RUTGERS COOPERATIVE RESEARCH & EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

FRUIT EDITION $1.50 MAY 17, 2005

INSIDE

Restore NJ Produce Price Reporting to USDA AMS Market News

Jack Rabin, Associate Director for Farm Services, NJAES

The Day Free Produce Promotion Visibility Died

New Jersey's wholesale produce industry gave up millions in free produce marketing visibility on Tuesday, November 24, 1998. This was the last day New Jersey wholesale produce prices were sent out over USDA's Agricultural Marketing Service (AMS) Market News Service. What did New Jersey produce growers and shippers lose? Probably the most valuable free promotion they ever had. They lost "visibility" and recognition in regional and national wholesale produce markets.

After spending the last 15 months examining factors resulting in New Jersey growers losing their position in regional wholesale markets, I have concluded our absence from participating in USDA Market News is likely a significant factor reducing the viability of this $100+ million component of our agricultural industry.

Re-enter Market News with the Right Prices

Instead of quitting the system–losing free market visibility promotion–New Jersey should make a commitment to re-enter the AMS Market News Service with the correct pricing information provided by shippers. The correct prices for New Jersey's participation in Market News Service reporting are 1st handler FOB prices one level up from growers: from buyers, shippers, and distributors.

Lost Market Visibility Worth Millions

While NJDA and Market News continue to collect and report NJ blueberry and peach wholesale FOB price information, the lack of comprehensive FOB wholesale prices reduces our visibility to customers. How much visibility is New Jersey's produce industry losing? The USDA Market News web site receives some 22 million hits a year from industry participants checking produce prices and availability! (Terry Long, USDA, personal communication.). Additionally, the USDA AMS Market News is the most popularly read section of the national Packer trade paper.

New Jersey produce supplies, quality, and prices are no longer visible to Packer readers. Produce supplies, quality, and prices are no longer visible to market participants the 22 million times a year they look for them on the USDA's web site. As an industry, New Jersey growers and shippers do not have a visible presence in this market. What

SEE MARKET NEWS ON PAGE 2

MARKET NEWS FROM PAGE 1

else are growers and shippers losing by opting out of the Market News system? When no pricing information is reported, New Jersey farmers are more vulnerable because they lose the ability to know if they are being treated fairly.

The Wrong Prices

New Jersey's produce growers and shippers stopped providing Vineland Cooperative Produce Auction wholesale grower prices for sound reasons. The wholesale prices collected and released were the wrong prices to report, hurting Jersey growers and shippers in their markets. Other regions supply 1st handler FOB prices, not grower prices. The Jersey grower prices released were having a negative impact because they were not comparable to the higher FOB shipping point prices collected and released from other regions. These artificially low prices had a negative impact on New Jersey shippers and farmers when communicating with customers because it set artificially low prices.

Here are some reasons why the New Jersey's produce grower industry may have chosen to not provide daily prices to USDA Market News:

1. As mentioned above, other growing regions post "1st handler FOB prices," which frequently include commissions or add-on costs, not the prices paid to farmers. Posting farmers prices through Market News made New Jersey prices appear artificially low, hurting farmers and shippers alike. Auction prices are not always a true indication of average wholesale FOB prices for any given item. Frequently, they are more volatile than weighted average prices.
2. Because not all items from the south Jersey area are sold at the Auction, posting only Auction prices would not give proper exposure to everything available.
3. Auction prices do not distinguish levels of quality, placing quality growers and shippers at a disadvantage.
4. Places like terminal market houses can quote artificially low prices reported by Market News for Jersey items to protect the low prices paid to farmers. Surprise, surprise: market participants are not always open and honest.
5. Shippers need pricing confidentiality protection. This only happens when Market News gathers a broader scope of sample prices. Otherwise, customers can force individual shippers into downward pricing competition with one another.

I urge NJDA to begin working with New Jersey produce buyers and shippers to reinstate collecting and disseminating 1st handler wholesale prices through Market News. Together with the industry, the New Jersey Department of Agriculture can help restore New Jersey's visible, viable position in the produce trade. ❑

Winter Injury on Fruit Trees 2005

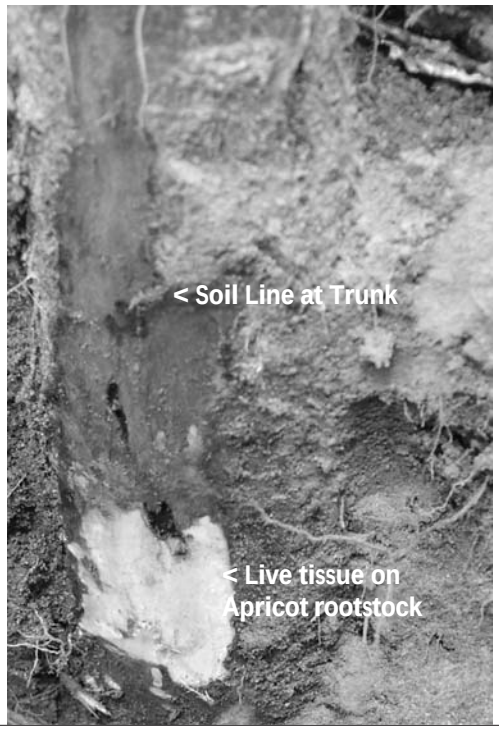
Jerome L. Frecon, Agricultural Agent

We have seen low temperature injury on peaches, nectarines, apricots, apples and oriental pears this spring, probably caused from low temperatures during the winter of 2004-2005.

The soil did not freeze until mid January. Air temperatures were in the 60 - 70ºF range in early January and bark temperatures on some trees were 20º higher, particularly on trunks that were not painted with white latex paint. Low temperatures were experienced on January 22 - 24 and again on January 28 and 29. One site in Mullica Hill had – 8ºF on January 24 at 7 a.m.

Because of the warm soil and of their normal acclimation, the trunks and roots were the last part of the tree to acclimate and harden off (see accompanying article by N. Lalancette). On one planting we have observed heartwood injury. Because the cambium is alive we expect these trees to grow out of the injury. This has occurred on apples and pears. No flower bud injury has been observed on these trees. We have seen southwest injury on peaches. The crotches and trunk have bark splits on the southwest side, but on the northern side of the tree there is no injury. We expect most of these trees to survive. We have seen quite a bit of fruit bud injury but not enough to reduce the crop significantly. There are a few varieties of white fleshed peaches and nectarines that originated in California as well as a few low acid yellow-fleshed peaches in our

SEE WINTER INJURY ON PAGE 3



Winter Air and Soil Temperatures Influencing Tree Fruit Injury

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

Several instances of low temperature injury have been observed at commercial tree fruit plantings (see accompanying article by J. Frecon). Figures 1 and 2 show the daily air and soil temperature means, respectively, for the months of January and February 2005. Data from the 2004 season were graphed for comparison. All data were collected by the weather station located at the Rutgers Agricultural Research and Extension Center, Bridgeton.

Daily mean air temperatures during the first half of January 2005 were considerably warmer than normal and much warmer than observed in 2004 (Fig. 1). A maximum air temperature of 68.7°F was recorded on 13Jan05. This unusually warm period resulted in a delay in the ground freezing (Fig. 2). In 2004, the soil reached a mean daily temperature of 35°F on 9Jan, while in 2005 this temperature was not achieved until 19Jan, a full 10-days later.

More important than the actual temperatures were the temperature fluctuations that occurred. Immediately following the high temperature period in early January, the mean daily air temperature dropped from 54°F to 15°F in only five days (Fig. 1). Minimum air temperatures at RAREC reached as low as 1.6 °F on 24Jan (-8°F in Mullica Hill; see accompanying article) and -1.5°F on 28Jan.

Trees can endure periods of fairly cold temperatures during the winter, as long as the ground remains cold and the roots dormant. Under these circumstances, air temperatures need to become colder than -10°F to kill cambium and bark tissues. However, during this past January, the soil had just begun to cool down, not allowing sufficient time for the roots to become acclimated to winter conditions. This lack of hardening off and sudden change in temperatures were the most likely the cause of the winter injury observed this spring. ❑

Figure 1: Air Temperatures

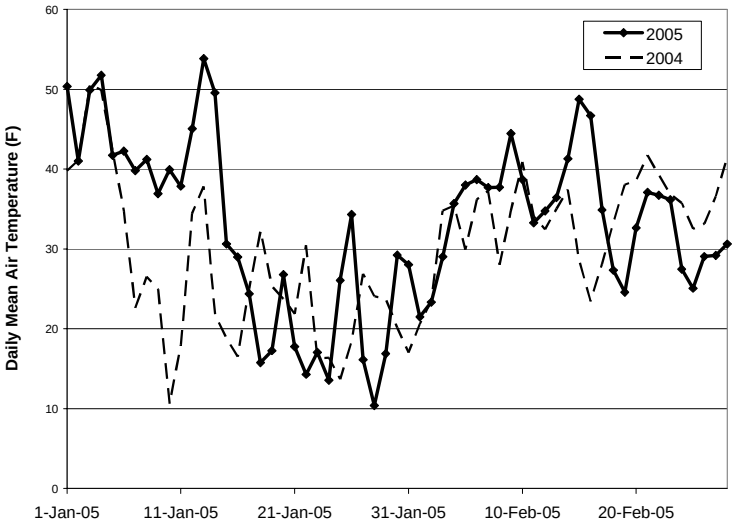
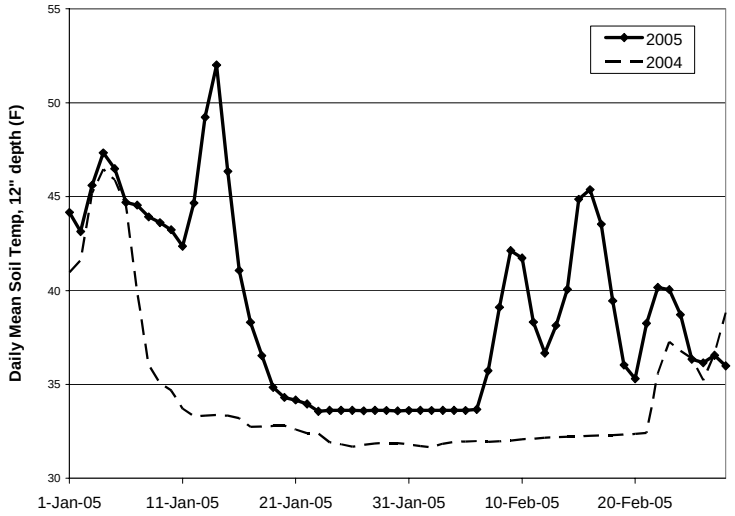


Figure 2: Soil Temperatures



WINTER INJURY FROM PAGE 2

test blocks that have lost more than 90% of their buds.

The most severely damaged trees are apricots, which is not surprising because of their propensity to lose hardiness quickly in the winter. All tissue on the trunk and major scaffold branches were dead on a planting of Goldcot and Harlayne, which we observed near Mullica Hill. Many but not all trees were dead even though there were plenty of live fruit buds and fruit.

This was the type of low temperature injury where trees would have benefited from a fresh coat of white latex water-based paint in the fall. Hopefully, all of the trees that live will not be stressed from hot dry weather during the growing season. ❑

Fruit IPM

Dean Polk, Fruit IPM Agent and David Schmitt and Eugene Rizio, Program Associates in Tree Fruit IPM

Peach

✔ **Oriental Fruit Moth (OFM):** Most spray timings for 1st generation OFM have been completed. According to the Skybit degree day accumulations, spray dates for the first generation are as follows, revised since last week:

County / Region	1st Spray Date	2nd Spray Date
Gloucester – Southern	past	5/17
Monmouth – Central	past	5/18
Hunterdon - Northern	past	5/22

✔ **Tarnished Plant Bugs (TPB) and Stink Bugs (SB):** TPB nymphs can be found in the groundcover. Stink bugs have been the most active, and have been found in beating tray samples which means they are actively feeding in the trees. Insecticides should also target these insects, and groundcover should be managed to minimize plant bug populations. Clover and other weedy groundcovers are an invitation for catfacing injury, and therefore require increased insecticide use.

✔ **San Jose Scale and White Peach Scale:** Now is the time to start thinking about monitoring and treatment options for scales. Please see the accompanying article on scale insects.

✔ **Plum Curculio (PC):** Although PC is a primary insect target at the petal fall stage, it can remain active for some time afterward. Maintain coverage with full orchard sprays or border row applications through May. The pyrethroid insecticides are generally considered weak for PC control, as are the carbamates; (Lannate). OP insecticides such as Imidan and Guthion, and the neonicotinoid, Actara, are the most effective.

✔ **Green Peach Aphid (GPA):** Population density continues to increase, but few orchards have any populations at all, and still fewer are at treatment thresholds. Some predation has been seen.

✔ **Peach Scab (PS):** In orchards where scab is known to be a problem, continue a captan based fungicide program until third cover. Otherwise peaches can now be switched to a sulfur based program. Captan is generally recommended for nectarines all season.

Apple

✔ **Codling Moth (CM):** The first catch or biofix points have been reached in southern counties. Timing for the first of 2 CM sprays for the 1st generation is set at $250DD_{50}$. A second application should be made at $550DD_{50}$. This timing is for most effective insecticides with larvicidal activity (OP's, carbamates, pyrethroids, Assail, Calypso or Avaunt). Timing for insect growth regulators (IGR's) (i.e Intrepid and Esteem) is at $150DD_{50}$ and again at $450DD_{50}$. The first sprays using IGR's should be applied on or about 5/25-26 in southern counties. Applications that include larvicides should be applied 5/31-6/1. In orchards with a history of CM injury sprays should be made solid. The addition of 1-2 qts of summer oil may increase Assail and Calypso efficacy. ***Do not apply oil within 10-14 days of a captan application.*** More information will be given in the next newsletter regarding timing applications for CM.

✔ **Oriental Fruit Moth (OFM):** OFM trap counts in some southern county apple blocks have increased dramatically over the past week. Insecticides should be applied at petal fall for control. Continue to apply highly effective materials to peach blocks within several hundred yards of apples.

✔ **Tufted Apple Budmoth (TABM):** Biofix points have been reached only in southern counties for this pest. More information will be given in the next newsletter regarding timing applications for TABM.

✔ **Leafhoppers – White Apple Leafhopper – WALH, and Potato Leafhopper (PLH):** WALH can be found in some apple blocks especially in northern counties. PLH should appear sometime before early June. Treatments are not justified unless the total number of nymphs exceeds 3 per leaf. If **fireblight** is present in an orchard when potato leafhoppers are present, then the threshold has to be reduced, since PLH are suspected of transmitting the disease.

✔ **Rosy Apple Aphids (RAA):** Rosy aphid populations are beginning to increase, and are at treatment levels of over 1 colony per tree in some orchards. Predators are present with some colonies, however treatment still needs to occur if populations are above treatment level. While the neonicotine compounds are the most effective materials for aphid control, sufficient spray volume is still necessary for adequate control.

✔ **Spotted Tentiform Leafminer (STLM):** Very few leafminers have been seen to date. We generally do not want to treat at this time unless the mine count exceeds .5 mines per leaf.

✔ **Plum Curculio (PC):** Please see peach section. Of the newer nicotine type compounds on apples, only Actara and Calypso are effective for PC. See table below. Avaunt is also effective. Of course the standard OPs can also be used and are cheaper, unless you are also treating for **aphids** or **leafminer**, in which case a broader spectrum nicotine compound may be more cost effective.

✔ **Apple Scab:** Scab has been found in a high inoculum orchard in a northern county. Overall, most orchards are very clean. We are still protecting against primary scab infections so applications should continue to be made solid and at 7-10 day intervals depending on weather. **Frogeye leaf spot** (black rot foliar phase) can also be seen in a few blocks.

See IPM on page 5

Chloronicotinyl Insecticides - Summary												
Compound	Pests Controlled									REI	PHI	Max Amt/
	AA,SA, RAA	STLM	PP	PC	CM	LH	AM	EASF	OFM		(Days)	Season
Actara	X	X	X	X		X		X		12 hr	14-35	8 oz
Assail	X	X	X		X	X				12 hr	7	4 appl.
Calypso	X	X	X	X	X	X	X	X	X	12 hr	30	16 oz
Provado	X	X	X			X				12 hr	7	see label
Use no more than 3 consective applications. All materials are toxic to bees. Do not use when bees are in the orchard.												
Use rates will vary depending on the insect being targeted.												
Insects: AA=apple aphid, SA=spirea aphid, RAA=rosy apple aphid, STLM=spotted tentiform leafminer, PP=pear psylla,												
CM=codling moth, LH=leafhoppers, AM=apple maggot, EASF=European apple sawfly, OFM=Oriental fruit moth.												
Some scale suppression from Provado and Calypso.												

Scouting Calendar

The following table is intended as an aid for orchard scouting. It should ***not*** be used to time pesticide applications. Median dates for pest events and crop phenology are displayed. These dates are compiled from observations made over the past 5-10 years in Gloucester County. Events in northern New Jersey should occur 7-10 days later.

Pest Event or Growth Stage	Approximate Date	2005 Observed Date
Rosy Aphid colonies visible	April 19 +/- 4 Days	5/2
Petal Fall Red Delicious	April 27 +/- 13 Days	5/9
Apple Scab Lesions visible	April 28 +/- 7 days	Not yet observed
Tufted Apple Budmoth Biofix	May 1 +/- 7 Days	5/14
Codling Moth Biofix	May 3 +/- 5 Days	5/10
Oriental Fruit Moth - 375 DD	May 10 +/- 8 Days	5/17
Plum Curculio Oviposition Injury - Apple	May 10 +/- 11 Days	5/9 (injury on nectarine, pear)
Oriental Fruit Moth – Shoot Flagging	May 13 +/- 2 days	
White Peach Scale Crawlers	May 19 +/- 4 Days	
Codling Moth -150 DD Timing	May 19 +/- 3 Days	
Codling Moth -250 DD Timing	May 28 +/- 7 Days	
TABM 1st generation 475 DD Timing	June 1 +/- 6 Days	

Blueberry

Due to the availability of seasonal help, we are now covering an increased number of samples, representing the overall pest levels on the crop. Data reported this week and hereafter will be taken from observations made across at least 100 sample sites.

✔ **Leafrollers and other Leps:** Larval/worm stages are being seen in 26% of our samples although levels are low. None have been seen above 2/1000 clusters. Most of what is being seen is **green fruitworm**, **Gypsy Moth**, and **spanworm**,(see photos) and most everything is in the 2nd to 3rd instar stage. Very spotty leaf chewing has been seen due to spanworm activity. Several growers have asked about the timing for treatments if needed. As a whole, larval populations have been below treatment levels. In addition to that, several egg masses were seen early last week. These are the last remaining eggs that were laid by first flight adults. No egg masses have been seen this week. This means that no additional larvae should emerge; so what you have is what you get. Therefore, if growers feel they need to apply a B.t. product or Confirm, now would be the time.

See Blueberry on page 6

Spanworm on blueberry

Green Fruitworm on blueberry

Blueberry from page 5

✔ **Aphids:** Even though bees are still active, we have started to look for aphids. About 5 % of our searched fields have shown aphids in them. We are searching in the lower part of the bush on fresh young growth. Colony sizes are low at this time.

✔ **Thrips:** Thrips are showing up in 10% of samples. These are from beating tray samples of flower clusters. No more than 2/100 clusters have been seen. These are low levels and do not merit treatment.

✔ **Plum Curculio (PC):** PC adults are being seen in about 10% of samples. This includes a number of new areas where PC has not been evident in previous years. The highest level has been 5/bush and levels always decrease as you get further away from the woods. Most farms do not have a problem with PC. Adults will feed and lay eggs on newly formed fruit. PC adults overwinter around field edges, in woods and just under leaf litter. Adults emerge when the temperatures warm to about 70^0F, feed and lay eggs on the fruit. A crescent shaped eggs scar is formed where the adult female laid an egg, which will hatch in about 6-7 days. In blueberries, usually only a single larva will develop in a fruit. The larvae mature in about 14-16 days, then exit the fruit and drop to the ground to pupate in 10-12 days. Infested fruit with mature larvae or exited larvae will also drop. Summer adults can first appear in July.

When considering its life cycle vs. blueberry maturation, you can see why only infested early varieties can end up with PC larvae inside. When early varieties like Bluetta and Weymouth are picked, the larvae have not yet dropped to the ground. However, by the time of Bluecrop harvest, all larvae and infested fruit have dropped.

✔ **Mummy Berry:** Levels seem to be stable since infected blocks are not increasing in quantity of strikes seen. Overall, 13% of our samples have some level of infection. The highest level seen thus far has been 10 strikes/bush.

✔ **Gall Midge:** Some occasional feeding can be seen in most fields. Mature larvae were seen late last week in the Hammonton area. Look for minute feeding signs and browning and blackening of growing tips. The insect develops very rapidly, and mature larvae are only about 1.5 mm long, and maggot form.

✔ **Cranberry Fruitworm (CBFW):** The first catch was seen on 5/13 in the Pemberton area. In 2004 CBFW trap catch peaked the weeks ending 5/22 in Atlantic Co. and 5/29 in Burlington Co. We are a little later this year, but look for trap captures to peak soon. In most years a single treatment timed about a week after peak trap catch is sufficient. However under high populations, 2 treatments may be required. If 2 treatments are required, then make the first application at peak trap capture. Where trap numbers are high, this may be the first post pollination spray. While we do not have a threshold to use for defining 1 vs. 2 sprays, past experience has shown that a "high" trap count may be traps capturing more than 8-10 moths per trap per week. Trap catches and injury levels have always been higher in Burlington Co. compared to Atlantic Co.

Insect Trap Counts

Tree Fruit Southern Counties

Week ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
4/29/05	430	0			0		17	0		
5/6/05	118	0			30		9	0	0	0
5/13/05	102	0	10		68		8	0	7	0

Northern Counties

Week ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
4/29/05	550				0		9			
5/6/05	230				0		33			
5/13/05	357	1	2		0		37	1		

Key: STLM = Spotted Tentiform Leafminer, TABM = Tufted Apple Budmoth (A – apple, P – Peach), CM = Codling Moth, AM = Apple Maggot, OFM = Oriental Fruit Moth (A – apple, P – Peach), LPTB = Lesser Peachtree Borer, PTB = Peachtree Borer

Blueberry Trap Counts – Atlantic County

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
4/29		137				
5/6	0	125				
5/13	0	32				

Blueberry Trap Counts – Burlington County

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
4/29		28				
5/6	0	20				
5/13	0.1	10				

Key: CBFW = Cranberry Fruitworm, RBLR = Redbanded Leafroller, OBLR = Obliquebanded Leafroller, SNLH = Sharpnosed Leafhopper, OB = Oriental Beetle, BBM = Blueberry Maggot

Several New Brands of Plant Growth Regulations

Rob Crassweller, Penn State University, Department of Horticulture

Reprinted from Fruit Times Newsletter, April 26, 2005, Vol. 24 No. 4, Penn State University

Fine Americas Inc., of Walnut Creek, California has entered the plant growth regulator market for fruit. They are a subsidiary of Fine Holdings Ltd. of Worcester, UK. They are marketing a cytokinen, 6-benzyladenine for thinning (exilis Plus®); a GA formulation for cherries called falgro®; a GA4A7 mixture for reduced russetting in apples called novagib®; and a GA4A7 plus 6-benzyladenine mixture for improving typiness of apples called perlan®. Valent BioSciences Corporation has also released a new formulation of Provide (gibberellins A4A7) in the form of water dispersable granules. Provide® 10 SG has a 10% active ingredient and can be used in a similar fashion as the liquid formulation for reduction in russetting and cracking of Stayman apples.

We do not have first hand knowledge on how these materials perform in this region since they have not been in any university trials. We wanted you to be aware of the products.

Submitted by Jerome L. Frecon, Agricultural Agent. ❑

Calendar of Events

May 25, 2005 – 6:30 p.m. Twilight Blueberry Meeting, Atlantic Blueberry Company, Inc., 7201 Weymouth Road, Hammonton, NJ 08037. Contact: Gary Pavlis 609-625-0056 pavlis@rcre.rutgers.edu

May 31, 2005 – 6:15 p.m. Twilight Wine Grape Meeting at A. L. Gaventa & Son, 192 Repaupo Station Road, Logan Township, NJ. Contact: Jerome L. Frecon 856-307-6450 Ext 1. frecon@rcre.rutgers.edu

June 29, 2005 - 5:00 p.m. Fruit Research and Picnic, Rutgers Agricultural Research and Extension Center, Centerton, NJ. For information contact: Jerry Frecon 856-307-6450 Ext 1. frecon@rcre.rutgers.edu Pre-registration is requested.

July 28, 29, 30, & 31, 2005 – New Jersey Peach Festival at the Gloucester County 4-H Fairgrounds, Rte. 77, Mullica Hill, NJ. For information contact: Jerry Frecon 856-307-6450 Ext 1 frecon@rcre.rutgers.edu.

Good Agricultural Practices Program

The following items are available from the Good Agricultural Practices Program at Rutgers Cooperative Research & Extension of Cumberland County.

Item	Price
Food Safety Begins on the Farm A Growers' Guide (in English)	$3.00
Food Safety Begins on the Farm A Growers' Guide (in Spanish)	$3.00
Reduce Microbial Risks with GAPs (in English)	$.50
Reduce Microbial Risks with GAPs (in Spanish)	$.50
Laminated Hand Washing Poster	$1.00
Laminated Toilet Use Poster	$1.00
Laminated Toilet Paper Disposal Poster	$1.00
A Growers Self Assessment of Food Safety Risks	$15.00
Fruits, Vegetables and Food Safety: Health and Hygiene on the Farm-Worker Training Video VHS	$20.00
DVD	$20.00

Make check payable to: Cumberland County Board of Agriculture (CCBA)
Mail to:
Wesley Kline, County Agent
GAPs Resource Materials
Rutgers Cooperative Research & Extension
of Cumberland County
291 Morton Avenue
Millville, New Jersey 08332

2005 Conservation Security Program

Farmers in the Cohansey Maurice Watershed have until Friday, May 27 to apply for the 2005 Conservation Security Program (CSP).

For program information, contact Janice Reid, Assistant State Conservationist for Programs janice.reid@nj.usda.gov or 732-537-6088.

Information on available funding to farmers via the 2005 Conservation Security Program from the Natural Resources Conservation Service has been posted online at www.pestmanagement.rutgers.edu/NJinPAS/postings/nrcsCSP05.pdf. ❑

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For back issues, visit our web site at:
www.rce.rutgers.edu/pubs/plantandpestadvisory.

Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is reponsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCRE in your County.

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