Strawberry Plasticulture  
By Michael Newell  
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The 2015 strawberry plasticulture planting window is fast approaching. If you have not ordered your plants by now, you may want to get on the phone immediately to secure material for planting this fall.

If not already completed, summer cover crops should be terminated to allow enough time for decomposition prior to making raised beds.

If you plan to use a soil fumigation product, please be sure to read and understand the product label. Synthetic fumigant application requirements have become more restrictive with requirements for posting, buffer zones and worker protection safety as well as additional training for applicators.

The plant-back time for Vapam is 21-days. This time limit can vary based on application rate, method of application, soil type and soil moisture content and temperature. The label describes a lettuce seed germination test to determine if the fumigation material has dissipated enough for planting crops. Even when using organic-based fumigant products plant-back time needs to be considered. Please read, understand and follow the product label. The label is the law.

Label for Vapam can be found at http://www.cdms.net/ldat/ld9PB002.pdf

The soil fumigation training manual and on-line certification can be found at http://www.nasda.org/File.aspx?id=4186

EPA Soil Fumigation Tool Kit at: http://www2.epa.gov/soil-fumigants

Cole Crops

As soon as plants are set in the field, be sure to sample for cabbage looper and diamondback larvae. A treatment will be needed before larvae move into the hearts of the plants. You should also watch for the first Harlequin bugs in cole crops. In general, most of the “worm” materials are not effective on Harlequin bugs. The pyrethroids have provided control in years past.

Sweet Corn

Continue to sample all fields through pre-tassel stage for whorl feeders. A treatment should be applied if 12-15% of the plants are infested with larvae, regardless of the species. The predominant whorl feeder continues to be the fall armyworm. Since fall armyworm (FAW) feed deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control. FAW can also be a problem in silk stage sweet corn, especially in outbreak years. The first silk sprays will be needed as soon as ear shanks are visible.

Available at: https://extension.umd.edu/sites/default/files/_docs/IPMGuideVegetables2009.pdf
Potato Late Blight Advisory
FINAL REPORT

July 31, 2015

Note: This is the last late blight report for Maryland for 2015.

Late blight on tomato was confirmed on 7 July in Maryland on tomatoes grown at Beltsville. The strain of Phytophthora infestans that was present is lineage US23.

Late blight forecasts are being generated for eight locations across Maryland based on the Blightcast model in the Cornell Decision Support System (DSS). Forecasts are initiated based on the estimated day of greenrow (50% emergence date). The 50% emergence dates we are using are May 4 for Mechanicsville; May 11 for Hurlock, Owings, Clinton, and Severn; May 14 for Dickerson and Freeland; and May 18 for Oakland. Below is a chart showing the number of DSV accumulated at the eight locations. For updates on where late blight is occurring in the USA, go to www.usablight.org. If you suspect late blight, send samples to the UM Plant Diagnostic Clinic or to your local Extension office.


Organic recommendations: In the few replicated evaluations of organic approved materials for late blight management that have been conducted, copper applied on a regular preventive schedule is the most effective. A program of copper plus Regalia alternated with copper plus Actinovate may reduce disease increase. I initiate a program when 18 DSV accumulate and apply subsequent sprays when 7 additional DSV accumulate. Information on late blight for organic growers is available at: http://www.longislandhort.cornell.edu/vegpath/photos/lateblight_tomato.htm

Growers opting not to use the forecast system should apply the first late blight fungicide when the plants are 6 inches tall, and repeat every 7 days.

<table>
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<th>Date</th>
<th>Mechanicsville</th>
<th>Owings</th>
<th>Clinton</th>
<th>Severn</th>
<th>Dickerson</th>
<th>Freeland</th>
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Cucurbit Powdery Mildew is Out There!

Beth K. Gugino
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Pennsylvania State University
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August 12, 2015

Be on the look-out for powdery mildew; it's out there on the majority of cucurbit crops, especially if you didn't plant resistant varieties.

2014 Powdery mildew fungicide trial. The "white" areas have not received any fungicide applications during the season (above photo by Beth K. Gugino).

The first sign of the pathogen are small white powdery spots on both the upper and/or lower leaf surface of the older leaves. It is common to first see it on the underside of a leaf or within the plant canopy so when scouting it is important to through look over the entire plant. If protectant fungicides are being used, sometimes the spots on the upper leaf surface are yellow in color and it is not until you look at the underside of the leaf that you see the white powdery colony. It is also important to scout by cultivar since they can vary in their resistance to powdery mildew.

Keep in mind, if left unmanaged, severely infected leaves can die leading to reduced fruit size, quality and sunburn. Although powdery mildew does not infect the fruit, it can infect pumpkin handles thus reducing the overall marketability.

There is considerable concern over the development of fungicide resistance with powdery mildew. For resistance management, it is best to start applying the most effective products when you first start seeing symptoms (1 lesion on 50 leaves) and then later in the season when switch to a protectant spray program rather than the reverse. In the long-run this will reduce the selection pressure for powdery mildew spores that are resistant to the fungicide because fewer spores are exposed to the active ingredient when disease severity is low. See the 2015 Commercial Vegetable Production Recommendations for a list of recommended products and rates for specific cucurbit crops. Based on
replicated research trials in PA and across the mid-Atlantic region primarily on pumpkin, programs that include Quintec (not labeled on edible skin cucurbits), Torino and Vivando (new supplemental label in 2015; FRAC code U8, 12hr REI, 0d PHI) in rotation with products like Procure, Fontelis and Pristine have been effective.

Fortunately, there are a number of organic options for helping to manage powdery mildew on cucurbits including copper, sulfur, oils like Eco E-rase (jojoba oil), JMS Stylet oil (paraffinic oil), Trilogy (neem oil) and Organocide (sesame oil), as well as potassium bicarbonate based products (Kaligreen and MilStop) to name a few.

**Bad Year for Stink bugs**

By Jerry Brust  
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University of Maryland  
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In the last 3-4 weeks I have been seeing fairly substantial amounts of stink bug damage in tomatoes throughout much of Maryland with the worse being in the southern part of the state. This stink bug damage has not been caused by the brown marmorated stink bug, all the damage I have seen has been from our native brown (Euschistus servus) and green stink bugs (Chinavia hilaris or Acrosternum hilare). These two stink bugs are seen every year, or at least their damage is in tomatoes and peppers (fig 1). They feed by inserting their mouthparts into the fruit and withdrawing the liquid contents of cells, when nymphs feed on fruit they leave behind ‘star-burst’ patterns in the skin of the fruit (fig 2). This feeding leaves behind empty cells that are filled with air and appear as white slightly sunken areas known as ‘cloudy spot’ under the skin of green tomato or pepper fruit and as yellow sunken areas in red fruit. Peel away this outer skin and a spongy white area is found underneath (fig 3). This damage usually makes the fruit unmarketable. If you search for the pests you often have a hard time finding them as they will become frozen and drop from the plant onto the ground at the first sign of disturbance. The adults can be seen at times in the early morning feeding, but as the day becomes hotter they tend to move into the center of the plant.

Stink bugs also feed extensively at night, which is another reason they are difficult to scout for. At times the nymphs can be found in the interior of the tomato or pepper plant where they feed on foliage and fruit. Often the only thing that alerts you to their presence is the damaged fruit, by then it is too late. Normally we see a small amount of damage to the fruit along the field edges, especially if these edges border woods. But for the last two years we have seen much more extensive feeding damage throughout tomato and to a lesser extent pepper fields.

Fig. 2 Feeding damage by stink bug nymphs causing star-burst patterns

I wish there were some simple straight forward recommendations I could give to growers as to how to manage these pests, but there are none. Try as we might no one has come up with a good sampling program for stink bugs. While we have come up with traps for the brown marmorated stink bug that have been somewhat useful, there are no effective traps for monitoring our more common stink bug species. That means we have to rely more on scouting for them, which has proved to be ineffective. Growers should look for any cloudy-spot damage in their fields starting on the edges nearest any woods. If feeding damage is found and there is a history of stink bug damage then a spray directed into the center of the plant at a high gallons per acre rate (100gal/a at least) is needed. Pyrethroids are generally recommended, but some growers have found they do not give satisfactory control (I think this is more do to not directing the nozzles correctly and by not using enough water/a). Using neonicotinoids such as Scorpion or Venom and combo products such as Endigo, Leverage, Durivo, etc. are alternative control strategies that have proven efficacious for stink bug management.

Fig. 3 Outer epidermal layer removed reveals white spongy cells underneath
There are several bacterial diseases that are turning up in many Maryland tomato fields this year. The wet weather we had in June (2-4X as much rain as normal) resulted in the spread of some of our worst bacterial diseases: bacterial spot Xanthomonas campestris pv. vesicatoria, bacterial canker Clavibacter michiganensis pv. michiganensis and less common bacterial speck Pseudomonas syringae pv. tomato. Most tomato fields I have looked at in the last 3-4 weeks seem to have at least some if not a considerable amount of bacterial spot disease in them that has moved from leaves (fig 1) onto the pedicels and flowers (fig 2). Infection of the flower or pedicel with bacterial spot is serious, causing early blossom drop. From the pedicel the next stop for the bacteria, after a heavy thundershower, will be the fruit. The other commonly encountered bacterial disease is bacterial canker. This disease is a real yield killer and is difficult to manage once it gets into a field. Unfortunately 2015 seems to be an especially bad year for the disease as was last year and that is the concern I have that this bacterial problem seems to be getting worse each year we have had an extended wet period. There are two main types of infections from this bacterial disease. A systemic infection of plants where leaflets of the oldest leaves curl, yellow, turn brown and collapse and plants usually grow poorly and wilt (fig 3). In addition dark streaks may develop on stems and branches break off easily. Secondary infections most commonly consist of the leaf margins turning yellow and then brown and almost black (fig 3). Bacterial canker symptoms on fruit appear as yellow to brown spots surrounded by a white halo “bird’s eye spot”. I have seen these bacterial disease problems (especially canker) continue on farms that seemed to have followed all the recommended management practices for control of bacterial spot and canker: rotate fields out of solanaceous crops for 2-3 years, clean and sanitize stakes and farm equipment and use certified seed. Now...
Vegetable harvest is peaking on Delmarva. Unfortunately, we often see pollination problems in fruiting vegetables when weather conditions are unfavorable and 2015 is no exception. Signs of incomplete pollination in cucurbits include bottlenecked fruit or fruit with a pinched end, crooked or lopsided fruit, fruit small in size or nub-like; and fruits with prominent lobes or that are triangular in shape.

Causes of incomplete pollination may be inadequate pollen transfer by pollinating insects; inadequate pollen sources (pollenizers); or hot, dry weather that reduces pollen viability or that desiccates flower parts during pollination. Research has shown that a minimum of 1,000 grains of pollen are required to be distributed over the three lobes of the stigma of the female flower of a watermelon to produce a uniformly shaped fruit. Hollow cavities in fruit and vacant seed cavities are related to lack of seed formation, again traced back to poor pollination. Fruit tissue separation, such as hollow heart in watermelon, has also been linked to inadequate pollination and may be worsened by rapid fluctuation in environmental conditions affecting fruit development.

Each year we see pumpkin fields with poor fruit set or fruit carry. Remember that in larger pumpkin sizes, each plant will only carry 1-2 fruits. The large vining plants also need considerable space – 25 to 50 square feet per plant. While planting Jack-o-lantern types at higher densities might at first seem to be a way to achieve higher yields, interplant competition will increase and you can decrease fruit carry because of this competition. Too much available nitrogen can also delay pumpkin fruit set so that many of pumpkins that are produced do not reach maturity in time. Pumpkins do not normally need more than 80 lbs/acre N to grow a crop. Anything above 100 lbs/acre N will cause the pumpkins to put on excessive vine growth and limit fruiting.

A major reason for poor fruit set in some years is high temperatures during flowering in July. Day temperatures in the 90s or night temperatures in the high 70s will cause flower and small fruit abortion. For pumpkin growers that do wholesale and start shipping right after Labor Day, this will limit early pumpkin availability. Varieties vary considerably in their ability to tolerate heat and to set under hot conditions. Inadequate irrigation and excessive water stress can also reduce fruit set, increase abortions, and reduce fruit carry. High temperatures and water stress reduce photosynthesis and the ability of the plant to carry fruits. Drought can also cause a higher than normal male/female flower ratio, thus affecting the number of fruits per plant.

Sweet corn growers often see quality problems related to poor pollination as a result of high temperatures. This problem is more severe in less stress tolerant varieties and where irrigation is inadequate.

In corn silk elongation begins 7 to 10 days prior to silk emergence from the husk. Every potential kernel (ovule) on an ear develops its own silk that must be pollinated in order for the ovary to be fertilized and develop into a kernel. The silks from near the base of the ear emerge first and those from the tip appear last. Under good conditions, all silks for an ear will emerge and be ready for pollination within a span of 3 to 5 days and this usually provides adequate time for all silks to be pollinated before pollen shed ceases.

Pollen grains are borne in anthers, each of which contains a large number of pollen grains. The anthers open and the pollen grains pour out after dew has dried off the tassels. Pollen is light and can be carried considerable distances (up to 600 feet) by the wind. However, most of it settles within 20 to 50 feet. Pollen shed is not a continuous process. It stops when the tassel is too wet or too dry and begins again when temperature conditions are favorable.

Under favorable conditions, a pollen grain upon landing on a receptive silk will develop a pollen tube containing the male genetic material, develop and grow inside the silk, and fertilize the female ovary within 24 hours. The amount of pollen is rarely a cause of poor kernel set. Each tassel contains from 2 to 5 million pollen grains, which translates to 2,000 to 5,000 pollen grains produced for each silk of the ear shoot.

Poor seed set is often associated with poor timing of pollen shed with silk emergence (silks emerging after pollen shed). Shortages of pollen are usually only a problem under conditions of extreme heat and drought. Extreme heat and desiccating winds can affect pollen germination on silks or pollen tube development leading to poor seed set. Insects that clip silks during pollination can cause similar problems.

In tomatoes, day temperatures over 95°F and/or night temperatures in excess of 80°F can cause pollination problems due to reduced pollen production, reduced pollen viability, or reduced pollen germination or pollen tube production. This can lead to flower drop, smaller fruit, misshapen fruit, or reduced gel formation inside the fruit producing hollow areas. To manage these pollination related problems in tomatoes use “hot-set” type tomatoes bred for better production under heat conditions. Use hot-set varieties for plantings where high temperatures are expected during pollination.

In snap beans and lima beans, plantings that flower and set pods during summer conditions when day and night temperatures are high will be susceptible to reduced sets and yields, split sets, small pods, and
misshapen pods. Most of our currently grown lima bean varieties and many commercial snap bean varieties are susceptible to heat stress related yield losses due to reduced pollen production when nighttime temperatures are high before and during flowering. This is why bean crops are planted in certain periods to avoid pollination related losses (snap beans planted for spring and fall crops but avoiding summer crops, lima beans planted in June and early July for fall harvest).

Site Selection for Fruit Plantings
By Gordon Johnson
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There has been an increase in interest in planting fruits in Delaware. This is a positive trend that matches the interest in buying local and can also provide local fruit to the steady influx of visitors in the region. Success with tree fruits, blueberries, grapes, brambles, and other long-term perennial fruits begins with selecting a proper site. I have visited too many sites in the past 10 years where growers have lost expensive planting material because of poor locations and poor planning. Landowners most often are not buying properties with fruit planting in mind and many properties just are not suitable for fruit.

The most common issue with planting fruit is that of high seasonal water tables. When water rises in winter, it can saturate part of the root zone of the fruit plant and roots will then die due to lack of oxygen. Roots injured by waterlogging are also then more susceptible to root rot pathogens. Fruit plants with water damaged roots also have fewer effective roots which can make them more susceptible to other plant stresses such as drought. In the end, these fruit plants will die prematurely, have shorter life spans or will be less productive.

The best time to evaluate a site for the height of the seasonal water table is in late winter. Find the lowest elevation in the property being evaluated and dig a hole 6 feet deep using a posthole digger. If any free water is found in the hole then the site is not suitable for most deep rooted perennial fruits such as tree fruits and grapes. With brambles and blueberries water should not be found within 4-5 feet of the surface in these observation holes. Also examine the soil that comes out of the borings. If you see considerable amount of gray colored soil, this is an indication of water saturation. Do these borings throughout the property and map your site and avoid planting fruits on any areas with high water tables.

Another problem with water saturation and roots can be perched water tables. This is when an impervious soil layer does not allow water to drain and a saturated area develops above that layer. If perched water tables are found, the area is again not ideally suited for fruits. Subsoiling can fracture these layers if done properly but the layers may reform in a few years.

In high water table soils, it may be possible to grow some fruits such as brambles or blueberries by creating high mounds to grow on. In this case, the growing area is elevated 2-4 feet by moving soil to create a mounded ridge where fruit is planted. While this is possible, it is expensive and must be done in such a way that water does not collect between the mounds.

Another issue with fruit siting is air drainage. Our last 2 winters have had sub-zero conditions which can cause problems with winter kill in some grapes and brambles and bud damage in some tree fruits. Lower areas where cold air drains to also are more susceptible to late frost damage to flowers in the spring, particularly in peaches, nectarines, apricots, and plums. All sites should be evaluated for air drainage by doing elevations on the property. Fruit should be planted on the highest elevations and frost pockets should be avoided. Frost pockets are easily seen by looking where frost is found during late spring frost events. On Delmarva, an issue we have is that some areas are just completely flat, with low elevation. These areas will not allow for air to drain and can also have issues with cold air accumulating.

Soil pH is an issue with blueberry establishment. Blueberries require a soil pH of 4.5-4.8. Most of our soils have much higher pHs and the soil must be acidified before blueberries can be planted. This can take 1-2 years using sulfur as the acidifying agent.

Sites should also be evaluated for nematodes, soil pests that can be damaging to fruit roots, before planting.

Science information often passes through many hands before it gets to the public. As University of Florida professor Dr. Kevin Folta said, "It is really unfortunate that non-scientists who are excited to sensationalize an issue distort legitimate science." Some misinterpret or slant information—even press releases can be misleading. The best advice from the experts is to read carefully and go to the original source.

As Dr. David Songstad’s recent article explained, CAST is one example of a source that provides credible information.  
http://www.cast-science.org/
Spiders Abundant in August

In August we see a lot of activity from the orb spiders that spin silken webs on plant branches to capture prey. Last week, I got two e-mails and one phone call from landscape managers asking what they could spray to kill the webbing spiders in the landscape. Wow—was this shocking—why would anyone want to kill spiders? What their customers are finding objectionable is that in the morning hours when the dew settles it highlights how many spider webs they have in their landscape and they find this disconcerting. One landscape manager said they were walking in their landscape the spider webs caught them in the face and they want revenge—immediately.

We realize that not everyone is a spider lover but try to reason with your customer’s and tell them the spiders are one of the most beneficial arthropods you can find in a healthy landscape. They control many species of plant damaging insects. A vibrant well balanced landscape is going to have spider activity and this is a good thing. They can try wearing a wide brimmed hat when walking through the landscape so the brim catches any spider webs when walking through the landscape.

Japanese beetle Update

For the last month and half we (Brian Kunkel, Chuck Schuster, Suzanne Klick and myself) have been conducting field trials at two nurseries to evaluate three new products for Japanese beetle control. Each of the materials are showing promise with two of the products being outstanding, so far. We will have more on this when we publish the results and present at meetings this fall and winter.

I thought I would share some of our observations. We found that the beetles quickly learn which plants are treated and which are toxic from the pesticide applications. The beetle population is influenced and will migrate away from the treated areas and even the controls in the treated area. They find untreated plants rapidly and once they start feeding the volatiles from the leaf injury attracts more beetles to those plants. We found in one of the nurseries that the Japanese beetles started on the linden and birch trees then migrated to the hibiscus after all of the linden foliage was gone and the majority of the birch had been defoliated. Earlier in the season they were not interested in the hibiscus. We found the adults clustering in golf ball size clusters of beetles on the terminal growth and flower buds of the hibiscus plants.

It appears we reached the peak population activity of the Japanese beetles on July 26, with most spending more time mating then feeding on foliage. They are still active and feeding but we have reach the high water mark in central Maryland at this point. We should see the populations decline over the next two weeks. Start to check turfgrass areas in August for the hatch white grub stage.
season, and even more importantly, which one
didn’t. Make management adjustments to address
those problems.

2. Get a large desk calendar and circle your important
Fall event dates and harvest dates. Count back from
those dates and circle the date when planning,
advertising, hiring, or product ordering needs to
start.

3. Develop your advertising and social media marketing
calendar and market those dates on the large desk
calendar. Check what other activities and events are
happening in your area in the same Fall period that
you could piggy back on for cross-promotion. These
type os links can be very helpful for social media
promotions.

4. Check that your displays, checkout areas, and
equipment is in good working order.

5. Line up enough help for the entire season.

6. Plan and execute at least one new activity or offering
to help keep your product mix fresh.

“Tools for Building Your Online Marketing Plan”
Available on the web at:
http://extension.umd.edu/learn/tools-building-your-online-
marketing-plan

Homeowners Urged to Use Responsible Lawn Care Practices during Summer Months

With summer in full swing, the Maryland Department
of Agriculture urges homeowners to allow established
lawns to go dormant during the hot, dry weather.
Applying fertilizer to force a lawn to turn green during its
dormancy period can damage the grass and contribute to
nutrient pollution in streams, rivers and the Chesapeake
Bay. Dormant lawns will green up when cooler
temperatures arrive and rainfall increases. To help shade
grass and conserve moisture, raise the mower’s cutting
height by ½ inch to 1 inch during periods of hot, dry
weather and leave grass clippings on the lawn as a
source of free fertilizer. For more tips and information
on Maryland’s Lawn Fertilizer Law go to:
www.mda.maryland.gov/fertilizer or
extension.umd.edu/hgic.

EPA Proposes Stronger Standards for People Applying the Pesticides with the Greatest Risk

Improved training and minimum age requirements for
certified applicators will help protect people and the
environment.

The U.S. Environmental Protection Agency (EPA) is
proposing stronger standards for pesticide applicators
who apply “restricted-use” pesticides. These pesticides
are not available for purchase by the general public,
require special handling, and may only be applied by a
certified applicator or someone working under his or her
direct supervision.

“We are committed to keeping our communities safe,
protecting our environment and protecting workers and
their families,” said Jim Jones, EPA Assistant Administrator
for the Office of Chemical Safety and Pollution
Prevention. “By improving training and certification,
those who apply these restricted use pesticides will have
better knowledge and ability to use these pesticides
safely.”

The goal of today’s action is to reduce the likelihood of
harm from the misapplication of toxic pesticides and
ensure a consistent level of protection among states.
Pesticide use would be safer with increased supervision
and oversight.

EPA is proposing stricter standards for people certified to
use restricted use pesticides and to require all people
who apply restricted use pesticides to be at least 18
years old. Certifications would have to be renewed every
3 years.

EPA is proposing additional specialized licensing for
certain methods of application that can pose greater risks
if not conducted properly, such as fumigation and aerial
application. For further protection, those working under
the supervision of certified applicators would now need
training on using pesticides safely and protecting their
families from take-home pesticide exposure.

State agencies issue licenses to pesticide applicators who
need to demonstrate under an EPA-approved program
their ability to use these products safely. The proposed
revisions would reduce the burden on applicators and
pest control companies that work across state lines. The
proposal promotes consistency across state programs by
encouraging inter-state recognition of licenses.

The proposal also updates the requirements for States,
Tribes, and Federal agencies that administer their own
certification programs to incorporate the strengthened standards. Many states already have in place some or many of EPA's proposed changes. The proposed changes would raise the bar nationally to a level that most states have already achieved. The estimated benefits of $80.5 million would be due to fewer acute pesticide incidents to people.

EPA encourages public comment on the proposed improvements. The 90 day public comment period will begin when the proposal is published in the Federal Register.

A copy of the proposal and more information about certification for pesticide applicators:

To comment on the proposed changes, visit

EPA Site Quick Finder

About EPA’s Pesticides Program
Types of Pesticides
Frequently Asked Questions
Answers to questions from the public.
Fact Sheets
Information Sources
Pesticide Program Reports
Reports produced by the Office of Pesticide Programs
Annual Reports, Performance Management & Accountability, Pesticide Industry Sales and Usage, Progress Reports, Restricted Use Products Reports
Pesticide News Stories
Pesticide related articles appearing in news media
Publications | Glossary | A-Z Index |

CDMS:
Pesticide Labels and MSDS On-Line at:
http://www.cdms.net/

Commercial 2015 Vegetable Production Recommendations Maryland EB 236

On-Line at

JOIN US FOR UPDATES ON:
- Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on vegetables and fruit
- Pollinators and honey bees
- Disease control on Pumpkins and other vegetable crops

A TOUR WILL INCLUDE:
- Pumpkin IPM Spray Trials
- Apple NC 140 cg rootstock trial trellis planting with Cripp’s Pink and Brookfield Gala on G.202 rootstock budded directly from tissue culture; G.202, G.935 and G.41 rootstocks, all budded from stool bed plants; and the new rootstock/spacing demonstration
- Raspberry fertility trial
- BMSB spray trials using Surround(R)
- Cover crops and pest management
- Small fruit and Tree Fruit pathology

University of Maryland and Penn State Extension researchers and specialists include Bryan Butler, Kate Everts, Kelly Hamby, Dennis vanEngelsdorp, Cassandra Swett, Kari Peter, and Cerruti Hooks.

Refreshments will be provided. To ensure we have enough handouts and food, PLEASE RSVP BY AUGUST 12 to cmason@umd.edu or 301-432-2767 x350.
Save the Date: 2015 Aronia Twilight Tour August 20th

The 2015 Aronia Twilight Tour has been scheduled for Thursday, August 20th at 5 PM at the Wye Research and Education Center in Queenstown, MD. This twilight tour will be focused on useful information for both new farmers interested in growing Aronia and for veteran Aronia growers.

We will include Paul Goeringer, our Extension Legal Specialist from Agriculture and Resource Economics, who will discuss his “right to farm” extension programs as a legal resource for farmers. Additionally, Dr. Rohan Tikekar, Assistant Professor at the Department of Nutrition and Food Science, will present information about safe fruit processing practices, including handling, washing, and storing Aronia for sale. He will also present updates to Good Agricultural Practices and the Federal Food Security Modernization Act and how that will affect all fruit growers. Drs. Victoria Volkis and Andrew Ristvey will give research updates on cultural management and Aronia fruit phytochemical content.

Whether you are organic or conventional, a veteran Aronia grower or just interested in possibly growing Aronia, this is a program you do not want to miss! For more information, please contact Andrew Ristvey at (410) 827-8056 x113.

Understanding Acidified Foods Workshop

Whether you have a business that you wish to expand, or you are just in the planning stages, the Acidified Foods Workshop will be helpful to you. This workshop is designed to teach the basics of food safety requirements and regulation in the manufacture of acidified foods in Maryland.

Monday, August 31, 2015
Howard County Extension Education Center
University of Maryland Extension
3300 North Ridge Road Suite 240
Ellicott City, MD 21043

Registration form can be found [here](#). Registration is due August 14th.
For more information, please call 410.313.2702.

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SMALL FARM BUS TOUR SLATED, LATE AUGUST/EARLY SEPTEMBER

PRINCESS ANNE, MD – (July 17, 2015) – A small farm bus tour offers a variety of educational stops over a two-day period late August/early September. Back by popular demand, the tour will allow participants to “Explore New Farm Income Opportunities,” on Monday, August 31, and Tuesday, September 1.

Tour participants will meet in the Cambridge Walmart Supercenter parking lot and depart for the tour at 8:00 a.m. sharp on Monday, August 31. The two day tour will provide participants with many opportunities to experience successful and innovative farming ventures in Maryland and Pennsylvania and to explore alternatives and possibilities that will help the average farmer increase his or her bottom line and implement sustainable practices. Major topics of discussion will be centered on direct marketing, value-added products, agri-tourism, sustainable farming practices, alternative “niche” crops, forestry, natural resource conservation and more. The tour will end as the bus returns to the Cambridge Walmart Supercenter parking lot around 6:30 p.m. on Tuesday, September 1.

The “Explore New Farm Income Opportunities” tour is hosted by the University of Maryland Eastern Shore’s Small Farm Outreach Initiative and sponsored in-part by USDA- Renewable Resources Extension Act, Rural Maryland Council, and Future Harvest.

The registration fee, which covers bus transportation, hotel accommodations for one night, educational materials and light refreshments, is $80 per person (single private accommodation) and $60 per person (double accommodation). To register online, visit: smallfarmbustour.eventbrite.com.

All registrations and payments must be received by Monday, August 24. Early registration is recommended, as space is limited to 40 participants.

For more information about select tour stops during the “Exploring New Farm Income Opportunities” bus tour or the Small Farm Outreach Initiative, contact Rogers at 410-651-6070 or 6693.
Program Highlights:

- Hear the latest from Cerruti Hooks, of the Department of Entomology, about his work using companion crops in vegetable production for the management of insect populations.
- Listen to Galen Dively and new crops entomologist Kelly Hamby give an update on the latest Sweet corn “BT” technology.
- Learn about Shirley Micallef of the Department of Plant Science and Landscape Architecture & Center for Food Safety and Security Systems’ work with food production safety.
- Get Chris Walsh’s overview of the results of the regional Asian pear variety trial - what’s good and what’s not?
- Walk the pumpkin variety/fungicide spray trial with 10 varieties to see and hear what Kate Everts, Extension Specialist in Plant Pathology, and Jerry Brust, State Vegetable Specialist, have to say about the challenges of growing this year.

We’ll be having a light fare and will need to know if you are attending. Please RSVP by September 4th to Debby Dant, ddant@umd.edu, 410-827-8056 X115. For program information contact Michael Newell, mnewell@umd.edu, 410-827-7388.

Vegetable & Fruit News
A timely publication for the commercial vegetable and fruit industry available electronically in 2015 from April through October on the following dates: April 16; May 14; June 11; July 9; August 13; September 10; and October 22.

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Submit Articles to:
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Article submission deadlines for 2015 at 4:30 p.m. on: April 15; May 13; June 10; July 8; August 12; September 9; and October 21.

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