

WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

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July 23, 2021

Vegetable Crops

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

Sweet Corn

Scout early whorl stage corn for **armyworm** - both fall and yellow striped. Thresholds for whorl damage are 15% **active** infestation. You may see windowpaning but not find a larva.

Brown stink bugs are present in some fields, particularly near weedy edges. Of the materials labeled for ear protection, bifenthrin and a pyrethroid/methomyl mix are the most effective options towards control. Bifenthrin has the most stink bug activity among the pyrethroids, and can be found in Brigade (and other generic formulations), Hero, and the diamide premix Elevest.

We have not been able to test many moths in our vial tests this week due to low flight numbers. Last week we were at close to 45% survivorship in pyrethroid-treated vials. Do not use a pyrethroid alone to manage **corn earworm**.

Thursday trap counts have decreased a bit in most of our trap locations:

Trap Location	BLT - CEW	Pheromone CEW
	3 nights total catch	
Dover	1	27
Harrington	1	65
Milford	0	26

Rising Sun	0	25
Wyoming	0	3
Bridgeville	2	41
Concord	1	24
Georgetown	1	12
Greenwood	1	36
Laurel	2	41
Seaford	1	---
Millsboro	2	12
Lewes	--	33

Squash

Squash bugs are very active right now, and **squash vine borer** is a continued threat, particularly in smaller plantings. Squash bug thresholds are 1 egg mass per plant. If upon a casual inspection you see an egg mass on every other or every third plant on the upper side of the leaf, you most likely have many more that are present underneath of the leaf. This threshold is also on a per plant basis, not a per leaf basis. While squash bugs are known to transmit a yellowing disease to squash, it appears that this is extremely uncommon. Labeled materials include carbaryl, various pyrethroids, acetamiprid, and Sivanto. Use of other neonicotinoids should be avoided at this stage due to bee toxicity, and especially towards cucurbit specialists like squash bee. Eggs are almost impossible to kill with an insecticide, we need to wait until they hatch before we treat. Eggs take about 10 days to hatch. During that time, you may have other egg masses laid; thus these insects sometimes require multiple applications to control. Adults like to hide near the base of the plants, in the mulch or weeds, and as such can sometimes be difficult to find

and to contact with a treatment. Assail and Sivanto are unlikely to flare up mites in the same way that carbaryl and most of the pyrethroids can. Sivanto is primarily an aphid material. Assail is also very good on cucumber beetles. The disadvantage comes with managing for squash vine borer: only pyrethroids are effective. Furthermore, **melon aphids** are starting to move into fields, and by frequent pyrethroid usage alone for squash bug or vine borer, you might flare up aphids. There are many good aphid materials, including diamides, Beleaf, acetamiprid, Sivanto, Torac, PQZ, and Sefina.

Watermelon

The entire pest complex is now present in watermelon fields, with most being generally low in abundance. Pay special attention to fields that are currently being harvested, as the harvesting process stresses plants out and can lead to extremely rapid **mite** population increases and impact to plants. Watch out for blocky areas of yellowing. First generation **striped cucumber beetle** emergence from the soil seems to have peaked. These beetles can feed on the rinds, and if severe enough, can render a melon unmarketable. Various species of worms are active, including **yellow striped armyworm** and **corn earworm**, both of which can be aggressive rind feeders. Finally, **aphids** are beginning to move into fields. It is very unlikely that aphid populations will increase to the point of causing economic damage, but scouting is still extremely important.

Plugged Emitters in Drip Irrigation

Revisited - Gordon Johnson, *Extension Vegetable & Fruit Specialist*; gcjohn@udel.edu

Drip emitters can become plugged with fine particles, mineral deposits, or biofilms. When emitters become clogged, the plants nearest the clogs will receive less water and have more water stress and grow less or be stunted. This is seen most commonly in higher density planted crops, such as peppers.

A common cause of plugged emitters is water containing high levels of dissolved iron. This can cause a proliferation of iron utilizing bacteria.

These bacteria form heavy biofilms on the inside of the drip tube. They also oxidize the iron in the water (as part of their metabolism) and leave behind iron precipitates that can plug emitters. Chlorination of drip lines is needed to control iron bacteria.

From the Mid-Atlantic Commercial Vegetable Recommendations:

“Periodic treatment before clogging develops can keep the system functioning efficiently. The frequency of treatment depends on the quality of the water source. Generally, two or three treatments per season is adequate. Irrigation water containing high concentrations of iron (greater than 1 ppm) can also result in clogging problems due to types of bacteria that “feed” on dissolved (ferrous) iron. The bacteria secrete a slime called ochre that may combine with other solid particles in the trickle tubing and plug emitters. The precipitated (ferric) form of iron, known commonly as rust, can also physically clog emitters.”

“Treating water containing iron with chlorine will oxidize the dissolved iron, causing the element to precipitate so that it can be filtered and removed from the system. Chlorine treatment should take place upstream of filters in order to remove the precipitated iron and microorganisms from the system. Take care when adding chlorine to trickle irrigation systems, however, since concentration at or above 30 ppm can be toxic to growing plants.”

“For managing dissolved iron and microbes in the water source, one of the following basic strategies is suggested as a starting point:

For iron treatment:

- Inject liquid sodium hypochlorite continuously at a rate of 1 ppm for each 1 ppm of iron in irrigation water. In most cases, 3 to 5 ppm is sufficient.

For bacteria treatment:

- Inject liquid sodium hypochlorite continuously at a rate of 5 to 10 ppm where the biological load is high or
- Inject 10 to 20 ppm during the last 30 minutes of each irrigation cycle or

- Inject 50 ppm during the last 30 minutes of irrigation cycles one to two times each month or
- Super chlorinate (inject at a rate of 200 to 500 ppm) once per month for the length of time required to fill the entire system with this solution and shut down the system. After 24 hours, open the laterals and flush the lines.”

Another common problem in some aquifers, is well water with high levels of calcium and magnesium (“hard water”). In high water pH conditions, these can precipitate out as calcium or magnesium carbonates that will clog emitters. If you look inside the drip tubing you will see a white or chalky film. In addition, if soluble phosphorus fertilizers are put into water with high levels of dissolved calcium or magnesium salts, they can precipitate out as calcium or magnesium phosphates, also plugging emitters. Acidification of water can reduce or eliminate this problem. Also, avoid running phosphorus through the drip if you have hard water.

Inadequate filtering is another possible cause of plugged emitters. While this is most common when using surface water from ponds, ditches or streams it can also occur in wells that have fine particles in the water.

Southern Bacterial Wilt of Tomato Found - Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

Southern bacterial wilt of tomato, which is caused by the soil-borne bacterium *Ralstonia solanacearum* Race 1, has been found in a couple of tomato fields in the past week. This pathogen affects many solanaceous crops and is found throughout the southern United States.

The pathogen enters plant roots through small wounds such as those caused by insects, nematodes, cultivation, or transplanting. The bacteria then multiply in the vascular system, eventually clogging the water conducting vessels with bacterial cells and slime which prevents water and nutrients from moving throughout the plant. Initially, infected plants develop wilt

symptoms in the afternoon, and recover in the evening. Symptoms can develop quickly, especially when fruit is rapidly expanding, or when temperatures are 85-95° F and moisture levels are high. As the disease progresses, the base of the plant may show brown cankers, root rot, and a section of an infected stem may show a brown discoloration of the vascular tissue (Fig. 1). The plant eventually becomes permanently wilted and death occurs. A freshly cut stem at the base of the plant placed in water can show a stream of a white slimy substance (Fig. 2A) that is a strong indicator of the bacterium present in the vascular tissue (Fig. 2B). The interior of the stem also can be a dark or light brown in the pith area (Fig. 3).

Bacterial wilt is difficult to manage once present in the field. There are no chemical controls that provide effective management. This disease can be introduced into fields through infected transplants, water runoff from adjacent contaminated fields, or movement of tools and equipment containing infested soil. Weeds can serve as alternative hosts for this pathogen, so weed control is important in disease management. Crop rotation (for at least 4 years) and planting cover crops of non-susceptible plants (i.e., corn, beans, cabbage) may help reduce populations of the pathogen in the soil. Growers can use tomato plants grafted with bacterial wilt resistant rootstocks in fields where bacterial wilt is present. A list of resistant rootstocks is available on the USDA [tomato rootstock page](#) and includes such examples as Armada, Bowman and RST-05-113-TE rootstocks.

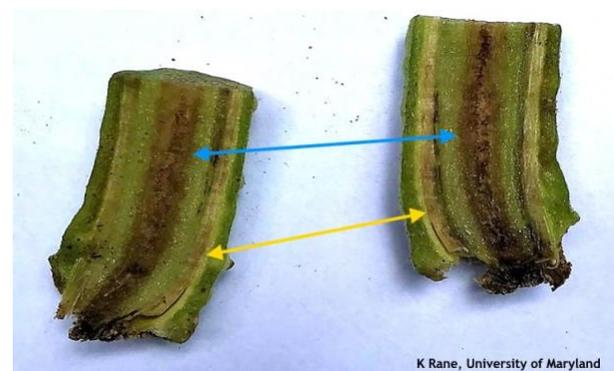


Figure 1. Tomato stem infected with *R. solanacearum*, split in half, showing discolored vascular tissue (yellow arrow) and pith (blue arrow).

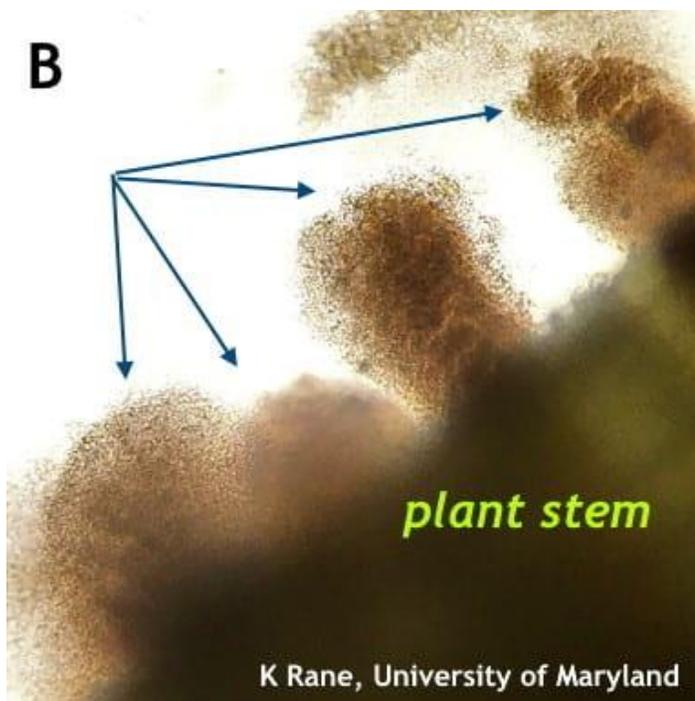


Figure 2. Bacterial slime streaming out of a cut stem in glass of water (A) and Bacteria streaming out of infected xylem tissue (arrows), viewed under a microscope at 100X (B).

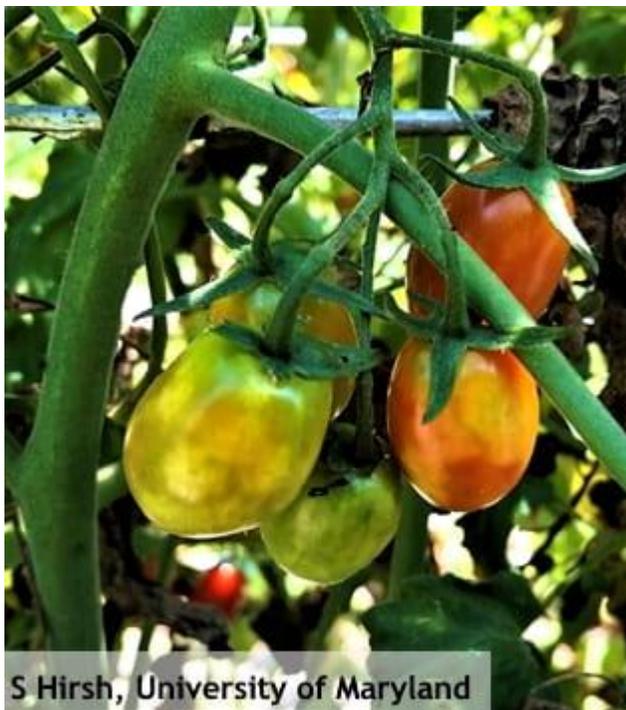


Figure 3. Discolored pith at the base of an infected tomato stem

Stink Bug Damage Found in Tomato Fields -
Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

I have seen and have gotten reports of stinkbug damage in tomatoes over the past few days. Stinkbug feeding damage is called cloudy spot in tomato fruit (Fig. 1). It occurs when the adult or immature stinkbug puts its needle-like mouth part into the fruit and removes material from a large number of cells. On green fruit the damage appears as whitish areas with a black dot in the center and indistinct borders (Fig. 2). On ripe fruit the spots are golden yellow (Fig. 1). Individual spots may be 1/16 -1/2 inch in diameter; or the spots may merge and encompass a large area of the fruit surface (Fig. 2). Peeling back the skin shows these areas as white shiny, spongy masses of tissue (Fig. 3). This damage is usually most common from mid-July until the end of the season. The Green and Brown as well as the Brown Marmorated stinkbug are often difficult to see and usually go unnoticed as they spend much of the day deep inside tomato plants, any disturbance and the stinkbugs will drop to the ground and move under the plastic, which results in monitoring difficulties. Only a few are necessary to cause the appearance of cloudy spot on many tomato fruit. Although stinkbug damage has been observed in slightly greater than usual amounts in tomato fields this year, observations of stinkbugs have been much less numerous.

Stinkbugs are extremely difficult pests to control. As alluded to earlier, there are no good methods for monitoring these pests. Traps do not work well, visually scouting for them has proven to be unreliable and too time consuming. Usually stinkbug damage is only a nuisance, but this year it has resulted in moderate losses in some fields. Growers should examine the edges of their fields carefully for tomato fruit with cloudy spot. There are some acceptable chemical choices for stink bug control. Pyrethroids (Warrior II, Hero EC, Tombstone and Mustang Maxx) or Venom or Scorpion can be used to reduce damage. Sprays should be directed towards the center of the plant with high pressure and a high gallonage (50-100 gal/a). If harvest has started there are neonics and pyrethroids that have very short PHIs - check your Mid-Atlantic Commercial Vegetable Production Recommendations guide. It should be understood that none of the chemicals will give complete control but will reduce damage compared with no chemical usage. Organic growers can try Entrust or Azera or Pyganic for control of nymphs, but these chemicals will not control adults.



S Hirsh, University of Maryland

Figure 1. Stinkbug injury to grape tomatoes, white whentomato is green turning yellow as fruit ripens



S Hirsh, University of Maryland

Figure 2. In the center of each cloudy spot is a tiny black dot (arrows) where stinkbug mouthparts penetrated into the tomato



G Brust, University of Maryland

Figure 3. Stinkbug feeding causing cloudy spot (arrows) on tomato fruit with skin peeled back

Agronomic Crops

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

Soybean

Continue scouting for pod feeders and defoliation. The most active insects include **corn earworm** (very low numbers), **stink bugs**, **bean leaf beetles**, **grasshoppers**, and **green cloverworm**. Cloverworm populations this year seem to be less than last year. Soybean defoliation thresholds in the reproductive stages

are 20%, these thresholds are conservative. When evaluating defoliation, it is important to consider the entire plant and the entire canopy, not just focusing on the leaflets with holes in them. It is easy to overestimate defoliation impact; keep in mind that 20% canopy-wide defoliation looks downright awful.

This brings up an interesting question though: is it worth treating soybean with a fungicide/insecticide tank mix? There are several factors to consider. First - defoliation. Are you approaching the 20% defoliation mark? Last year we had a couple of fields approach this level of defoliation due to unusually abundant green cloverworm. I have not received any reports of large numbers of green cloverworm this year, and in the fields we have been scouting they are present in low numbers. Most typically, the answer to this question is no.

Second - pod feeders. Are stink bugs present in any sort of significant number? One could argue that the cost of application is very low because you are already going across the field, and that this should mean a much lower number of stink bugs per sweep sample would offset the cost of the insecticide. Observations from Virginia over many years suggest that pyrethroid application not only helps control stink bugs, but also prevents further colonization, possibly due to a repellent effect. On the other hand, full season fields in our area often do not develop significant stink bug populations. Where you may see the most stink bugs are immediately adjacent to corn and to wood lines with abundant wild cherry.

Third - risk for flaring other pests. This is more of a consideration in states to our south where corn earworm and soybean looper are more reliable. I think the risk of flaring up either pest in our area is fairly low.

Fourth - are pollinators present? While soybean does not require insect pollination, yield can be significantly greater where honeybees work on the flowers. This can be heavily influenced by variety and by surroundings. Is your field near a registered apiary (find out more information at <https://fieldwatch.com/>)? If so, it might be worth pausing.

Finally - how risk adverse are you in your operation and your landscape? Are you able to scout the fields to know what the current insect scenario is for this season as opposed to field surroundings or field history? If someone asked you to give them \$1.50 x # soybean acres ready to be treated, would that come out to a significant sum (a hundred dollars, a thousand dollars)? Is your field very close to surface waters that a pyrethroid could drift into and potentially harm fish? I do not think there is a right or wrong answer to several of these questions, there are times when this application might break even or be useful. I think in the typical field, it will not. But on the other hand, IF a return trip is necessary that MIGHT have been headed off, we could cause some damage to yield by driving back into the field. The problem is one of resolution: how can I demonstrate differences in yield and profit down to a tenth of a bushel? If the planter sneezed when putting those beans in, or a deer walked through the very corner of a plot, or one spot in that plot is sandier or more nematodey than the rest, or an entomologist tripped a few times while scouting a field, that is going to influence yield far more than the \$1.50 generic lambda-cyhalothrin.

Corn

Some observations of **spider mite** colonies on dryland corn and dry pivot corners came in earlier this week. Often, mite colonies will largely disappear to the row that the irrigation gun starts. Our best mite guidance comes from the Midwest, and the below information was gleaned from Virginia Tech's Pest Management Guide: "Spider mite populations often seem to explode as plants reach the grain-fill period, especially during extended hot, dry weather when the plants are stressed. If corn has not dented, treatment may be warranted if mite colonies are present along the midribs on the lower surfaces of one-third to one-half of the leaves on 50 percent of the plants." Labeled materials include Oberon, Portal, and Zeal, along with bifenthrin and Hero. Getting good yield data from mite infestations can be difficult, and you have to ask yourself how large the infestation is, where the infestation is present, and is it worth spot treating or putting a boom over the edge of a field.

In non-rotated corn fields, check for the presence of **western or northern corn rootworm** feeding on silks. If the stalks are goosenecking near the ground, and if you see one beetle per plant, control measures for next year are recommended. Either rotate out of corn, use a transgenic variety targeting rootworm, or apply additional insecticide in-furrow. There is no benefit to spraying adults.

Physoderma Brown Spot in Corn - Alyssa Koehler, *Extension Field Crops Pathologist*; akoehler@udel.edu

This week I have received a few samples with Physoderma brown spot. This disease occurs across much of the US, but is not one widely present in our region. I suspect it has been present at low levels in past seasons, but so far, no yield effects have been observed. This is an interesting disease that is caused by *Physoderma maydis*, a chytridiomycete. This organism produces structures called sporangia that will release motile zoospores under wet conditions. These zoospores swim within the whorl to infect V3-V8 corn resulting in symptoms of yellow streaking or banding across the leaf (Figure 1). The oval spots within streaks are yellow to brown and dark purple to black spots may be visible on the midrib (Figure 2). The sporangia have been shown to survive at least 7 years in the soil, allowing inoculum to build up. Hybrid susceptibility varies, so if you have observed this in your field, you may consider selecting a hybrid with some tolerance to the disease in future seasons. Research in Iowa has shown that heavy precipitation or irrigated fields where wet conditions are maintained may warrant a fungicide at V5-V7. This research has shown that fungicides applied after V8 have no effect on this disease since infection is happening in the whorl. We will monitor expansion of this disease to see if local fungicide trials should be conducted in the future. However, this disease is rarely a threat to yield and shouldn't normally require treatment.



A Koehler, University of Delaware
Figure 1. Yellow streaking of lesions across a leaf from Physoderma Brown Spot



A Koehler, University of Delaware
Figure 2. Spotting in the midrib of a corn leaf due to Physoderma Brown Spot

General

Spotted Lanternfly Adults Now Active - David Owens, Extension Entomologist, owensd@udel.edu

As a reminder - Kent and New Castle counties are under spotted lanternfly quarantines. Adults are now active, meaning that special precautions need to be taken to avoid moving them around on vehicles, equipment, and plant material. This is especially true because adults are much more mobile than nymphs. They are a large and charismatic insect, about an inch long, heavy bodied, with pinkish forewings with black spots, two orange spots on the head, and red hindwings. Nymphs at this time are going to be either black with white spots or fire engine red with white and black spots.

Guess The Pest! Weeks 15 & 16 Answers: Phytophthora and Corn Earworm - David Owens, Extension Entomologist, owensd@udel.edu

Congratulations to Chris Cawley for accurately identifying both Phytophthora and corn earworm in the last two weeks' GTP.

Scattered earworm have been reported in soybeans in low and isolated, well below threshold numbers. First and Second instar earworm have an orangish, bumpy appearance with a black head capsule. Once they molt into the third instar, they take on a more typical appearance: orange head capsule, green, black, or yellow body, and a triangular appearing anal segment.



For Phytophthora, this from Dr. Alyssa Koehler: The cucumber in this photo is suffering from an infection with *Phytophthora capsici*. Disease from *P. capsici* can occur on cucumber, zucchini, summer and winter squash, watermelon, cantaloupe, pumpkin, pepper, tomato, etc. Typically, rain will splash spores from the soil up onto the foliage and fruit causing infection. After fruit becomes infected, it may take up to 2 days for the infected tissue to develop a dark green, water-soaking. By 3 days, white spores may form on the fruit surface, followed by fruit rot. Due to this disease cycle, it is possible to harvest healthy-appearing cucumbers, which deteriorate days later in storage or transit. If *Phytophthora* is found, remove diseased plants and surrounding healthy-looking plants. Since *Phytophthora* can travel in water, it is best to avoid using surface waters and drip irrigation is preferred to overhead. Fungicides such as Elumin, Orondis Ultra, Orondis Opti, Revus, and Presidio can be applied, taking care to rotate FRAC groups.



Guess The Pest! Week 17 - David Owens, Extension Entomologist, owensd@udel.edu

Get out your field guides and practice your pest management knowledge by clicking on the GUESS THE PEST logo or following this link: <http://www.udel.edu/008255> and submitting your best guess. For the 2021 season, we will have an "end of season" raffle for a scouting toolkit for one lucky winner, and five winners will be sent a small jar of locally produced honey. Remember, you can't win if you don't play!

Who is this pernicious weed taking over a mulch pile that was to be used for some organic gardening?



Go to <http://www.udel.edu/008255> to Guess the Pest!



Announcements

Pesticide Safety Exam Reviews

Beginning in March the Delaware Department of Agriculture Pesticide Section will provide a Pre-Certification Pesticide Core Exam Review. This review will provide essential information, covering laws, equipment, personal safety and more to help you prepare for the core certification exam.

The core exam is for private pesticide applicators and a prerequisite for all commercial pesticide applicators.

2021 Pesticide Exam Dates

Wednesday, August 11, 2021

Wednesday, September 29, 2021

Wednesday, November 17, 2021

Schedule for Exam/Review Dates

Core Exam Review: 9 – 11:30am

Lunch Break

Pesticide Testing for ALL: 1 – 4pm

You may choose to test in the afternoon of the review or on another testing date.

Sign up is free!

Log into your account on dda.force.com/pesticide then click on Exam Registrations.

For more information on this training course and testing please contact Amanda Strouse at amanda.strouse@delaware.gov or 302-698-4575.

COVID-19 Vaccination Opportunities in Delaware

COVID-19 vaccination is currently available to Delawareans ages 12+ at numerous sites throughout the state. Some sites require an appointment and others offer walk-in hours. Information about vaccine sites and appointments is online at

<https://coronavirus.delaware.gov/vaccine/where-can-i-get-my-vaccine/>.

Mental Health First Aid Training

What is this training about?

The Mental Health First Aid training is an 8 hour evidence based program that introduces participants to risk factors and warning signs of mental illnesses, builds understanding of their impact, and overviews common ways to help and find support. Using interactive educational methods, you'll learn how to offer initial help in a mental health crisis and how to connect with the appropriate level of care. You will also receive a list of community healthcare providers and national resources, support groups, and online tools for mental health and addictions treatment and support.

What is the training format?

The course will be offered in two parts. The first part is offered online in a self-study format, takes about 2 hours, and needs to be completed before the live session. The second part will be offered live and virtually via a Zoom connection. This session will be held from 9am-3pm. You will receive the link for the self-paced session and Zoom info for the live session after you have registered. You need to register by the

dates listed below to be able to attend the schedule live Zoom training date.

Why attend?

In Delaware our agriculture community is facing many stressors. Those who are in the position to consult and aid them need to know the signs, symptoms and strategies to best serve them. Farm family members also need to know how best to help their loved ones. This training is being taught by instructors from the Delaware Mental Health Association.

A certificate of completion is provided to attendees who attend all 8 hours of the training.

There are four dates for the Zoom session. Seating is limited. Please choose only one:

Mental Health First Aid Zoom Sessions with Registration Links

Friday, September 24, 2021 9 a.m.–3 p.m. Register by August 24

<https://www.pcsreg.com/mental-health-first-aid-training-sept-2021>

Friday, October 5, 2021 9 a.m.–3 p.m. Register by September 5

<https://www.pcsreg.com/mental-health-first-aid-training-oct-2021>

This training is underwritten by the Sustainable Coastal Communities Project, Delaware Farm Bureau and University of Delaware Cooperative Extension. These organizations are equal opportunity providers.

Nematode Field Day

Thursday, August 19, 2021 3:00-6:00 p.m.
Carvel Research & Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Save the Date! Interested in learning more about nematodes? This field day will cover nematodes of concern in agronomic and vegetable crops, highlight ongoing research, and end with a boxed dinner.

Details on registration coming soon! Please contact Alyssa Koehler akoehler@ude.edu with any questions.

Extension302 Podcast

Episode 20: The State Fair Returns!

(feat. Doug Crouse of Delaware 4-H / UD Extension and the Delaware State Fair!)

The 2021 State Fair is your passport to summer fun! Get the inside scoop with a very special guest: Doug Crouse (Delaware State Fair Executive Board Member / Treasurer and our very own Delaware 4-H State Program Leader! The Delaware State Fair will be held July 22 to 31.

To listen, go to:

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

Virtual Professional Development Opportunities

Presented by DSU Cooperative Extension & Northeast SARE

With guest, Dr. Nancy Franz

Professor Emeritus, Iowa State University, School of Education

Getting Your Point Across

August 23, 2021, 1:30-3:00 PM (EDT)

Tips and tools for using storytelling to engage your audience, encourage behavior change, and improve your success stories.

Improving Your Outreach Strategy

September 8, 2021, 10:00-11:30 AM (EDT)

Using situation analysis and needs assessment techniques to better serve your constituents and be more efficient.

Register for either or both here:

<https://forms.gle/9MyG6FKdgDnCdvsZ8>

Email jchallandes@desu.edu if you have any questions.

Cooperative Education in Agriculture, Youth Development, and Home Economics. Delaware State University, University of Delaware and the United States Department of Agriculture cooperating, Dr. Dyremple B.

Marsh, Dean and Administrator. It is the policy of the Delaware Cooperative Extension System that no

person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.

Field Tour of Carvel Crops Research

Wednesday, August 11, 2021 3:30-5:30 p.m.

University of Delaware

Carvel Research & Education Center

16483 County Seat Hwy

Georgetown, DE 19947

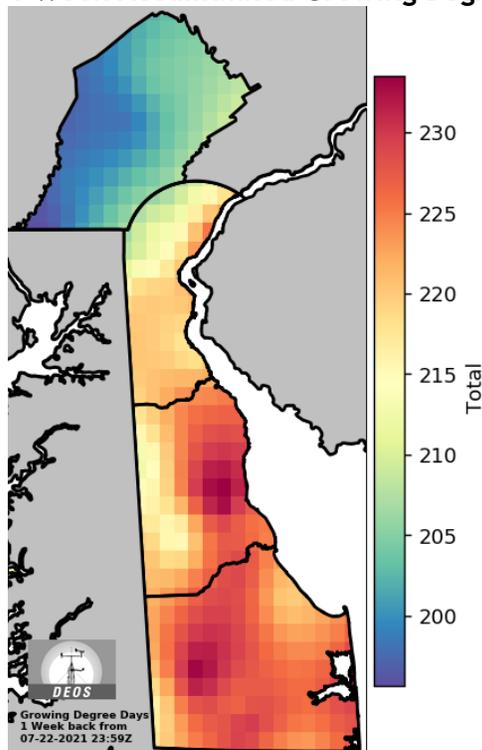
Please mark your calendars and save the date to join us for the 2021 Crops Research Tour at the University of Delaware Carvel Research and Education Center. This event will include wagon tours of agronomic and vegetable research plots.

CCA and Nutrient Management credits will be available.

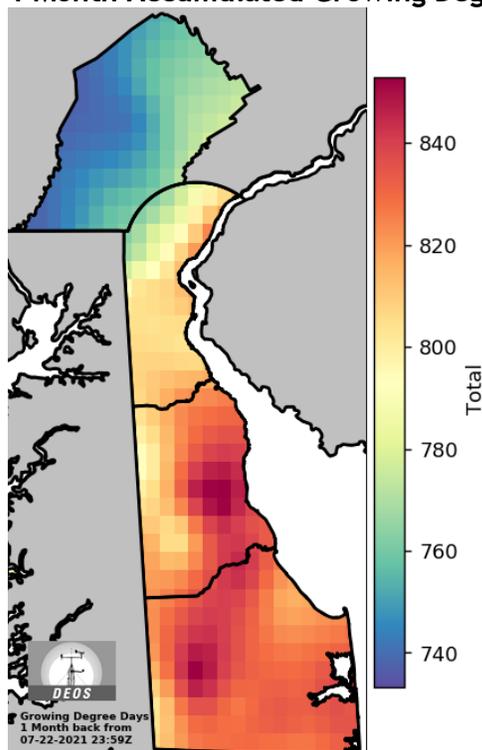
A box lunch will be provided.

More details will follow in the coming weeks.

1 Week Accumulated Growing Degree Days

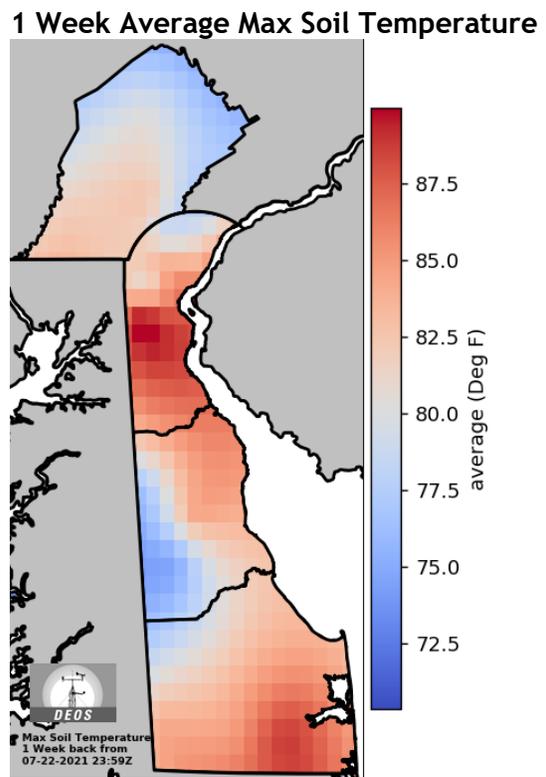
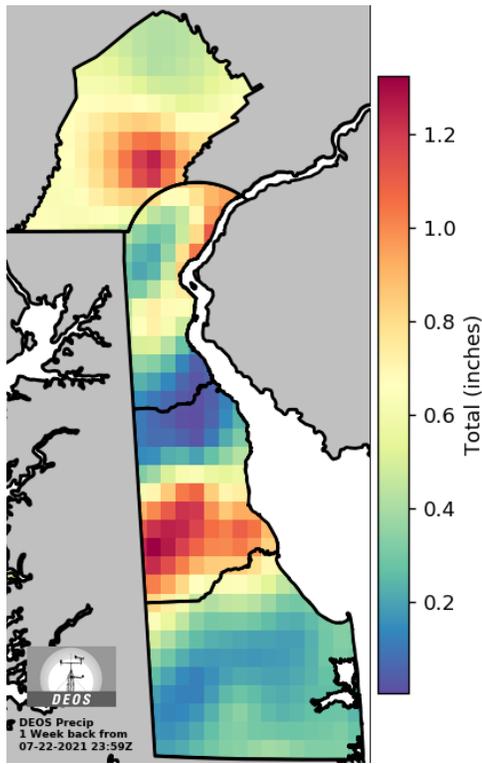


1 Month Accumulated Growing Degree Days

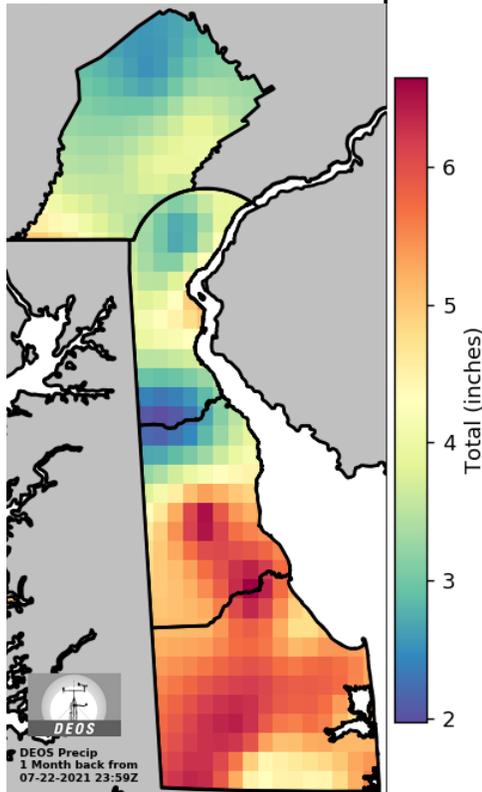


Weather Summary

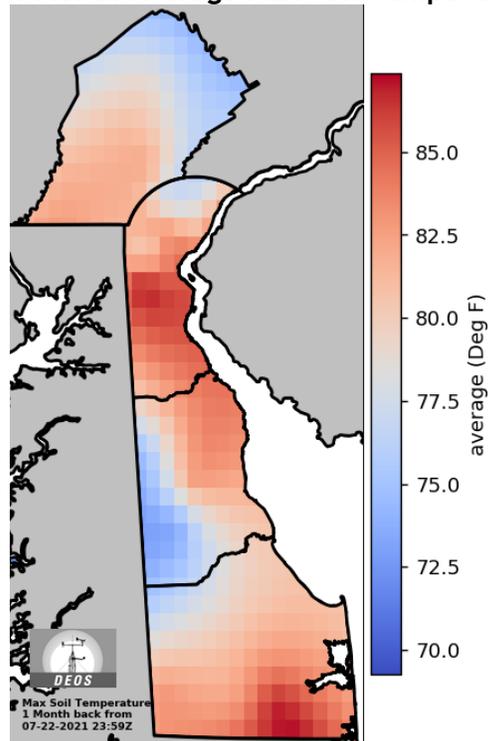
1 Week Accumulated Precipitation



1 Month Accumulated Precipitation



1 Month Average Max Soil Temperature



These weather maps are generated from DEOS weather station data and are part of a new Ag Weather website that is under development. Your feedback is welcome!
 Thanks!! Emmalea (emmalea@udel.edu)

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

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