

PLANT & PEST ADVISORY

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Resistance Management for Brown Rot of Stone Fruit

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

This season's peach and nectarine harvest will soon begin with some of our earliest cultivars. As fruit from these early and later cultivars mature and ripen, they become susceptible to infection by *Monilinia fructicola*, causal agent of **brown rot**. Once ripe fruit are infected, symptoms initially appear as firm, brown spots that can enlarge quickly and result in complete fruit rot within a few days.

Weather conditions this spring have been relatively dry. Consequently, the incidence of blossom blight cankers, an important source of inoculum for brown rot, is low. Nevertheless, those cankers present have been observed sporulating during wet periods followed by high relative humidity. Given that fruit rot develops rapidly, and can result in the production of new inoculum within a matter of a few days, the risk to yield loss is still quite significant. As in most years, timely application of fungicide is a necessity for producing a healthy crop.

Fungicide Timing

A small percentage of fruit will begin to ripen, and therefore become susceptible, as early as 21 days before harvest. However, past research has shown that applications at 18, 9, and 1 day preharvest consistently provide 95% or better disease control. These results have been obtained in orchards with very heavy inoculum pressure and under very wet conditions.

If weather conditions remain relatively dry during the ripening period, then a two-spray program at 14 and 7 days preharvest can be adequate. In this case, the final cover spray will provide the necessary control for the earliest ripening fruit.

Fungicide Selection

There are many fungicide products available for managing brown rot. In general, there are two basic classes of fungicides that provide a high level of control: sterol inhibitors (SI) and strobilurins (SB). The fungicides Orbit, PropiMax, Elite, and Indar are SI's, while Abound, Flint, and Pristine contain the newer strobilurin chemistry. A table is provided in the *2005 NJ Commercial Tree Fruit Production Guide* (p 76). This table not only lists relative efficacies of available fungicides, but also their chemical classification.

SEE BROWN ROT ON PAGE 2

BROWN ROT FROM PAGE 1

Unfortunately, resistance to the SI fungicide propiconazole (active ingredient in Orbit and PropiMax) has recently been discovered in Georgia. The full ramifications of this find have not yet been determined in terms of future disease control. Nevertheless, resistance to propiconazole technically results in resistance to all other SI fungicides, a phenomenon called cross-resistance. Thus, Indar and Elite also become less effective against resistant strains of the pathogen.

The best strategy for preventing or indefinitely delaying resistance development is to employ different fungicide chemistries. Ideally, fungicides such as Vangard or Rovral, which are only registered for application during bloom, should be used for blossom blight control. At most, only one SI application should have been used at this time, essentially "saving" the SI usage for preharvest applications. Even so, one preharvest application of a newer strobilurin may be prudent. Furthermore, since SB fungicides are also at-risk for resistance development, their usage should follow a similar strategy.

Preharvest Brown Rot Programs

The recommended three-spray program during fruit ripening consists of the alternation SI – SB – SI. An example of this program, which utilizes some of the most effective fungicides for brown rot control, is Elite 45DF (5 oz/A) at 18-days PHI, Pristine 38WG (13 oz/A) at 9-days PHI, and Indar 75WSP (2 oz/A) at 1-day PHI. The 1-day PHI spray is applied prior to the first picking. If disease pressure is high (frequent rains, much inoculum), then the Elite and Pristine rates could be increased to 6 oz and 14.5 oz, respectively.

Orbit or PropiMax (both at 4 fl oz/A) could be substituted for either Elite or Indar, and Flint (3-4 oz/A) or Abound (14-15 fl oz/A) for Pristine. Although Flint 50WG does not have brown rot listed on its label, it can be applied up to 1 day preharvest. Field studies have shown excellent brown rot control with Flint, making it a good choice for the SB slot.

For a two-spray program, back-to-back SI applications would be acceptable for resistance management if no SI has been used during bloom. Otherwise, an SB – SI program should be utilized. In either case, the final cover spray should be Captan 50WP (4-6 lb/A) or Captan 80WDG (2.5-3.75 lb/A) to protect against early brown rot development as well as anthracnose.

The SI fungicides have performed admirably for many years at controlling brown rot. However, given the development of resistance in the Southeast, blanket SI applications during bloom and preharvest are no longer acceptable. Fortunately, new chemistries are available for control of both blossom blight and brown rot. Their proper integration into the overall disease program should help us to prolong the life of SI fungicides in New Jersey. □

Fruit IPM

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

Peach

✓ **Oriental Fruit Moth (OFM):** The second brood is about 10% hatched in southern counties, and is just beginning to hatch in northern counties. Degree day spray timings are as follows for the second generation, updated since last week:

County Area	Application and Insecticide Type	
	Standard Insecticides	Intrepid
Southern	1 st trt past, 2 nd trt 7/1-3	1 st trt past, 2 nd trt 6/29-7/1
Central	1 st trt past, 2 nd trt 7/1-3	1 st trt past, 2 nd trt 6/30-7/1
Northern	1 st trt past, 2 nd trt 7/6-7	1 st trt past, 2 nd trt 7/4-6

✓ **Tufted Apple Budmoth (TABM):** Treatments for the first brood are over throughout the state. TABM hatch is 100% complete in southern counties and about 97% complete in northern counties. The next treatments will be due for the second generation by the end of July in southern counties and the beginning of August in northern counties.

✓ **Catfacing Insects (Tarnished Plant Bugs-TPB and Stink Bugs-SB):** Insect pressure is increasing in a number of blocks. By the end of last week, stink bugs were routinely found in beating tray samples in the south. Several blocks in northern counties had up to 10% injury. Many orchards have ground covers composed of flowering weeds and clover, which makes an ideal habitat for catfacing insects. These insects breed and multiply in the ground cover, and then find their way to the peach fruit. Damage may appear as water soaked areas, bleeding spots on the fruit, or depressed calloused tissue. The damage may also be more insidious, in that while the initial probing may not be obvious, it like other injuries makes the fruit more susceptible to brown rot infection.

✓ **Brown Rot:** Thundershowers and irrigations done around periods of warm temperatures and high humidity can provide good opportunities for brown rot infection. An improved fungicide schedule should be initiated 2 to 3 weeks prior to the first picking. The strobilurins (Abound or Flint) are probably the most effective compounds that can be used for preharvest brown rot, especially if infections are already present in the block. If you also grow apples, then use Flint in place of Abound. If significant brown rot is already present, then use a 3 oz/Ac rate in place of a 2 oz. rate. Follow this application with an SI fungicide. Make sure to also control catfacing insects during this time. Many growers go to an

SEE IPM ON PAGE 3

SI or SI/Captan program in place of Flint or Abound because costs are lower. This is fine, but SI materials should not be used alone in successive sprays. Alternating with an Abound or Flint will prevent or delay the occurrence of resistance to SI materials.

✓ **European Red Mites (ERM):** Mites are beginning to build in a number of peach blocks. In most cases, growers are going to want a quick knock down material. Be aware that Apollo and Savey can be slow acting and they have long REIs (21 and 28 days). Nexter and Acramite are the two best options at this time of year. Make sure to alternate these materials, use enough spray volume, and apply to both sides of the tree. Acramite does not work in alkaline water. Make sure the spray mix is neutral or slightly acidic when using Acramite.

Apple

✓ **European Red Mites (ERM):** Mites in both peaches and apples have been uncommonly rare to this point. They have been showing up over the past few weeks however. The treatment threshold for mites in apples for late June/early July is 5 motile mites/leaf. Very few orchards have reached this threshold. In addition to the miticides mentioned above for peach, apple miticides include two new products: Zeal, and Fujimite. Over the past few years, some growers have had to use increased rates of Nexter (formerly Pyramite) to achieve control. Increased tolerance to this material by some mite populations is an issue. Therefore, be sure to rotate chemistries by not using the same material more than once per season.

✓ **San Jose Scale (SJS):** Crawlers are still present where scale is a problem pest. These should be targeted with an increased spray volume if at all possible.

✓ **Codling Moth (CM):** Since we are between 1st and 2nd generations, very little activity is present except in orchards with a history of CM problems. We expect that the first sprays for the second generation will be due in southern counties by around 7/13-14 with standard materials, or around 7/11-12 with Assail, Calypso and Intrepid. The following chart updates timings outlined in last week's newsletter.

County Area	Application and Insecticide Type - 2 nd Generation	
	OP's, Carbamates, Pyrethroids, Avaunt	Assail, Calypso and Intrepid
Southern	7/13-14	7/11-12
Central	About 7/18-19	About 7/16-17
Northern	About 7/15-16	About 7/13-14

✓ **Tufted Apple Budmoth (TABM):** See peach section.

✓ **Summer Diseases – Sooty Blotch and Fly Speck:** In addition to white rot and black rot, these are critical diseases to control at this time. Topsin-M, Sovran or Flint can be included for control. So far, not enough wetting has accumulated for sooty blotch and fly speck to

develop, however rot pressure is present and in dry years white rot can be more troublesome. Good coverage is essential for control.

✓ **Fireblight:** Slight shoot blight has been observed in southern county orchards with a history of infections. Potato leafhopper (PLH) is the only insect present at this time that is known to transmit fireblight. PLH should not be tolerated where fireblight is present.

✓ **Aphids: Spirea and Apple (green) Aphids; Potato Leafhoppers (PLH):** Aphid populations are stable or dropping statewide, either from treatment or biological control. PLH are present in a number of orchards. The neonicotinoids, (e.g. Provado, Calypso, and Assail) will control both leafhoppers and aphids at this time.

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
Peach – Pit Hardening	June 16 +/- 8 days	About 6/23
CM – 2 nd generation 1250 DD Target	July 15 +/- 10 Days	

Blueberry

✓ **Leafrollers and Other Leps:** The number of worms seen among fruit and foliage is similar to last week with only 7% of samples being positive. When larvae are seen levels remain low. The highest level seen was 3 worms in 1000 clusters. Fruit injury - since the level of worms being seen is low we would not expect much increase in the amount of fruit injury seen. Our fruit searches this week show that 40% of samples have some level of injury. Typical level of damage seen is about 3 berries in 1000.

✓ **Cranberry Fruitworm:** Visible injury increased this past week, with 27% of samples having injury, and 15% of samples at or over the 1% fruit injury level. Since our trap counts have been in decline, we do not expect any further significant injury from CBFW.

✓ **Aphids:** Aphid levels are slightly lower than last week, with 67% of samples positive. About 40% are over the 10% infestation level. Airblast applications of Provado have been showing almost total control while cannon sprays leave sections of aphids untouched.

✓ **Plum Curculio:** No adult PC have been seen in our samples. As injured berries drop the amount present on the bushes will decrease. Injury levels were less this week than the previous week, with 25% of samples being positive and 3% of samples over the 1% injury level. No fresh injury was present.

SEE BLUEBERRY ON PAGE 4

BLUEBERRY FROM PAGE 3

✓ **Fall Webworm:** Active nests are only being seen on occasion. Population increases may be seen later in the season.

✓ **Cranberry Weevil:** In the last newsletter we reported an unusual spurt of activity with associated shoot tip injury. More recently we find that activity has slowed down but what remains can be seen as dead leaf tissue at the shoot tips.

✓ **Mummy Berry:** Only 5% of our samples have been positive for MB fruit infection. This is lower than the previous week and probably reflects the falling infected fruit.

✓ **Stem Blight:** Flagged canes have been seen at several sites of Bluecrop and Duke.

Raspberry – Fruit Rot and Cane Botrytis

Sonia Schloemann, Small Fruit Extension Specialist, University of Massachusetts

Reprinted from Berry Notes Newsletter, June 2, 2005, Vol. 17, No. 7, University of Massachusetts

Casual Agent

The fungus *Botrytis cinerea* causes blossom blight, preharvest rot, postharvest rot, and cane infections in raspberries. It overwinters on canes, in dead leaves and as mummified fruit. Spores are produced in spring and begin a new infection cycle. A moist, humid environment is ideal for spore production and spread. All flower parts except sepals are very susceptible to infection by spores that land on flowers, although these infections are latent or dormant until fruit ripens. In other words, no symptoms are visible at first. Because of this, growers must be aware of when their fields are in susceptible growth stage and take measures to protect them from infection during that time. Other plant parts, as mentioned above, are also susceptible to infection and can cause cane leaf blights.

SEE RASPBERRY ON PAGE 5

Insect Trap Counts

Tree Fruit Southern Counties

Week ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
6/05/05	18	11	2		6	6	2	15	80	2
6/11/05	25	22	2		3	5	1	29	60	2
6/17/05	585	31	4		2	25	2	32	93	8
6/24/05	1035	15	4		1	25	4	21	83	8

Northern Counties

Week ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
6/05/05	13	16	2		0		7	15		
6/11/05	13	21	6		0		14	21		
6/17/05	134	39	5		0		11	41		
6/24/05	214	17	2		0		6	28		

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
6/4	7.6	0.7	0.3			
6/11	8.8	1.2	28	0.0	1.8	0.0
6/18	1.0	77.8	42.5	0.0	34.5	0.01
6/25	0.39	130.14	13.75	0.01	132.33	0.05

Blueberry Trap Counts – Burlington County

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
6/4	2.6	0	0			
6/11	5.9	0.0	50	3.2	3.1	0.0
6/18	2.2	24.3	67.5	5.2	96.3	0.1
6/25	1.78	43.60	24.25	2.08	131.25	0.39

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

Wet weather or a lot of overhead irrigation is also necessary for high levels of infection to occur. Therefore, air circulation within the canopy, especially in the fruit zone is very important. This is accomplished through good pruning practices in the dormant season. If significant wetting periods occur during bloom, the likelihood of infection by *Botrytis* is very high, and control measures may be needed.

Symptoms

Rotted fruit, usually with tufts of gray fungus growing on surface. Pale brown lesions may appear on primocane leaves in mid-to-late summer. Cane infections appear as tan to brown lesions often encompassing more than one node. These lesions can girdle the cane causing eventual cane collapse. Cane lesions exhibit typical concentric "watermark" patterns from fall through late winter.

Cultural control

1. Create an open plant canopy to promote optimal air circulation and drying conditions by using good pruning practices.
2. Avoid excessive nitrogen fertilization which can promote excessive vegetative growth, and control weeds. These practices also improve air circulation, increase light penetration, and speed drying of plant surfaces after irrigation and rain.
3. Pick fruit in the coolest part of the day. Keep harvested fruit in shade while in the field, then move to cold storage as soon as possible.
4. Irrigate in early morning whenever possible so plants dry quickly. Switch from overhead to drip/trickle irrigation.

Chemical control

Spray first at 5% bloom and then again 7 to 10 days later. More applications during the growing season aid control in wet weather. Thorough coverage and canopy penetration are essential. Fungicide options are listed below (alphabetically, not in order of efficacy).

1. Captan 80 WDG at 2.5 lb/A. Do not apply within 3 days of harvest. 72-hr reentry.
2. Elevate 50 WDG at 1.5 lb/A. Do not use more than 6 lb/A/season. Can be used up to and including the day of harvest. 12-hr reentry.
3. Pristine at 18.5 to 23 oz/A. Do not use more than 2 consecutive applications or more than 4 times/year. Can be used day of harvest. 24-hr reentry.
4. Rovral 4 Flowable at 1 to 2 pint/A plus another fungicide with a different mode of activity. Can apply the day of harvest. Fungal pathogens have shown resistance to the action of Rovral when used exclusively. Alternate or tank-mix with other registered fungicides. Also limit to two applications per year. 24-hr reentry.
5. Switch 62.5 WG at 11 to 14 oz/A. May be used up to an including the day of harvest. Do not apply more than twice sequentially or use more than 56 oz/A/season. 12-hr reentry.

Submitted by Jerome L. Frecon, Agricultural Agent. □

Market News Service for Peaches

Jerome L. Frecon, Agricultural Agent

The Market News Branch of the Fruit and Vegetable Programs collects information on the current supply, demand and prices on nearly 400 domestic and 70 international fruits, vegetables, nuts, ornamental and specialty crops. The data are collected during face-to-face interviews and telephone conversations with salespersons, brokers and buyers, and the information is analyzed and consolidated into fruit and vegetable market news reports that provide an unbiased view of market conditions. The market news service is important to industry members whose business is always affected by crop size, customer needs, and availability of transportation, weather and other economic factors. Fruit and Vegetable Market News reporters, employed jointly by USDA and State agencies, are stationed at prominent growing regions and wholesale markets throughout the United States. More than 400 different reports (issued daily, weekly, monthly or annually) are disseminated free to users by satellite, newspapers, radio, television, the Internet and E-mail. Mailed and faxed reports can be obtained on a subscription basis.

Many daily newspapers will provide reports of produce sales reports including blueberries. In addition to reports of terminal market at the food distribution centers, there are reports of shipping points from major peach shipping areas during the shipping season. All of these reports can be received by telephone or fax and accessed on the Market News web sites or sent by electronic mail. There are also many important weekly and monthly produce publications that provide valuable market information.

One important shipping report is the peach report from Bridgeton, reported by Lynn Coffin of the New Jersey Department of Agriculture. Last year Lynn reported difficulty getting enough daily and weekly information from shipper and sellers to have a report. I suspect that if this happens again and Lynn cannot get at least 3 calls of peach sales and movement we could lose this valuable report. We are encouraging all shippers and sellers to call Lynn, or more importantly, she will call you, *but let her know*. Lynn's phone contact is 856-453-3870. We know there are many who sell peaches but do not report their sales. We need to have accurate sales and shipment information. **ALL INDIVIDUAL INFORMATION IS KEPT CONFIDENTIAL.** □

Peach Crop in Southern New Jersey

Jerome L. Frecon, Agricultural Agent

I was surprised to read in the June 2005 California Tree Fruit Agreement Newsletter, that east coast peaches will be light. It states "Initial reports about a shorter than anticipated peach crop from eastern peach growing regions appear to be coming to fruition, with most recent estimates indicating production may be off by as much as 40 to 50% of the normal. This fact, coupled with less than record production figures from California, should make for a light fresh U.S. peach crop", according to Gary VanSickle, CTFA Research Director. The crop is also much later than normal.

Although, I am not sure what a normal crop is in New Jersey, with the loss of peach acreage, most trees that I have seen in southern New Jersey in the past month have a full crop. Some growers have complained to me that fruit is not roped on the tree, but ultimately they have less thinning and a better fruit size. I would think that our goal would be to have a "full crop" of 2½ and preferably 2¾ inch fruit.

Yesterday's rain was wonderful for our fruit and vegetable crops, so it can only help size and quality. We are running about 5 days later than normal and should be harvesting Flamin Fury PF#1 and Flamin Fury PF5B after the 4th of July. □

Fruit Research Meeting, Tour and Picnic

Wednesday, June 29, 2005 - 5:00 to 9:00 p.m.
Rutgers Agricultural Research & Extension Center
121 Northville Road
Bridgeton, NJ (Upper Deerfield Twp.)

Sponsored by Rutgers Cooperative Research & Extension in cooperation with the New Jersey State Horticultural Society

The program below will be followed while the attendees travel throughout the farm observing research trials and plots. A picnic supper will be provided after the tours and demonstrations.

Agenda

- 5:00 p.m. Welcome and Introduction Dr. Bill Nicholson, Director, Rutgers Agricultural Research & Extension Center and Dr Robert Goodman, Executive Dean of Cook College and Director of the New Jersey Agricultural Experiment Station (invited).
- 5:10 p.m. All research and extension faculty and their associates in Tree Fruit Entomology, Tree Fruit Pathology and Pomology and Fruit Breeding will display posters and provide educational displays, tree fruit pests and fruit varieties and post-harvest handling in the post harvest building before the tour. Time has been allotted to view these before the field tour.
- 5:40 p.m. Wine Grape Research by Dr. Bill Nicholson
- 5:50 p.m. Current Research in Tree Fruit Pathology by Dr. Norman Lalancette, Specialist in Tree Fruit Pathology, Rutgers Cooperative Research & Extension.
- 6:05 p.m. Tree Fruit Entomology Research Program by Dr. Peter Shearer, Specialist in Fruit Entomology, Rutgers Cooperative Research & Extension.
- 6:25 p.m. The IR-4 Fruit Program and Current Projects by Dan Kunkel, Larry Rossell and Melissa Zimmerman, IR-4 File Researchers, Rutgers Cooperative Research & Extension.
- 6:40 p.m. New Strategies for Controlling Summer Diseases of Apples by Dr. David Rosenberger, Professor of Plant Pathology and Superintendent of Cornell University's Hudson Valley Laboratory.
- 7:00 p.m. Orchard Floor Management Research by Dr. Brad Majek, Specialist in Weed Science, Rutgers Cooperative Research & Extension.
- 7:20 p.m. Worker Protection Update and other Pesticide Issues by Jerome L. Frecon, Agricultural Agent, Rutgers Cooperative Research & Extension.
- 7:45 p.m. Adjourn and return to building for a chicken/rib barbecue dinner at the RAREC Picnic Pavilion.

Equipment demonstrations may also be available.

PROGRAM WILL GO ON RAIN OR SHINE.

NJ Pesticide Units: Core – 1 Unit, 1A, 3A, PP2 & 10 – 4 Units each.

Contact Jerry Frecon at gloucester@aesop.rutgers.edu or 856 307-6450 ext

1. We need to have an approximate count for the meal.

This meeting is not totally accessible to the physically impaired. Please contact Jerome L. Frecon at 856-307-6450 Ext 1 one-day prior to the meeting to make arrangements.

See website for map and directions: <http://gloucester.rce.rutgers.edu>. □

EPA Funds Project to Demonstrate Less is Better with Insecticides at NJ Blueberry Farms

EPA Press Release, June 23, 2005 - At a blueberry farm in Atlantic County, NJ, Environmental Protection Agency (EPA) Acting Regional Administrator Kathleen C. Callahan presented a \$118,300 check to Rutgers University to fund a two-year project to demonstrate that production of the state's highest valued crop can be sustained while reducing farmers' dependence on insecticides. In 2003, 40 million pounds of blueberries valued at \$45.6 million were grown in New Jersey.

"New Jersey's farms play an essential role in the state's economy, but overuse of chemical insecticides can harm sensitive environments, such as the New Jersey Pinelands, where most of the state's blueberries are grown," said EPA's Callahan at the Atlantic Blueberry Company in Hammonton. "It's a simple equation. The smaller the amount of chemicals applied to the blueberry crop, the smaller the amount that washes into our waterways."

Rutgers will use the EPA funding to explore more novel, reduced-risk methods for controlling insects and pests in blueberry production. The project is part of the Agency's overall efforts to promote integrated pest management practices, protect public health and reduce non-point source pollution in ecologically sensitive watershed areas. It will also help reduce farm worker exposure to insecticide residues.

Rutgers' Fruit Research and Extension Center has been working since April with state and county organizations and four farms to identify cost effective ways to control the blueberry maggot and oriental beetle and track the impacts of reduced chemical pesticides on species in blueberry fields while measuring and recording the amounts of organophosphate and carbamate used.

Accepting the grant from Ms. Callahan was Dean Polk of Rutgers University. Also joining EPA from the state were LeRoy Meyer, of the Department of Environmental Protection's Bureau of Pesticide Control, as well as the growers from the four farms, Robert Galetta of the Atlantic Blueberry Company, Jeff Whalen of Whalen Farms, Sal Colasurdo of Mill Rock Farms and Paul Macrie of the Macrie Brothers Blueberry Farm, who is also the president of the Atlantic County Board of Agriculture, which has endorsed the project.

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices, such as mating disruption techniques. IPM programs use the latest information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

The IPM approach takes advantage of all appropriate pest management options, including the judicious use of pesticides, as compared to organic food production, which limits the use of pesticides to those that are produced from natural sources. The acceptance of the IPM approach in food production is best described as a continuum and EPA's goal is to move growers further along the continuum to using all appropriate IPM techniques. To find out more about Integrated Pest Management visit EPA's website at <http://www.epa.gov/pesticides/factsheets/ipm.htm>. □

Calendar of Events

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

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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 responsible 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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