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Vegetable & Fruit Headline News

The University of Maryland Extension Agriculture and Natural Resources Profitability Impact Team proudly presents this bi-weekly publication for the commercial vegetable and fruit industry.

Volume 3 Issue 6 June 21, 2012

Field Observations from Southern Maryland

By Ben Beale
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- ✓ Vegetable crops look good with early harvest continuing.
- ✓ The first cantaloupes started coming off last week. Pumpkin planting is underway.
- ✓ Harvest of squash, cucumbers, sweet corn and early tomatoes is full swing.
- ✓ Squash bugs and cucumber beetles continue to be problematic on some farms, especially feeding at the soil line.
- ✓ Japanese beetle populations have increased greatly over last week.
- ✓ Spotted Wing Drosophila damage was reported last week on a commercial blueberry farm causing significant damage.
- ✓ The first downy mildew was found on grapes this week.

Field Observations from WyeREC

By Michael Newell
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June 6, 2012

Peaches

Rainfall in our area has been spotty. Here at the research farm, we are in a rainfall deficit. Growing high value crops without the capacity to irrigate is risky. Peach growers must irrigate regularly to maintain productivity during critical periods. Although each orchard site is different, during drought conditions, some level of water shortage in the tree will occur. The following points, summarized from Vol. 4 No.19 edition of the Rutgers Plant and Pest Advisory will help conserve water and manage tree water use effectively.

- ✓ Mature trees use 35 – 40 gallons of water per day during July and August.
- ✓ Water deficiency may reduce photosynthesis by 40% before leaves show any wilting.
- ✓ Efficient drip irrigation systems can save 30 -50% more water on mature trees than overhead systems.
- ✓ Approximately 2.3 inches of overhead water and/or rainfall per week is required from pit hardening through final swell.
- ✓ Because of improved efficiency, drip applied irrigation amounts should equal 1.5 inch per week.
- ✓ 66% of the final fruit volume is attained during the last 30 days(final swell) the fruit is on the tree.
- ✓ If fruit growth is slowed from lack of soil moisture, the loss is permanent. Final fruit size will not be as large as when the water supply was adequate all season.
- ✓ Drip system designs that wet 25-60% of the root zone in mature trees is sufficient to meet the water demands of the tree.
- ✓ 80-90% of fine feeder roots are in the top 12 inches of undisturbed soil.
- ✓ Irrigation can be expected to increase yields by 25%, mainly due to increased fruit size.

Apples/Pears

- ✓ FireBlight strikes can still be found in trees. Removal of these strikes during dry conditions will help limit further infections.
- ✓ Summer diseases (Sooty blotch (SB), Fly Speck (FS) and Rots) in apple should be targeted now.

Captan, Ziram or Topsin-M are effective summer rot control products and should be combined with an effective FS/SB material such as Flint. Sovran and Pristine are effective on rots, FS and SB. Open tree canopies provide good air movement and provide for better spray coverage.

Vegetable Crop Insect Update

By Joanne Whalen
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Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Acramite, Agri-Mek, bifenthrin, Danitol, Oberon, Portal and Zeal are labeled on melons for mite control. Be sure to read all labels carefully for rates and restrictions since some are restricted to only one application as well as ground application only.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should be applied on a 7-10 day schedule once pepper fruit is ¼ – ½ inch in diameter. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (instate: 800-345-7544; out of state: 302-831-8851) or visiting our website at
http://ag.udel.edu/extension/IPM/traps/latestblt.html
You will also need to consider a treatment for pepper maggot as soon as small fruit are present.

Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. As a general guideline, once corn borer catches reach 2 per night, fresh market and processing snap beans in the bud to pin stages should be sprayed for corn borer. Sprays will be needed at the bud and pin stages on processing beans. Additional sprays may be needed after the pin spray on processing beans. Since trap catches can change quickly, be sure to check our website for the most recent trap catches and information on how to use this information to make a treatment decision in processing snap beans after bloom
http://ag.udel.edu/extension/IPM/traps/latestblt.html
and
http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html
Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7-10 day schedule should be maintained for corn borer control.

Sweet Corn

Continue to sample all fields from the whorl through pre-tassel stage for corn borers and corn earworms. Both species can be found feeding in whorls and tassels of sweet corn. A treatment should be applied if 15% of the plants are infested with larvae. The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check both blacklight and pheromone trap catches since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings
http://ag.udel.edu/extension/IPM/traps/latestblt.html
And http://ag.udel.edu/extension/IPM/thresh/silkspraythresh.html
You can also call the Crop Pest Hotline (in state: 800-345-7544; out of state: 302-831-8851). You will also need to scout for fall armyworm larvae in whorl stage sweet corn. A treatment should be considered when 12-15% of the plants are infested. Since fall armyworm feeds deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control.

Cucurbit Downy Mildew Alert

By Kate Everts, Vegetable Pathologist,
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Recently, downy mildew was confirmed in Sussex county Delaware this week. Continue with a good preventative program. The hotter weather is not as conducive to disease development.

Previously, Cucurbit downy mildew was confirmed in Dorchester and Caroline counties in Maryland on June 12. Symptoms first appeared on June 8. This downy mildew occurrence is one month earlier than any occurrence in recent years. Growers should scout aggressively for this disease on cucumber and other cucurbits. This disease is favored by cool, humid weather including cool dewy nights. Weather during June 12-14 is forecast to be conducive to further spread. Tank-mix Ranman or Previcur Flex with a protectant fungicide and alternate sprays with a material with a different mode of action. Be careful not to rely on one fungicide class. Use excellent resistance management practices to avoid allowing the pathogen to develop resistance and to improve the efficacy of your fungicide management program. Presidio, which was commonly used in previous years, was not as effective as expected in 2011 University trials.

Downy mildew on the lower surface of a cucumber leaf. Notice the angular, water soaked lesions on this newly infected leaf. (Image courtesy of Bugwood and Gerald Holmes)

Consult the Commercial Vegetable Production Recommendations for further information on resistance management and available fungicides (in Maryland, Extension Bulletin 236 and in Delaware, Extension Bulletin 137). Because downy mildew has only been found on cucumber, targeted sprays on other cucurbits crops such as pumpkin, squash, watermelon, etc. are not necessary, at this time. Instead scout these crops aggressively and continue to apply a broad-spectrum spray program.

Commercial 2012 Vegetable Production Recommendations Maryland EB 236

On-Line at:

http://www.mdvegetables.umd.edu/files/Maryland%20complete%20book%202012.pdf

Also available in a new very interactive format at the Delaware Extension site at: http://ag.udel.edu/extension/vegprogram/publications.htm#vegrecs

Fusarium Crown Rot on Watermelon

By Kate Everts, Vegetable Pathologist,
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Fusarium crown rot on watermelon, caused by *Fusarium solani*, was observed this past week in one field on Delmarva and is suspected in others. The first sign of an affected plant is leaf wilt, which is eventually followed by vine wilt and plant death. However, unlike Fusarium wilt caused by F. oxysporum f. sp. niveum, the vascular system in crown rot infected plants is not discolored. Examination of the stems reveals dark reddish to brown surface discoloration and a restriction of growth at the soil line. (The external stem discoloration is not diagnostic though, as several diseases and non pathogenic causes can lead to similar symptoms). Fusarium crown rot is more common on squash and pumpkin than watermelon and muskmelon, but all cucurbits are susceptible. However stress can lead to high disease levels in watermelon some years. For example the disease was prevalent on watermelon in 2008. The pathogen that causes Fusarium crown rot will not survive more than three years in soil. Fields with confirmed Crown rot should not be planted to any cucurbit for four years.

Fusarium crown rot on a watermelon plant.
(Image from Jerry Brust, University of Maryland Extension).

SWD & BSMB Invasion Update Central/Western Maryland

By Bryan Butler
Senior Agent, Carroll County & Mid-Maryland Tree Fruit Agent, UME

We have confirmed SWD in Central Maryland as of last Friday with adult males in vinegar traps on two orchards and larva in one orchard. The larvae were found in tart cherries and damage was fairly significant in hot spot within the block. Upon examining the spray records no insecticides had been applied in the block for six week prior to harvest. Adult males were found in traps placed in fall red raspberries and blackberries.

It will be important to renovate strawberries as early as possible to prevent populations building on leftover fruit. The traps do not appear to be very sensitive so it will be important to be vigilant in all soft fruit crops. See the last edition for spray recommendations.

BMSB has also been found feed in blackberries in central maryland on both ripe fruit and riping (red) fruit. It will also be import to scout particularly the edges of ripening blackberries.

Spotted Wing Drosophila Infestations Found in Blueberry Fields in Southern Maryland

By Jerry Brust, IPM Vegetable Specialist
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I have gotten three reports in just the last few days and have confirmed 2 of them as Spotted Wing Drosophila (SWD, *Drosophila suzukii*) infestations in blueberries in South Central and Southern Maryland. These infestations started out just like they did last year in blackberries and raspberries. Growers noticed that berries were starting to rot prematurely on the plant and after a short time the berries fell to the ground (fig 1). If you look closely at some berries you can see tiny puncture marks in the fruit where the female SWD fly used her ovipositor to saw into the ripening fruit and place her egg inside the berry (fig 2). This egg then hatches and the maggot feeds in the berry. The maggots will feed for about one week and then pupate either in the berry or just outside of it. On one farm there is probably going to be about a 20-25% fruit loss and on the others it could be somewhere between 35-60%. The question then becomes what can be done now? Unfortunately there is not much that can be done other than try to reduce the amount of berries that become infested by spraying every 5-7 days. The infestation will be slowed, but the fly population will be very difficult to control because there will be so many other sources of rotting fruit for the adults to lay their eggs and the larvae to develop in.

What needed to be done was for growers to use SWD traps to try to detect the presence of the adults BEFORE they laid eggs in the fruit. Detecting the larvae in the infested fruit is too late to implement an effective management program. If the adults are found early enough insecticide applications can be timed better and can prevent or at least slow an infestation. I can't emphasis enough that growers of small fruit anywhere in Maryland or the mid-Atlantic need to have the SWD traps out NOW in their small fruit and they need to check them twice per week for the adult males (fig 3). We are not sure why these particular farms have these bad infestations; the growers did not do anything to bring about the problem. Some insecticides that have been shown to work include: Pyrethroids: fenpropathrin, zeta-cypermethrin, and lambda-cyhalothrin; Neonicotinoids: acetamiprid and imidacloprid; Spinosyns: Radiant and spinetoram and the organophosphate Malathion, which has a short postharvest interval (PHI), making it useful to use during harvest (fenpropathrin (Danitol) also has a short PHI).

Be sure to READ THE LABEL before applying any insecticide to your crop as some chemicals can be used on some fruit, but not others and postharvest intervals can also vary by fruit crop. Pesticide applications should be rotated to reduce the chance of resistance developing. A more detailed description of the SWD fly, its biology and how to monitor and manage it can be found at the UME fact sheet:
http://www.agnr.umd.edu/Extension/agriculture/mdvegetables/files/spottedwingedfly.pdf

Fig. 1 Blueberries on ground from SWD damage
Fig. 2 Blueberry with SWD punctures (arrow)

Fig. 3 SWD adult male

Poor Vigor in Later Plantings of Sweet Corn

By Gordon Johnson
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Each year we see sweet corn field fields with stand and plant vigor issues even in corn planted later in the season when soils were warm. There can be many causes for stand loss and weak seedlings: surface compaction and crusting, soil insects, soil diseases affecting seeds or seedlings, wet soils, fertilizer injury, deep planting, and herbicide injury are just a few examples.

Corn seedlings depend on the seed for food to grow for several weeks after emergence until sufficient leaf area has been produced and nodal roots have become established. Sweet corn is more susceptible stand loss and poor vigor problems than field corn because the seed has less food reserves. If you dig up low vigor seedlings and kernels are disintegrated and there is darkening at the mesocotyl attachment this means that the seeds deteriorated prematurely and the full content of the food reserves in the seed were not available for seedling development leading to the stand and vigor issues.

Seed deterioration and/or poor vigor seedlings can be due to diseases that cause seed rots, seedling blights and/or root rots. Fungal disease organisms such as Pythium, Fusarium, Rhizoctonia, Aspergillus, and Penicillium are common in soils and many can even be carried on seeds.

While most of these seed diseases are problems in cold and wet soils, Penicillium is a common problem in warmer soils. Penicillium can survive in the soil and can also be seed borne. Plants infected with Penicillium will be stunted and off-color and seeding roots and mesocotyls will show discoloration below ground. Blue-green mold may evident on or in the seed remnant.

Fungicide seed treatments are critical to control seedling diseases and a systemic fungicide such as difenoconazole (a component of Dividend Extreme) will be necessary for diseases such as Penicillium that can be seed borne.

Poor vigor can also result from poorer quality seed. Work with seed suppliers to obtain their best seed lots and the largest seed sizes. Avoid old seeds and obtain varieties that known for good seedling vigor.

MDA Cover Crop Program
Sign-Up Runs June 21 – July 16

ANNAPOLIS, MD (June 4, 2012) – Following up on the restoration goals outlined in Maryland's Watershed Implementation Plan (WIP) to protect and restore the Chesapeake Bay, Governor Martin O'Malley has allocated approximately $18 million for the Maryland Department of Agriculture's (MDA) 2012-2013 Cover Crop Program. This popular program provides grants to farmers who plant cover crops in their fields in the fall to conserve nutrients, reduce soil erosion and protect water quality in the Chesapeake Bay and its tributaries. Farmers may sign up for this year's cover crop program by visiting their local soil conservation district office between June 21 and July 16, 2012.

"Over the years, we have learned that we can count on Maryland farmers to plant cover crops on their fields to help the Bay," said Governor Martin O'Malley. "For two years running, Maryland farmers have planted more than 400,000 acres of cover crops on their fields and their efforts are making a difference. We are pleased to provide farmers with this important cost-share program so that they can continue to lead the Bay restoration effort."

This year, farmers who plant traditional cover crops receive a base rate of $45/acre and up to $55/acre in add-on incentives for using highly valued planting practices. Traditional cover crops may not be harvested, but can be grazed or chopped for livestock forage for on-farm use after becoming well established.

Farmers who want to harvest their cover crops receive $25/acre plus a $10/acre bonus if rye is planted as the cover crop. Farmers may fill out one application to enroll in both program options. There are no enrollment caps and certain restrictions apply.

"The cover crop program provides a tremendous boost to the Bay restoration effort," said Maryland Agriculture Secretary Buddy Hance. "Last year's statewide cover crop planting of 429,000 acres prevented roughly 2.5 million pounds of nitrogen and 85,000 pounds of phosphorus from reaching the Bay and its tributaries."

Cover crops are cereal grains and winter annual brassicas (plants in the cabbage family) that are planted to take up nutrients that remain in the soil following production of corn, soybeans, sorghum, tobacco or

vegetables. Barley, canola, rapeseed, kale, rye, ryegrass, spring oats, triticale and wheat planted in the fall of 2012 are eligible. Special incentives are available to farmers who plant rye. Farmers may use seed they have saved, however, all seed used is required to meet Maryland Seed Law and Regulatory Standards and have a minimum germination rate of 80 percent.

MDA's 2012-2013 Cover Crop Program is administered by the Maryland Agricultural Water Quality Cost-Share (MACS) Program and funded by the 2010 Chesapeake Bay Trust Fund and the Chesapeake Bay Restoration Fund. Applicants must be in good standing with MACS to participate and must be in compliance with the Nutrient Management Program.

Farmers should visit their local soil conservation district office during the June 21 – July 16, 2012 enrollment period. Additional information is available on MDA's website.

Learn more at www.baystat.maryland.gov. Created by Executive Order in February 2007 by Governor Martin O'Malley, BayStat is a powerful statewide tool designed to access, coordinate and target Maryland's Bay restoration programs, and inform citizens on Maryland's progress in meeting Maryland's Bay restoration goals.

NEWS RELEASE ***www.mda.state.md.us***

STATE AGRICULTURE DEPARTMENT SUBMITS PROPOSED CHANGES TO NUTRIENT MANAGEMENT REGULATIONS

Proposed Changes Submitted to AELR for Review

ANNAPOLIS, MD (May 22, 2012) – Proposed changes to Maryland's Nutrient Management Regulations were submitted to the Joint Committee on Administrative, Executive and Legislative Review (AELR) for review today, announced Agriculture Secretary Buddy Hance. Following months of negotiations with stakeholder groups, the Maryland Department of Agriculture (MDA) has finalized its new rules for the use of manure, biosolids and other organic nutrient sources on crop fields. The goal of the process is to achieve consistency in the way all sources of nutrients are managed. Once the proposed changes are published in the Maryland Register, MDA will provide public notice and offer a 45-day public comment period.

In crafting the nutrient management regulations, Maryland has considered recommendations of Governor Martin O'Malley's BayStat Science Panel as well as concerns raised by environmental, agricultural and municipal stakeholders.

"The revised regulations strike a balance between maximizing water quality benefits, addressing the practical needs of implementing requirements in the field, and assuring economic impacts are manageable," said Secretary Hance. "When taken as a whole, the revised regulations will advance agricultural water quality management far beyond any efforts existing in other jurisdictions."

Ultimately, the new regulations are designed to help Maryland meet nitrogen and phosphorus reduction goals spelled out in its Watershed Implementation Plan (WIP) to protect and restore the Chesapeake Bay. Once approved, the proposed changes will be included in MDA's Nutrient Management Manual. Following are key features of the new regulations:

- Beginning July 1, 2016, nutrient applications will be prohibited between November 1 and March 1 for Eastern Shore farmers and between November 15 and March 1 for Western Shore farmers.
- Organic nutrients will need to be incorporated into the soil within 48 hours of application.
- Farmers will be required to plant cover crops when they use organic nutrient sources in the fall.
- Beginning 2014, farmers will be required to establish a 10 to 35 foot "no fertilizer application zone" adjacent to surface water and streams.
- Beginning 2014, farmers will be required to protect streams from livestock traffic by providing fencing or approved alternative best management practices.
- Fall fertilizer applications for small grains will be limited.
- Guidance and clarification is provided on the use of soil amendments and soil conditioners.

"The implementation schedule addresses a major stakeholder concern and should provide farmers and local governments with adequate time to comply with the new regulations and to apply for cost-share funding to install additional best management practices," said Secretary Hance. "The O'Malley Administration is committed to providing farmers with the critical financial resources necessary to meet our shared environmental goals."

The Nutrient Management Advisory Committee has been working on the revised regulations for more than a year. The new rules were originally introduced last fall; however, due to overwhelming feedback Governor

O'Malley asked that the proposed regulations be placed on hold to provide an additional opportunity for stakeholders to further discuss the proposal.

If the AELR Committee does not delay the proposed regulatory changes, they will be published in the Maryland Register for a 45-day public comment period. After the comment period closes, MDA will review any comments. If MDA makes substantive changes as a result of the public comment, the revised regulations will be resubmitted to the AELR and the Maryland Register.

Established in 1998 to develop and refine regulations and requirements for Maryland's Nutrient Management Program, the 16-member Nutrient Management Advisory Committee includes representatives from the U.S. Department of Agriculture, MDA, University of Maryland, Maryland departments of the Environment and Natural Resources, Maryland Farm Bureau, Delaware-Maryland Agribusiness Association, Chesapeake Bay Foundation, commercial lawn care companies, the biosolids industry, as well as local governments and the state legislature.

A summary of the MDA's proposed changes submitted to AELR is available online at: www.mda.maryland.gov/pdf/proposednmregs2.pdf.

University of Maryland Researchers Seek Tomato and Leafy Greens Farm Participants

By Sasha C. Marine
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In recent years, outbreaks of *Salmonella, Listeria* and *E. coli* in fresh vegetables and the resulting public concern over food safety has prompted regulators to re-evaluate production and post-harvest practices. Research has demonstrated the importance of Good Agricultural Practices (GAPs) and Good Hygienic Practices (GHPs) for preventing contamination and the subsequent growth of pathogenic microorganisms. As a result, protocols (referred to as "metrics" by the food industry) have been established by specific commodity groups and retailers, as well as by state and federal organizations. However, knowledge gaps remain as to the risk factors and adaptability of these protocols to different climates, regions and types of farming operations. It is important that any protocols be suited to implementation on small- and medium-sized farms, which are typical to Maryland and Delaware.

Thanks to a multi-state grant from the USDA National Institute of Food and Agriculture, University of Maryland researchers Kathryne Everts and Christopher Walsh will be collecting data from several small- and medium-sized farms in Maryland and Delaware to examine the influence of water sources and environmental parameters on the microflora on tomatoes and leafy greens. The scientific and technological knowledge gained from the 3-year project will be used to develop, refine and defend national food safety protocols for domestic and imported produce. Data generated from this project will also be incorporated into an upper-division undergraduate course being developed by Walsh and faculty at the University of Delaware and the University of Florida.

Farmers wishing to participate in this project may contact Sasha Marine scmarine@umd.edu if they are in Delaware or on the Eastern shore of Maryland or contact Donna Pahl dpahl@umd.edu if they are on the Western shore of Maryland.

HGIC Landscape Problem Solver

Available posters include 8 on sustainable lawn care, and 15 expert plant picks for diversifying landscapes. I have also added 5 new pest posters on brown marmorated stink bug, mosquitoes, rats, spiders, and stinging insects. Here is the link to the page listing the posters and previews: http://plantdiagnostics.umd.edu/content/educational-resources.cfm

Educational Resources

We have colorful educational posters available for you to download for events, teaching, displays, etc. They can be used as handouts or printed as high resolution, large format posters. Below is a listing of what is available.

Please use the link at the bottom of this page to fill out a short form that will take you to the download page. You will have access to all of the posters and only need to fill out the form once.

List of Sustainable Lawn Posters

- Benefits of Lawns - viewable pdf
- Controlling Weeds - viewable pdf

- Feed Your Lawn - viewable pdf
- Managing Lawn Insect Pests & Diseases - viewable pdf
- Know Your Turf - viewable pdf
- Mow, Feed & Water Right - viewable pdf
- Mowing - viewable pdf
- Watering - viewable pdf

List of "Expert Picks" Plant Posters - diversify your landscape with these low-maintenance plants!

Trees:

- American holly, *Ilex opaca* - viewable pdf
- Carolina silverbell, *Halesia tetraptera* – viewable pdf
- White fringe tree, *Chionanthus virginicus* – viewable pdf
- Persian parrotia, *Parrotia persica* - viewable pdf
- White fir, *Abies concolor* - viewable pdf

Shrubs:

- Bottlebrush buckeye, *Aesculus parviflora* – viewable pdf
- Dwarf fothergilla, *Fothergilla gardenia* – viewable pdf
- Oak leaf hydrangea, *Hydrangea quercifolia* – viewable pdf
- Virginia sweetspire, *Itea virginica* - viewable pdf
- Winterberry holly, *Ilex verticillata* - viewable pdf

Perennials:

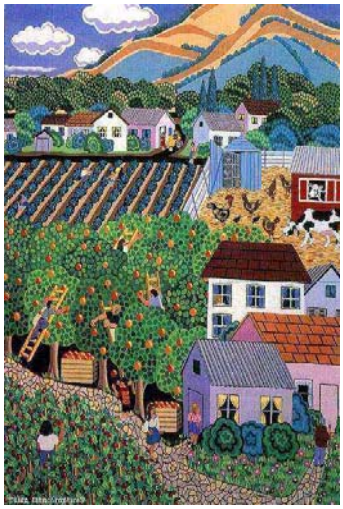
- False Indigo, *Baptisia australis* - viewable pdf
- Allegheny foam flower, *Tiarella cordifolia* – viewable pdf
- Joe Pye Weed, *Eutrochium purpureum* – viewable pdf
- Showy stonecrop (formerly sedum), *Hylotelephium*
- *spectabile* - viewable pdf
- Christmas fern, *Polystichum acrostichoides* – viewable pdf

New Pest Posters! Learn about these critters and how to manage them when necessary.

- Brown marmorated stink bug - viewable pdf
- Mosquitoes - viewable pdf
- Norway Rat - viewable pdf
- Spiders - viewable pdf
- Yellowjackets and paper wasps - viewable pdf

Click here to fill out the form to access printable versions of the posters.

2012 MSHS Summer Tour
Touring Farms and Farm Markets
Adam's County PA



Wednesday, July 11, 2012

8:00 AM to 3:30 PM
Carpool: Participants will meet at **Adams County Nursery, 26 Nursery Road, Aspers, PA** to carpool.
Cost $15.00 (includes lunch and beverages)

Sponsored by:
Maryland State Horticultural Society (MSHS) & University of Maryland Extension
Tour Stops:

- ✓ **Three Springs Fruit Farm**
- ✓ **Hollabaugh Fruit Farm and Market**
- ✓ **National Apple Museum**
- ✓ **Adam's County Nursery**

Registration deadline July 2, 2012
Registration form and the agenda go to:
http://www.grapesandfruit.umd.edu/Calendar/2012SummerTourBroc071112REV.pdf
Driving Directions:
http://www.grapesandfruit.umd.edu/Calendar/Summer%20Tour%20Directions071112.pdf

Vegetable & Fruit Headline News

A bi-weekly publication for the commercial vegetable and fruit industry available electronically in 2012 from April through September on the following dates: April12 & 26; May 10 & 24; June 7 & 21; July 12 & 26; August 16; September 6

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Article submission deadlines for 2012: April 11 & 25; May 9 & 23; June 6 & 20; July 11 & 25; August 15; September 5

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