

PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

JULY 25, 2006



Plum Pox Virus Detected in New York

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

By now, most commercial growers in New Jersey are well-aware of **plum pox virus** (PPV), which is the causal agent of a serious disease that affects plums, peaches, nectarines, and apricots. This disease was first discovered in the United States in Pennsylvania orchards during October of 1999, and subsequently in Ontario Canada in 2000. These findings initiated an intensive eradication program in Pennsylvania, along with exhaustive surveys conducted in stone fruit production states, including the Garden State. The ongoing eradication program in Pennsylvania has been largely successful, and no PPV was detected in any other state until now.

On July 7th, PPV was detected in a 1-acre plum block in Niagara County, NY by tests conducted at Cornell University. The USDA APHIS laboratory in Beltsville subsequently confirmed that finding on 14 July. The orchard contains 108 plum trees of which only 2 trees or 1.9% were found to test positive for PPV. Annual surveys performed on the orchard since 2000 showed no prior evidence of PPV. The viral strain detected was the D strain, which is also present in Pennsylvania and Ontario. Since the D strain is not seedborne and does not spread through fruit movement, regulatory measures will not influence harvest and sale of the stone fruit crop in Niagara County this season. However, once the extent of the infection is determined, a quarantine area will be established and an eradication program initiated to remove infected trees and limit movement of plant material.

Should New Jersey growers be concerned about this development? The simple answer is "Yes, certainly", as any movement of a disease as problematic as PPV should be cause for concern. However, one must factor in the location of this new outbreak before becoming too worried. The infected plum orchard in New York is within five miles of the plum pox eradication zones in Canada. The infected region in Ontario consisted of a very high density of stone fruit orchards in the St. Catharines area. Although progress has been made in reducing PPV, the density of orchards in this region has created a considerable challenge for the Canadian eradication program. Since PPV can remain viable in an aphid's mouthparts for approximately one hour, it's not inconceivable that an aphid vector could be blown across the border. Niagara County, after all, is downwind of Ontario and the prevailing westerly winds are

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often faster than 5 mph. Or quite simply, an infected plant/aphid was transported across the border. Regardless, one should not be entirely surprised that PPV has been detected in Niagara County, NY. Now, had PPV been found in say, California or Georgia, then we should begin to worry considerably!

No doubt, New Jersey growers need to remain vigilant to avoid development of PPV in the Garden State. Long-distance dispersal of PPV (strain D) is primarily through transport of infected plant material. Thus, the single most important way to keep PPV out of New Jersey orchards is to purchase new trees that are not infected. However, nurseries do not certify trees as being "virus-free" or "PPV-free". Consequently, growers should buy from reputable nurseries that follow strict disease management practices. For example, Adams County Nursery of Aspers, PA grows all its peach and nectarine trees in Delaware and tests annually for PPV and other virus diseases. Other nurseries may or may not have similar practices, but one has only to ask before purchasing. □

Battling Botrytis in Fall Raspberries

Annemick Schilder, Michigan State University

Reprinted from: Michigan Fruit Crop Advisory Team Alert, July 15, 2003 Vol. 18, No. 13.

Botrytis gray mold, caused by the fungus *Botrytis cinerea*, is one of the most important diseases affecting fall raspberries. Fall raspberries are usually at greater risk of infection than summer raspberries because of the prevailing weather conditions, such as lower temperatures, heavy dews and frequent precipitation. Cool, wet weather is conducive to development of the fungus and infection of the fruit. If the weather remains similar to what it has been. Botrytis will be problematic in raspberries this year.

Symptoms

Typical symptoms include a brown discoloration of the fruit and the presence of grey fuzzy mold, which can rapidly develop and spread to neighboring healthy berries. Symptoms tend to be more severe inside the canopy and on clusters that are closer to the ground. Even if berries look perfectly healthy at harvest, they can change to a moldy mass within 24 to 48 hours.

Biology of the fungus

Botrytis cinerea is a ubiquitous fungus, which is able to grow and sporulate profusely on dead organic matter. It overwinters in old infected canes and plant debris. The spores are airborne and can travel long distances in the wind. When the spores land on plant surfaces, they germinate and can invade the plant tissues directly or through wounds. Production of spores and infection are favored by prolonged periods of wetness or high humidity and moderate temperatures (60-75°F). When wet conditions prevail during the bloom period, withering flower parts may become infected by the fungus and lead to latent infections of the young berries. Such infections become active as the berries ripen. Overripe berries and bruised berries are particularly susceptible to infection.

Control

Cultural methods are very important for control of Botrytis gray mold. Choosing a site with good airflow can reduce humidity in the canopy considerably. Low density plantings/narrow rows and trellising can also reduce a buildup of humidity. Good weed control and moderate use of fertilizer to avoid lush growth are also important. Selecting a resistant cultivar or, at a minimum, avoiding highly susceptible cultivars will help to reduce the need for control measures. During picking, avoid handling infected berries, since spores can be transferred on hands to healthy berries. Timely harvesting and rapid post-harvest cooling can help to reduce losses to Botrytis gray mold. Several fungicides are labeled for control of Botrytis in raspberries. Fungicides sprays during bloom are important to prevent preharvest infections, while postharvest infections can be reduced by spraying close to harvest. Several efficacious fungicides are available: Elevate (fenhexamid) is a reduced risk fungicide with locally systemic properties. It has a 0- day PHI and provides good control of pre- and post-harvest gray mold. Switch (cyprodinil and fludioxonil) is a recently registered fungicide with protectant and systemic properties. It has also performed well in raspberry trials in Michigan. Switch has a 0- day PHI. A maximum of four sprays (and 2 consecutive sprays) is allowed for both Switch and Elevate. Switch and Elevate are in different chemical classes and may be alternated with each other or with Captan, Rovral, or Nova to reduce the risk of resistance development.

Submitted by Jerome L. Frecon, Agricultural Agent. □

EPA Proposes Changes to Imidan®: Apples, Peaches/ Nectarines, Grapes, and Blueberries Affected

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

The US Environmental Protection Agency (EPA) is proposing changes to how phosmet (Imidan®) can be used on several fruit crops. For **apples, peaches, and nectarines**, pertinent proposed changes include: Increasing the REI from 3 to 7 days, having buffer zones around houses and occupied dwellings, eliminating phosmet use in “pick your own” operations, and the elimination of aerial applications. Changes to the **grape** label include a 14 day REI and having buffer zones around houses and occupied dwellings. Proposed changes to the use on **blueberries** include increase the REI from 24 hours to 3 days, having buffer zones around houses and occupied dwellings, and eliminating phosmet use in “pick your own” operations.

Imidan is one the last of the important organophosphate insecticides that growers have available to control numerous pests in orchards and vineyards. If you have opinions about these proposed changes, the EPA wants to hear from you on or before August 8.

Submit your comments, identified by docket identification (ID) number: **EPA-HQ-OPP-2002-0354**, by one of the following methods:

On Line: Federal eRulemaking Portal:

<http://www.regulations.gov>.

Follow the on-line instructions for submitting comments.

In Writing: Mail to:

Office of Pesticide Programs (OPP) Regulatory Public Docket (7502P), Environmental Protection Agency

1200 Pennsylvania Ave., NW.

Washington, DC 20460-0001.

Hand Delivery: OPP Regulatory Public Docket, Environmental Protection Agency, Rm. S-4400, One Potomac Yard (South Building), 2777 S. Crystal Drive, Arlington, VA. Deliveries are only accepted during the Docket’s normal hours of operation (8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays). The Docket telephone number is (703) 305-5805. □

Fruit IPM

Dean Polk, Fruit IPM Agent and David Schmitt, Eugene Rizio, and Atanas Atanassov, Ph.D., Program Associates, Tree Fruit IPM

Peach

✓ **Tarnished Plant Bug (TPB) and Other Catfacing Insects:**

Catfacing pressure increased in northern orchards, particularly in orchards with tall weedy ground covers. Both tarnished plant bugs and brown stink bugs are present.

✓ **Brown Rot and Rhizopus Rot:**

Even though brown rot has not been much of a problem this season, we have had ideal conditions, and this disease should never be taken for granted. Abbreviated treatments in experimental blocks have shown high disease pressure. Remember to start a good fungicide program in advance of final swell. The more favorable the rot conditions, then the earlier a pre-harvest fungicide program should begin. Given our conditions, this means about 2+ weeks prior to the first picking. After the last bout of rainy weather rhizopus rot began to appear in several blocks. In problem blocks rhizopus rot can develop on fully ripened fruit, and show up in storage. However, it is also visible in the field during favorable seasons. Rhizopus rot shows up as a black sporulation with skin that easily slips from the fruit. Brown rot has a gray to brown sporulation, and skin does not slip on the fruit. If rhizopus is present in the field, then special precautions should be taken. Elite is the best pre-harvest material for control of both brown rot and rhizopus rot.

✓ **Oriental Fruit Moth (OFM):**

Trap counts indicate a low pressure on many farms, and continued high pressure on a few others. Much flagging can be found in problem blocks. Poor control of earlier generations has been compounded by loss of insecticide coverage during heavy rains. The 3rd brood is about 50% hatched in southern counties, and will start to emerge in northern counties around 7/25-28. The second of 2 (full) sprays is due now in southern counties and by the end of the week in central counties. The first spray in northern counties is due by mid week with standard insecticides, or immediately if using Intrepid. Degree-day spray timings are as follows, updated since last week:

County Area	OFM 3 rd Generation Application and Insecticide Type	
	Standard Insecticides	Intrepid
Southern	1 st past, 2 nd trt 7/26-27	1 st trt past, 2 nd 7/25-26
Central	1 st past, 2 nd trt 7/27-28	1 st trt past, 2 nd 7/26-27
Northern	1 st trt 7/25-28,	1 st trt 7/23-25,
	2 nd trt about 8/6-8	2 nd trt about 8/4-6

✓ **Tufted Apple Budmoth (TABM):**

So far the pressure is fairly low as indicated by trap counts. However trap counts are increasing in some orchards. The 1st of four alternate middle sprays are due by early next week in southern counties. A 2nd application will be due by the middle of the following week. See table below for timings, and the TFFPG for materials. Every effort should be made to use adequate spray volume, since egg masses need to be covered, as well as emerging larvae. Larvae

SEE IPM ON PAGE 4

will spin down and find protected areas in which to feed shortly after emergence, and therefore are very difficult to reach with spray volumes concentrated below 80 to 100 gal/Ac. If using alternate middle sprays, do not stretch the spray interval, and apply insecticides no more than 7 days apart. Specifically targeting TABM is suggested only in southern counties, or where there has been a history of TABM problems. Timings are updated in the table below.

✓ **San Jose Scale (SJS):** Second generation scale crawlers were observed last week. Esteem (14 day PHI: peach) provided very good control where applied against first generation crawlers. Centaur (14 day PHI) and Diazinon 50W (21 Day PHI) are also labeled for scale control. If using Diazinon use the full labeled rate to also control OFM and plant bugs. As always, dilute spray volume is important for control. Captan and Diazinon combinations may result in phytotoxicity.

Apple

✓ **Codling Moth (CM):** Most of the 2nd generation sprays have been completed for this pest. The second application in northern counties is due this week. Please see table below. If both sprays have been applied, then no further insecticides are needed for CM, unless trap counts continue to exceed 5 males per trap per week. The following chart updates timings outlined in last week’s newsletter. Injury began to appear about ten days ago where these timings were missed.

Application and Insecticide Type - 2 nd Generation		
County Area	OP’s, Carbamates, Pyrethroids, Avaunt, Assail, Calypso	Intrepid
Southern	Past	Past
Central	Past	Past
Northern	1 st trt past, 2 nd trt 7/26-28	1 st trt past, 2 nd trt 7/22-24

✓ **Diseases:** Sooty blotch and flyspeck, as well as the summer rots are all concerns, especially with the recent heavy rains. Make sure not to stretch spray intervals,

especially on fresh market fruit. Be sure to use enough water to ensure good coverage, especially in dense canopies. If using contact materials such as captan and ziram for protection, renew coverage as soon as possible after 1” rain. Systemic materials such as the SI’s (not effective for summer diseases), Pristine, Flint or Sovran can weather up to two inches of rain.

✓ **Tufted Apple Budmoth (TABM) and San Jose Scale (SJS):** See peach section above. Note that Esteem has a 45 day PHI for apple.

Blueberry

✓ **Leafrollers and Other Lep Larvae:** Only one farm found with larvae hidden in fruit clusters. The highest level seen was 1 larva per 1000 berries. Overall, larval presence in shoot tips is averaging under 5% of shoots with larvae present. **Blueberry leafminers** are present in a number of fields, usually at very low levels. Various species of larvae are being seen. A few fields have up to 43 to 70% of shoots infested, largely with leafminer larvae. A few Obliquebanded leafroller larvae are also present on some farms.

✓ **Scarab Beetle Fruit and Foliar Injury:** Fruit feeding has been rare, but was present this past week in 2 monitored fields.

✓ **Aphids:** About 30% of samples have been positive. Only 5% have been over the 10% infestation level. This is a reduction since last week, and in most cases, aphids are no longer a spray target.

✓ **Anthracnose and Alternaria:** About 42% of field samples have been positive, with only 7% over the 0.5% level. Some localized areas have been much higher. Alternaria is also present, and was found in 14% of field samples.

✓ **Heat Stress:** Some growers will note that berries may be shriveled, sunburned or soft, with no apparent sporulation or disease symptoms. Some of this is caused from the high temperatures experienced last week, resulting in heat stress and dehydration.

SEE INSECT TRAP COUNTS ON PAGE 5

TABM Timings - Application and Insecticide Type – Brood 2			
County Area	OP’s, Carbamates, Spintor, Pyrethroids (Conv.)		Intrepid
	4 alt mid sprays	2 complete sprays	
Southern	1 st – 7/30-31, 2 nd – 8/5-7	1 st – 8/1-3	1 st – 8/3-6
Central	1 st – 7/28-30, 2 nd – 8/3-4	1 st – 7/30-8/1	1 st – 8/1-4
Northern	1 st – about 8/8	1 st – about 8/10	1 st – about 8/11

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	2006 Observed Date
CM 2nd gen 1200 DD target (IGR timing)	7/07+/- 4 days	7/6
CM 2nd gen 1250 DD target (Standard timing)	7/15+/- 10 days	7/9
CM 2nd gen 1450 DD target (IGR timing)	7/18+/- 4 days	7/16
CM 2nd gen 1550 DD target (Standard timing)	7/21+/- 3 days	7/19
SJS Crawlers-second generation	7/26+/- 0 Days	7/17

Notice of Rule Proposal: Agricultural, Aquacultural, and Horticultural Water Usage Certification – N.J.A.C. 7:20A

Public Notice

Take notice that the NJ Department of Environmental Protection is proposing to readopt with amendments the agricultural, aquacultural, and horticultural water usage certification rules – N.J.A.C. 7:20A. A statement of the substance of the proposal follows: Under the Water Supply Management Act, the Department implements a regulatory program to ensure that the ground and surface water supplies of the State are managed in a way that protects their quantity and quality, thereby protecting public health and safety, and natural resources. N.J.A.C. 7:20A contains the rules governing water usage certifications for agricultural, aquacultural, and horticultural purposes. The rules establish the schedule and reporting procedure that persons having the capability to divert 100,000 or more gallons of water per day for agricultural, aquacultural, or horticultural purposes must follow to establish their privilege to divert water and prescribes the application, review, notification and hearing procedures for establishing privileges to divert water and to obtain water usage certifications and/or registrations. The Department is proposing to readopt these rules with amendments that include new definitions, requirements for more precise source location information, additional

assessment of natural resource impacts, more stringent certification conditions to protect natural resources and other users, requiring that cranberry growing operations provide the method used to determine water usage, a requirement to submit an Agriculture Development Plan to justify maintaining allocation amounts at the level approved in the certification when water use reports indicate less than that amount is being used and increase civil administrative penalties for violations.

The proposal is scheduled to be published in the New Jersey Register dated July 17, 2006. A copy of the proposal is available from the New Jersey Department of Environmental Protection by calling 609-292-2957 or:

<http://www.nj.gov/dep/rules/proposals/071706b.pdf>

Public hearings concerning the proposal are scheduled as follows:

August 8, 2006 at 6:00 p.m.
Rutgers EcoComplex
Environmental Research and Extension Center
1200 Florence-Columbus Rd
Bordentown, NJ 08505-4200

August 10, 2006 at 6:00 p.m.
Somerset County Complex
Freeholders Meeting Room
20 Grove Street
Somerville, NJ 08876

Written comments may be submitted by September 15, 2006 to:
NJ Department of Environmental Protection, Oneida Cuevas, Esq., ATTN: DEP Docket Number: 05-06-06/429, Office of Legal Affairs, PO Box 402, Trenton, New Jersey 08625

Insect Trap Counts

Tree Fruit Trap Counts – Southern Counties

Week Ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
7/8/06	596	1	0		4		4	2	95	1
7/15/06	657	0	2		4		16	1	74	3
7/22/06	1221	3	2		8	27	12	4	50	3

Tree Fruit Trap Counts – Northern Counties

Week Ending	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
7/8	263	5.4	3.9	N/A	N/A	3.3	9.0	5.1	23.4	4.8
7/15	323.3	0.8	2.1	N/A	N/A	5.6	7.7	0.5	15.0	5.0
7/22	533.3	.02	1.2	N/A	N/A	7.8	10.3	0.3	16.3	6.0

Blueberry Trap Counts – Atlantic County

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
7/8	0.05	36.1	8.3	0.3	1103	0.35
7/15		5.9	5.7	0.5	479	0.37
7/22		10.0	2.1	0.3	431	0.24

Blueberry Trap Counts – Burlington County

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
7/8	0.36	21.1	10.3	1.6	668	0.59
7/15		2.8	2.6	0.8	464	0.62
7/22		1.2	2.4	0.5	284	0.20

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

Apply Now for 2007 Farm Bill Funding New Energy Incentives in 2007

Somerset, NJ - July 21, 2006 - It's not too soon to contact your local NRCS office and start the application process for 2007 Farm Bill Programs according to Tony Kramer, State Conservationist for the USDA, Natural Resources Conservation Service (NRCS) in New Jersey. Contracts for the 2006 applications were awarded in May. "We want to encourage New Jersey farmers and landowners to submit applications for 2007 programs now," Kramer said. "Beginning the process well in advance of application period closings affords more time for applicants to work with NRCS Soil Conservationists to develop conservation plans and decide what they really want to accomplish on their land without the pressure of a deadline."

NRCS accepts applications for all conservation programs the USDA agency administers throughout the year, but establishes funding periods for each program to facilitate application review and contract development. Applications will be grouped for funding consideration earlier this year than in past years. Farmers are encouraged to sign up now before the busy harvest season begins so they don't miss out on their opportunity for 2007 programs.

Over \$5 million of conservation funding was obligated to New Jersey landowners and farmers in 2006 through two programs administered by NRCS, the Environmental Quality Incentives Program (EQIP) and the Wildlife Habitat Incentives Program (WHIP).

Through EQIP, farmers may receive financial and technical help with structural and management conservation practices that address soil erosion, conservation of irrigation water, and livestock-related concerns, including rotational grazing practices. Eighty-one contracts with a value of \$3.9 million were awarded to farmers throughout New Jersey through EQIP in 2006. Livestock operations accounted for 61% of the contracts. With this assistance, 83 farms will be able to improve their operations and install conservation practices that will help protect soil and water quality in their region.

"Practices that focus on renewable energy and fuel efficiency are being considered for next year's EQIP programs," Mr. Kramer said. Farmers who are thinking about converting farm vehicles to ethanol or using biodiesel may be able to apply for cost-share payments through EQIP in 2007.

The second most utilized program in the Garden State, WHIP offers technical and financial assistance for creating, enhancing and maintaining wildlife habitat on non-federal lands. Thirty contracts were awarded with a

Calendar of Events

July 27-30, 2006 - New Jersey Peach Festival, 4-H Fairgrounds Rt. 77 South of Mullica Hill, N.J. Contact Jerry Frecon at RCRE of Gloucester County at 856 307-6450 Ext. 1 or go to:
<http://gloucester.rcrc.rutgers.edu/fairfest>.

August 1, 2006, 6-9:00 pm - Farm Safety Twilight Meeting, North Jersey, Rutgers Snyder Research Farm, Pittstown, NJ. Dinner \$10. RSVP: Diana Boesch at boesch@aesop.rutgers.edu or 908-788-1339.

August 3, 5:00pm - A Behind the Scenes Look at Managing a Large CSA, Honey Brook Organic Farm, Pennington, NJ. To register: call NOFA-NJ at (609) 737-6848 or email mazzara@nofan.org. For directions: www.honeybrookorganicfarm.com.


value of \$780 thousand to individual landowners in New Jersey in 2006. In addition NRCS established five cooperative agreements with conservation organizations. Through these cooperative agreements, NRCS will contribute \$540,000 toward activities that will enhance over 3,223 acres of grassland, riparian lands, and other habitat throughout New Jersey.

Guidance for the 2007 programs is under development by the State Technical Committee, the advisory group to the State Conservationist. "We expect to finalize the list of eligible practices for 2007 programs later this summer," Kramer said. NRCS program information is available online at www.nj.nrcs.usda.gov.

Contact the NRCS office serving your county:
Sussex, Morris, Warren Counties: (908) 852-2576 ext. 3 - Hackettstown Hunterdon, Somerset, and Union Counties: (908) 782-4614 ext. 3 - Frenchtown Mercer, Middlesex and Monmouth Counties: (732) 462-0075 ext. 3 - Freehold Burlington, Camden, and Ocean Counties: (609) 267-0811 ext. 3 - Hainesport Gloucester and Salem Counties: (856) 769-1126 ext. 3 - Woodstown Atlantic, Cape May, and Cumberland Counties: (856) 205-1225 ext. 3 - Vineland Bergen, Hudson, Essex and Passaic Counties: (732) 537-6057 - Somerset

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