

PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

JULY 8, 2008



Fruit IPM

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Peach

✓ **Tarnished Plant Bug (TPB) and Other Catfacing Insects:** TPB and stinkbugs are being found in beating tray samples in some blocks. Overall catfacing pressure is low to moderate statewide, but sweep net samples show populations are building and adults have been found feeding in the canopies where groundcovers are weedy. Pressure will increase if groundcovers dry out due to the current hot and dry weather.

✓ **Oriental Fruit Moth (OFM):** Third brood hatch is predicted to begin on or about 7/16 in southern counties. The first treatment for the 3rd brood will be due in central counties a few days later (see table). Degree day spray timings are as follows for the third generation, updated since last week:

County Area	Application and Insecticide Type	
	Standard Insecticides	Intrepid
Southern	1 st 7/16-19	1 st trt 7/14-16
Central	1 st 7/18-21	1 st trt 7/17-19
Northern	1 st 7/25-28	1 st trt 7/23-25

✓ **Thrips:** Adult thrips were found feeding on early peach and nectarines last week in southern counties. Most farms had thrips present in wither the groundcover or in the canopy. Spintor and Delegate are the most effective materials for quick knockdown of thrips populations. Preharvest intervals for both materials are 1 day PHI for nectarine and a 14 day PHI for Peach. Lannate at the full labeled rate is also an option and may provide adequate control. It also can be used closer to harvest on peaches. The key to successful thrips control is providing thorough coverage. In past years thrips have been troublesome on highly colored peach varieties from early July through mid-August, especially during periods of hot and dry weather.

✓ **June Bug; Japanese Beetle:** June bugs and Japanese beetles have been flying for about a week. These insects can be troublesome on ripening fruit and usually peak around Redhaven season. Sevin has been the most commonly recommended material and is effective even at low rates. 2 qts./ac of Sevin 4F is usually sufficient to knock down populations. Provado is also labeled and should provide good control when applied @ 6-8 ozs./acre. Provado has a 12 hour REI and a 0 day PHI.

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Apple

✓ **Codling Moth (CM):** In southern counties, the time to treat for codling moth will be on or about 7/9. If using Intrepid, applications need to go on about 3 days earlier than if using standard materials. **Do not use trap counts as a guide for this second generation degree day timed spray.** Treatments should be completed at the optimum timing with the correct rate and volume. After 2 complete timed CM treatments have been applied, then trap counts can be used as a guide to help determine the need for supplemental applications. Use the following chart to time applications:

Codling Moth Degree Day Spray Timing - Brood 2		
Application and Insecticide Type		
Area	Standard insecticides - OP's, Carbamates, Pyre-throids, Ayaunt, Assail, Calypso	IGR's Esteem, Intrepid, Rimon
Gloucester Co.	1 st - past; 2 nd - about 7/18-7/20	1 st - past; 2 nd - about 7/14-7/16
Monmouth Co.	1 st - past; 2 nd - about 7/20-22	1 st - past; 2 nd - about 7/16-18
Hunterdon Co.	1 st - about 7/14-15; 2 nd - about 7/27-7/29	1 st - 7/10-7/12; 2 nd - about 7/23-7/25

✓ **Stink Bugs:** Stinkbug injury on apples has been observed in some apple orchards over the past few years. Orchards at risk for injury are usually those with located next to wooded areas or hay fields. Injury often occurs during hot days mid to late summer or when haying operations are occurring. If using Intrepid for CM control, include an OP or carbamate for stinkbug control, or switch to a more broad-spectrum material.

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	2008 Observed Date
CM 2nd generation 1250 DD target	July 15 +/- 10 days	July 08
SJS Crawlers-second generation	July 21 +/- 05 days	Not yet observed

Note: There is no blueberry information this week.

Trap Counts

Tree Fruit

Southern Counties

Weekend	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
6/14	445	33	8		1	32	0	31	46	0
6/21	514	22	9		4	71	1	26	54	0
6/28	217	11	3		0	69	1	10	46	12
7/5	811	1	0		0	87	0	2	33	19

Northern Counties

Weekend	STLM	TABM-A	CM	AM	DWB	OFM-P	TABM-P	LPTB	PTB	OBLR
6/14	919.6	18.1	4.6		14.1	1.8	19.1	67.6	2.5	29.5
6/21	1017.9	23.5	3.9		10.4	1.0	26.4	52.3	2.3	19.5
6/28	680	13	2		11	2	9	34	2	2
7/5	786	7	1		3	2	4	35	2	1

Blueberry

Atlantic County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
6/14	1.9		23.4	12.1	0.4	54.5
6/21	0.6		45.4	7.0	0.6	276.8

Burlington County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
6/14	1.1		3.7	15.1	5.9	22.2
6/21	1.3		20.0	21.3	9.7	278.0

Wine Grape Information for the Region

Mark Chien, Wine Grape Educator, Penn State
Cooperative Extension

American Society for Enology and Viticulture Eastern Section Annual Conference and Symposium - Monday, July 14 - Wednesday, July 16.

We hosted this meeting in the Lehigh Valley and this year it's in Ontario. If you have never been to the Niagara Peninsula this is the perfect reason to go. It is arguably the best wine region east of Reno and with 12,000 acres of wine grapes, mostly vinifera, it has the size to match its quality. A vineyard bus tour is planned on Monday, July 13 with lunch and dinner.

The ASEV -ES conference will present viticulture and enology research that matters to your vineyard and business. We have lots of problems to solve and challenges to our advancement in quality and production and we are fortunate to have outstanding research assets, from Brock University, to Cornell, Virginia Tech, etc. working hard to provide answers. The theme of this year's conference is aromatic white wines - a great topic for our region! Olivier Humbrecht from Domaine Zind-Humbrecht is a featured speaker

Even more important than ZH Gewurz is to support ASEV Eastern. It is YOUR professional association. You should be a member and you should be active. ASEV-ES will be awarding a number of scholarships to students studying viticulture and enology in our region, thus supporting and securing the future of our industry. By being a member you support these kids!

Dates: Bus Tour of Niagara Peninsula vineyards - Monday, July 14

Annual Conference and Symposium - Tuesday and Wednesday, July 15/16

Place: The Four Points Sheraton in St. Catharines, Ontario

Hosts: Faculty at the Cool Climate Oenology and Viticulture Institute at Brock University

Registration, Program and Information go to:

<http://www.nysaes.cornell.edu/fst/asev/conference.php>
or call Nancy Long at 315.787.2288.

Richard Smart Workshop - Tuesday, August 12th

A reminder to circle Tuesday, August 12 on your calendar, the day that viticulturist Richard Smart will be visiting Pennsylvania for a full-day workshop. Dr. Smart will address a variety of key viticulture topics pertinent to Pennsylvania and regional wine growers, including canopy management practices for single and divided systems, crop management decisions and practices, variety and site selection, the use of clean, healthy plant materials, effects of climate change on wine growing

and more. The field session will be held at Waltz Vineyard, one of the best vineyards in the region with VSP and Scott Henry trellis to use for demonstrations. This is an excellent opportunity to see one of our best vineyards with one of the best minds in the vineyard business.

Dr. Smart is also available for private consulting visits on Monday, August 11th in the SE and South central PA region. If you would like him to come to your vineyard for a checkup, please contact Mark Chien at 717.394.6851 to make an appointment.

This meeting is the Pennsylvania Association of Winegrowers Annual Summer Vineyard Walk Around and is sponsored by the Pennsylvania Wine Association and the Pennsylvania Wine Marketing and Research Program.

The Art of Balance: Cool Climate/Maritime Wines in a Global Context - August 5 & 6, Southampton, Long Island

The east end of Long Island has developed into a sophisticated wine culture. If you want the total package - good food and wines, B&Bs, beach, cute villages, etc. this is the place to go in the Eastern U.S. The viticulture is arguably the best and most concentrated in the East as well. SUNY is hosting a conference to celebrate wine culture and cool climate-maritime wine growing. To stage this 20th anniversary symposium, owners and managers from Long Island's own 40 wineries are joining forces with some of the world's leading winegrowers to lead two days of educational talks and wine tastings. This symposium will highlight the renewed appreciation of balanced, elegant, lower alcohol wines and afford an opportunity to talk and taste with some of the world's leading cool/maritime climate wine producers. Both exciting and timely, the symposium program coupled with the relaxed atmosphere of summertime on Long Island's East End will afford a wonderful experience to all those who participate. You can find more information, program and registration at:

<http://www.sunysb.edu/sb/winecenter/symposium2008.shtml>

Weather and Disease

The summer has been a mixed bag of rain and sun, humid and dry days this so far this summer after a particularly cool and wet spring. There is plenty of opportunity for disease to become a problem in vineyards. Remember last year? We started out just like this through July and then the weather got good and it was a fantastic vintage. But for those who didn't keep their vines clean through the mid-season, there were problems even towards the end. So after bloom and set you still need to bear down and stay on the ball - careful and timely canopy and fruit zone management will help enormously. Sometimes, even in the best vineyards, a situation can get out of control. In that case it may be necessary to have a post-infection strategy. Alice Wise, the extension viticulturist on Long Island, with Wayne

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Wilcox at NYSAES, offer some excellent tips on post-infection disease control:

Post Infection Treatments: With intermittent rain the predominant weather pattern, prepare to treat post-infection if necessary. Remember that there are several materials that provide good “post-infection” activity in the sense that they’ll stop disease development if applied after an infection period has occurred but before disease symptoms appear. However, very few fungicides have the ability to “burn out” active infections once they have occurred. In general, your best hope once active infections are present is to perhaps knock them back a little bit and, most important, to keep them from spreading to healthy clusters and leaves.

A few other points: Intervene as soon as possible and make sure coverage is good. If dealing with cluster infections, clean out infected clusters prior to spraying and leaf pull if time allows. It is unrealistic to expect any material to clean up a raging infection or to adequately penetrate a dense cluster zone. In addition to a post-infection material, remember that continued forward protection is also critical to protect clean fruit.

Black rot – Both Nova and Elite have excellent post-infection activity and some forward action. The backward control is typically spoken of as extending to about 72 hours, that is, you’ll get control if they’re applied within 72 hrs. after the start of the infection period (rain). However, in two different field trials (and additional greenhouse experiments), Wilcox obtained good control when these materials were applied even 5 to 8 days after the start of an infection period *IF* excellent spray coverage was provided. This doesn’t mean you should relax after a “black rot rain” if the fruit were unprotected when it started--the sooner you can spray afterwards, the better. However, you’re better off waiting for good spray conditions (within reason) than you are spraying in the wind or rain just to meet an arbitrary 72-hr deadline. Both Nova and Elite have some forward activity, although it’s limited (less than a week); tank-mixing mancozeb with a post-infection spray of one of these materials will improve the forward activity significantly.

Downy mildew – Phosphorous acid products such as Phostrol and ProPhyt provide post-infection control of DM. Good coverage is critical. A dense cluster zone or where foliage is crunched up under bird netting (where we’ve had trouble in the research vineyard) can be difficult. Experience with these materials dictates that they are best used early in the infection cycle. Application on an abundance of healthy, sporulating lesions is not the best strategy. Also, PA products are prone to resistance. If DM pressure continues at this high level, alternate PA with a product of different chemistry. Primary options would be Ridomil, copper, mancozeb, captan. Ridomil also provides excellent post-infection activity as well as good forward activity. But using it to try to “burn out” a bad case of active DM is a recipe for resistance development.

Powdery mildew - There are several options to clean up powdery mildew infection including JMS Stylet Oil; Nutrol (monopotassium phosphate); potassium bicarbonate products like Kaligreen and Armicarb 100; and Oxidate (hydrogen peroxide). Organic options are organic formulation JMS, Kaligreen, and Oxidate. Sulfur has good activity against very young infections, but is not great once it’s easy to see that you have a problem to deal with. None of these materials will clean up and sanitize infected fruit. At best, they will only kill the PM colonies, leaving scarred fruit but halting the spread of infection to clean fruit. Regardless of strategy, it is probably wise to check fruit closely (look at cluster back-sides, clusters jammed up against posts, etc.) shortly after treatment and retreat at the proper interval if PM infection persists. These materials work strictly by contact, and it’s virtually impossible to contact every square inch of every berry.

Stylet Oil: Of the products listed, only Stylet Oil has provided the best eradication of active infections and is the only material that provides any forward protection. In addition to its post-infection and eradication activities, the best information available indicates that Stylet Oil provides at least 3 days, sometimes more, of forward protection under dry weather conditions. However, the oil residue apparently washes off in as little as 1/3 “ of rain, after which most of the protective activity is gone. Thorough coverage is absolutely essential for this or any of the other post-infection PM materials to work. Direct spray at the fruit zone with lots of water. Experience dictates that Stylet Oil works *if* it makes contact with the infected berries. If the clusters are packed in, if leaf pulling hasn’t been done, spray coverage will be compromised and PM will persist. If choosing Stylet Oil, read the label thoroughly as it is incompatible with a number of key materials including sulfur. Note that JMS Stylet Oil has both a standard and an organic formulation. They differ in the inert ingredients. Also be aware of warnings about application in hot weather (phyto risk).

Oxidate: If sulfur has been a regular part of the schedule and the proper interval has not passed, Oxidate is an option. The Oxidate label calls for consecutive sprays at 128 fl. oz per 100 gallons. Time may be a factor - getting the leaf pulling done and getting consecutive cluster sprays on is time prohibitive for some growers. There have been several questions on tank mixing Oxidate. BioSafe Systems feels that tank mixing Oxidate with either DF or a liquid sulfur should be no problem. To be sure, you might do a jar test first as per the Oxidate label.

MKP, potassium bicarbonates: These are alternatives to Oxidate when the use of sulfur precludes the use of oil. According to Wilcox, Nutrol, Kaligreen and Armicarb function in the same topical, eradication, “salt on a slug” mode. Again, these do not provide forward protection and they work best when PM infection is in the very early stages. (WFW & AW).

Submitted by Jerome L. Frecon, Agricultural Agent. □

Timely Information on Understanding, Scouting, and Managing Japanese Beetles in the Vineyard

Joseph A. Fiola, Ph.D., Professor and Specialist in Viticulture and Small Fruit, University of Maryland

Japanese beetle are already making their presence known in Maryland vineyards. They create large holes in the younger leaves of your vines and cause severe lacing in severe infestations. Because of the drought conditions of the past 2 years it is predicted that the JB's will not be as great a problem as they have been in some recent years. Always be extra careful in young vines as they cannot tolerate severe defoliation.

- Japanese beetles (scarab beetle family) are approx. ½ inch with metallic green bodies and copper-colored wings.
- They are voracious feeders and attack the foliage of numerous woody and ornamental species (roses are a preferred food) as well as grapevines. Adults emerge from the soil and begin moving into vineyards in late June.
- Scout for damage and the presence of beetles from mid-late June through mid-late August.
- They tend to feed on younger leaves.
- They remain present for about 2 months during which they feed, mate, and the female lays eggs in the soil.
- Because they are constantly emerging and moving into the vineyard, constant scouting and vigilance is required and control measures may be needed quickly and even frequently.
- Remember that well-established vines can tolerate significant foliar feeding by Japanese beetles, when it is the upper younger leaves that are above the top catch wire and about to be hedged off anyway.
- In an extreme infestation without control vines can be completely defoliated.
- Younger vine tolerance is much less because total leaf area can easily be defoliated which can lead to increased winter damage and vine death.
- Japanese beetles become established in an area (in the turf) and populations rapidly build up over a couple of years.
- Once established, the chances of eradicating them from an area are slim.
- They have a very broad list of alternate species that they feed on and have been known to fly for up to 5 miles.

Control

- If you have a few in the vineyard, just “squish” them on the leaf. There is evidence that the dead beetles may repel others.
- The best materials for controlling Japanese beetles are Sevin, Danitol, Assail, and Avaunt
- Imidan (14 day REI!) and Malathion are also labeled for control.
- Surround can be used to protect the foliage from feeding and has been very effective in some locations.
- Remember the risk of using frequent, repeated sprays of Sevin is that also kills many beneficial insects (including mite predators) which can then lead to a mite outbreak, especially in hot dry weather.
- Where Japanese beetle populations are low or beetles are just beginning to be seen and fewer sprays are needed, using a “softer” insecticide can reduce the risk of mite outbreaks.
- Always read the pesticide label for complete information and product safety.
- For further information on the biology and control of Japanese beetles, check out the following websites:

<http://www.ento.vt.edu/Fruitfiles/JBGrape.html>

<http://www.uky.edu/Agriculture/Entomology/entfacts/trees/ef409.htm>

<http://ohioline.osu.edu/b919/0011.html>

Submitted by Jerome L. Frecon, Agricultural Agent. □

Food Safety Series

Wesley Kline, Ph.D., Cumberland County Agricultural Agent

I had an interesting call this Tuesday concerning getting a third party audit for this year. The grower had not attended any food safety training sessions we held this year or in the past. He just found out that his buyer wanted to see his third party audit results before purchasing product. In addition, he was ready to start harvesting next week.

The short answer to this grower was "lots of luck"! The buyer should have been talking to the grower through the winter explaining the need for the audit and the grower should have been working on a food safety plan to prepare for an audit. If you are in this situation, talk to the buyer and see what is actually being required. Are you expected to pass the audit or go through the process to see where you stand? Some buyers want growers to get involved in the process and work toward passing an audit next year. If that is the case, do your best effort to comply starting now. Do not wait until next year at this time and ask the same question.

There are many resources available to help you develop a food safety plan.

Our website at <http://njveg.rutgers.edu/html/2-r-5foodsafety.html> has a 'Third Party audit Manual' and the forms for the manual which walks you through the process. Penn State at <http://foodsafety.psu.edu/gaps/> has additional resource information and presentations to help explain food safety issues.

The National GAP project has developed a series of online Produce Safety Courses. The next GAPs Online Produce Safety Course will begin July 2, 2008 and run for three weeks. The registration is now open and will remain open until July 9, 2008 (one week into the course). Each course is limited to 25 people. There will be no fee for taking this course due to grant funding from the USDA National Integrated Food Safety Initiative.

Follow this link to the registration page at www.ecornell.com/gaps, check the Add to Cart checkbox and click the button. Once you register, it will go to Betsy Bihn for approval and then you will be notified that your registration is complete. You will be registering through eCornell, our partner in this course and an experienced online learning company. Students will be able to complete the lessons at any point during the three weeks. There will be an instructor dedicated to the course to assist students, review projects, and conduct group discussions.

This is our second pilot course. We will offer one more pilot course in the next few months, then we will review the evaluations, make necessary modifications, translate the whole course into Spanish and launch both English and Spanish versions. If you have any additional questions regarding the course contact Betsy Bihn, National GAPs Program Coordinator at eab38@cornell.edu. □

Extreme Heat and Worker Health

Michael J. Fargione, Extension Educator, Cornell Cooperative Extension Hudson Valley Regional Fruit Program

Today could be brutal for outside work with temperatures expected to reach the mid 90's and plenty of humidity. Be sure workers have access to ample water and take regular breaks in the shade to avoid heat stress. It is possible to lose > 5 liters of sweat per day in extremely hot and humid conditions, when doing strenuous work, and/or when wearing protective clothing.

Other hot-weather tips:

1. anticipate conditions that will increase the need for water.
2. "prehydrate" by drinking 8-16 fluid ounces of water before work begins.
3. drink 4-8 ounces every 15-20 minutes during work.
4. continue to drink water after work, but don't over-hydrate.
5. keep water within easy reach.
6. drink cool water - your body will absorb it more quickly.
7. don't let yourself get thirsty - thirst indicates a state of existing dehydration.
8. avoid alcohol and caffeinated beverages which dehydrate your body.

Submitted by Win Cowgill, Agricultural Agent. □

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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 RCE in your County.

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