



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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August 14, 2020

Vegetable Crops

Vegetable Crop Insect Scouting - David Owens, Extension Entomologist, owensd@udel.edu

Sweet Corn

Moth counts remain elevated in most of the state, except for a curious hole around Georgetown. As such, we have not been able to test very many moths this week. Out of 26 tested moths, survivorship this week is only 23%.

Thursday corn earworm moth capture is as follows:

Trap Location	BLT - CEW	Pheromone CEW
	3 nights total catch	
Dover	2	131
Harrington	1	16
Milford	0	127
Rising Sun	---	82
Wyoming	0	47
Bridgeville	4	61
Concord	2	15
Georgetown	1	19
Greenwood	6	--
Laurel	3	65
Seaford	2	28
Lewes	2	107
Dover	2	131

Cole Crops

Be sure to scout transplants carefully, worms can quickly do heavy damage on small plants. Last year, about 10% of my transplants turned into spears almost overnight because a yellow striped armyworm found the plants as soon as I put them out to harden off. This year, cabbage looper and imported cabbageworm tried to do the same. Cabbage looper is very active. Thresholds for early stage plants are 20% infested plants. Remember to rotate modes of action from one spray to another and to rotate modes of action out every 30 days. Good coverage is essential, and in many cases, use of an adjuvant will help improve control on the waxy leaves. Do not use binder or sticker adjuvants when using diamides or Radiant, these products try to get across the leaf membrane into the tissue, while stickers try to keep the product on the surface.

Watermelon

Lepidopteran rind worms are still active, including cabbage looper and beet armyworm. Beet armyworm is attracted to pigweed and can be found in pigweeds in and around fields, feeding on the top leaves. If looking at pigweed, make sure that you find the worm, there are other caterpillars that feed on pigweed leaves that do not get into watermelon. Beet armyworm is resistant to pyrethroids, you will need a worm product. Of the worm products, Exirel and Harvanta have some beetle activity and will stop adults from feeding. Cucumber beetle larvae will also etch rinds on the ground spot but unlike the caterpillars, there are no remedial options. Larvae that are present now

came from F1 beetles that were active at the beginning of July.

Cucurbits

Aphids continue to colonize cucurbit fields, and in some areas, pressure can be heavy. You can quickly find large colonies by looking for shiny honeydew on plastic, lower leaves, and fruit. Large infestations may also result in thickened and cupping new leaves. The good news is that we have numerous options for controlling aphids, and the most consistent results have been achieved with foliar applications.

Edema (Oedema) in Vegetables- Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

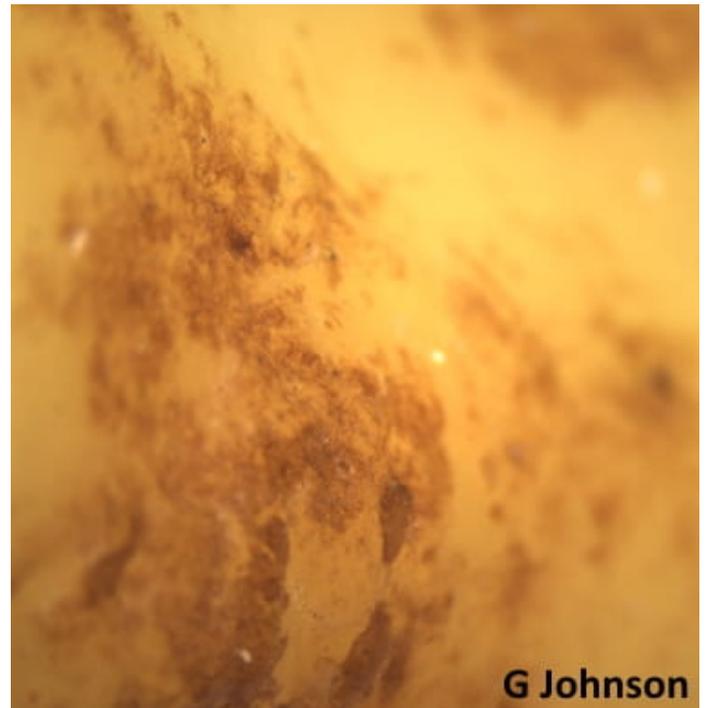
With recent wet, cloudy weather we are seeing some edema (or oedema) on bell pepper and banana pepper fruits. Edema is also called water blistering. The most common cause of edema is warm wet soils, high humidity in the air, low wind, and overcast (cloudy) skies. Under these conditions the roots of the pepper plant absorb water at a rate faster than is lost through transpiration. Excess water accumulates in the developing fruit, some fruit cells enlarge, stomatal openings become blocked by these enlarging cells, and water continues to accumulate in the fruit. The enlargement of these fruit cells then causes a rupture of the epidermis leaving raised bumps and scarring. To reduce edema, limit irrigation during cloudy, humid weather.

With fall cole crop season underway we also commonly see edema in crops such as cabbage. Edema is water blistering on cole crop leaves. The most common cause of edema is the presence of abundant, warm soil water and a cool, moist atmosphere. Under these conditions the roots absorb water at a rate faster than is lost through transpiration. Excess water accumulates in the leaf, some parenchyma cells enlarge and block the stomatal openings through which water vapor is normally released from the plant; thereby contributing to further water retention in the leaf. If this condition persists, the enlarged cells divide, differentiate a cork cambium, and develop elongate cork cells externally to form a periderm. The rupture of

the epidermis by the enlarged inner cells and the periderm account for the raised, crusty appearance of older edema spots.



Edema in Banana Pepper Fruits. Note the raised brown bumps and scarring.



Magnified picture of ruptured epidermis on edema affected banana pepper fruit.



David B. Langston, University of Georgia, Bugwood.org

UGA5077022

Edema on a cole crop leaf.

USDA Announces More Specialty Crops, Nursery Crops, Cut Flowers Eligible for CFAP Payments

The U.S. Department of Agriculture (USDA) announced today that additional specialty crops, including nursery crops and cut flowers, are covered by the Coronavirus Food Assistance Program (CFAP) and that the deadline to apply for the program is extended to September 11th. Additionally, producers with approved applications will receive their final payment. The full news release is available at <https://www.ams.usda.gov/press-release/usda-announces-more-eligible-commodities-cfap>.

USDA collected comments and supporting data for consideration of additional commodities through June 22, 2020. The following commodities are now eligible for CFAP:

- **Specialty Crops** - aloe leaves, bananas, batatas, bok choy, carambola (star fruit), cherimoya, chervil (french parsley), citron, curry leaves, daikon, dates, dill, donqua (winter melon), dragon fruit (red pitaya), endive, escarole, filberts, frisee, horseradish, kohlrabi, kumquats, leeks, mamey sapote, maple sap (for maple syrup), mesclun mix, microgreens, nectarines, parsley, persimmons, plantains, pomegranates, pummelos, pumpkins, rutabagas, shallots, tangelos, turnips/celeriac, turmeric,

upland/winter cress, water cress, yautia/malanga, and yuca/cassava.

- **Nursery Crops and Flowers** - nursery crops and cut flowers.

Other changes to CFAP include:

- Seven commodities - onions (green), pistachios, peppermint, spearmint, walnuts and watermelons - are now eligible for Coronavirus Aid, Relief, and Economic Stability (CARES) Act funding for sales losses. Originally, these commodities were only eligible for payments on marketing adjustments.
- Correcting payment rates for onions (green), pistachios, peppermint, spearmint, walnuts, and watermelons.

Additional details can be found in the Federal Register in the [Notice of Funding Availability](#) and [Final Rule Correction](#) and at www.farmers.gov/cfap/specialty.

Producers Who Have Applied:

To ensure availability of funding, producers with approved applications initially received 80 percent of their payments. The Farm Service Agency (FSA) will automatically issue the remaining 20 percent of the calculated payment to eligible producers. Going forward, producers who apply for CFAP will receive 100 percent of their total payment, not to exceed the payment limit, when their applications are approved.

Applying for CFAP:

Producers, especially those who have not worked with FSA previously, are recommended to call 877-508-8364 to begin the application process. An FSA staff member can help producers start their application during the phone call.

On farmers.gov/cfap, producers can:

- Download the AD-3114 application form and manually complete the form to submit to their local USDA Service Center by mail, electronically or by hand delivery to their local office or office drop box.
- Complete the application form using the CFAP Application Generator and Payment Calculator. This Excel workbook allows customers to input information specific to their operation to determine estimated

payments and populate the application form, which can be printed, then signed and submitted to their local USDA Service Center.

- If producers have login credentials known as eAuthentication, they can use the online CFAP Application Portal to certify eligible commodities online, digitally sign applications and submit directly to the local USDA Service Center.

All other eligibility forms, such as those related to adjusted gross income and payment information, can be downloaded from farmers.gov/cfap. For existing FSA customers, these documents are likely already on file.

All USDA Service Centers are open for business, including some that are open to visitors to conduct business in person by appointment only. All Service Center visitors wishing to conduct business with FSA, Natural Resources Conservation Service or any other Service Center agency should call ahead and schedule an appointment. Service Centers that are open for appointments will pre-screen visitors based on health concerns or recent travel, and visitors must adhere to social distancing guidelines. Visitors are also required to wear a face covering during their appointment. Program delivery staff will be in the office and will work with producers in the office, by phone and using online tools. More information can be found at farmers.gov/coronavirus.

Plectosporium Blight Common in Pumpkins This Year - Jerry Brust, *IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

By this time of the season I usually see pumpkin fields infected with powdery mildew pretty commonly throughout the mid-Atlantic. And while powdery mildew is present in many pumpkin fields it does not seem as bad as in previous years. The one disease I am seeing a great deal more of this season is plectosporium blight. This fungal disease of pumpkin, zucchini and squash can cause yield loss if left uncontrolled. Plectosporium blight prefers warm, humid or rainy weather conditions. It overwinters on crop residue and can persist in

the soil for several years. Plectosporium blight can be recognized from the small white to light tan spots on leaves (Fig. 1) and elongated lesions on stems and leaf petioles (Fig. 2). On green fruit the lesions are very small white to tan flecks (Fig. 3) on more mature fruit the lesions are round to irregular shaped pimples on the surface of the pumpkin making them at times unmarketable (Fig. 3). These fruit lesions also allow soft rot pathogens to penetrate into the pumpkin which will cause the fruit to 'melt-down' into a deflated mess. When stem and foliar lesions occur in large numbers they can give a light gray or white appearance to the foliage, vines and leaf petioles (Fig. 2). Severely infected pumpkin stems or petioles will become brittle and can split or shatter if disturbed (Fig. 2).



Figure 1. Plectosporium yellow-tan spots (lesions) on pumpkin leaf

When Plectosporium blight occurs, rotate away from summer squash and pumpkins for 2 years. Scout for disease and apply fungicides when disease first occurs. Thorough coverage of foliage, vines, and fruit is necessary for good control. Most of the time protective applications of chlorothalonil or mancozeb will give you good protection from this disease, however in years

like this one where we have had frequent and heavy rains at times the disease control needs a kick with the addition to the protective sprays of using something in rotation such as Cabrio or Flint Extra or Pristine. These 'extra sprays' should not be rotated with one another.



G Brust, University of Maryland
Figure 2. Plectosporium lesions on pumpkin leaf petioles; the petiole to the right has split.



G Brust, University of Maryland
Figure 3. Plectosporium lesions on small green fruit and on more mature orange fruit

Agronomic Crops

Agronomic Crop Insect Scouting - David Owens, Extension Entomologist, owensd@udel.edu

Sorghum

Keep a close watch for white sugarcane aphids. Low populations have been observed in several sorghum fields in Sussex and Kent, but in several fields, very isolated hot spots consisting of a couple of heavily infested plants can be found. Most sorghum is in the flowering stages, thresholds, depending on the source, range from 30% infested plants with localized areas of honeydew to 40-100 aphids per leaf. There are

tolerant and resistant sorghum varieties listed on sorghum checkoff's website:

<https://www.sorghumcheckoff.com/news-and-media/newsroom/2017/02/27/2017-sugarcane-aphid-tolerant-hybrids/>; aphid count thresholds on these varieties are twice as high. There are only two effective insecticides for them: Sivanto and Transform. Sivanto has a 2ee recommendation for 4-6 fl oz/acre; 2019 insecticide trials showed that even 3 fl oz was effective. Transform's rate is 0.75 to 1.5 oz.

Corn earworm is present in some fields, but for the most part at low levels. There is a very useful calculator for determining thresholds that can be found on Texas A&M's website:

<https://extensionentomology.tamu.edu/sorghum-headworm-calculator/>.

Soybean

Continue scouting for stink bug, corn earworm, bean leaf beetle, and defoliators. Soybean looper, the last member of the defoliator complex is now in the area at very low numbers. A few small earworm can be found in soybean. As a reminder, use the corn earworm threshold calculator for soybean at NCSU's website:

<https://www.ces.ncsu.edu/wp-content/uploads/2017/08/CEW-calculator-v0.006.html>

Pasture

There have been recent reports of true armyworm defoliating grass pasture, and fall armyworm may be present as well. Recent rains may help favor diseases that kill these caterpillars. True armyworm are less of a problem in pastures with broad leaf forages (see the guess the pest below). Armyworm eat far more leaf tissue during the last few days of their development than the early instars. You may notice birds working in hotspots. True armyworm is active at night, fall armyworm are active in the early morning and late in the day. University of Arkansas recommends a treatment if 3 or more mid-sized worms are present per square foot, paying special attention to the best portions of the field that are most attractive to moths. Arkansas also suggests using a gallon of soapy water (2 tbsp/gal) to bring caterpillars out into the open and out from the thatch.

Accumulated Heat Units are Pushing Corn Along - Jarrod O. Miller, Extension Agronomist, jarrod@udel.edu; Cory Whaley, Sussex Co. Extension Ag Agent, whaley@udel.edu; James Adkins, Irrigation Engineer, adkins@udel.edu; Jake Jones, Extension Agriculture Agent, Kent County, jjones@udel.edu; Dan Severson, Agriculture Agent, New Castle County, severson@udel.edu

Corn at the research station planted in late April has begun to show kernels at R5 (dent stage, 2190 to 2450 GDD) and is rapidly approaching blacklayer (2700 GDD). Due to the cooler weather in late April, most mid-May fields are not very far behind (Table 1, Figure 1). Temperatures have stabilized somewhat since the beginning of August, with fewer days above 87°F, particularly in New Castle County. Since mid-July, Sussex county has had at least 11 nights with temperatures greater than 72°F, which may also have slowed corn growth and grain production.

At this time last year, we had accumulated 21, 20, and 16 inches of rainfall in Newark, Dover, and Georgetown, respectively. This year we have accumulated 11, 24, and 16 inches in those same parts of the state (Figure 2). Until the recent tropical storm, Kent only had 16 inches, so much of the recent rainfall has probably runoff the field rather than infiltrated. Growers should continue to irrigate their fields until blacklayer is reached.

Table 1. Accumulated Growing Degree Days Based on Planting Date

Planting Date	County		
	New Castle	Kent	Sussex
15-Apr	2253	2304	2359
22-Apr	2253	2298	2351
29-Apr	2251	2294	2334
6-May	2181	2217	2253
13-May	2177	2204	2235
20-May	2099	2122	2162
27-May	2011	2040	2080

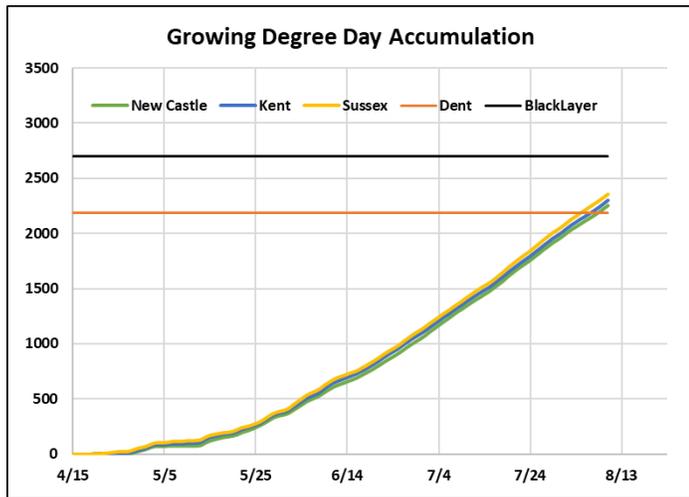


Figure 1. Growing degree day accumulation since April 15th.

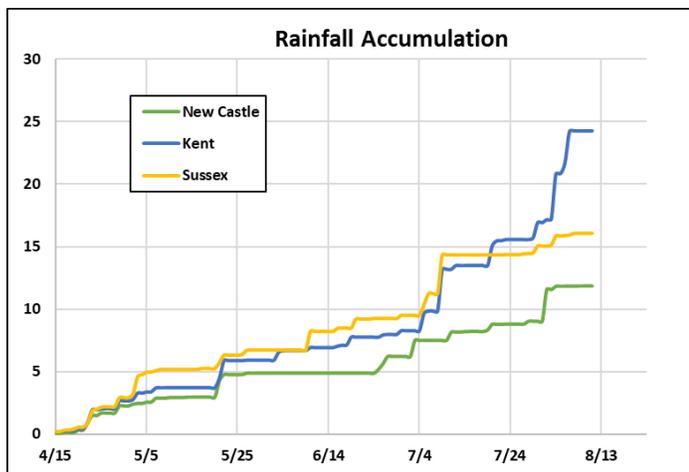


Figure 2. Statewide rainfall accumulation since April 15th.

General

Guess the Pest! Week 19 Answer: True Armyworm- David Owens, Extension Entomologist, owensd@udel.edu

Congratulations to Chris Leon for correctly identifying last week's pest as true armyworm. This worm is not often found in soybean, while fall armyworm can get into soybean. Fall armyworm has a black head with a pale Y-shaped suture on the face and 4 small dots arranged in a square pattern on the last abdominal segment. True armyworm has parallel dark lines on a mottled face and pinkish stripes down the side of the body.

So what gives? This field had a lot of grass weeds in it. The adult armyworm moth laid eggs, and larvae stripped the grass in portions of the field. In other portions of the field, the farmer sprayed a herbicide. True armyworm only feed on grasses (such as small grain and corn where they are occasional pests). These caterpillars were wandering, looking for food but not finding any. While extremely abundant in the field, they are slowly starving to death, no need to treat these worms.



Guess the Pest! Week 20 - David Owens, Extension Entomologist, owensd@udel.edu

Time to test your pest management identification again this week as we jump into another soybean field. There are large sections of this field that, despite the recent rain, look yellower and yellower. In portions of the good looking part of the field, there are circular areas that are also stunted, though not as badly. Plants are stunted, there is interveinal chlorosis, some odd brown patches on the leaves, and no spider mites to be found. What might be causing this? Click on the Guess the Pest logo or the link below to log your answer.



https://docs.google.com/forms/d/e/1FAIpQLSfUPYLZnTRsol46hXmggj8fvt5f8-JI0eEUHb3QJaNDLG_4kg/viewform?c=0&w=1



Farm Succession Planning - A Process Worth 100 Acres or More..., Part 3 - Laurie Wolinski, Extension Agent, lqw@udel.edu; Dan Severson, New Castle Co. Ag Agent, severson@udel.edu and Maria Pippidis, Extension Educator Family & Consumer Sciences, pippidis@udel.edu

How did the collecting and analyzing information work out? Hopefully each family member participated in that step, to the best of their ability and access to certain documents. Remember that by gathering all these documents and sharing them with the all the parties involved, a level of trust and transparency will be established - that will be critical as the process continues.

Once the gathering of important documents and some level of analysis has been done, the family members are in a better position to begin generating options about the way the farm will be transferred, how it will be financed, what business structure will be set-up, and what, if any, legal documents should be considered. This, again, is not a one-time conversation. It is an opportunity to investigate "what if" scenarios and contingency plans. Family members should think about the future and try to vision what the farm will look like. Family and business needs should be considered. And remember to think about retirement and health care issues.

It is recommended that the family members share "what if" scenarios with trusted professionals who are a part of the advisory team (accountant, lawyer, ag lender, insurance agents, financial planner, and/or Extension agent). By sharing, you have a better chance of learning if the family's scenarios are sound, realistic, safe, affordable, and fair.

There is a checklist on page 7 of the [Farm Succession Planning Checklist](#). We recommend reviewing that list. The list is very detailed, but it is important to the future of the business.

At the top of the checklist is: "Family members have attended an introductory workshop or seminar". UMD and UD Extension are collaborating to offer a [Farm Succession Webinar Series](#) (Thursday evenings in August). We

encourage you to join these sessions. It is quite typical for farm families to attend multiple succession planning workshops because of the nature of the topic and the time involved.

Let's look at some brief "what if" scenarios. Remember, this is just in the very beginning of the process and these scenarios are preliminary. The notion is to put ideas, hopes, and dreams out there (and hopefully without judgement from the other family members) in order to keep the conversation going. If the family is talking about it, then more than likely progress is being made.

Son 1 - Would like he and wife to slowly take over (buy) the farm from Mom and Dad. Proposes that his brother (Son 2) rent land for the outdoor classroom and agritourism, so that it would be a separate operation/business from the farm. Son 1 feels that he has more invested in the farm since he has been working alongside of his parents. He also wants to live in the farmhouse.

Son 2 - Would like to see the farm transferred to the three brothers and wants to have some decision-making rights. Feels that he and his brother (Son 1) are perfectly capable of working and co-managing the farm together.

Son 3 - Wants to expand the farm to include a poultry operation that he would manage, He is not yet sure how this would happen on paper.

Mom - Has longed to travel and is looking forward to retirement. They have worked hard to build this family business and she wants to live comfortably in retirement. She also wants to move to a nearby 55 and older neighborhood. More than anything, Mom wants everyone to be happy in the end.

Dad - Is looking forward to retirement but wants to be around the farm to help Son 1 with the daily operations. He does want to travel, and is OK with moving, especially since he experiences chronic pain due to arthritis.

Attorney and other professionals will be able to ask questions of each party or scenario in order to offer potential solutions for ownership,

business structure, fair vs. equal, etc. If conversations begin to sour among the family members, consider involving a mediator or facilitator to help the conversation stay on course.

Keep the communication going throughout and engage all family members. In the “what ifs” above, the daughters-in-law have not been mentioned. This is a lengthy process with many individuals involved. Keeping the family farm and the family close means sacrifices. Not everyone is going to get everything they want in life, and the final outcome of transferring the family farm is but one example.

[Part 1](#) and [Part 2](#) of this series were published in previous weeks.

Announcements

Succession Planning Workshops: Investing in Your Farm’s Future

Thursdays, August 6, 13, 20, 27, 2020 6:00-7:30 p.m.
Online

Each year, the average age of principal farm operators continues to get just a little bit older. Many of these principal operators may not have developed a retirement plan, considered how to handle health care issues as they age, developed a succession plan, or even developed an estate plan. Join specialists from the University of Delaware Extension and the University of Maryland Extension as they help prepare you for this process.

A four-part series for farm families planning for the next generation.

Session 1: Introduction of the topics and retirement planning.

Session 2: Health insurance in later years.

Session 3: Business planning and communications.

Session 4: Legal topics, planning tools, and finding the right team.

More information and registration is available here: <https://go.umd.edu/5Qv>

Renovating Pastures Webinar

Wednesday, August 26, 2020 7:00 pm
Online

Join Dr. Amanda Grev, Ph.D. - University of Maryland Forage Specialist for another program in our Webinar Wednesday forage series. Is your pasture in need of some renovation? How do you know if, when, or how to renovate? This webinar will cover the basics of pasture renovation, including an overview of some different types of renovation, steps you can take to determine if renovation is needed, and a step by step guide for the renovation process.

To register: <https://www.pcsreg.com/renovating-pastures>

Sponsored by Delaware Cooperative Extension, a joint effort between Delaware State University and the University of Delaware.

Extension302 Podcast – New Episode

Episode 7: Delmarvalous Poultry

The crew interview UD Extension poultry agent, Georgie Cartanza, about the poultry industry on Delmarva, pollinator buffers, and the impact of the recent pandemic.

To listen, go to:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/about/podcast/>



Soil Health Solutions

Monday, August 17, 1-4 PM
Online via Zoom

Please join us for an interactive webinar to address soil health challenges on all types of farms. Shannon

ZeZula, Indiana State Resource Conservationist will present about the process of finding soil health solutions based on individual farming situations. Participants will also have discussions about specific farming scenarios and find ways to improve soil health and productivity.

Please contact Jason Challandes at jchallandes@desu.edu or 302-388-2241 to register and you will receive a link to join.

Presented by Northeast SARE, Delaware Soil Health Partnership, Delaware State University and University of Delaware

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of August 6 to August 12, 2020

Rainfall:

0.06 inch: August 6
0.55 inch: August 7
0.08 inch: August 8
0.71 inch: August 12

Air Temperature:

Highs ranged from 91°F on August 12 to 81°F on August 6.

Lows ranged from 73°F on August 11 to 66°F on August 9.

Soil Temperature:

82.2°F average

Additional Delaware weather data is available at <http://www.deos.udel.edu/data/>

Weekly Crop Update is compiled and edited by Emmalea Ernest, Associate Scientist - Vegetable Crops. Aisha Hoggard assists with web posting.

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