

PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

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INSIDE

New Info for Growers	1
The Virtual Orchard	3
Fruit IPM	4
Scale Insects	4
Prebloom European Red Mite Control	5

New Information for Fruit Growers

Jerome L. Frecon, Gloucester County Agricultural Agent

This is the first issue of the new **Plant and Pest Advisory Newsletter - Fruit Edition** which will be distributed to all fruit growers and other interested parties for the 1996 growing season. Modeled after other Plant and Pest Advisory Newsletters in: Vegetables; Landscape, Nursery and Turf; Field Crops/Livestock; and Cranberries, the fruit edition will contain current information on the production and marketing of tree and small fruits. The newsletter will be mailed weekly from April 1 through September 24, and monthly from October 15 through March 30, 1997. After this introductory season, subscriptions will be solicited for its continuance in future seasons at a rate of \$25.00 per year. Those who have previously received **IPM Fruit Notes, Fruit Agribusiness News, and The Northwest New Jersey Horticultural News** plus other mailings will automatically receive this newsletter. However, since it is important that RCE mailing lists be revised, it is necessary for you to return to the mailing update response letters previously sent to you to continue to receive any mailings. This has been sent out by some RCE county offices.

The Plant and Pest Advisory Newsletter - Fruit Edition will be mailed the middle of the week, and will also be available by calling the **Rutgers Cooperative Extension FaxInfoLine at 908 932-6767** and requesting document #2005. The newsletters are also available on the **Rutgers Cooperative Extension Home Page on the World Wide Web: <http://cook-college.rutgers.edu/www/rce/rce.htm>**. Copies of all newsletters will be available at county offices and various fruit meetings.

We are excited about this new fruit newsletter and would appreciate feedback from you on improving it throughout the season.

◆ Ordering Hives for Pollination

Growers should have or should be ordering bee hives for pollination. This is particularly critical for blueberries, apples, pears, sweet cherries and plums. Details on "Honeybees for Orchard Pollination" are contained on page 15 of the [1993 Commercial Tree Fruit Production Recommendations for New Jersey](#).

Bee hives may have been damaged by cold weather and mite infestation so a number of apiaries have notified me of the need to order early. If your peach crop is light, pollination with bees may benefit fruit fertilization and set.

SEE INFO ON PAGE 2

◆ Peach Tree Hotline

If you have peach or nectarine trees (left over) from your spring planting, call 609-863-0110 and give us your inventory. If you need trees that you couldn't order from a commercial nursery, also call and let us know. Currently we have one grower with 100 Autumnnglo and one grower who needs Easternnglo Nectarines and Sentry Peach.

This program is being set up to accommodate growers not to compete with commercial nurseries.

◆ Peach Crop Conditions

Crop conditions as of April 1st are good to very good in most of Southern New Jersey. We all know many things can happen between now and the last killing frost as well as throughout the growing season. It's certainly a step forward when we get through the winter without significant injury to reduce the crop. We had no killing temperatures in November and December. While January was cold, trees were generally well acclimated and hardened off with the exception of a few peach orchards that were pruned before and during this time period. Pruning activates the tree and reduces its ability to withstand low winter temperatures. The coldest temperatures in February were on the mornings of the 5th and 6th when temperatures were in the range of -8°F to -5°F on our RISE weather stations in Atlantic and Gloucester County, and field recorders on research sites. A few growers recorded lower temperatures than this so it is possible there was enough injury on these sites to reduce the crop load. On most orchard sites it appeared that while there was some flower bud kill, enough live buds were present to produce a full crop. Growers who had pruned just prior to this cold period appeared to have more bud loss.

On the morning of February 19th temperatures were as low as 6°F but this did not cause any additional injury. After some fairly high temperatures in late February and early March, temperatures dropped to 3°F on March 9 and 10th. Again many buds were killed but most varieties still appear to have enough live flower buds to produce a full crop of fruit. Most growers had started to prune, and on varieties like Jerseyqueen, Lady Nancy, O'Henry, Elegant Lady and other test varieties of California origin there appears to be some crop loss. Jerseyqueen is the only variety of significant commercial acreage.

It will be a good year to evaluate low temperature resistance and the effect of fall irrigation, bloom delay chemicals, and early pruning have on productivity in New Jersey.

We have had various reports from nurserymen and extension people in California of some problems with inadequate chilling and poor pollination weather on stone fruit crops but so much is grown up and down the interior valleys it is difficult to assess crop loss and its possible impact in New Jersey.

Washington growers have suffered significant crop loss on peaches, apricots, nectarines and cherries from

low temperatures in late January and early February. Michigan growers also report significant crop loss on peaches and nectarines of the most bud tender varieties. The greatest crop loss reports appear to be coming from North Carolina, Alabama, Georgia, and South Carolina from low temperatures during the first two weeks of March when peaches were various stages of color from pink to shuck split. Temperatures in some sites dropped to 15°F. Losses have been reported from 95% to 50% in these areas. Growers in most middle Atlantic states report a near full crop of peaches with the exception of a few orchard sites that had very low temperatures in early February.

In conclusion, it is important to assess crop load this early in the season, as plans are being made at this time for the promotion and marketing of the peach crop for 1996.

◆ Temperature and General Weather Information: Southern New Jersey

Over the past four years a unique environmental recording system has been set up by Steve Quesenberry, Coordinator of the South Jersey Research and Development Council. The system called RISE is available to anyone free of charge with a computer, modem and software. Computerized weather stations have been set up in seven locations in Southern New Jersey. Four locations are important sites for fruit growers including one in Hammonton for Atlantic and Camden County growers; three in Gloucester County in Piney Hollow, in Hurffville, and in South Harrison Township. Each station records minimum and maximum temperatures by the hour to the hundredth of a degree, relative humidity, rainfall, and ET energy.

This information can be received by calling 609 567-4628; establishing a username and password and then selecting the weather information for any of the sites in South Jersey. A running history of all records are kept and available on the system for the year. Previous records can be obtained by calling Steve at 609 561-3223. The system is of value for fruit growers who want daily temperature and rainfall information; ET energy information for irrigation scheduling; or other weather information for disease or insect management forecasting. The RISE system also has a daily weather report and various other environmental and agricultural reports.

◆ Peach and Nectarine Cultivar Report

Peach and Nectarine Cultivar Research Report #5 is now available from Rutgers Cooperative Extension of Gloucester County, 1200 North Delsea Drive, Clayton, New Jersey 08312. The report covers the ongoing evaluation of 195 cultivars of white and yellow fleshed peaches and nectarines through the 1995 growing season. Most of the cultivars are named, but a few numbered cultivars not yet available to growers are included. The report is available to interested growers for \$3.00 to cover the cost of printing and mailing. Make checks payable to Gloucester County Extension and mail to the previously mentioned address. □

The Virtual Orchard

Win Cowgill, Hunterdon County Agricultural Agent

What is the Virtual Orchard? It is a computer based storage site for tree fruit production and marketing information. Growers with a computer, modem and access to an Internet service provider can now access information 24 hours a day from their home or office. For those of you who have computers this will be a way to have instant access to the information you need to make decisions and solve problems.

For those of you who have not yet taken the plunge and purchased a computer, the Virtual Orchard and access to the Internet may be the incentive you need. With over 10 million Internet sites on-line and most of the county agents, extension specialists and researchers having electronic mail addresses, now is the time to get connected.

The Virtual Orchard is housed on a dedicated PC computer with a live Internet connection to provide access to this World Wide Web (WWW) location. What is the WWW? The World Wide Web (WWW) is a network of interconnected computers across the globe (i.e. Internet) that use a common protocol for rapidly transmitting and receiving textual, graphical, audio, and video information using the existing and rapidly improving telecommunications infrastructure. Using the WWW is becoming very simple and available. All that's needed is a personal computer with a modem, a telephone line, and an account with a local Internet Service Provider, who usually charge \$15-25 month for an "on-ramp" to the Internet.

The World Wide Web address for the Virtual Orchard is: <http://orchard.uvm.edu>

What information is currently available at the Virtual Orchard location?

- New Jersey Tree Fruit spray recommendations are on posted.
- Articles from the Great Lake Fruit Growers News monthly paper are posted on-line.
- Research reports from New Jersey and Vermont on apple Chemical Thinning and stop drop research trials are posted.
- Detailed reports and research results from the Northeast Sustainable Apple Project are available.
- We also host the WWW pages for the NC-140 Rootstock Project. Many of you know this group of pomologists as the best source for science based information on tree fruit rootstocks.

The VO will also facilitate communications with other fruit growers via the Internet. Currently through the Virtual Orchard agents, specialist, researchers, and industry personnel are using electronic mail and an interactive message-board (Chat Line) to share informa-

tion and solve problems. Information can be viewed on-line or saved for printing and reading at a later date.

One of the most important features of the Virtual Orchard will be its links to other World Wide Web sites. Currently we provide the pathway to many other fruit sites hosting information that are available at this time.

First would be the Rutgers Cooperative Extension Home page located at:

<http://cook-college.rutgers.edu/www/rce/rce.htm>

The Virtual Orchard is a cooperative project between Rutgers Cooperative Extension and the University of Vermont. Jon Clements from the University of Vermont and Win Cowgill collaborate on numerous projects.

For additional information or assistance in accessing the Virtual Orchard please feel free to contact Win Cowgill at: cowgill@aesop.rutgers.edu. □

1st North Jersey Twilight Fruit Meeting

April 18, 1996, 5:30 - 8:30 p.m.

Rutgers Snyder Research and
Extension Farm

Locust Grove Road, Pittstown, NJ
(Hunterdon County)

- Tour of the Research Plots - Win Cowgill, Hunterdon County Ag Agent, and Bill Tietjen, Warren County Ag Agent
Apple Rootstocks, Apple Training Systems, Dwarf Cherry Rootstocks, Peach and Apple Cultivar Trials and much more....
- How to Prepare for a DEP site visit to comply with new Worker Protection Standards - Ed Dager, Snyder Farm Manager
- Insect and Disease Updates - Peter Shearer, Extension Entomologist, and Norm Lalancette, Extension Plant Pathologist
- Weed Control Update - Brad Majek, Specialist in Weed Science
- IPM - Dean Polk, Agricultural Agent, and Ken Petersen, Program Associate
- Current Pesticide Issues - George Hamilton, Specialist in Pesticides

Pesticide credits will be awarded, 2 core and 4 Private and/or 1A

Contact Win Cowgill, Hunterdon County Agricultural Agent, RCE of Hunterdon County, 4 Gauntt Place, Flemington, NJ 08822-9085, (908) 788-1338.

Fruit IPM

For Week Ending 3-29-96

Dean Polk, Agricultural Agent

Welcome to the 1996 season! The Fruit IPM newsletter will have a new face this year. We will not be publishing a stand alone newsletter. The newsletter will be written on a regular basis, and cover roughly the same subjects as in previous years. With the addition of 3 new fruit specialists, it seems appropriate to integrate all pest information in one format. Fruit IPM will appear in its own section as a "folded in" section of the new newsletter.

Insect traps are now being placed in both orchards and blueberry fields and scouts are being hired.

◆ Early Season Treatments - Tree Fruit

Peach - Dormant applications for peach leaf curl should have already been applied in most southern counties. Since the fungus overwinters on the bud scales, it is important to apply fungicides before green tissue breaks through the scales and becomes infected. A trip through Hunterdon and Morris County orchards on 4/1 showed tight buds which are still suitable for dormant leaf curl treatments. Coppers, Ziram, and Ferbam are all effective.

Apple - Both rosy apple aphids and the (green) apple aphids start hatching at 1/4" green. During past years most growers have started insecticide treatments with Lorsban 4E at 1/2" green primarily for rosy aphid control. Last year was the first year we had Provado available, which is labeled for aphids, leafhoppers and leafminers. In traditional programs 3 separate sprays are applied for 1) aphid control (usually Lorsban 4E - 1/2"

SEE FRUIT IPM ON PAGE 5

Scale Insects

Sridhar Polavarapu, Ph.D., Blueberry and Cranberry Entomology

Putnam scale and Terrapin scale are the two most commonly found scale insects on blueberries in New Jersey. Scale insects reduce plant vigor by removing sap from plants. They also secrete a sticky substance (honeydew) on the leaves and fruit which stimulates the growth of black sooty mold. Berries infested with scales and sooty mold are often undersized and unmarketable.

Putnam scale appears like a gray waxy dot about 1/16 inch in diameter. It overwinters as a mated, mature female usually under loose bark on older canes. Young scales, known as crawlers, are produced from beneath the adult scales usually beginning the third week of May. These crawlers settle on stems, leaves, and fruit.

The terrapin scales are dark-brown, hemispherical-shaped scales, about 1/8 to 1/3 inch long, resembling the shell of a turtle. The life-cycle of Terrapin scale is very similar to the Putnam scale, and has a single generation each year. The Terrapin scales are more frequently found on twigs than on the berries or leaves.

Both these species can be controlled by dormant oil sprays (70-second type, 3.0 gal/acre), applied before the opening of first flower buds. Thorough spray coverage with 300 to 400 gal. is necessary to achieve good control. Good pruning by removing the oldest canes each year, will be sufficient in most cases to keep scale populations in check without the use of pesticides. If phomopsis is also a problem, application of lime sulfur at 5.0 gal/acre will control both scale insects and phomopsis. However, I would caution that dormant oil and lime sulfur sprays are phytotoxic to green tissue and therefore are not recommended if green tissue is becoming visible, especially on the early maturing varieties. Oil or lime sulfur applications are not economical for treating small or localized populations of scales. These minor infestations should be controlled by selective pruning of infested canes. □

Blueberry Pest Control Recommendations for 1996

Copies of the "Blueberry Pest Control Recommendations for 1996" can be obtained from The Blueberry Bulletin, published weekly from Atlantic County Cooperative Extension. Contact Dr. Gary Pavlis, Atlantic County Agricultural Agent, Rutgers Cooperative Extension of Atlantic County, 6260 Old Harding Highway, Mays Landing, NJ 08330-1533, (609) 625-0056.

You can also receive a fax copy of the recommendations by calling Rutgers Cooperative Extension FaxInfoLine at (908) 932-6767 and requesting document #4007. The document will be faxed to you immediately. For a list of other documents available on FaxInfoLine, request the Index of Documents at the beginning of the call. □

Prebloom European Red Mite Control

Peter W. Shearer, Ph.D., Tree Fruit Entomology

The Environmental Protection Agency (EPA) has proposed revoking the registrations of two miticides commonly used for tree fruit. Propargite (Omite) and dicofol (Kelthane) are being scrutinized by the EPA because of residue problems. One result is that propargite and/or dicofol may be withdrawn from use on certain crops. If this occurs, then summer mite control options for affected tree fruit crops (especially apples, peaches, nectarines, and plums) could be severely limited. If **mites** have historically been a problem in orchards, it is important that **mite** management options be considered before the growing season starts.

Apple growers that experienced **European red mite (ERM)** problems in their orchards last year should consider adopting prebloom **ERM** egg control. Options include using horticultural spray oil or the miticides/ovicides Apollo SC or Savey 50WP. Controlling **ERM** prebloom delays the threat of **ERM** buildup. This extends the length of time that natural enemies (e.g., **Stethorous beetle** and **predatory mites**) have to regulate pest mite populations in IPM-managed orchards.

Horticultural spray oils are very effective for controlling overwintering **ERM** eggs and **San Jose scale** if applied correctly. Timing and coverage are important. For best results, apply 6 gallons of oil per acre (2 gallons oil/100 gallons of water) at the half-inch green spray or 4.5 gallons of oil per acre (1.5 gallons oil/100 gallons of water) at tight cluster. A second application of 3 gallons of oil per acre (1 gallon oil/100 gallons of water) during prepink should enhance control. Research and grower experience have demonstrated that better mite control occurs when dilute applications are used.

Apollo SC and Savey 50WP are registered for **ERM** control on apple but can only be applied prebloom. Apollo SC (4-8 oz/acre) can be applied from delayed-dormant through tight-cluster while Savey 50WP (3 oz/acre) can be applied no later than the pink bud spray. These miticides can be substituted for prebloom oil sprays if scale insects are currently under control. Good coverage is essential for these miticides. Use a minimum of 150 gallons of water for dilute sprays or a minimum of 50 gallons of water for concentrate sprays. Alternate-row-middle spraying is not recommended.

Apollo SC is also registered for summer mite control on peaches, nectarines, cherries, plums, apricots at rates of 2-8 oz per acre. Application rates less than 4 oz per acre should only be used in association with IPM programs and only when adequate numbers of beneficial insects/mites are present. Savey 50WP and Apollo SC are also registered for use on pear. Postbloom applications on these crops (not apple) should target the egg stage. Once again, good coverage is essential. Use only one application per season of either Apollo SC or Savey 50WP materials to minimize the development of resistance. Remember, read and follow the directions on the label. □

FRUIT IPM FROM PAGE 4

green to tight cluster), 2) spotted tentiform leafminer (usually Vydate - tight cluster to pink), and 3) leafhoppers (usually Carzol or Thiodan - petal fall). While Provado is more expensive than the other named products, it can be substituted for 2 and sometimes 3 separate sprays. When applied at petal fall, the 6 oz/A rate will control first generation spotted tentiform leafminer and leafhoppers, thus replacing the Carzol and pre-bloom Vydate. An OP insecticide like Guthion or Imidan is still required at petal fall for plum curculio, leafrollers, and other Lepids. During 1995 many growers also deleted the pre-bloom aphicide (Lorsban) when using the Provado and had satisfactory aphid control. One caution with Provado use: We saw several locations in 1995 where blocks which had Provado applications, also had higher populations of European red mites than blocks which had no Provado applied. A good early season mite control program is strongly advised in any case, but especially when using Provado. Choices include pre-bloom oil, Apollo at tight cluster, or Savey at pink. □

Chandler Strawberry Containers

New clamshell quart containers with a red and green state label for Chandler strawberries are available. To order, contact Peter Probasco, Salem County Agricultural Agent, Rutgers Cooperative Extension of Salem County, RR 2, Box 347, Woodstown, NJ 08098-9982, (609) 769-0090. □

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