyl products by the end of 2002. EPA stands ready to assist Dupont in carrying out the company's request for voluntary cancellation and phase-out of benomyl, often marketed under the trade name Benlate here in the U.S.

Benomyl is approved for use on about 70 fruit, nut, vegetable, and field crops. No residential uses are approved. EPA has been in the process of reviewing the human health and ecological effects of benomyl in order to complete a reregistration eligibility decision (RED) on the pesticide next year.

On April 18, 2001, Dupont formally requested voluntary cancellation of all of their benomyl technical, end use, and special local need product registrations. The next step under FIFRA will be for EPA to publish a Section 6(f) Federal Register notice announcing our receipt of the request for voluntary cancellation, and inviting public comment for 30 days.

Submitted by George Hamilton, Ph.D., Pest Management. ❑

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tissue, they are difficult to count in terms of the number of "colonies per tree." If growers can easily find aphids in beating trays, experience has told us that by shuck split to shuck off we will usually have in excess of 4 to 5 colonies per tree, our treatment level. Growers wishing to treat for GPA should do so at petal fall if colonies are present now. Early treatments have always worked better than later treatments. At the present time Lannate and Thiodan are the only two labeled products that work. Pyrethroids are also labeled, but are not effective. Lannate usually works better than Thiodan. Use at least 1 lb/Ac of Lannate (3 pt LV). Also be aware that the LV formulation is not labeled on nectarines. A section 18 request was submitted earlier for the use of Provado. The EPA has not yet notified our NJDEP on the status of this request.

✔ **Thrips (flower thrips - FT and western flower thrips - WFT):** The first thrips have been seen in flower parts in southern orchards. Lannate and Spintor (6-8 oz/Ac) are labeled for control. Spintor is the more effective product for thrips, but is not effective for OFM, catfacing insects and PC. Spintor *must be combined* with an effective insecticide for these other pests.

Apple

✔ **Spotted Tentiform Leafminer (STLM):** Adults have started to lay eggs on the undersides of developing leaves. If growers have not applied a pre bloom insecticide, a petal fall application of Provado will do an effective job.

✔ **Apple Scab:** We have had several early season infection periods to date, and will likely have another scab infection period during the next 24 to 36 hours. No scab lesions have yet been seen in abandoned orchards.

✔ **Fire Blight:** Oozing fire blight cankers were seen last week. Therefore, plenty of inoculum is present. Pears are near full bloom and apples are just coming into bloom. Any warm rains (above 60^0) will provide favorable disease conditions. Growers should have streptomycin. on hand (Agri-mycin) - 1.5/Ac with Regulaid. Any time that blossoms are open when warm rains and inoculum are present, trees should be protected. Please be aware that streptomycin is most effective when applied 24 hr prior to precipitation. If not applied before the rains, then apply within 24 hr. after precipitation.

Blueberry

✔ **Cranberry Weevil (Blueberry Blossom Weevil):** Weevils have been active over the past week, with the highest levels being seen at 6 weevils per bush. Overall activity is less than what was seen last year. Treatment thresholds are set at 5 weevils per bush or injury levels of at least 1 injured blossom (injured cluster) per 5 clusters, or 20% blossom cluster injury. In most cases, injury does not exceed these levels.

Insect Trap Counts

Tree Fruit - Southern Counties

Week Ending	AM	CM	LPTB	OFM	PTB	STLM	TABM-A	TABM-P	OFM-A
1-Apr				0.00					
8-Apr				0.00					
13-Apr				0.20		725.00			6.00
19-Apr				2.02		1040.00			43.00

Post-Bloom Peach Diseases: Integrated Management

Norman Lalancette, Ph.D., Specialist in Tree Fruit Pathology

Peach and nectarine disease control during the bloom period is fairly straightforward. Only blossom blight is of major concern at this time (see article in April 10th issue). However, beginning at the petal fall and early shuck-split stages, three other important diseases must be considered as well: **rusty spot/powdery mildew**, **scab**, and **bacterial spot**. Each one of these diseases alone can cause considerable crop loss under favorable conditions.

All of these diseases do not need to be controlled in every peach block. Orchards that have not had occurrence of **rusty spot** in past years, either because of resistance or lack of local inoculum, obviously do not need to be treated. Similarly, only those cultivars moderate and highly susceptible to **bacterial spot** should be sprayed for this disease (see *2001 NJ Commercial Tree Fruit Production Guide* [CTFPG], for cultivar susceptibility table). However, in general, all blocks do need to receive fungicide for **scab** control.

Integrating Fungicides

Three factors need to be considered when choosing fungicides: (1) fungicide efficacy, (2) application timing, and (3) resistance management. The first and third factors are addressed in the relative efficacy table on page 72 of the *CTFPG*. Proper timing is indicated in the spray guide section of the *CTFPG,* pages 62-71.

Since all blocks require **scab** control, first decide on what materials are best for this disease. Proper timing for scab consists of four sprays: early shuck-split (<5%) followed by first, second, and third covers at 7-, 10-, and 14-day intervals, respectively; additional sprays may be needed for late season cultivars. The most important timings are the shuck-split and first cover sprays, so use the most effective material(s) first.

A good general-purpose scab program would be two Bravo sprays followed by two Captan sprays; note New Jersey has a 24C label to allow Bravo to be used at first cover. If much scab occurred last year in the block, consider replacing the first or both Bravo applications with Abound. In addition to providing protection, this new strobilurin fungicide will provide anti-sporulant activity to help reduce scab inoculum levels. Similarly, the two Captan sprays at second and third cover could be replaced by a benzimidazole (Benlate or Topsin-M) plus Captan combination. The CTFPG has details on rates; note the different chemistries involved for resistance management.

If the cultivar block has had problems with **rusty spot,** then Nova should be applied from petal fall through second cover. Unfortunately, Nova does not provide any control of **peach scab**, and no other fungicide, including sulfur, provides acceptable control of rusty spot. Therefore, Nova should be applied along with the above scab materials to allow simultaneous control of both diseases. The recommended rate of Nova is 4-5 oz/A; lower rates have not been tested. Newer materials are currently being tested which may, for the first time, control both rusty spot and scab.

Those cultivars moderately and highly susceptible to **bacterial spot** need to be treated for this disease. Critical timing for fruit and foliar infection is from early shuck-split through third cover; subsequent sprays are needed to control infection on foliage. Since this is a bacterial disease, choices are limited to the antibiotic Mycoshield and copper, principally Tenn-Cop. Alternation of these materials, with the first spray being Mycoshield, is recommended for resistance management. Be aware that the short residual of Mycoshield may require more frequent applications than dictated by the fungicide schedule, particularly if weather conditions are favorable for bacterial spot (warm and wet). Conversely, dry conditions may allow longer spray intervals. Recommended rates are given in the *CTFPG*. ❑

NJQWA Educational Session – Vineyard Pest Management Workshop

Wednesday, May 2, 2001
1:00–4:00 p.m.
Rutgers Fruit Research & Extension Center, Cream Ridge, NJ

Dr. Joseph A. Fiola, Specialist in Small Fruit & Viticulture

- Identifying diseases of grapevines
- Cultural Practices for Disease Management
- Designing an Efficient Spray Program, including the "new" products

For more information, please call the Fruit Research & Extension Center at 609-758-7311, X10.

Highlights from Soil and Foliar Food Web Seminar

Joseph Heckman, Ph.D., Soil Fertility

Dr. Elaine Ingham, from Oregon State University presented a seminar at Rutgers entitled "The Soil and Foliar Food Web." The seminar was hosted by the Plant Science Department and organized by Fred Gerlach. Dr. Ingham spoke to a packed room for about 2 hours. Some highlights from her presentation are as follows:

- The soil food web is the living component of soil, which includes bacteria, fungi, nematodes, arthropods, protozoa, earthworms, and other organisms.
- Forested environments have the most complex and diverse food web. Sparsely vegetated arid environments have the least complex soil food webs.
- Soils under annual row crops typically have a bacteria dominated soil food web where as under orchard crops the soil food web is typically dominated by fungi.
- The organisms which dominate in the soil food web depend on the environment, vegetation type, and soil management.
- The diversity of the organisms in the soil food web may influence the susceptibility of crops to disease. Soil management practices that enhance and maintain soil organic matter levels support a more diverse soil food web.
- Bacterial and fungal activity help to maintain soil structure. Bacteria produce a slime that encourages soil aggregate formation. A network of hyphae produced by mycorhizal fungi prevents dispersion of soil aggregates.
- Dr. Ingham described important steps in the making of bacterial or fungal dominated composts. She stressed that the compost pile must be turned regularly to keep the inside of the pile aerobic. Her specific recommendations for making different types of compost are given on her web site: www.soilfoodweb.com.
- She also described how to make an extract of compost referred to as compost tea. The compost tea can be sprayed on plant foliage to enhance plant health and suppress diseases. ❑

Calendar of Events

May 2, 2001, 1:00–4:00 p.m. - NJQWA Educational Session – Vineyard Pest Management Workshop, Rutgers Fruit Research & Extension Center, Cream Ridge, NJ. Contact: Fruit Research & Extension Center at 609-758-7311, X10.

May 15, 2001, 6:15 PM - Twilight Fruit Meeting, Wm. Schober Sons Farm, Rt. 553 Buck Rd. Monroeville, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester County at 856-307-6450.

June 5, 2001, 6:15 PM - Twilight Grape And Enology Meeting, Heritage Tree Fruit LLC. Rt. 609 Richwood-Elmer Rd., Richwood, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester Co. at 856-307-6450.

June 26, 2001, 6:15 PM - Twilight Fruit Research Meeting, Rutgers Agricultural Research and Extension Center, Northville Rd., Upper Deerfield Township, Bridgeton, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester Co. (Registration required) This meeting will be part of the State Horticultural Association of Pennsylvania Fruit Tour of southern NJ.

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