

The University of Maryland Extension Agriculture and Food Systems and Environment and Natural Resources Focus Teams proudly present this publication for commercial vegetable and fruit industries.

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## Vegetable Crop Insect Update

By Joanne Whalen  
DE Extension IPM Specialist  
[jwhalen@udel.edu](mailto:jwhalen@udel.edu)



### Cucumbers

Cucumber beetles continue to be active so be sure to scout for beetles as well as aphids. Fresh market cucumbers are susceptible to bacterial wilt, so treatments should be applied before beetles feed extensively on cotyledons and the first true leaves. Although pickling cucumbers have a tolerance to wilt, a treatment may still be needed for machine-harvested pickling cucumbers when 5% of plants are infested with beetles and/or plants are showing fresh feeding injury. A treatment should be applied for aphids if 10 to 20 percent of the plants are infested with aphids with 5 or more aphids per leaf.

### Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. Although aphid populations are still relatively low in most fields we have started to see a few fields with economic levels. Populations can quickly explode. The treatment threshold for aphids is 20% infested plants with at least 5 aphids per leaf. We are starting to see an increase in spider mites in the earliest planted fields. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Cucumber beetles continue to be found and numbers are increasing in a number of fields. Since beetles can continue to re-infest fields as well as hide under the plastic, be sure to check carefully for beetles as well as their feeding damage. Multiple applications are often needed to achieve effective control. When fields are blooming, be sure to consider pollinators when making an insecticide application and read all labels for requirements regarding pollinator protection.

### 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 to 10-day schedule once pepper fruit is  $\frac{1}{4}$  –  $\frac{1}{2}$  inch in diameter.

### Potatoes

Continue to scout fields for Colorado potato beetle (CPB) and leafhoppers. Adult CPB as well as the small and large larvae can now be found. A treatment should be

considered for adults when you find 25 beetles per 50 plants and defoliation has reached the 10% level. Once larvae are detected, the threshold is 4 small larvae per plant or 1.5 large larvae per plant. As a general guideline, controls should be applied for leafhoppers if you find  $\frac{1}{2}$  to one adult per sweep and/or one nymph per every 10 leaves.

### Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. The thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. If both insects are present, the threshold for each should be reduced by one third. 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. After the pin spray on processing beans, the spray schedule will be determined by a combination of both moth catches and field scouting.

Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7 to 10-day schedule should be maintained for corn borer control

### Sweet Corn

Continue to sample seedling stage fields for cutworms and flea beetles. You should also sample whorl through pre-tassel stage corn for corn borers and corn earworms. 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.



## Tree Fruit Disease Update: The Latest about Scab, Fire Blight & Summer Diseases

By Dr. Kari Peter  
Tree Fruit Pathologist  
Penn State University

[kap22@psu.edu](mailto:kap22@psu.edu)

<http://plantpath.psu.edu/directory/kap22>

This is proving to be another interesting season and there has been no rest for the weary. Some items to keep in mind as we near the official start of summer:

### **The primary apple scab season continues through mid-June**

Primary scab infection is defined as the ascospores released from the overwintered leaves from the previous year's infected leaves. We have been monitoring overwintering spore release at the Fruit Research Station and Extension Center (FREC) in Biglerville, PA and, as of June 8, 2015, we continue to detect spore release, albeit in very low numbers indicating we are nearing the home stretch. This is right on track for the end of the primary season occurring around mid-June. **If you have had scab issues in the past, you will want to remain vigilant during a wetting period over the next week.** Since we are experiencing consistently warm temperatures, the average temperature will be optimal for scab infection to occur with minimal leaf wetness hours: be sure you have trees protected before the rain hits. In addition growers will want to begin scouting for apple scab infection since whatever spores established on leaves and/or fruit during the primary infection period will produce additional spores called conidia in vast quantities. These summer spores can cause infection throughout the summer and we call this stage the "secondary infection period." It is important to monitor your orchard for any scab infection that became established during the "primary" period because scab control will be needed throughout summer in order to keep the disease from causing significant damage to fruit, especially if we continue to experience weather conditions ideal for infection.

### **Continue managing diseases after hail damage**

During the month of May, it felt like a feast or famine when it came to rainfall; June so far feels no different. A reminder to the reader when severe storms produce hail: it is important to manage diseases, especially fire blight, after a damaging event such as hail. Tattered leaves, broken or damaged shoots, wounds on scaffold branches, and fruit damage may cause you to throw your hands up and say, "I'm done for the season!" and hope for better luck next year. Unfortunately, this would be a poor management decision. Open wounds on growing shoots, branches, or scaffolds are entry points for bacterial and fungal pathogens (as well as insects). Since we had ideal conditions for fire blight this year, there is a potential for a high number of bacteria present in the orchard, especially if cankers are still present.

**Remember to apply streptomycin within 24 hrs of a hail event to prevent trauma blight.** As far as the rest of the season, growers should maintain a minimal pest management program to protect trees during the wound healing process and not predispose trees to further damage, otherwise long-term health, productivity and longevity of the orchard may be severely compromised.

### **Scout for fire blight infections**

We experienced excellent conditions for fire blight infection this year and reports are rolling in with regard to strike sightings. Just to review what to do when you see infections in your orchards:

- Do not cut out infections during wet weather since bacteria move via water.
- Cut out active infections early - before necrosis develops (limits the spread of bacteria).
- Pruning is most effective when incidence is low.
- Focus on salvaging tree structure and young high density plantings when incidence is high.
- Avoid excessive cutting since this stimulates secondary shoot growth.
- Bacteria can invade healthy tissue up to ~3 feet in advance of visible symptoms, which makes tool sterilization not effective
- Practice the ugly stub method: cut 6 -12 inches below the margin of visible infection and remove later during winter pruning.
- Bacteria can live very well outside the plant and, to be certain you are getting rid of all sources of bacteria, it best to burn infected tissue that has been removed from the tree.

### **Control for sooty blotch and flyspeck is needed**

SBFS survives one season to the next on infected twigs of apple and pear trees, and is found on many woody plants surrounding orchards, such as brambles, oaks, and maples. The optimal conditions for spores to cause infection are temperatures ranging from 60 – 80 °F, relative humidity greater than 96%, and frequent rain periods with slow drying conditions. Typically, spores require a 3 week incubation period in the orchard before symptoms develop; however optimum conditions favor a

shorter incubation period and symptoms can manifest in as little as 8 – 12 days.

Predictive models exist for determining infection periods for SBFS. The ultimate goal is to time the first spray for SBFS. Unfortunately, there are variations among the models and mixed results. The Tree Fruit Pathology Lab at FREC follows the Brown/Sutton model where 10 days after petal fall, wetting hours begin to accumulate. At approximately 220 accumulated wetting hours, treatment is recommended. Some models have a lower treatment threshold for wetting hours, whereas others have a higher treatment threshold. For example, those using NEWA for predicting SBFS, the treatment threshold is 175 hours; Skybit is 350 hours. **According the NEWA model, central Maryland will be reaching the threshold for control around June 9; southern Pennsylvania around June 11.** For mid-June cover sprays, growers are encouraged to begin controlling for SBFS. Captan, Topsin M, and strobilurins (Flint, Sovran, Merivon) provide excellent protection for controlling SBFS when applied on a 10 – 14 day interval schedule.



## Fruit Drop in Trees

By Gordon Johnson,  
DE Extension Vegetable & Fruit Specialist;  
[gcjohn@udel.edu](mailto:gcjohn@udel.edu)

Fruit trees commonly set more fruit than they will carry and chemical, mechanical, or hand thinning is done to reduce fruit loads, increase fruit size, and limit alternate year bearing. Natural fruit drop also occurs and is often called “May Drop” or “June Drop”. This is often accompanied by some leaf drop, especially in stone fruits.

Natural fruit drop is a result of unfertilized or poorly fertilized seeds, cold injury, competition between fruits, or shading. Poor pollination may be a result of cold, rainy weather during bloom in self-fertile fruits such as peaches or poor insect pollinator activity during flowering in insect pollinated fruits such as apples. In stone fruit, some fruit that is not fertilized will remain on the plant for 25-50 days after bloom and then will drop before pit hardening starts.

Another wave of natural fruit drop occurs in late May or early June. This fruit drop is due to competition between fruit for sugars stored and produced by the tree. A tree can only carry a certain load of fruit and will naturally drop smaller and weaker fruit during this period. However, thinning should have been accomplished before this competitive fruit drop occurs. Having fruit remain on the plant until natural competitive drop will use up food reserves in the plant and reduce the size potential of remaining fruit. Fewer cells will have been produced by the fruit remaining on the plant and therefore fruit size will not be recovered.

Another cause of fruit drop is cloudy weather during the period 5 to 7 weeks after bloom. A continuous 4 day period of cloudy days during this period will also cause fruit to drop. In addition, defoliation due to disease such as peach leaf curl, chemical injury such as copper fungicide damage, or severe storms can cause fruit drop during this critical period.

## Cucurbit Downy Mildew Present in the South

By Kate Everts  
Vegetable Pathologist  
University of Delaware and University of Maryland  
[keverts@umd.edu](mailto:keverts@umd.edu)

It is still very early for the onset of downy mildew of cucumbers and other cucurbits in Delaware and Maryland. These diseases cannot overwinter here, and must be reintroduced to our area each year from cucurbit crops in the South. This year, the disease has started to moving north quickly and has already been reported on cucumber and watermelon in South Carolina. The watermelon occurrence is very early. Downy mildew specific fungicides do not need to be applied yet in Delaware or Maryland. However you should scout your cucurbits after this storm has passed and keep a look out for downy mildew in the coming weeks.



Images of downy mildew on watermelon.

Note the dark spots and flecks that are surrounded by yellowing (chlorosis). The chlorosis in new infections is delimited by the veins.

## Potato Disease Advisory

June 9, 2015

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](http://www.usablight.org). If you suspect late blight, send samples to the UM Plant Diagnostic Clinic or to your local Extension office.

**Conventional recommendations:** A preventative late blight fungicide such as mancozeb or chlorothalonil is recommended once 18 Disease Severity Values (DSVs) accumulate. Once the first fungicide is applied, subsequent late blight sprays should be applied when 7 additional DSV's have accumulated.

**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. 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/ateblight\\_tomato.htm](http://www.longislandhort.cornell.edu/vegpath/photos/ateblight_tomato.htm)

**Every location except Oakland has reached the threshold and a fungicide application is recommended (18 DSV's have been accumulated).**

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. For fungicides recommended for late blight control see the **2015 Commercial Vegetable Production Guide**.

Date	Hurlock		Mechanicsville		Owings		Clinton		Severn		Dickerson		Freeland		Oakland	
	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV	Daily DSV	Total DSV
6/1 to 6/3	9	22	9	46	11	20	11	20	11	28	11	25	8	30	6	12
6/3 to 6/4	4	26	5	51	5	25	5	25	0	28	0	25	0	30	0	12
6/4 to 6/8	5	31	10	61	12	37	12	37	9	37	9	34	7	37	3	15

## Fusarium Crown & Root Rot in Tomato

By Kate Everts

Vegetable Pathologist

University of Delaware and University of Maryland  
[keverts@umd.edu](mailto:keverts@umd.edu)

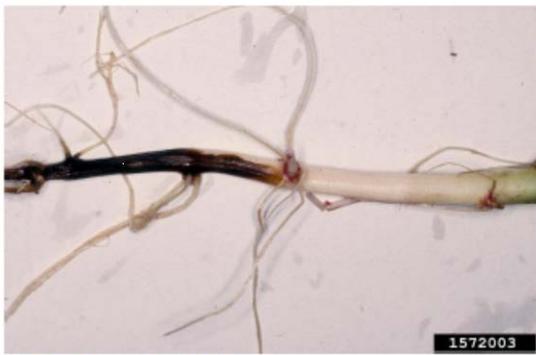
One common disease problem of tomatoes grown in greenhouses is Fusarium crown and root rot. The disease can also be a problem in field production. Symptoms of Fusarium crown and root rot are tan to dark brown dry lesions that develop at the soil line and advance upward. The necrosis on the stem surface extends into the vascular system. As a result of damage to the stem and roots, the foliage becomes chlorotic (yellow) and plants wilt and are stunted.

The pathogen (*Fusarium oxysporum* f. sp. *radicis-lycopersici*) also causes disease on legumes, cabbage, carrots, onions, some cucurbits and other plants. Factors that favor the Fusarium crown and root rot are low soil pH, ammonium nitrogen fertilizers, and the presence of other root rots. It is often also associated with sterilized soils.



Fusarium crown rot  
 (Image from Texas A&M AgriLife Extension).

There are some resistant cultivars available. A good table that lists cultivars that are resistant to Fusarium crown and root rot has been compiled by Dr. Meg McGrath at Cornell and is online at (<http://vegetablemendonline.ppath.cornell.edu/Tables/TableList.htm>). Grafting to a resistant rootstock is also effective. Sanitation is critical and disinfectants should be used between successive greenhouse crops. Rotate away from alternative hosts between crops in both greenhouse and field production. In addition biological controls containing the agent *Trichoderma harzianum*, such as Plantshield or Rootshield, have some suppressive activity. Enhancing the microbial activity of soils with organic amendments will also suppress the disease and favor biocontrols.



**Blackleg of potato.** Image from Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org

## Potato Aerial Stem Rot & Black Leg

By Kate Everts  
Vegetable Pathologist  
University of Delaware and University of Maryland  
[keverts@umd.edu](mailto:keverts@umd.edu)

Our wet cool weather this past week has been favorable for two stem diseases of potato, which are caused by bacteria in the *Pectobacterium* group. They are aerial stem rot and blackleg. Blackleg begins on tubers and progresses up the stem and aerial stem rot begins with an infection at a wound or natural opening such as a leaf scar on the stem. Blackleg and aerial stem rot inoculum originates from infected tubers, infested soil, or other contamination.

Even though the infections may come from infected tubers, the symptoms may not occur until the plants have begun to flower. Symptoms are black to brown slimy (or mushy) decay of the stems. The conditions that favor potato plant growth are less favorable for blackleg or tuber rots (i.e. more disease will occur if the weather is either very cool or hot). Management of these diseases focuses on reducing inoculum development. To minimize the disease use certified potato seed pieces. Use either small tubers for planting or allow the seed pieces to heal (cork) over before planting. Don't plant in waterlogged or low-fertility soils, and space plants so that air can move around the plants to reduce moisture. Wet soil promotes infection of tubers through lenticels (small natural openings in the potato skin). Limit irrigation to the morning and apply longer, less frequent irrigation rather than short frequent irrigations. During storage, keep the tubers at 50 to 55 F for ten to 14 days for wound healing. Following healing the temperature can be lowered below 50 to reduce bacterial growth (though temperatures should not be low enough to promote conversion of starches to sugars).

A free chlorine wash maintained at 25 ppm chlorine or a fresh chlorine rinse maintained at 50 ppm chlorine may help reduce soft rot in storage.

## Flea Beetle Feeding & Early Blight

By Jerry Brust  
Extension IPM Vegetable Specialist  
University of Maryland  
[jbrust@umd.edu](mailto:jbrust@umd.edu)

I was greatly surprised in the last week when I visited a few farms and saw that 2-4 week old tomato plants had some early blight (*Alternaria solani*) and in some cases bad early blight lesions (Fig. 1).



Figure 1. Tomato with early blight lesions.

This is very early in the season to be seeing this level of early blight. The thing that was really odd is just about every one of the tomato plants with early blight also had moderate to high flea beetle feeding (Fig. 2).



Figure 2. Tomato leaf with old flea beetle feeding and early blight.

In some cases I could not find any flea beetles after the heavy rains we have just had and in other cases I could find a number of them. Normally this amount of flea beetle feeding would not have been of much concern, but flea beetles can cause increased infections of alternaria in tomatoes and potatoes and possibly other early blight susceptible crops. I found that there was a strong correlation ( $r=0.94$ ) between flea beetle feeding and the amount of early blight on tomato plants on several different farms. By the amount of flea beetle feeding I have seen on eggplants and tomatoes so far this year this appears to be a good season for them and with the rains we have just had their feeding has increased the incidence of alternaria in tomatoes in some locations. If you have moderate flea beetle feeding damage to your Solanaceae plants and you see any

# Spotted Wing Drosophila Fruit Monitoring

By Kelly Hamby  
Assistant Professor/Extension Specialist- Entomology  
University of Maryland  
&  
Bryan Butler  
Extension Agent  
University of Maryland Extension  
&  
Kathleen Demchak  
Senior Extension Associate  
Penn State University  
&  
Neelendra Joshi  
Postdoctoral Researcher/Fruit Entomologist  
Penn State University

early blight starting you'll need to control both the beetle and the disease. Pyrethroids should work well in controlling flea beetles. There is not much organically that will control flea beetles **once they are causing economic damage** (there are many things that can be done though, to reduce flea beetle problems before flea beetles cause damage, more at: [www.attra.ncat.org](http://www.attra.ncat.org))

Flea beetle adults are generally small and range in size from 0.05 to 0.15 inch. They overwinter as adults on weed hosts surrounding the field, on residues of a previous tomato crop, or in the soil if the previous crop like tomato or eggplant was a flea beetle host. Some flea beetles like to feed on amaranths or pigweeds (Fig. 3) and will readily move from them over to your crop.



Figure 3. Pale striped flea beetle feeding on amaranthus weed.

Flea beetle adults chew small round holes in leaves, which make them look as if they have been damaged by fine buckshot, called "shotholing" (Fig. 4).



Figure 4. Potato flea beetle on eggplant.

The white larvae feed on underground parts of the plant, but this damage is usually not economically significant. Normally foliar damage to larger plants is not considered to be economically important, but feeding damage to small plants or seedlings can reduce stand or vigor of the plant. The other exception about flea beetles not being economic pests is when alternaria is associated with their feeding on smaller to moderate size tomato plants. There are several species of flea beetles in our area. Often times a species of flea beetle has a preference for certain plants i.e., some flea beetles prefer potatoes, tomatoes or other Solanaceous or nightshade plants, while others prefer broccoli, cabbage and other cole crops and still others can feed on many different plant families. There is normally a second generation during the summer and at times even a third depending on species.

## Background:

Spotted wing drosophila (SWD), *Drosophila suzukii*, continues to be a problem for growers of soft-skinned fruit such as blackberry, blueberry, cherry (sweet and tart), and raspberry (black and red). Unlike other vinegar fly species (*Drosophila* spp.) that lay their eggs in over ripe, previously damaged, rotting, and fermenting fruit; SWD will attack undamaged fruit as it ripens. Adults are small flies about 1/16 to 1/8 inch long with red eyes and an amber colored body with black stripes on the abdomen. The male flies have a black spot towards the tip of each wing. The females do not have spots on the wings but they have a very prominent, sawlike ovipositor (egg laying structure), larger than other vinegar flies. The female will penetrate the skin of soft-skinned fruit laying the eggs just under the skin leaving a small puncture ("sting") on the fruit surface (Figure 1). Eggs hatch and larvae develop and feed inside the fruit, and this damage can provide an entry site for other vinegar flies and secondary pathogens.



Figure 1. SWD "sting" on a ripe sweet cherry. Image: University of California Statewide IPM Program, taken by Larry L. Strand.

## Fruit Sampling:

Sampling for SWD in fruit is the best way to determine whether SWD is causing damage in your fields and to evaluate the effectiveness of management practices. Once SWD lays its eggs in a ripe fruit, the fruit begins to degrade, and other vinegar flies may also begin to infest it. Therefore, it is important to sample

ripening fruit with no apparent damage rather than degraded or overripe fruit when determining SWD presence in fruit. The more fruit you sample the more confident you can be in your results, and currently it is unknown how many fruit to sample to determine whether SWD is present at market detectable levels. We typically sample at least 30-40 fruit at market ripeness from various locations (including border rows) within the planting. Selecting fruit from the interior portions of the plant may increase your chances of detecting SWD. Recent research in Dr. Hannah Burrack's lab at North Carolina State University suggests that SWD density is higher in fruit in the central part of a plant. Most of the time, these berries also do not receive proper spray coverage, and therefore are not well protected from SWD.

There are a variety of methods to sample for larvae in the fruit, however, we do not know which method is best for finding larvae. Perhaps the easiest is **directly looking for larvae** in the fruit. One of the earliest signs of larvae in raspberries is evidence of juice on the receptacle when the fruit is harvested. Individual fruit can be crushed or cut open and you can look for larvae. A hand lens might help find some smaller larvae, but this method likely misses the smaller larval stages. Larger larvae are visible to even the naked eye, remembering that SWD larvae are pointed at both ends and only a little longer than 1/8" when fully grown (Figure 2). SWD larvae cannot be visually distinguished from other vinegar flies, so selecting ripening good quality fruit rather than overripe fruit is important. Other flies that may be found within fruit, such as blueberry maggot, are larger at around 3/16" and are only pointed at one end (Figure 3). Other internal fruit feeding pests such as plum curculio, raspberry fruitworm, cranberry fruitworm, and cherry fruitworm (Figure 4) may also be found with some of these methods.

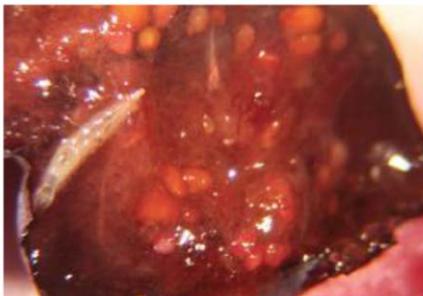


Figure 2. SWD larva in blueberry. Image: British Columbia Ministry of Agriculture, taken by T. Hueppelsheuser.



Figure 3. Blueberry maggot in fruit. Image: Michigan State University, taken by Rufus Isaacs.



Figure 4. Cherry fruitworm on blueberry. Image: North Carolina State University, taken by Hannah Burrack.

**Larval flotation** methods can be used to extract larvae from fruit and see them floating on the top of a water solution. For a detailed guide with pictures visit: <http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/52502/em9096.pdf>. In this method, fruit should be gently crushed and/or cut into pieces (especially larger fruit like strawberries) in a container. This can be done in a thin layer in a plastic food storage container or in a sealed plastic bag like a gallon sized re-sealable bag. Then a sugar (white sugar or light brown sugar works) water or a salt (non-iodized seems to be better) water solution can be added. Usually 1 cup of white sugar or table salt, or 2.5 cups of light brown sugar is used per gallon of water. Dissolving the salt or sugar in warmer water a day or so beforehand can ensure that it is fully dissolved and will increase the flotation. Sugar solutions tend to keep the larvae alive a bit longer, and live larvae are easier to see because they continue to move. Agitate the fruit while it is in the solution, and allow 10-15 minutes for the larvae to emerge. SWD larvae (if present in the fruit) should float to the surface and be visible, other internal feeders such as cranberry fruitworm that are larger tend to sink rather than float. It can help to use wire mesh or window screen to hold down the fruit particles when using a tray or plastic food storage container so that only the water and larvae are at the surface. Pouring the water through a fine mesh (a US Standard Mesh Size 12 or 0.06" opening is a good size) sieve can also help locate larvae by sieving out the fruit particles. The water should be collected and larvae counted after sieving. Putting the water (or water and fruit) in a clear container over a dark background can make it easier to spot the larvae (which are white to cream-colored), and a hand lens can also help for viewing smaller larvae.

**Heating/slow freezing/refrigeration** of fruit held in sealed plastic bags often causes the larvae to leave fruit on their own, after which they are found on the surface of the fruit or on the bag. I often just leave the bags sealed in my truck on a warm day and come back to the larvae abandoning the fruit. Finally, the only way to be 100% sure that you have SWD rather than other vinegar flies in your fruit samples, is to **rear the flies out** of the fruit. This can be hard to do with fruit like raspberries that degrade very quickly, but is a very successful method for something like cherries and blueberries. Hold the fruit in a tightly sealed container

(to prevent escaping and secondary infestation by other vinegar flies) that is still able to exchange air. Making a hole in a plastic food storage container and then sealing it with fine mesh (like organdy) using caulk works well. Because the fruit will start to degrade, a lining like cotton, paper towels, or sand will be needed on the bottom to soak up the liquid and prevent the larvae from drowning. Keep the containers at room temperature and then use a sticky card to catch the flies as they emerge, or wait until fly emergence and freeze the container to collect the flies. You can then identify the emerging vinegar flies to see if they were SWD. Identification guides for SWD can be found at many IPM websites, a list of them is available at:

<http://www.fruit.cornell.edu/spottedwing/ID.html>

This method may overestimate market detectable infestation because eggs have time to hatch and develop.

**References:**

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Agricultural Law Education Initiative

<http://umaglaw.org>

The MSBA's Ag Law Section and the Ag Law Education Initiative recently completed an update of the Legal Services Directory to reflect the section's growing membership. A digital copy is available at <http://ter.ps/LegDirect>. We also have hard copies available so feel free to email any of us to ask for hard copies.

[Agricultural Law Webinar Series](#)

Monday, Jun. 22, 2015 - 12:00pm to 1:00pm

Online Event

[Class/Workshop](#)

Complying with federal and state labor laws can be complicated matters for not only agricultural producers but any business operator. One aspect of federal labor law is verifying the individual is eligible to work in the United States.

On June 22, [Dr. Shannon Ferrell, Oklahoma \(link is external\) associate professor of agricultural economics, Department of Agricultural Economics, Oklahoma State University \(link is external\)](#), will cover this topic and touch upon other issues related to federal labor laws. The webinar is open to all and is free. The webinar will be recorded for those unable to attend.

The webinar is sponsored by the [University of Maryland's Agriculture Law Education Initiative \(link is external\)](#). The Agriculture Law Education Initiative is a collaboration between the University of Maryland Francis King Carey School of Law and College of Agriculture & Natural Resources, University of Maryland, College Park. Through the University of Maryland Extension - the statewide, non-formal agriculture education system - the collaboration partners with the School of Agricultural and Natural Sciences, University of Maryland Eastern Shore.

Registration is free at:

<http://aleii-9webinar.eventbrite.com>

See more at:

<http://extension.umd.edu/news/events/mon-2015-06-22-1200-ag-labor-webinar-complying-i-9-process#sthash.yZTz8mgQ.dpuf>

**Japanese beetles**

By Stanton A. Gill

Extension Specialist in IPM and Entomology

University of Maryland Extension

[Sgill@umd.edu](mailto:Sgill@umd.edu)

[www.Extension.umd.edu/ipm](http://www.Extension.umd.edu/ipm) - IPM Alerts

Well, it is the quiet before the storm period. The white grub population we examine di the last week were high and we are starting to see some pupation. The adult Japanese beetles should be coming out in the end of June to early July this year. I am predicting the populations will be high in many areas this year. The rains last summer were perfect for Japanese beetle grub survival.

Best materials to control them: Acelepyrn is one of the new materials with a label in Maryland. It last about 3 weeks in controlling adult beetles. It is not inexpensive at \$905 for a half gallon. Rates are 1 to 8 oz. per 100 gallons. Higher rates – longer control. Older material that work include bifenthrin and permethrin.

We will be testing a new product this summer that is a strain of Bt that supposedly works on adult beetles. We will let you know the results later in the summer.

# Food Safety Modernization Act: The Produce Safety Rule

By Ashley Newhall, Legal Specialist  
University of Maryland

Agricultural and Resource Economics  
Department and the Agriculture Law Education  
Initiative

and other facilities where raw fruits and vegetables will be held or packaged.

## 7. Sprouts

This section sets standards for sprout production, including treatment of the seeds before sprouting and testing of irrigation water for pathogens

(Each of these sections also has certain standards for recordkeeping and document adherence).

## To Whom Does the Produce Rule Apply?

The Produce Rule applies to farms which cultivate fruits and vegetables in their raw or natural (unprocessed) state and make more than \$25,000 in annual produce sales. This is different than the Preventive Rule because the Produce Rule does not apply to manufacturers or processors. However, if you grow raw fruits and vegetables and also manufacture or further process the produce, you may be subject to both rules. The Produce Rule does not apply to raw agricultural commodities that are rarely consumed raw (such as squash), those produced for personal or on-farm consumption, and (with certain documentation) those destined for commercial processing such as canning, which will adequately reduce microorganisms of public health concern ([FDA Guidance Document](#)).

The proposed Produce Rule covers the following produce (remember, the Rule has not been finalized and this list may change):

(1) Fruits and vegetables such as almonds, apples, apricots, aprrium, asian pear, avocados, babaco, bamboo shoots, bananas, Belgian endive, blackberries, blueberries, broccoli, cabbage, cantaloupe, carambola, carrots, cauliflower, celery, cherries, citrus (such as clementine, grapefruit, lemons, limes, mandarin, oranges, tangerines, tangors, and unqi fruit), cucumbers, curly endive, garlic, grapes, green beans, guava, herbs (such as basil, chives, cilantro, mint, oregano, and parsley), honeydew, kiwifruit, lettuce, mangos, other melons (such as canary, crenshaw and persian), mushrooms, nectarine, onions, papaya, passion fruit, peaches, pears, peas, peppers (such as bell and hot), pineapple, plums, plumcot, radish, raspberries, red currant, scallions, snow peas, spinach, sprouts (such as alfalfa and mung bean), strawberries, summer squash (such as patty pan, yellow and zucchini), tomatoes, walnuts, watercress, and watermelon; and

(2) Mixes of intact fruits and vegetables (such as fruit baskets).

([see § 112.1](#)) Compliance dates vary depending on what type of facility definition you fall under. Definitions under the Produce Rule are different than the definitions under the Preventive Rule so pay close attention to where your operation fits under each rule.

## The Produce Safety Rule

The Food and Drug Administration (FDA) released proposed revisions to the Produce Rule (Section 105) of FSMA on September 19, 2014 with a comment period that ended December 15, 2014. The overview of the Preventive Rule will reflect those proposed changes even though they are not yet final.

In short, the Produce Rule reflects FDA's regulations which establish standards for produce safety. In its proposed Produce Rule, FDA described new standards for the growing, harvesting, packing, and holding of produce for human consumption. With that said, the Produce Rule sets standards for the following major areas:

### 1. Worker Training

This section requires training for supervisors and farm personnel who handle produce covered by the Produce Rule.

### 2. Health and Hygiene

This section would require farm employees to follow sanitary practices, including but not limited to hand washing, not working when sick, and maintaining personal cleanliness.

### 3. Agricultural Water (used in covered activities on covered produce where water is intended to, or is likely to, contact covered produce)

The Rule would require the use of a treatment method effective to make the water safe and of adequate sanitary quality for its intended uses (see § 112.43(b)). The proposed rule would also require delivery of the treatment in a manner to ensure that the treated water consistently meets that standard, and to monitor the treatment at a frequency adequate to ensure that the treated water consistently meets that standard (see § 112.43(c)).

### 4. Biological Soil Amendments of Animal Origin

The Rule specifies types of treatments, methods of application, and time intervals between applications of certain soil amendments. This includes manure, composted manure, and practices during crop harvest.

### 5. Domesticated and Wild Animals

For domesticated animals, the Rule requires certain standards, such as waiting periods between grazing and crop harvest. For wild animals, the Rule requires farmers to monitor wildlife intrusion and not harvest produce visibly contaminated with animal feces.

### 6. Equipment, Tools, and Buildings

The Rule sets standards for tools and equipment which come into contact with produce as well as for buildings

1. **Very Small Business:** A business that has an average annual monetary value of food sold during the previous three-year period of no more than \$250,000 would have four years from the effective date to be in compliance. (see § 112.3(b)(1))
2. **Small Business:** A business that has an average annual monetary value of food sold during the previous three-year period of no more than \$500,000 would have three years after the effective date to comply with most provisions. (see § 112.3(b)(2))
3. **Other Businesses:** A business that is not small or very small and does not qualify for an exemption would have two years after the effective date of the final rule to comply with most provisions.

The compliance dates for water quality standards and related testing would be an additional two years beyond compliance dates for the rest of the final rule.

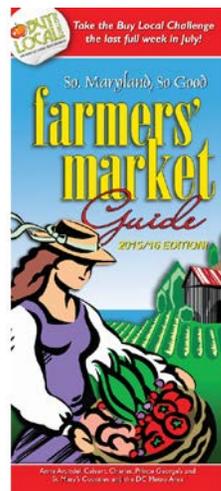
For further information on the Produce Rule, visit the [FDA website](#)



### Maryland Agricultural Commission Seeks Horticulture Nominations

**ANNAPOLIS, MD (June 9, 2015)** – The Maryland Agricultural Commission – an advisory body to the Secretary of Agriculture which represents all major commodities in Maryland – is seeking a fruit grower to fill the Horticulture position on the commission. As a group, commission members address legislative and policy issues that affect Maryland agribusiness. To be considered, applicants must be Maryland residents and have experience in the field they are interested in representing. Appointments are made by Governor Larry Hogan, and each member is eligible to serve two, 3-year appointed terms. The Commission meets the second Wednesday of each month from 9:00 until noon throughout the year. **All nomination forms must be received by June 24.**

To be considered, contact Jessica Armacost at [jessica.armacost@maryland.gov](mailto:jessica.armacost@maryland.gov) or 443-883-0217 for more information and application forms. Additional information about the commission and applications are [available online](#)



## 2015 “So. Maryland, So Good” Guide to Farmers’ Markets Available Now

Looking for a farmers’ market near you? The 2015 “So. Maryland So Good” Farmers’ Market Guide is a great resource to help you find the region’s finest and freshest locally grown farm products.

Printed annually by the Southern Maryland Agricultural Commission, the guide lists 31 producer-only markets around Southern Maryland in addition to 12 markets in the Metro DC area that feature a bountiful harvest of genuine Southern Maryland farm-grown produce, meats and seafood, pickles and jams, dairy products, baked goods and even wine.

The free, full color guide lists market days and hours of operation, plus a handy regional market locator map and harvesting chart unique to Southern Maryland’s growing seasons. Also listed are the market websites and Facebook pages; a great way to find out more about what’s at market and discover more about the farmers each market hosts. And look out for special market events such as customer appreciation days, holiday market celebrations and chef demonstrations.

The Farmer's Market Guide is one of many resources created by the Southern Maryland Agricultural Development Commission in support of regional agriculture. A related effort is the upcoming state-wide Buy Local Challenge Week (July 18 - 26). Marylanders are asked to pledge to eat (and drink!) local farm products for one week. Visit the Buy Local Challenge website at [www.buylocalchallenge.com](http://www.buylocalchallenge.com) for details.

The 2015 Farmers' Market Guide is now available, while stocks last, at participating Southern Maryland farmers' markets, regional public libraries and welcome centers. View or download the guide on the 'Get the Guides' page at [www.smadc.com](http://www.smadc.com)

## Welcome to the Terp Farm Newsletter!

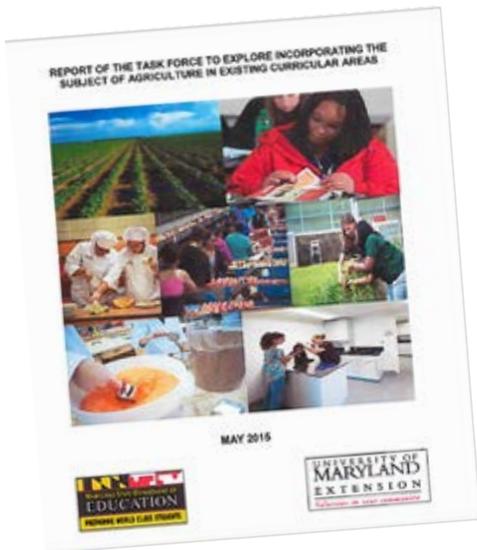
We'll be sending monthly updates of what we're up to at Terp Farm - thanks for following along!



## Subscribe to the Terp Farm Newsletter!

We'll be sending monthly updates of what we're up to at Terp Farm - thanks for following along!

[Terp Farm Newsletter Subscription](#)



Maryland State Superintendent of Schools, Lillian M. Lowery, releases to the Maryland Legislature a report entitled, *Report of the Task Force to Explore Incorporating the Subject of Agriculture in Existing Curricular Areas*.

The full task force full report is available at:

<http://extension.umd.edu/anne-arundel-county/agriculture/agriculture-bulletins>

Go to Bulletin Section I and select:

MSDE Task Force to Incorporate Agriculture Curricula

## Article of Interest

### “The Contribution of Pesticides to Pest Management in Meeting the Global Need for Food Production by 2050”

The CAST (Council for Agricultural Science and Technology) article entitled, *The Contribution of Pesticides to Pest Management in Meeting the Global Need for food Production by 2050* summarizes topics and issues regarding the use of pesticides in a scientific and responsible manner.

View the article at:

[http://www.cast-science.org/news/?new\\_cast\\_issue\\_paper\\_about\\_the\\_significance\\_of\\_pesticides&show=news&newsID=19397](http://www.cast-science.org/news/?new_cast_issue_paper_about_the_significance_of_pesticides&show=news&newsID=19397)



United States Department of Agriculture

Office of Communications  
1400 Independence Ave. SW  
Washington, DC 20250-1500  
Voice: (202) 720-4823  
Email: [oc.news@usda.gov](mailto:oc.news@usda.gov)  
Web: <http://www.usda.gov>

## Press Release

### Value Added Producer Grant Program

#### APPLICATION DEADLINE:

Grants.gov July 2, 2015

Paper Applications July 7, 2015

**Application Cycle Open:** USDA Rural Development invites applications to compete for FY15 funding for the Value Added Producer Grant program. This year there is approximately \$30 million available.

**Program Objective:** The objective of this program is to help agricultural producers enter into value-added activities related to the processing and/or marketing of bio-based value-added products and to expand markets and increase financial returns to agricultural producers.

#### **Agricultural Producers May Apply**

Independent Producer  
Agricultural Producer Group  
Farmer or Rancher Cooperative  
Majority-Controlled Producer Business

- ✓ *must produce and own more than 50% of the subject agricultural commodity*
- ✓ *may not produce under contract for another entity that owns the commodity*
- ✓ *may not contract out production of the agricultural commodity*
- ✓ *must maintain ownership through sale of the value-added product (MTVC projects exempt)*
- ✓ *projects must demonstrate entry into an "emerging market" for applicants (does not apply to IP)*

**Nationally Competitive Grants Available**

**Planning Grant:** To facilitate economic planning activities to determine the viability of a value-added venture, and may include costs for an independent feasibility study and development of a marketing and business plan.

**Working Capital Grant:** For operational costs directly related to the processing and/or marketing of the value-added product. Requires a third party feasibility study (FS) and business plan (BP) to implement the project, with two exceptions: (1) FS and BP requirement waived for ANY applicant requesting less than \$50k; or (2) FS requirement waived for an Independent Producer applicant requesting any amount who proposes to expand the market for an existing value-added product they have produced and marketed successfully for two years or more.

**Maximum Grant Amount:**

Planning grant - \$75,000

Working Capital - \$250,000

**Example Ineligible Costs:** Land, buildings, equipment, vehicles, R&D, engineering design, agricultural production, crop harvesting, delivery of raw commodity to a processing facility, conflict of interest transactions, and industry-wide feasibility studies.

**Matching Funds Required:** Must be equal to or greater than the grant amount, without conflicts of interest, and must contribute to eligible value-added project purposes.

**MARBIDCO Matching Funds Grants (Maryland Applicants Only)**

See the MARBIDCO website:

<http://www.marbidco.org/business/mvapg.html>

**Pre-Screening and Application Toolkits:**

Please contact Jeff Williams at (302) 857-3597 via phone or at [jeff.williams2@de.usda.gov](mailto:jeff.williams2@de.usda.gov) via email to pre-screen your project or to request the application toolkit. We highly encourage you to submit a draft prior to the deadline. We can provide assistance and comments until June 26<sup>th</sup>. Please do not wait until the deadline to start your application!

**Application Deadline:**

Please note that the deadline for Grants.gov is **July 2, 2015** and the deadline for paper applications is **July 7, 2015**. Paper applications can be mailed or hand

delivered to the RD DE/MD State Office – 1221 College Park Drive, Suite 200, Dover, DE 19904.

**Additional Resources**

Delaware / Maryland State Office: (302) 857-3628

VAPG website:

[http://www.rurdev.usda.gov/BCP\\_VAPG.html](http://www.rurdev.usda.gov/BCP_VAPG.html)

**2014 VAPG Grant Recipients**

State	Grantee	Type of Grant	Grant Amount
Delaware	Fifer Orchards	Working Capital	\$200,000
Delaware	Harvest Ridge	Working Capital	\$48,750
Maryland	Butterbee Farm	Working Capital	\$8,571
Maryland	Chesapeake Bay Dairy	Working Capital	\$200,000
Maryland	Chesapeake Fields	Working Capital	\$33,370
Maryland	Elk Run Winery	Working Capital	\$180,000
Maryland	Fiore Winery, Inc.	Working Capital	\$200,000
Maryland	Garrett County Growers Cooperative	Working Capital	\$16,115
Maryland	Golden Leaf - Romano Winery	Working Capital	\$8,285
Maryland	Groundworks Farm LLC	Working Capital	\$39,000
Maryland	Orchard Point Oysters	Working Capital	\$15,000

*Save the Date.....*

**JUNE 25, 2015**

**HIGH TUNNEL TWILIGHT**

**6:00-8:00 PM**

**Wye Research and Education Center  
Queenstown, MD**

Please join University of Maryland's Jerry Brust, Kate Everts, Ben Beall, and Mike Newell for an informal, but informative, program on getting started with High Tunnel Production.

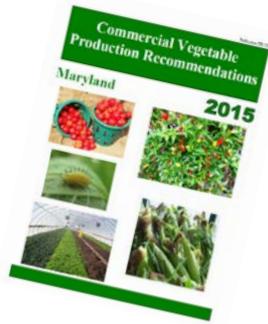
**Topics:**

- ✓ **Above ground and below ground diseases**
- ✓ **Insects in the High Tunnel. What to expect.**
- ✓ **Nutrient management/tissue sampling for analysis**
- ✓ **High Tunnel mechanics; Site selection, ventilation, row covers, Irrigation**
- ✓ **And more**

There is no registration fee for this event, but since we'll have a light fare available (sandwiches, etc.), we'll need to know if you're coming.

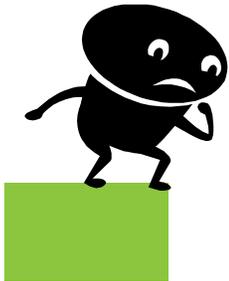
Please RSVP to Debby Dant 410-827-8056 X115, [ddant@umd.edu](mailto:ddant@umd.edu). For additional program information, contact Mike Newell, 410-827-7388, [mnewell@umd.edu](mailto:mnewell@umd.edu).

**Commercial 2015  
Vegetable  
Production  
Recommendations  
Maryland EB 236**



On-Line at

[http://extension.umd.edu/sites/default/files/\\_docs/programs/mdvegetables/2015\\_CommercialVegetableRecommendations\\_MarylandBook.pdf](http://extension.umd.edu/sites/default/files/_docs/programs/mdvegetables/2015_CommercialVegetableRecommendations_MarylandBook.pdf)



**See the Attachments!**

- 1) Maryland Farmers Market Report  
Weekly Summary Fruits and  
Vegetables 6/7/2015.**
- 2) Recycle Pesticide Containers  
Flier for Collection Dates.**

## ***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.

***Published by the University of Maryland  
Extension Focus Teams 1) Agriculture and Food  
Systems; and 2) Environment and Natural  
Resources.***

**Submit Articles to:**

Editor,  
R. David Myers, Extension Educator  
Agriculture and Natural Resources  
97 Dairy Lane  
Gambrills, MD 21054  
410 222-3906  
[myersrd@umd.edu](mailto:myersrd@umd.edu)



**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.

*The University of Maryland Extension programs are open to any person and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry, national origin, marital status, genetic information, political affiliation, and gender identity or expression.*

**Note:** Registered Trade Mark® Products, Manufacturers, or Companies mentioned within this newsletter are not to be considered as sole endorsements. The information has been provided for educational purposes only.

# Maryland Farmers Market Report

## Weekly Summary Fruits and Vegetables



6/7/2015

APPLES	Pound	Quart	
Cortland	\$1.89		
Empire	\$1.89		
Fuji	\$2.34		
Gala	\$2.34		
Golden Delicious	\$2.34		
Honey Crisp	\$2.25		
Jonagold	\$1.89		
McIntosh	\$1.89		
Red Delicious	\$2.34		
Winesap	\$2.34		
APRICOTS	Pound	Quart	
ASPARAGUS	Bunch	Pound	
	\$4.44	\$4.20	
BEANS	Pint	Quart	
Green String Beans		\$2.75	
Yellow String Beans		\$5.00	
Lime Beans		\$2.50	
BEETS	Pint	Quart	
Red		\$2.83	
Striped		\$2.50	
BLACKBERRIES	1/2 Pint	Pint	
BLUEBERRIES	1/2 Pint	Pint	
		\$4.75	
BROCCOLI	Bunch	Pound	
	\$2.93	\$2.50	
BRUSSEL SPROUTS	Pint	Quart	
CABBAGE	Small Head	Large Head	
Green	\$2.00	\$1.83	
Red	#DIV/0!	\$2.00	
CANTALOUPE	Small Each	Large Each	
CARROTS	Bunch	Pound	
	\$3.00		
CAULIFLOWER	Bunch	Pound	
	\$2.00	\$2.50	
CHERRIES	1/2 Pint	Pint	
Black		\$5.00	
Red		\$4.88	
CUCUMBERS	Each		
Large	\$1.25		
Pickle	\$4.00	\$3.00	
COLLARDS	Bunches		
	\$2.95		
EGGPLANT	Each		
	\$2.00		
ELDERBERRIES	1/2 Pint	Pint	
GARLIC	Head		
	\$1.50		
GARLIC SCRAPE	Bunch		
	\$1.50		
HONEYDEW	Head		
KALE	Bunch		
	\$2.44		
LETTUCE	Head		
	\$2.00		
LETTUCE	Leaf		
	\$3.81		
MUSHROOMS	Pound		
MUSTARD GREENS	Bunch		
	\$2.50	\$4.00	
NECTARINES	Quart		
ONIONS	Bunch	Pound	Quart
Spring	\$2.08		
Yellow	\$0.50		
White			
Purple	\$1.75		

PEACHES	Quart	Pound	
Yellow	\$5.00		
White	\$5.00		
PEARS	Quart	Pound	
Asian		\$2.79	
Barlett			
Bosc			
PEAS	Pint	Quart	
Pod		\$3.63	
Snow	\$3.50		
Sugar Snap	\$3.81	\$4.50	
PEPPERS	Pint	Quart	Each
Cyan			
Green Bell			
Habanero			
Jalapeno			
Habanero			
Mixed Color			
Red Bell			
PLUMS	1/2 Pint	Pint	
POTATOES	Quart	Pint	
Brown Skin	\$2.58	\$3.00	
Fingerlings		\$3.00	
Red Skin	\$2.67	\$3.00	
Sweet	\$3.00		
PUMPKINS	Each		
Baby Pam			
Large Face			
Neck			
Small Face			
RADISHES	1/2 Pint	Pint	Bunch
Black			
Red	\$1.50	\$2.00	
White			
RASPBERRIES	1/2 Pint	Pint	
Black			
Red		\$5.75	
RHUBARB	Bunch		
	\$3.50		
SPINACH	Bunch		
	\$4.00	\$3.00	
SQUASH	Each	Quart	
Acorn			
Butternut		\$2.00	
Ornamental			
Spaghetti			
Yellow	\$2.75	\$2.88	
STRAWBERRIES	1/2 Pint	Pint	Quart
	\$5.00	\$3.63	
SWEET CORN	1/2 Dozen	Dozen	
Bi Color			
Yellow			
White			
TOMATOES	Quart	Pound	
Green	\$6.00		
Heirloom		\$4.99	
Plum			
Vine Ripe	\$4.83	\$2.74	
TURNIP GREENS	Bunch		
CHERRY TOMATOES	Pint	Quart	Pound
	\$3.75		
TURNIPS	Bunch		
Common	\$2.50		
Rutabaga			
White			
WATERMELONS	Each		
Red			
Seedless			
Small Rounds			
Yellow			
ZUCCHINI	Pint	Quart	
Green	\$2.50	\$2.96	

Reporting Markets  
 Anna Arundel County Farmers Market  
 Baltimore City Market (JFX)  
 Bowie Farmers Market  
 Crofton Farmers Market  
 Downtown Cumberland Farmers Market

# MARYLAND DEPARTMENT OF AGRICULTURE'S 2015 PESTICIDE CONTAINER RECYCLING COLLECTION DATES

## EASTERN SHORE

### Kent County - Chestertown

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
Nicholson Transfer Facility on Earl Nicholson Road	June 12 July 10 August 14 September 11	9:00 - 3:00 9:00 - 3:00 9:00 - 3:00 9:00 - 3:00

### Talbot County - Easton\*

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
MidShore Regional Solid Waste Facility on Barker's Landing Road	June 19 July 17 August 21 September 18	8:00 - 12:00 8:00 - 12:00 8:00 - 12:00 8:00 - 12:00

### Wicomico County - Salisbury

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
Newland Park Landfill on Brick Kiln Road	June 26 July 24 August 28 September 25	9:00 - 3:00 9:00 - 3:00 9:00 - 3:00 9:00 - 3:00

\* **Note** - Because of legal restraints, only residents from Caroline, Kent, Queen Anne's and Talbot counties are able to use the collection site in Easton. Lower Shore residents must use the collection site in Salisbury.

## CENTRAL MARYLAND

### Harford County - Street

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
Scarboro Landfill, 3241 Scarboro Road	June 5 July 2 August 7 September 4	9:00 - 3:00 9:00 - 3:00 9:00 - 3:00 9:00 - 3:00

### Harford County - White Hall

The Mill of Black Horse 4551 Norrisville Road

Facility will be accepting clean, empty containers from June 1 through September 30, during normal business hours. *Containers will be collected from their current customers, only. Call 410-329-6010 or 410-692-2200 for hours of operation and drop-off instructions.*

Containers must be cleaned (triple-rinsed or pressure-rinsed) according to label directions. *Please remember to remove lids and label booklets from the containers prior to drop-off.*

## WESTERN MARYLAND

### Frederick County - Frederick \*\*

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
Frederick County Landfill, 9031 Reich's Ford Road	June 23 July 21 August 25 September 22	9:00 - 3:00 9:00 - 3:00 9:00 - 3:00 9:00 - 3:00

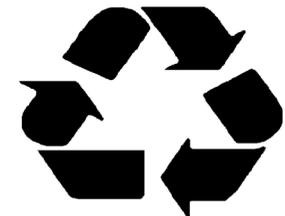
### Washington County - Hagerstown

<u>LOCATION</u>	<u>DATES</u>	<u>TIME</u>
Martin's Elevator 13219 Mau-gansville Road	June 9 July 7 August 4 September 8	9:00 - 3:00 9:00 - 3:00 9:00 - 3:00 9:00 - 3:00

\*\* **Note** - Frederick County has agreed to allow residents from outside Frederick County to submit empty pesticide containers for recycling, but NO TRASH from outside of the county will be accepted at the landfill under any terms.

## INSPECTION CHECKLIST

- All containers must be made from high density polyethylene (HDPE).
- The container must have held an EPA-registered pesticide or adjuvant, crop oil, etc.
- Any size container will be accepted. All containers over 30 gallons must be cut prior to recycling (contact MDA for instructions).
- Pesticide containers must be properly rinsed (pressure-rinsed or triple-rinsed).
- Caps and other non-HDPE parts, such as metal handles and rubber linings, cannot be recycled.
- Stained containers are acceptable provided no material can be smeared or removed when touched by a rubber glove.
- Please remove lids and label booklets prior to recycling.**



The Maryland Department of Agriculture (MDA) is offering the empty plastic pesticide container recycling program in 2015.

Maryland's pesticide container recycling program is a combined effort of state, county, and federal agencies and private industry working together to protect the environment. Rinsing and recycling empty pesticide containers will help to reduce the potential for contamination of ground water and the Chesapeake Bay while saving valuable landfill space.

A schedule of collection sites and dates is enclosed. **Triple-rinsed (or equivalent)**, clean, plastic, **pesticide** containers will be collected on the scheduled days and times at these sites. Containers acceptable for recycling will be chipped and transported by the contractor, under contract with the Ag Container Recycling Council (ACRC), for processing at an approved recycling facility.

To ensure a successful program, each individual container will be inspected by MDA personnel and only **triple-rinsed (or equivalent), clean, pesticide containers** will be accepted. Any container that is not clean will be returned to the owner, who will be responsible for disposing of the container in a legal manner.

Additional information on the rinsing of empty pesticide containers and recycling program can be obtained from the following MDA publications: *Rinsing & Recycling Empty Pesticide Containers*, and *Pesticide Information Sheet No.7 - Pesticide Container Recycling Program*. For further information, contact the Maryland Department of Agriculture, Pesticide Regulation Section at 410-841-5710 or visit our website at [www.mda.maryland.gov](http://www.mda.maryland.gov).

The Maryland Department of Agriculture, Pesticide Regulation Section would like to thank all of its private cooperators and participants for making this a successful and worthwhile program. We would like to especially thank the Ag Container Recycling Council (ACRC) and USAg Recycling, Inc. Without their assistance and dedication, this program would not be possible.



Ag Container  
Recycling Council



USAg Recycling, Inc.



Proud Member of  
The Pesticide Stewardship Alliance (TPSA)

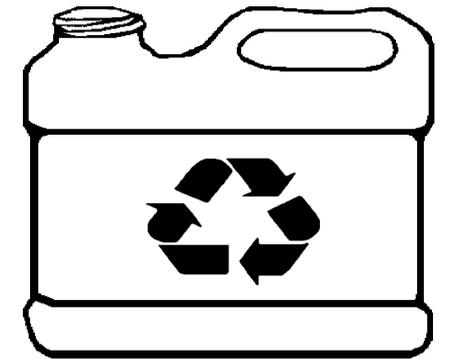


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Maryland  
Department of Agriculture  
Pesticide Regulation Section  
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Annapolis, MD 21401



# Maryland's 2015 Pesticide Container Recycling Program



Larry Hogan  
Governor

Boyd Rutherford  
Lt. Governor



Joseph Bartenfelder  
Secretary

Mary Ellen Setting  
Deputy Secretary