WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

Vegetable Insect Update – *David Owens, Extension Entomologist,* owensd@udel.edu and *Bill Cissel, Extension Agent – Integrated Pest Management*; bcissel@udel.edu

Sweet Corn *by Bill Cissel and David Owens*
Sweet corn trapping data is updated by Tuesday and Friday mornings and can be accessed here: http://agdev.anr.udel.edu/trap/trap.php. Spray guidelines for silk stage sweet corn can be found at: http://extension.udel.edu/ag/insect-management/insect-trapping-program/action-thresholds-for-silk-stage-sweet-corn/. When using these guidelines to adjust spray intervals, there are several things to keep in mind. Silks grow very rapidly when daily temperatures are greater than 80 degrees. Corn earworm eggs can also hatch in just a couple days when temperatures are warm. This should be taken into consideration when determining spray intervals. When using the guidelines, do not rely on a single trap site or trap date to make spray decisions; take a look at nearby traps and note general statewide trends. Corn earworm moths are very attracted to tassel-push/early silk sweet corn and the proximity of the trap to silking stage sweet corn also influences the trap catch, i.e. a trap placed close to silking sweet corn will typically catch more moths. We try to place our traps in locations that will provide reliable trap catch information. However, our traps are not always located next to silking sweet corn throughout the duration of the season. Trap catches can also vary within a relatively short distance. We have 4 traps setup at one of our farm locations, all adjacent to field corn planted around the same time. Two traps routinely catch moths and two others do not. Having said that, CEW numbers are beginning to pick up from last week and can change rapidly. Last week we caught very few moths. If interested, both Heliothis traps and Corn earworm pheromone lure for the traps can be purchased from greatlakesipm.com. Trap counts for Thursday are as follows (traps generally had similar numbers Monday):

Trap Location	BLT – CEW (3 nights total catch)	Pheromone CEW (3 nights total catch)
Dover	4	51
Harrington	1	0
Milford	1	1
Rising Sun	3	10
Wyoming	0	2
Bridgeville	1	7
Concord	1	0
Georgetown	0	0
Greenwood	0	0
Laurel	1	10
Seaford	0	3

Also of interest, Virginia has begun catching some fall armyworms in their pheromone traps.

Cucurbits *by David Owens*
Spider mites continue to move in and reproduce in cucurbit fields, we are seeing hot spots develop not just near field edges but also in field interiors. During hot dry spells, try to limit mowing as much as possible, spider mites

feeding on the grasses will be forced to look elsewhere for food once the plant they are on has been cut. Also be on the lookout for cucumber beetles, activity is a little higher than last week.

Beets! – *Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

Beets (garden beets, beetroot), along with other root crops, have been trendy for the last several years. As with many trends this has been driven by increased interest in beets by chefs and reported health benefits. Red beets are low in calories, contain red pigments (betalains) that are antioxidents and also anti-inflammatory, and have positive benefits in lowering blood pressure. They also contain many essential minerals. We are currently conducting variety trials with beets at our Georgetown research farm and will also be extracting pigments as natural food colorings.

There are also a variety of shapes and colors available with beets including globe, elongated, and tapered shapes and red, white, yellow, and zoned white and red colors. Beet foliage will vary according to type with green and red types. Beet greens are also very nutritious and some red foliage beet types are grown mainly for greens.

Beets are grown for fresh market and for processing (canning and pickling). They are direct seeded from April through early August at a depth of ½ inch with 15 "seeds" per foot of row. The beet seed is really a dried fruit with 1-3 seeds inside. Stand establishment is often a challenge and that is why they are over-seeded. For fresh market, beets are thinned down to 4-6 per foot. Processing beets are planted at stands dependent upon final use. Small whole beets for pickling are planted at higher rates, beets for slicing are planted to achieve lower stands.

Beets require modest nitrogen additions (75-100 lbs/a). Phosphorus and potassium requirements are moderate. Beets also require 1.5-3 lbs./a of boron.

Beets for fresh market are harvested as bunching types or topped roots when roots are 1.5-3" in diameter. Processing beets are usually harvested when root size distribution approaches 25% grade 1, 60% grade 2 and 15% grade 3 paid weight, with about 1% culls. Grade 1 beets are 1-1 5/8 inches, grade 2 are over 1 5/8 to 2 5/8 inches and grade 3 over 2 5/8 to 3 1/2 or 4 inches depending on processor requirements. Beet types for greens are cut and handled similar to spinach or chard. Mechanical diggers can be used to harvest beets.

Store beets at 32°F (0°C) and 98-100% relative humidity. Like other root crops, beets are well adapted to storage. Topped beets stored at 32°F can keep 4-6 months. Cold storage or cool-cellar storage are both suitable, provided the humidity is kept sufficiently high to prevent dehydration. They should be stored in well-ventilated containers such as ventilated bin boxes or slatted crates to help dissipate respiratory heat. Bunched beets and beet greens are much more perishable than topped beets, but they can be stored at 32°F for 10-14 days. A relative humidity of at least 95% is desirable to prevent wilting.

Beet armyworm is the main insect pest and Cercospora and Alternaria leaf spots are the main diseases of beets.

Beets from our trial. From left to right, a tapered red type with green leaves, a globe red type with green leaves, a red type with red leaves suitable for beet greens, a long cylindrical type, a yellow type and a white type.

Classic, deep red beet types.

A white beet type.

A golden beet type.

A red and white zoned type.

Blossom End Rot Revisited – *Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

Blossom end rot (BER) is showing up again this year in peppers and we expect it to be prevalent in tomatoes because of the recent hot weather. BER is a disorder where developing fruits do not have enough calcium for cell walls, cells do not form properly, and the fruit tissue at the blossom end collapses, turning dark in color. Calcium moves through cation exchange with water movement in the fruit, so the end of the fruit will be the last to accumulate calcium. Larger fruits and longer fruits are most susceptible. With fruits, the rapid cell division phase occurs early in the development of the fruit, the two weeks after pollination, and if calcium accumulation in the fruit is inadequate during this period, BER may occur. Over 90% of the calcium taken up by the fruit will occur by the time the fruit is the size of a nickel. While it may not be noticed until the fruit expands, the deficiency has already occurred and cells have already been negatively affected. We most commonly see signs of blossom end rot on fruits several weeks after the calcium deficiency has occurred.

Understanding blossom end rot also requires an understanding of how calcium moves from the soil into and through the plant. Calcium moves from the soil exchange sites into soil water and to plant roots by diffusion and mass flow. At plant roots, the calcium moves into the xylem (water conducting vessels), mostly from the area right behind root tips. In the xylem, calcium moves with the transpirational flow, the movement of water from roots, up the xylem, and out the leave through stomata. Calcium is taken up by the plant as a divalent cation, which means it has a charge of +2. It is attracted to negatively charged areas on the wall of the xylem, and for calcium to move, it must be exchanged off the xylem wall by other positively charged cations such as magnesium (Mg++), potassium (K+), ammonium (NH4+), or other calcium cations (Ca++). This cation exchange of calcium in the xylem requires continuous movement of water into and up through the plant. It also requires a continuous supply of calcium from the soil

In general, most soils have sufficient calcium to support proper plant growth. While proper liming will insure there is adequate calcium, it is not the lack of calcium in the soil that causes blossom end rot in most cases. It is the inadequate movement of calcium into plants that is the common culprit. Anything that impacts root activity or effectiveness will limit calcium uptake. This would include dry soils, saturated soils (low oxygen limits root function), compaction, root pathogens, or root insect damage. In hot weather on black plastic mulch, roots can also be affected by high bed temperatures. Low pH can also be a contributing factor. Calcium availability decreases as pH drops and below a pH of 5.2, free aluminum is released, directly interfering with calcium uptake. Again, proper liming will insure that this does not occur. Applying additional calcium as a soil amendment, above what is needed by normal liming, will not reduce blossom end rot.

In the plant, there is a "competition" for calcium by various plant parts that require calcium such as newly forming leaves and newly forming fruits. Those areas that transpire the most will receive more calcium. In general, fruits have much lower transpiration than leaves. In hot weather, transpiration increases through the leaves and fruits receive lower amounts of calcium. High humidity will reduce calcium movement into the fruit even more. Excess nitrogen that causes excess foliage will increase blossom end rot. Tissue tests will often show adequate levels of calcium in leaf samples; however, fruits may not be receiving adequate calcium. In addition, in hot weather, there is an increased risk of interruptions in water uptake, evidenced by plant wilting, when transpirational demand exceeds water uptake. When plants wilt, calcium uptake will be severely restricted. Therefore, excess heat and interruptions in the supply of water (inadequate irrigation and/or rainfall) will have a large impact on the potential for blossom end rot to occur. Proper irrigation is therefore critical to manage blossom end rot. This means a steady, even, uninterrupted supply of water in the soil surrounding the plant roots.

In high tunnels, lack of air movement can also be a factor, as transpiration is reduced, thus limiting calcium movement in the plant. In periods where tunnels are closed tight due to adverse weather, this may also increase the potential for blossom end rot. First fruits formed in early planted tomatoes and peppers are the most susceptible to blossom end rot, especially in high tunnels.

As a positive cation, there is "competition" for uptake of calcium with other positive cations. Therefore, if potassium, ammonium, or magnesium levels are too high in relation to calcium, they can reduce calcium uptake. To manage this, do not over-fertilize with potassium or magnesium and replace ammonium or urea sources of nitrogen with nitrate sources.

Applying additional soluble calcium through irrigation, especially drip systems, can reduce blossom end rot to some degree if applied prior to and through heat events and if irrigation is applied evenly in adequate amounts. Foliar applications are much less effective because fruits do not absorb much calcium, especially once a waxy layer has developed, and calcium will not move from leaves into the fruit (there is little or no phloem transport).

In conclusion, the keys to controlling blossom end rot are making sure roots are actively growing and root systems are not compromised, soil pH is in the proper range, and irrigation is supplied in an even manner so that calcium uptake is not interrupted. Supplemental calcium fertilization will only marginally reduce blossom end rot if water is not managed properly.

Mites Everywhere – *Jerry Brust, IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

There are reports of spider mites in multiple crops, with injury in tomatoes and a variety of cucurbits, mostly watermelon. Spider mites love hot, dry weather and that is what we have been having the last two weeks or so. They tend to start out at field edges or by drive rows. Anywhere dust settles on the crop is a likely spot for the earliest infestations. In watermelon, infestations usually start in the crown and spread from there. The oldest leaves will take on a yellow color along the midrib with necrotic spots (Fig. 1). This damage can be misjudged as

a disease. Check for the mites on the underside of leaves to verify their presence (Fig. 2).

Figure 1. Mite damage to watermelon crown leaves

Figure 2. Two spotted spider mites on underside of watermelon leaf

For control there are several good miticides out there, but you need high gallonages of water 70-100 gallons/A and thorough coverage of the top and underside of the foliage or you will not reach all the well-hidden mites. Agri-Mek has translaminar movement, so if it is sprayed on the upper leaf surface it will penetrate into the leaf and reside there. Portal works on all stages of mites while Acramite is primarily active on the motile stages of mites (not eggs) and has a long residual. Oberon can take longer to work (check back in 5-7 days) but will give excellent control. Zeal is a growth regulator and will not kill adults but will kill immature mites, it works especially well if you catch the infestation early on. As always be sure to check the label before spraying any pesticides.

Odd Symptoms in Tomato Plants Turn Out to be Viruses

– *Jerry Brust, IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

In Figure 1 you can see tomato plants that look a bit squirrely. I thought it was possibly herbicide or virus or nutrient problems. After eliminating the first and third we had the plants tested for a battery of viruses. There were 3 viruses found in the plants. The most unusual one was the Pepino mosaic virus, which belongs to the Potexviruses. This virus is very easily transmitted mechanically and has a low seed transmission rate. Seed transmission occurs at rates of less than one in a thousand when seed is not properly cleaned. The virus is external, contaminating the seed coat and not the embryo or endosperm. Symptoms very greatly with fruit marbling being the most typical and economically devastating symptom. You can also have fruit discoloration, open fruit, leaf blistering or bubbling, leaf chlorosis and yellow angular leaf spots. The severity of the Pepino mosaic virus symptoms is dependent on environmental conditions. As the infected plants mature the foliar symptoms usually disappear, but not the fruit problems. Prevention of infection is through stringent hygiene measures as the virus is spread primarily by mechanical methods.

The other two viruses found were more common: Tobacco (TMV) and tomato mosaic viruses. Tobacco mosaic virus is one of the most highly persistent tomato diseases because it can remain viable without a host for many years and it is able to withstand high temperatures. Both viruses are spread primarily by mechanical methods. Workers and their equipment can become contaminated when they touch infected plants. **Symptoms are rather general** and appear as yellow-green mottling on leaves with flowers and leaflets being curled, distorted, and smaller than normal in size. Generally, the fruit from TMV infected plants do not show mosaic symptoms but may be reduced in size and number and may develop an internal browning

that most often appears in fruits of the first cluster. Severe strains of TMV and tomato mosaic virus can cause the lower leaves to turn downward at the petiole and become rough and crinkled. Some tomato varieties when infected with TMV or tomato mosaic virus can develop dead areas on leaves, stems and roots. As with the Pepino mosaic virus, the best control for these two viruses is strict hygiene and not using contaminated seed.

The Pepino mosaic virus is a newer one but is appearing more often in tomato production areas. The overall odd thing was that the symptoms on the plants did not fit any one of the viruses well. I attribute this to the mixture of viruses in the plant making it very difficult to observe characteristic symptoms of any one of them. Add to this that the environment plays a part in the plants expression of the symptoms as does the properties of the viral isolate and it becomes clearer why symptoms were not typical. The infected tomato plants were not commonly grown hybrid plants. Growers need to be sure about where their tomato seeds are coming from before using them.

Figure 1. Tomato plants infected with three different mosaic viruses

Agronomic Crops

Soybean Insect Scouting Update – *David Owens, Extension Entomologist,* owensd@udel.edu and *Bill Cissel, Extension Agent – Integrated Pest Management*; bcissel@udel.edu

Japanese beetles, green cloverworm, bean leafrollers, and grasshoppers are the primary defoliators that we have seen in soybean samples. Bean leaf beetles are also starting to make a reappearance. Thresholds for pre-bloom full season beans is 30% and threshold for reproductive stage soybean is 15%. Double crop fields, especially dry fields, cannot tolerate as much leaf feeding as their full season counterparts.

Dectes stem borer continues to emerge from nearby overwintering sites in last year's soybean stubble. You can find more information about Dectes stem borer in our fact sheet: http://extension.udel.edu/factsheets/dectes-stem-borer-management-in-soybeans/. Two-spotted spider mites also continue to move into fields, most in low numbers but with warm dry weather, a low number of mites can become a large number of mites in a short period of time. Thrips are also widespread, and abundant in hotspots in some fields. Treatment thresholds for thrips might be triggered if there are more than 8 thrips per leaflet, the beans are drought stressed, and visible 'cupping' or distortion is occurring.

Green stink bugs are present in reproductive stage soybean. Feeding is a concern for beans in the beginning pod to filled pod stages. Our general threshold for grain soybean is 5 bugs per 15 sweeps.

Pesticide Drift and Temperature Inversions - *Jarrod O. Miller, Extension Agronomist,* jarrod@udel.edu

This article originally appeared in UMD Agronomy News Blog, July 2017.

Pesticide drift and volatility are important considerations this time of year. Drift to adjacent fields is typically due to wind, which is

why you select the correct nozzles and check wind speeds. Volatility describes how likely a pesticide will become a gas, allowing it to move off target. The best way to control volatility is to choose less volatile pesticides or apply during cooler weather. While wind speed can be easy to determine, another cause of drift, a **temperature inversion,** is not.

The earth's atmosphere is typically warmer at the surface (due to the sun warming your fields), and cools 2-5°F for every 1000 feet you climb. As air warms at the earth's surface, it expands and rises, then cools and falls, giving the atmosphere circulation. This process can produce cumulus clouds and storms, and move pollutants and smog out of the lower atmosphere. An inversion occurs when a pocket of warm air sits above cooler air at the surface, preventing circulation. On these days, smells of manure application may linger over a region or keep pesticide vapors in the air, allowing them to drift on gentle breezes. Fields affected by **drift** often have a pattern along the edge of the field, following the prevailing winds at the time of application. **Inversions** cause broader damage, where smaller herbicide particles remain suspended and cover the entire field.

Cumulus clouds even move across dry landscapes as they warm up. This is a good sign you have normal air circulation.

Prior to application, inversions can be easy to spot where you have fires or smokestacks, as the smoke will only rise so high before flattening out and moving sideways. One of the most common times to have an inversion is on clear nights in the summer. As your fields cool at night (through longwave, infrared radiation), the air near the surface becomes cooler than the air above it. Anytime you see stars at night, and have minimal wind, you can expect to have an inversion early in the morning. As the sun warms your fields back up, the atmosphere should gain circulation again, which will be most obvious when you see cumulus clouds in the sky. These are considered to be short term inversions.

Long term inversions occur when weather patterns sit longer, sometimes for days. If you listen to the weather talk about high/low pressure or cool/warm fronts, you can possibly predict an incoming inversion. At least 30,000 feet in the air is where the jet stream flows, and where these converge together, air is forced down creating a **high pressure area**. High pressure areas create low winds and clear nights, great conditions for an inversion. There are often high variations in night and daytime temperatures associated with high pressure, another factor in creating inversions. Additionally, air forced down by converging jet streams compresses and warms, creating a pocket of warm air over cooler surface air. Cooler air at the surface does not necessarily mean it feels like fall, this warmer pocket of air may only be 2°F warmer, but is enough to create an inversion and trap pollutants beneath it.

Low pressure areas occur where the jet stream diverges above us, pulling air up and lowering the air pressure at the surface. They are often associated with clouds, precipitation and minimal temperature variation. Without the sun warming the surface, inversions are less likely on days with low pressure. **Cold fronts** are associated with low pressure. These air masses are cooler and denser, so they can move below warmer air along the surface. As cold fronts move across warmer landscapes, the air rises and condenses into cumulus clouds, and sometimes severe thunderstorms. Inversions are not likely in these cases. However, some cold fronts are shallow, and could sit under warm air and cause an inversion.

Warm fronts are less dense and will move over-top of cooler air masses. As they rise over cooler air, they cause higher pressure at the surface. Slower moving than cold fronts, warm fronts will have more stable air, and longer, less severe

rainfall. It is these slower moving warm fronts that may sit longer and cause inversions, which will cause more drift the closer they are to the surface. If you see cirrus clouds high in the atmosphere, it indicates a coming warm front.

Cirrus clouds can be seen on the right side of this photo, indicating an approaching warm front.

To avoid increased drift under an inversion, you can certainly check weather reports on fronts and pressure. Incoming thunderstorms are also a good sign there won't be an inversion, although you could have high winds. Keeping a few things in mind will help prevent drift onto your neighbors fields and sensitive crops.

Inversions are more likely:

1. In the morning, in valleys or near large water bodies after clear nights in the summer (look for cumulus clouds later in the day in indicate good air circulation)

2. With shallow cold fronts (typically a cold front with no storms, but I'm not a meteorologist)

3. With high pressure, warm fronts that linger (look for incoming cirrus clouds).

Watching for these weather conditions, along with minimal wind and good nozzle section should limit drift off target and minimize stories in the media.

Growing Degree Days (GDD) and Rainfall Through July 9th

- Jarrod O. Miller, Extension Agronomist, jarrod@udel.edu

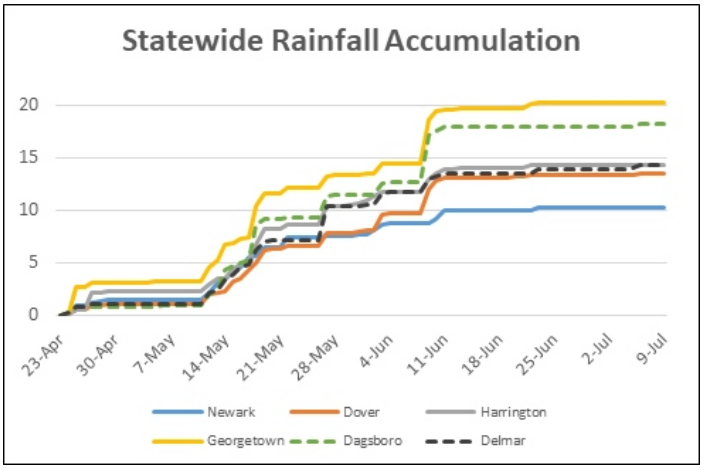
We have witnessed many fields well into R1 (silking) on our earliest maturing varieties planted in April. From here on out, expect steady pollination within your fields in the sequence they were planted. Anything planted by May 20th should be at VT (tassel). Fields that with flooding issues will have corn tasseling at the waist. With less leaf area for photosynthesis, expect lower yields in those regions of the field. Any fields planted early through mid-June still has some time to reach VT.

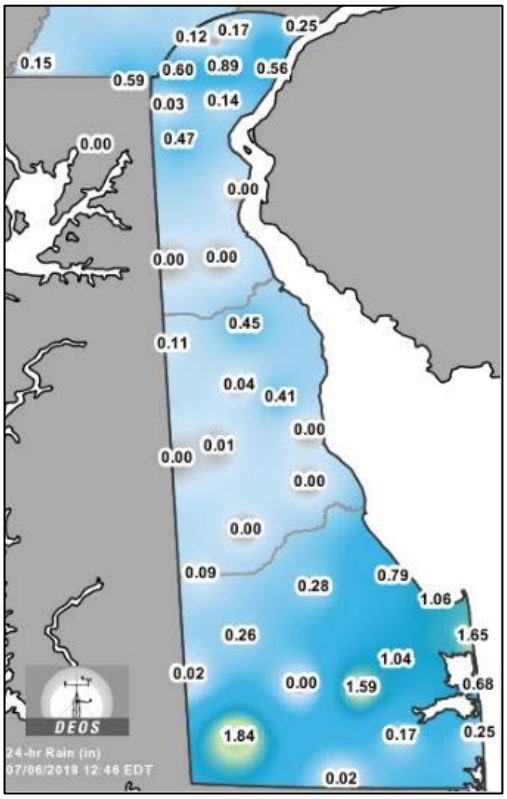
V6: 475 GDD
V12: 870 GDD
VT: 1135 GDD
R1: 1400 GDD

Table 1: Growing degree days accumulated through July 2nd from the beginning of each week.

	Sussex	Kent	New Castle
22-Apr	1470	1530	1573
29-Apr	1436	1484	1520
6-May	1338	1374	1412
13-May	1240	1268	1308
20-May	1146	1161	1197
27-May	998	1002	1039
3-Jun	848	851	887
10-Jun	734	733	764
17-Jun	605	606	628

Our graph of rainfall across the state is a little off scale, due to the large amount of rainfall received in mid-May. We received a small amount of rain last week, with more in Dagsboro and Delmar than other regions of the state. This graph cannot capture all of the variability statewide, as you can see from the screen capture from DEOS on July 6th. Some hot spots in the state received up to 1.8 inches of rain, while some received none. If you have always thought that storms skipped your farms, you were probably right.





24-hour rainfall for July 6, 2018 from http://deos.udel.edu/

Testing Corn for Pollination

Dr. Bob Nielsen from Purdue University has some good instructions on testing corn plants for good pollination (or "pregnancy"). This includes doing a shake test to see how many silks fall away. Click on this link to read more: https://www.agry.purdue.edu/ext/corn/news/timeless/EarShake.html

General

Extreme Deer Damage Assistance Program (EDDAP) Accepting Applicants - *Delaware Department of Natural Resources and Environmental Control and Delaware Department of Agriculture*

The following are the steps and criteria for the interim implementation of the Extreme Deer Damage Assistance Program (EDDAP) during the summer of 2018, which will allow permittees and their hunters to harvest antlerless deer from the date the permit is issued through August 14, 2018. Assuming compliance with EDDAP permit conditions, applicants will automatically receive a permit for the Severe Deer Damage Assistance Program (SDDAP), which will allow them to continue harvesting antlerless deer from August 15, 2018 through May 15, 2019. Within both programs, applicants may harvest antlerless deer any day of the week (Sunday through Saturday) from ½ hour before sunrise through ½ hour after sunset using shotguns, muzzleloaders, handguns, compound bows, crossbows, recurve, and longbows. All deer must be registered via the Division's Hunter and Trapper Registration System.

Applicants interested in enrolling in the Interim EDDAP for 2018 are to contact DNREC's Division of Fish & Wildlife (DFW) and request enrollment. To be eligible for the program, applicants must meet the all of the following criteria:

● Must have been enrolled in the SDDAP during the 2017/18 program period.

● Must arrange for a field visit by the Department of Agriculture (DDA) to assess the severity of deer crop damage.

● Must agree to develop an approved deer management plan for the affected properties by September 1, 2018. This plan can be funded through a 50/50 cost share with the state paying half of the cost to prepare the plan and the applicant paying the remaining half. Failure to fulfill this requirement will eliminate the applicant from eligibility in the EDDAP for the following two consecutive summers. Similarly,

failure to meet the approved deer management plan's deer harvest goals will eliminate the applicant from EDDAP eligibility for the following two consecutive summers. Required content for deer management plans is available upon request.

● All deer shall be harvested under SDDAP guidelines. All deer harvested shall be used for personal consumption or donated to the Sportsmen Against Hunger (SAH) Program (i.e., wanton waste of harvested deer is prohibited). Harvested deer not donated to the SAH Program shall be appropriately documented as specified in the Interim EDDAP permit. The required deer management plan shall address and specify future utilization of harvested deer.

● If the applicant agrees to the terms of enrollment and has completed the enrollment application, the DFW will contact DDA so they can schedule a crop damage assessment visit to determine if crop damage is extreme enough to warrant issuing a permit and enrolling the applicant in the program.

● If DDA determines that the applicant has parcels that meet or exceed field-verified EDDAP deer crop damage threshold criteria established jointly by DDA and DFW, DFW will issue an Interim EDDAP Permit within 5 business days for only those parcels with the eligible crop damage. If the applicant's properties do not meet the field-verified EDDAP deer crop damage threshold criteria, the applicant will be limited to the SDDAP.

● An Interim EDDAP Permit issued by the DFW will only be effective for 2018. Eligibility for any future EDDAP permits will be reassessed based on meeting deer management plan deer harvest goals and meeting or exceeding field-verified deer crop damage threshold criteria.

Contacts:
DNREC's Division of Fish and Wildlife
Joseph Rogerson, Joseph.Rogerson@state.de.us
(302) 735-3603

Delaware Department of Agriculture
Austin Short, Austin.Short@state.de.us
(302) 698-4505

Guess the Pest! Week #15 Answer: Stink Bug

- *Bill Cissel, Extension Agent – Integrated Pest Management*; bcissel@udel.edu

Congratulations Chris Leon for correctly identifying the damage in the photo as stink bug damage and for being selected to be entered into the end of season raffle for $100 not once but five times. Everyone else who guessed correctly will also have their name entered into the raffle. Click on the Guess the Pest logo to participate in this week's Guess the Pest challenge!

Guess the Pest Week #15 Answer: Stink Bug

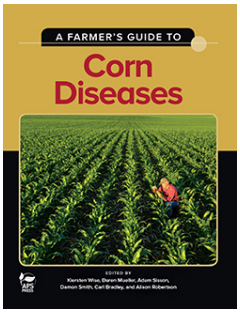
The damage on the corn stalk is stink bug feeding injury. Stink bugs will use their piercing-sucking mouthparts to probe into the stalk of the plant, removing plant fluids. If the stink bug hits the ear at this stage, the ear will often fail to develop kernels at the feeding site. This causes

the ear to develop into the classic "C"-shaped or boomerang-shaped ear. This is why the greatest damage and yield loss potential due to stink bug feeding is prior to pollination. This is also why waiting until after tasseling (pollination), to control a stink bug infestation in field corn is too late. Here is a link to last week's article discussing stink bug management in field corn: http://extension.udel.edu/weeklycropupdate/?p=12194

Guess the Pest! Week #16 – *Bill Cissel, Extension Agent – Integrated Pest Management*; bcissel@udel.edu

Test your pest management knowledge by clicking on the GUESS THE PEST logo and submitting your best guess. For the 2018 season, we will have an "end of season" raffle for a $100.00 gift card. Each week, one lucky winner will also be selected for a prize and have their name entered not once but five times into the end of season raffle.

This week, one lucky participant will also win A Farmer's Guide To Corn Diseases ($29.95 value).



You can't win if you don't play!

What caused this damage?

Announcements

A Day in the Garden: Sussex County Master Gardener Open House
Saturday, July 14, 2018 10 a.m. to 2 p.m.
Carvel Research & Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Join Delaware Master Gardeners and explore the multitude of benefits a garden can bestow! Exercise with a leisurely stroll. Relax on a bench and observe our many pollinators and birds. Delight in watching children discover a garden toad or spot a fish in the pond. Take deep breaths and soak in the aromas of our fragrant annual and perennial show stoppers! Catch up with a friend under a shade tree! Bring your curiosity along with your camera and capture the astounding flora and fauna that call our garden home. Learn how you can create your own special oasis on a balcony or a backyard! We can help you create that happy place! Try out the tools and techniques to garden smart and garden healthy. Channel the child inside you and join little ones as they hopscotch through our special children's sensory garden. Shop the plant sale! Attend our free mini-workshops. Enjoy ice cream from the University of Delaware UDCreamery's Moo Mobile (free to children under 16 with a coupon from Farmer McGregor).
This event is FREE and registration is not necessary! This event is Rain or Shine!

Come see what we've designed, planted and cultivated. There is a lot new this year! Do you have a plant that's under the weather, or not cooperating with the weather? Bring it to our Sick Plant Clinic. Visit our plant sale and take home a new plant to enjoy in your garden!

Details online at: https://udel.edu/004881

The Department of Agriculture is reminding Delaware farmers to make sure your irrigation systems are not spraying water onto our state highways and roads. Wet roadways reduce pavement friction that creates a hazard for motorists, especially for motorcycle riders. Check your pivots and make adjustments. You don't want to be the cause of a crash.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 5 to July 11, 2018

Readings Taken from Midnight to Midnight

Rainfall:

No rainfall recorded

Air Temperature:

Highs ranged from 92°F on July 10 to 75°F on July 7.

Lows ranged from 75°F on July 6 to 52°F on July 9

Soil Temperature:

74.1°F average

Additional Delaware weather data is available at 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