



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 22, Issue 14

June 27, 2014

## Vegetable Crops

**Vegetable Crop Insects** - Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

### Lima Beans

We are starting to find spider mites, especially in dry land fields. Controls are only effective if treatments are applied before populations explode. In addition to dimethoate, Hero (zeta-cypermethrin + bifenthrin) and bifenthrin, Acramite (bifenazate) is also labeled on lima beans for spider mite control. Be sure to check the labels for rates and restrictions, including the minimum gallons per acre for ground and aerial application.

<http://www.cdms.net/LDat/ld4TA029.pdf>

<http://www.cdms.net/LDat/ld72P041.pdf>

### Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. ***Be sure to read all labels carefully for rates and restrictions since some materials, especially miticides are restricted to only one application as well as ground application only.***

### Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should be applied on a 7 to 10-day schedule once pepper fruit is ¼ - ½ inch in diameter. Be sure

to check local moth catches in your area by calling the Crop Pest Hotline (302-831-8851) or visit our website at

<http://agdev.anr.udel.edu/trap/trap.php>. At this time, you will also need to consider a treatment for pepper maggot.

### Potatoes

Continue to scout fields for Colorado potato beetle, leafhoppers, and aphids. We are seeing an increase in leafhopper populations and low levels of aphids can be found. Controls will be needed for green peach aphids if you find 2 aphids per leaf during bloom and 4 aphids per leaf post bloom. This threshold increases to 10 per leaf at 2 weeks from vine death/kill. If melon aphids are found, the threshold should be reduced by half.

### Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. As a general guideline, once corn borer catches reach 2 per night, fresh market and processing snap beans should be sprayed for corn borer. 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. On processing snap beans, sprays will be needed at the bud and pin stages. Depending on trap catches of corn borer and corn worm, additional sprays may also be needed after the pin spray on processing beans. Since trap catches can change quickly, be sure to check our website for the most recent trap catches and information on how to use this information to make a treatment decision in

processing snap beans after bloom. After the pin spray on processing beans, the spray schedule will be determined by a combination of both moth catches and field scouting.

<http://agdev.anr.udel.edu/trap/trap.php>

<http://extension.udel.edu/ag/insect-management/insect-trapping-program/ecb-and-cew-moth-catch-thresholds-for-processing-snap-beans/>

### Sweet Corn

The first silk sprays will be needed for ear feeders as soon as ear shanks are visible. Be sure to check both blacklight and pheromone trap catches since the spray schedules can quickly change. Trap catches are generally updated on our website

(<http://agdev.anr.udel.edu/trap/trap.php>) and the Crop Pest Hotline (302-831-8851) by Tuesday and Friday mornings. Information on how to use the trap catch information in combination with field scouting can be found at

<http://extension.udel.edu/ag/insect-management/insect-trapping-program/action-thresholds-for-silk-stage-sweet-corn/>. In

addition to corn borer and corn earworm, you will also need to start scouting whorl stage corn for fall armyworm larvae. A treatment should be considered for whorl feeders when 12-15% of the plants are infested. Since fall armyworm feeds deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control.

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### **Leaf Disorders** - Gordon Johnson, *Extension Vegetable & Fruit Specialist*; [gjohn@udel.edu](mailto:gjohn@udel.edu)

There are a number of leaf disorders that can be seen at this time in vegetable crops not related to diseases or deficiencies.

#### Leaf Aging

Discoloration, bronzing, whitening, brittleness, and leaf tearing are common on older leaves of many vegetables, particularly cucurbits. In cucurbits, the oldest leaves (crown leaves) in watermelons, cantaloupes, squash, cucumbers, and pumpkins will have large areas that are discolored (white, tan, or bronze). These leaves will be brittle to the touch and may start to tear

or shred with high winds and storms. This condition is common in cucurbit crops but also can be found in other vegetables such as tomatoes and can be due to a number of leaf aging factors including mineral nutrient scavenging (export of mobile nutrients from oldest leaves to newer leaves), ozone air pollution damage, chemical phytotoxicity (copper fungicides for example), repeated stress cycles, and wind injury. Leaf cells that die will leak their contents, releasing enzymes and oxidizing chemicals affecting nearby cells thus accelerating the “aging” process. This results in large patches of dead leaf cells that then dry, making the leaf feel brittle. If leaf veins are damaged, water and food transport will be compromised, accelerating leaf decline. This leaf aging is not to be confused with damage from mite feeding which is also concentrated on oldest leaves.

#### Ozone Damage

With the hot, humid weather, we are starting to see evidence of air pollution damage in sensitive vegetable plants. Vegetables most susceptible to air pollution include potatoes, watermelons, cantaloupes, snap beans, pumpkins, and squash. Damage is most common during hot, humid, hazy weather with little wind. Air inversions, when warm air at the surface is trapped by even hotter air in the atmosphere above, lead to build up of air pollutants that cannot disperse and, consequently, plant injury. The most common form of air pollution injury to plants is ozone damage. Ozone is a strong oxidant and is formed by the action of sunlight on products of fuel combustion.

In potatoes, symptoms of ozone damage occur on the most recently emerged leaves and can be seen as a black flecking. Early red varieties are most susceptible. Injury on watermelon leaves consists of premature chlorosis (yellowing) on older leaves. Leaves subsequently develop brown or black spots with white patches. Watermelons are generally more susceptible than other cucurbits to ozone damage. Damage is more prevalent when fruits are maturing or when plants are under stress. Injury is seen on crown leaves first and then progresses outward. Seedless watermelon varieties tend to be more resistant to air pollution injury than seeded varieties, so injury often shows up on the

pollenizer plants first. “Ice box” types are the most susceptible. In muskmelons and other melons, the upper surface of leaves goes directly from yellow to a bleached white appearance. Ozone injury on squash is intermediate between watermelon and cantaloupe, starting with yellowing of older interior or crown leaves. These leaves subsequently turn a bleached white color with veins often remaining green. In snap and lima beans, ozone causes small bleached spots, giving a bronze appearance on upper leaf surfaces and pods. Leaves may ultimately turn chlorotic and senesce (drop).

Ozone injury can be easily misdiagnosed as mite injury, pesticide phytotoxicity, or deficiencies.

### Physiological Leaf Curl

Leaf cupping and rolling in vegetables can be caused by virus diseases, aphid infestations, herbicides and growth regulators. However, late spring and early summer is the time of the year that we often see leaf cupping and rolling disorders appear in vegetable crops that are not related to pests or chemicals. This can be seen in tomatoes, peppers, potatoes, watermelons, beans, and other crops. This is a physiological disorder that may have many contributing factors.

In tomatoes, leaf roll starts at the margins which turn up, then roll inward, most commonly on the lower leaves. Upward cupping is also found commonly in watermelons and potatoes. Beans, peppers, and other vegetables may cup downwards. Leaves may stay in this rolled or cupped state for a short period of time and then return to normal, or they may remain permanently rolled or cupped. Rolled leaves may become thicker but are otherwise normal. Physiological leaf roll or cupping is often variety dependent with some varieties being more susceptible than others.

There are several possible causal factors for physiological leaf roll or cupping. Water relations are suspected in many cases where there has been a reduction in water uptake or increased water demand placed on the plant. The plant responds by rolling the leaves which reduces the surface area exposed to high radiation. High temperatures, excessive pruning, cultivation, and vine moving activities may also trigger leaf rolling. High nitrogen fertility

programs followed by moisture stress may also trigger this type of leaf roll. Inadequate calcium moving to leaf margins may also cause a different type of leaf cupping. This is also related to interrupted water movement.

In most cases, yields are not affected by physiological leaf rolling or cupping. However, growers may choose to select varieties that are less susceptible to this disorder.

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### Potato Disease Advisory #7 - June 27,

**2014** - Nathan Kleczewski, *Extension Specialist*  
- Plant Pathology; [nkleczew@udel.edu](mailto:nkleczew@udel.edu)

Date	DSV	Total DSV	Accumulated P-Days	Recommended Spray Interval
5/12-5/21	19	19	81	5-days
5/21-5/23	2	21	100	10-days
5/23-5/30	16	37	157	5-days
5/30-6/6	6	43	207	10-days
6/6-6-13	21	64	280	5-days
6/13-6/19	5	69	329	10-days
6/19-6/27	6	75	398	10-days

**Location:** Leipsic, Kent Count, Delaware  
**Green row:** May 12, 2013

### Late Blight

Late blight was recently detected in Suffolk County and Erie County, New York and Carteret County, North Carolina. Although this does not indicate immediate risk to Delaware potatoes, growers should initiate preventative spray programs for late blight.

Seventy five (75) DSVs have accumulated so far for any potatoes that established green row (approximately 50% emergence) prior to and since May 12.

Any suspect samples can be sent to the UD Plant Diagnostic Lab or dropped off at your local extension office. See the 2014 Commercial Vegetable Production Recommendations-

Delaware for recommended fungicides: <http://extension.udel.edu/ag/vegetable-fruit-resources/commercial-vegetable-production-recommendations/>

The website USABlight tracks tomato and potato late blight across the nation and can be found here: <http://usablight.org/>. Information on scouting, symptomology, and management can also be found on this website.

### Early Blight

Three hundred ninety eight (398) P-days have accumulated. Preventative fungicide applications are recommended for early blight control. Commercial fungicide recommendations can be found in the 2014 Commercial Vegetable Production Recommendations-Delaware: <http://extension.udel.edu/ag/vegetable-fruit-resources/commercial-vegetable-production-recommendations/>.

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### High Populations of Striped Cucumber Beetle Early This Year

- Jerry Brust, IPM Vegetable Specialist, University of Maryland; [jbrust@umd.edu](mailto:jbrust@umd.edu)

If you think striped cucumber beetles seemed to be in greater than normal numbers this year you are not alone. This has been a particularly bad year for striped cucumber beetles in squash, cucumber, watermelon and, lately, pumpkins. The beetles have been ravaging cucurbit fields in southern and central Maryland as well as the eastern shore. Some fields have been hit particularly hard with beetles causing 10-15% plant loss due just to their feeding. The cool wet spring we had slowed the emergence of the beetles from their overwintering sites. When you combine the delayed emergence of the beetles with the slow planting schedule of squash and cucumber because of the cooler weather you wind-up getting a massive movement of beetles into some fields as soon as there are any cucurbit plants available.

The beetles tend to mass on small plants where they eat, mate and defecate (Fig. 1). This type of frenzied activity where there are many beetles feeding on a few leaves or a small plant leads to increased chances of bacterial wilt

problems (Fig. 2). The bacterium that causes bacterial wilt in cucurbits, *Erwinia tracheiphila*, is in the cucumber beetle's feces. As the beetles defecate on the leaves where they are feeding the bacteria can be moved into open (feeding) wounds with water that is in the form of precipitation or dew. The more beetles feeding and opening wounds on susceptible crops like cucumbers and squash the greater the chance of bacterial wilt infection. In a few small cucumber fields I saw as much as 45% of the plants with bacterial wilt.

One additional problem with these pests and why control sprays have not worked as well as they should have under some conditions is that the beetles are consistently hiding at the base of the plant (in the plastic hole) where they are feeding on the stem (Fig. 3). Sprayers are usually set up to cover a lot of leaf canopy and often do not do a very good job of putting chemical down in the plant hole. This stem feeding can be severe enough to cause some wilting. It is hard enough to control cucumber beetles with a good cover spray, but when only small amounts of spray are reaching them down in the plastic hole they will not be controlled. On many of the farms that were hit hard with early beetle populations, beetle numbers seem to be much lower the last week or so.



Figure 1. Feeding frenzy of striped cucumber beetles-eating, mating, defecating



Figure 2. Small and large cucurbit plants infected with bacterial wilt. At first a few leaves or one vine will wilt and eventually the whole plant



Figure 3. Feeding at the base of a young cucumber plant by striped cucumber beetles.

**Soft Rot of Vegetables** - *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland; [keverts@umd.edu](mailto:keverts@umd.edu)*

Soft rot, which is a widespread disease of vegetables caused primarily by *Pectobacterium* spp. (formerly called *Erwinia*), has been observed this past week in cabbage. Numerous vegetable crops are susceptible to this disease, including cabbage, broccoli, onion, pepper, melon, cucumber, bean, and beet (for potato, see below).

The pathogen is a bacterium and overwinters in infected tissue, farm implements, and plant debris. The pathogen invades primarily through wounds. Therefore, it is important to reduce wounding during planting, cultivation, harvesting, and subsequent transport. In addition, uninjured tissue can be infected through natural openings when free moisture is present. Avoid waterlogged soils. The pathogen prefers high temperatures and multiplies quickly at high temperatures, although disease can progress rapidly when conditions are not optimum for plant growth, even if the temperature is low.

Additional control measures include use of disease free seed and transplants; rotation with crops such as corn, small grains, or alfalfa; and avoidance of insect feeding. Insect feeding creates wounds and insects can carry the bacterium from plant to plant. As the crop grows avoid wounding during cultivation and field work. Also take care to minimize wounding in harvest, and store and ship produce in clean and cool conditions. Hold plants at 39 to 45° F to minimize spread following harvest.

### Potato

Potato is also susceptible to *Pectobacterium* and a related bacterium, *Dickeya* (also formerly classified as *Erwinia*). Potato diseases include blackleg, aerial stem rot, and tuber rots. Blackleg always develops from a seed piece, whereas aerial stem rot develops from wound in the stem. Different bacteria cause the two stem diseases on potato and tuber rots are caused by several strains of these bacteria. The inoculum for these diseases commonly originates in infected seed pieces.

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). 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.



Onion soft rot.

Images from Howard F. Schwartz, Colorado State University, and S. K. Mohan, Bugwood.org



Tuber soft rot and blackleg of potato.  
Images from Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org



Soft rot on cabbage.

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

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**Bacterial Diseases in Snap Beans** - Nathan Kleczewski, Extension Specialist - Plant Pathology; [nkleczew@udel.edu](mailto:nkleczew@udel.edu)

Bacterial diseases have started to pop up in some snap bean fields. There are three main bacterial diseases that can be encountered on beans: bacterial blight, halo blight, and bacterial brown spot. These pathogens can infect foliage and pods and can be introduced by infested seed or residue. Spread of the

pathogens occurs through splashing rain, overhead irrigation, wind, or surface water. All three pathogens enter plants through wounds (i.e. insect damage, wind, sandblasting) or

natural openings. Although several important characteristics of these diseases differ (Table 1), management is similar.

**Table 1. Characteristics of three common bacterial diseases on snap beans**

Disease	Organism	Optimum Temperature	Tissue Affected	Symptoms (see Figure 1)
Bacterial blight	<i>Xanthomonas campestris</i> pv. <i>phaseoli</i>	82-90° F	Foliage, pods, seedlings	Water-soaked spots enlarge, become flaccid, and turn brown/black. Lesions surrounded by thin lime green/yellow margin. Lesions often along leaf margins and veins. Circular, sunken, red/brown lesions on pods.
Halo blight	<i>Pseudomonas syringae</i> pv. <i>phaseolicola</i>	68-73° F	Foliage, pods, seedlings	Small, circular, water-soaked lesions surrounded by yellow halo. Red/brown lesions on pods. Lesions on pods may remain green. Pods may ooze at surface.
Bacterial brown spot	<i>Pseudomonas syringae</i> pv. <i>syringae</i>	82-88° F	Foliage, pods	Brown, circular lesions surrounded by yellow zone. Minimal water-soaking. Lesions may fall out. Lesions may also be present on stem. Lesions on pods water-soaked and circular. Pods may twist where lesions develop.

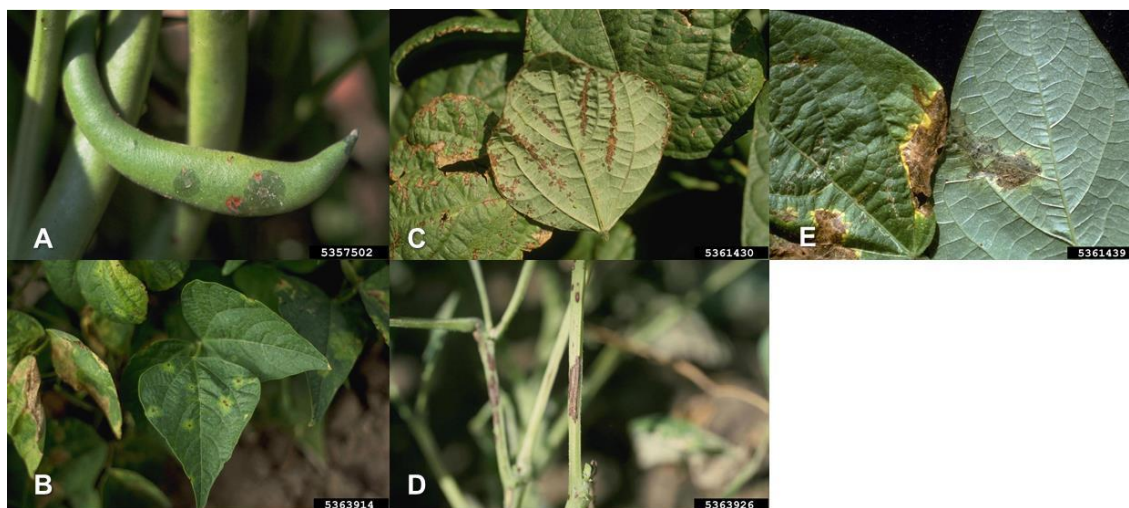


Figure 1. Examples of symptoms caused by Halo blight (A-B), Bacterial brown spot (C-D), and Bacterial blight (E). Images obtained with permission from The Bugwood Network and Forestry Images Image Archive and Database System ([www.bugwood.org](http://www.bugwood.org)).

To manage these diseases within the season, growers should avoid excessive overhead irrigation as this may spread the pathogen within the field and increase disease severity. Do not scout or cultivate infected fields under wet conditions. Sanitize planters, harvesters, or other equipment before moving from an infected field to an uninfected field.

These bacteria can grow on the surface of foliage, so the use of the following when incidence is low can slow disease progress: fixed copper-1.0 lb. a.i. per acre or Cueva 0.5-2.0 gallons per acre. Thorough coverage is essential. Apply on a 7 to 10-day schedule through harvest. Remember the label is the law.

Between seasons it is important to use certified, disease-free seed. Practice good sanitation for all equipment and storage areas. Clean tillage and/or a 3-year rotation away from beans, soybeans, and lima beans can reduce inoculum levels within a field. Weeds may serve as reservoirs for these diseases and should be properly managed.

## Fruit Crops

**Spotted Wing Drosophila Update** - Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

At this time last year, we found our first adult flies in our traps in Kent and Sussex counties, so we expect to find them any day. Although there are no thresholds available based on trap catches, small fruit growers will need to maintain a tight spray schedules for this very damaging insect pest. For more information on management of SWD in fruit, you will want to consider subscribing to Rutgers Plant Pest Advisory <http://plant-pest-advisory.rutgers.edu/category/fruit/>. You can also check the following link from Michigan State for additional information. ([http://www.ipm.msu.edu/invasive\\_species/spotted\\_wing\\_drosophila](http://www.ipm.msu.edu/invasive_species/spotted_wing_drosophila)).

**Reminder** - you will need to check all pesticide labels for rates, restrictions as well as determine if they are labeled in your state.

**Section 18 for BMSB in Apples, Peaches and Nectarines** - Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

**Section 18 for Brown Marmorated Stink Bug (BMSB) Management on Apples, Peaches and Nectarines Approved** - Our Section 18 request for the use of three bifenthrin products ( Brigade WSB - FMC Corporation; Bifenture EC and Bifenture 10DF - both from United Phosphorus ) to control BMSB on apples, peaches and nectarines has been approved by EPA. This use expires on Oct 15, 2014. You must have a copy of the label in your possession before making an application. Please contact either David Pyne at the Delaware Department of Agriculture (David.Pyne@state.de.us) or Joanne Whalen ([jwhalen@udel.edu](mailto:jwhalen@udel.edu)) for more information.

## Agronomic Crops

**Agronomic Crop Insects** - Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

### Alfalfa

Continue to sample for potato leafhoppers on a weekly basis. We are starting to see a significant increase in populations and a few fields with yellowing. Once plants are yellow, yield loss has already occurred. The treatment thresholds are 20 per 100 sweeps on alfalfa 3 inches or less in height, 50 per 100 sweeps in 4-6 inch tall alfalfa and 100 per 100 sweeps in 7-11 inch tall alfalfa.

### Field Corn

We are finding a few fields with cereal leaf beetle (CLB) adult feeding. Beetle adults can be found moving out of untreated small grains and feeding on the edge of corn fields. Although we do not have any firm thresholds for this insect on corn, as a general guideline controls may be needed if you find an average of 10 beetles per plant and 50% of the plants exhibit feeding damage. In the Mid-West, it has been reported that the adult beetle is a vector of maize chlorotic mottle virus (MCMV) that causes corn lethal necrosis disease. Thresholds for beetle feeding would be much lower if this disease is an issue. We have not seen this virus in Delaware corn fields; however, please let us know if you suspect a problem.



During the past week, I have been asked the question, "What insect is causing 'notched leaf edges' on whorl stage field corn?" In all cases no insect could be found. This symptom is not caused by an insect but is thought to be from a period of rapid growth when the leaves were developing deep in the whorl. For more information, please see the following link: <http://www.agry.purdue.edu/ext/corn/news/timeless/NotchedLeaf.html>.

### **Soybeans**

We are starting to see an increase in insect/mite activity in a number of fields throughout the state so be sure to scout fields on a weekly basis.

**(a) Thrips-** Populations of this insect pest have increased in fields throughout the state. They can feed and reproduce on the leaves and buds of soybean seedlings. Their feeding creates bleached-out lesions along the leaf veins and gives a silvery/bronzed appearance to the leaf surface when damage is severe. These insects are very small (less than  $\frac{1}{10}$  inch) and are torpedo shaped. While thrips are often found on seedling stage soybeans, it is generally during outbreak years that they cause concern. In particular, during dry weather and on earlier planted full-season soybeans, thrips populations can explode when plants are growing slowly. Under these circumstances thrips injury will occasionally kill seedlings. Other stressors, such as nutrient deficiencies and herbicide injury, can add to thrips damage and cause plant loss. Yellowing can occur from thrips but there are also a number of other factors that can cause yellowing so it is important to scout fields to identify what is causing the yellowing. Although no precise thresholds are available, as a general guideline, treatment may be needed if you find 4-8 thrips per leaflet and plant damage is observed.

**(b) Spider Mites-** Populations have also increased and economic populations and leaf damage symptoms can be found in fields in Sussex County. Although populations can start on field edges, we are also finding hot spots of activity in field interiors so be sure to scout the entire field to make a treatment decision. Labeled materials include dimethoate, chlorpyrifos (Lorsban) , Hero ( zeta-cypermethrin

+ bifenthrin) and bifenthrin (a number of generic products available). *All of these products need to be applied before mites explode. Be sure to read the labels for use rates and restrictions - including but not limited to combinations with herbicides, number of applications as well as the time between applications.*

**(c) Potato Leafhopper** - We can also find leafhopper populations in seedling stage soybeans. As a general guideline, a control may be needed for leafhoppers if you see plant damage and you find 4 leafhoppers per sweep in stressed fields and 8 per sweep in non-stressed fields

**(d) Defoliators** - Although a variety of defoliators can be found in most fields, defoliation is generally still below the economic threshold level. Before bloom, the defoliation threshold in full season soybeans is 30% defoliation. As of end of this week, the predominant defoliators that we are finding are grasshoppers and green cloverworm larvae. Green cloverworm are light green with three pairs of white stripes running the length of the body. In addition to the three pairs of legs near the head, they have three pairs of fleshy legs near the middle of the body, and one additional pair at the end of the body. Larvae wiggle vigorously when disturbed. Smaller larvae may drop from the leaf when disturbed. Young larvae skeletonize the underside of the leaf. Older larvae chew irregular shaped holes in the leaves and can eat all of the leaf except large veins. Although populations of green cloverworm generally increase in number from July through September, if the weather turns dry, we have seen an earlier increase in numbers.

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**Leaf Spots in Young Field Corn: Herbicide Drift or Holcus Spot?** - *Nathan Kleczewski, Extension Specialist - Plant Pathology;* [nkleczew@udel.edu](mailto:nkleczew@udel.edu)

Some growers may notice round tan colored lesions with red margins and yellow halos on some corn. These symptoms can be either herbicide injury or a minor disease called Holcus spot. Holcus spot is a bacterial disease of corn

that can occur on young corn and is rarely damaging.

Lesions start off as dark green, water-soaked spots that turn white to tan to grey with time. Lesions are often surrounded by a reddish boarder and a cream to white colored halo. Lesions are range from 1/8 and 1/2 inch in diameter. Holcus spot can pop up early in the season after windy, warm, and wet weather (75-85° F). The pathogen resides on residue, where it can be splashed onto the lower parts of the plant. Therefore you may see more of these symptoms on no-till, irrigated corn. The pathogen enters corn leaves through wounds or natural openings, but does not appear to spread from leaf to leaf.

### Separating Herbicide drift and Holcus Spot

You can ask yourself the following questions to help you determine if the spots are a result of herbicide drift or Holcus spot:

First, is the corn near a field that recently received a burndown herbicide application? If the answer is yes, then you might suspect herbicide drift.

Second, are the symptoms more severe at the field edge or uniformly distributed throughout the field? If the symptoms are more severe on the outside of the field and gradually decrease as you move towards the center of the field, this may also indicate potential herbicide drift. The edge of the field closest to the suspect source of the herbicide drift is likely to have the highest levels of spot incidence and severity.

Lastly, are the plants around the field showing symptoms? If yes, then again, the potential culprit is herbicide drift.

Regardless of the source, corn showing potential herbicide drift injury or Holcus spot are not at risk. Plants will grow out of herbicide drift and Holcus spot is not known to be yield-limiting. Although the lesions may cause concern to some, within-season management is not available nor is it required.



Examples of some of the leaf spots you may see on young field corn. A sample must be sent to a diagnostic clinic to confirm if the spots are a result of herbicide drift or bacterial infection.

## Announcements

### Small Fruit Educational Meeting and Tour

Thursday, July 10, 2014 5:00-8:00 p.m.

University of Delaware

Carvel Research & Education Center

16483 County Seat Highway

Georgetown, DE 19947

This meeting will highlight our extension IPM program addressing Spotted Wing Drosophila monitoring and management in small fruits as well as ongoing variety testing and other research with blueberries, blackberries and grapes.

- Tour the blueberry variety trial, mulch and soil amendment experiments.
- See and sample berries from the blueberry variety trial.
- Tour the primocane fruiting blackberry trial and sample berries from the trial.
- Tour the wine and table grape trial.

**Dinner will be provided.**

Please pre-register before July 3 by contacting Karen Adams at (302) 856-7303 or [adams@udel.edu](mailto:adams@udel.edu).

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### **Job Posting: Agronomy Program Manager**

*Location:* University of Maryland, Wye Research and Education Center, Queenstown, MD.

*Duties:* Working with scientists, coordinate and implement research, demonstration and educational projects for agronomic crops.

*Minimum Qualifications:* BS degree, prefer 10 years of farm-related experience including 3 years research plot design and staff supervision. Salary commensurate w/experience, with base salary \$48,320.

*Details/Apply:* <https://ejobs.umd.edu/> Position #103087.

*Best consideration /closing date:* July 14, 2014.

*Contact:* Barbara South (410) 827-6202. EEO/AA.

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### **Field Day: Diagnosing Soybean Production Issues**

Tuesday, August 12, 2014  
University of Delaware  
Carvel Research and Education Center  
16483 County Seat Hwy  
Georgetown, DE

The Delaware Soybean Board and University of Delaware Extension are cooperating on a field day designed to improve diagnostic skills and help troubleshoot production problems in the field. The Field Day will start in the late afternoon (exact time not yet set) and dinner will be provided.

*There is no cost to attend but please RSVP by August 5 to Karen Adams at (302) 856-7303 ext 540 or [adams@udel.edu](mailto:adams@udel.edu).*

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### **Delaware Agricultural Financing Workshop "Show Me the Money"**

Wednesday, August 20 5:00 p.m.-8:00 p.m.  
Harrington Fire Hall  
20 Clark St.  
Harrington, DE 19952

The Environmental Finance Center (EFC) invites Delaware farmers to a FREE event to discover information and resources to fund effective agricultural best management practices that can improve water quality while also offering benefits to your operation.

The agenda can be previewed [here](#). Two Nutrient Management credits will be available for attendees.

Free dinner will also be provided.

There is no cost to attend, but pre-registration is requested, and will open in July. Please register by August 14<sup>th</sup> at <http://events.r20.constantcontact.com/register/event?oeidk=a07e9c5i6rof26dff2a&llr=bhiq8ucab>

Walk-in's (no registration) will be accommodated as seating is available.

*Please contact us with any questions:*

*Jill Jefferson  
Environmental Finance Center  
[jilljeff@umd.edu](mailto:jilljeff@umd.edu)  
540-325-0151*

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### **The Mid-Season Aronia Twilight Tour**

Tuesday, July 8, 2014 5:00-7:30 p.m.  
Wye Research and Education Center  
124 Wye Narrows Drive  
Queenstown, MD, 21658

University of Maryland Extension Mid-Season Aronia Twilight Tour is for all Aronia growers and those interested in growing Aronia. Various subjects will be covered including Aronia's cultivated origins and breeding potential, chemical application and equipment calibration and research updates.

A light meal will be provided.

*Anyone interested in registering can contact:  
Andrew Ristvey at 410-827-8056 or  
[aristvey@umd.edu](mailto:aristvey@umd.edu).*

*Please register by July 1st, 2014.*

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# Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of June 19 to June 25, 2014

Readings Taken from Midnight to Midnight

## Rainfall:

0.05 inch: June 19

0.03 inch: June 21

0.26 inch: June 25

## Air Temperature:

Highs ranged from 88°F on June 25 to 76°F on June 21.

Lows ranged from 66°F on June 19 to 57°F on June 23.

## Soil Temperature:

78.3°F average

Additional Delaware weather data is available at  
[http://www.deos.udel.edu/monthly\\_retrieval.html](http://www.deos.udel.edu/monthly_retrieval.html)  
and  
<http://www.rec.udel.edu/TopLevel/Weather.htm>

***Weekly Crop Update is compiled and edited by  
Emmalea Ernest, Associate Scientist - Vegetable  
Crops***

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