



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 29, Issue 10

May 28, 2021

## Vegetable Crops

**Vegetable Crop Insect Scouting** - David Owens, Extension Entomologist, [owensd@udel.edu](mailto:owensd@udel.edu)

### Cucurbits

All major cucurbit pests are either active or soon will be. Cucumber beetles continue to be active, although perhaps with somewhat less intensity than in previous years. Watermelon thresholds are between 2-5 beetles per plant. If injecting product through the drip, pay special attention to label rate conversion charts for guidance on how much product to inject per 1000 ft based on your row spacing. This is important so as to not under-treat. Although I have not yet received reports of much mite activity in melon plantings, recent hot, dry weather will force them out of perennial or early season weeds earlier. Also, be sure to check any late transplants that are still on wagons or in greenhouses. We have seen more mite activity this week in greenhouses than we did at the beginning of May. Recent reports from Virginia indicate squash bugs are active in summer squash, and we will have enough degree days this week for squash vine borer to emerge. Squash bugs tend to hide during the day, seeking shelter in planting holes and under residue. Look for their coppery egg masses underneath leaves and on leaf stalks. Time a treatment for after egg hatch. Squash vine borer is probably the hardest of the cucurbit pests to manage. It lays single eggs, usually on the stem or leaf stalk. Once inside the plant, the caterpillar is largely protected. Thus, weekly sprays focused at the

stem are often necessary in small plantings of winter squash. When the worm has invaded the stem, you may see a single leaf wilt, or you may see a small amount of frass near the entry point (often near a leaf stalk). Other management options include dissecting out the worm and covering the nodes with soil to encourage adventitious root development.

### Solanaceous Crops

Continue scouting for Colorado potato beetle (potato, tomato, and eggplant), flea beetles (tomato, eggplant), and potato leafhopper (potato). See last week's post for threshold and treatment suggestions.

### Sweet Corn

Sweet corn will soon be silking. Right now, our traps are catching low levels of moths, but this will increase. We typically see an early to mid-June peak in activity. Until that happens, first sprays might not be necessary until 50% first silk. During the August and September moth flights, I time my first treatment for 10% first silk. Next week we will be reporting trap counts in the WCU. Trap counts along with spray thresholds can also be found at <https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/pest-management/insect-trapping/>. Be sure to scout fields with emerging tassels for signs of larval corn earworm infestation. Thresholds are near 15% infested tassels. Larvae that are pushed out with the developing tassel may damage the developing ear and require a pre-silking spray. We have several additional pre-silk spray options including Lorsban, Intrepid, Intrepid Edge, and Avaunt.

Early in the season, we tend to see greater pyrethroid susceptibility, but this rapidly changes in July. That said, last year we had a greater percentage of moth survivorship early, likely impacted by the mild 2019-2020 winter. We will be resuming vial tests soon. Please be aware that while susceptibility tends to be greater during the early season, pyrethroids cannot necessarily be relied upon alone to give acceptable control. In 2019 and 2020, beta-cyfluthrin provided greater ear protection than other pyrethroids tested in Georgetown. However, Dr. Tom Kuhar's tests at Painter, VA revealed a different pattern, with Hero providing the best level of efficacy among the pyrethroids tested. Be sure to follow label guidance in terms of application number and amount for the active ingredient bifenthrin.

### **Cole Crops**

As a general reminder, thresholds for cole crops are 5% infested plants during head formation. Pay special attention to pre harvest intervals. Several worm products have pre harvest intervals of 3 days or less, but others have PHIs of 7 days. Pay special attention to labeled pests and what worms are currently in your field. Some products have reduced efficacy for different species (ex cabbage looper). The Vegetable production guide also lists Spear Lep with a 0-d PHI. This product needs to be tank mixed with a Bt for efficacy. If treating with a translaminar active (such as the group 28 diamides and spinetoram), do not use a sticker adjuvant.

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### **Cover Crops for Row Middles in Plasticulture** -Gordon Johnson, *Extension Vegetable & Fruit Specialist*; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

There is grower interest in using cover crops between the middles of plastic mulched vegetables. Cover crops can provide weed control, serve as a living mulch, reduce soil splash and soil borne diseases, reduce soil on harvested fruits, and improve drainage between rows.

Research has been conducted in the region on potential cover crops for row middles with mixed success.

The most common row middle cover is overwintered rye that serves as a windbreak for early warm season vegetables when planted between every bed. The rye is fall planted and then beds for the plastic are tilled in the spring and plastic laid with the remaining rye between the beds. After elongation, the rye windbreak then is killed by a non-selective herbicide prior to seed set. This killed rye can be left to breakdown over time or can be rolled (this is done by running a tractor down the rows). This rye residue helps to keep fruits of vining crops off the soil, producing a cleaner product with lower susceptibility to soil born diseases such as Phytophthora.

Another common cover crop for row middles being used in the region is annual ryegrass. Plastic beds are laid, and ryegrass is spun over top of beds to cover row middles. Rainfall or overhead irrigation is needed to germinate the ryegrass seed. This system has been successfully used in plasticulture strawberry production as ryegrass is a cool season annual that grows well in the fall and spring. It provides erosion control, particularly where irrigation is used for frost protection.

A novel system was developed by a Clemson University scientist in South Carolina for organic production. A vigorous low growing variety of Ladino (white) clover was planted in the fall and beds were tilled in and plastic laid in the spring. Another option is to lay plastic in the fall and overseed. Ladino clover produces rhizomes and will fill in up to the shoulders of the plastic but will not go over the plastic bed. When done right, the clover will provide near total weed control. It can also be mowed.

Some organic growers will also lay plastic beds in the fall and then plant grass/legume combinations such as rye-clover, ryegrass-clover, or perennial grass clover mixes (fescue-white clover for example). These will be maintained by mowing in the spring.

Some research has also been conducted in the region on using spring planted cover crops. In these systems the whole field is tilled, plastic mulch laid, and then cover crops are seeded between the beds using a modified drill. Seeds may also be broadcast and cultivated in. Many

different crops have been tested but grasses are most preferred. Options include spring oats, annual ryegrass, sorghum-sudangrass, millets, teff, and rye or wheat. Spring oats can be planted as early as March and will elongate, annual ryegrass can also be early planted but is lower growing. Sorghum-sudangrass, millets, and teff are warm season grasses best planted in May and may reach as high as 5 feet. Rye and wheat when planted later than mid-April will not elongate (they have not been vernalized). Each grass has different management strategies and may be herbicide killed with shielded sprayers or selective grass herbicides, rolled green, allowed to grow naturally, or may be mowed. Options also depend on the crop being grown and available equipment. Mustards and radishes have also been tried in these systems.

Some challenges with spring planted cover crops include getting an adequate stand, weed control on plastic edges, herbicide selection for residual control and weed breaks through the cover.



G Johnson, University of Delaware  
Spring cover crops drilled between watermelon beds.

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**Floppy Sweet Corn** - Gordon Johnson, *Extension Vegetable & Fruit Specialist*; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

We have had reports of sweet corn that is leaning over. This is often called “floppy corn”. This is a growth problem that occurs in young sweet corn under certain weather conditions. This condition is generally observed in plants from about the V3 (three leaf collar stage) to

the V8 stage of development. The problem often becomes evident when corn is subjected to strong winds. Floppy corn occurs during a period of high temperatures and high light when excessive corn vegetative growth gets ahead of the root system supporting the plant.

Weather-related conditions and various environmental factors that limit the development of the nodal roots can also lead to floppy corn. These include shallow plantings, hot, dry surface soils, compacted soils, and loose or cloddy soil conditions. Excessive rainfall and shallow plantings may cause erosion and soil removal around the crown region that can result in rootless corn that flops.

In most cases floppy corn will straighten up within a few days. Overhead irrigation can help the recovery process.

Much of this information was adapted from this Ohio State newsletter article <https://agcrops.osu.edu/newsletter/corn-newsletter/201918/your-corn-leaning>



Ohio State University C.O.R.N newsletter  
Floppy corn

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**Virus Problems Found in Garlic**- Jerry Brust, *IPM Vegetable Specialist, University of Maryland*; [jbrust@umd.edu](mailto:jbrust@umd.edu)

Garlic growers may be noticing symptoms of virus infection in their plants that show yellowing tips on many leaves with some that are completely yellow (Fig 1). If you look closely

at the yellow leaves you will see mottling or striping on the leaves (Fig 2). These symptoms are usually more pronounced on young leaves. Infected plants are stunted and bulb size can be reduced. Garlic crops infected with viruses are usually more susceptible to weather conditions like extreme heat, and do not keep well post-harvest.

What is usually called a ‘garlic virus’ is caused by several different viruses that can be grouped under the name “Potyvirus”; all symptomatic garlic that was tested was positive for Potyvirus. Some people lump these viruses under the name “garlic mosaic”. In this case garlic mosaic is thought of as a disease caused by one or more viruses that include onion yellow dwarf virus, leek yellow stripe virus, and others. These viruses can be transmitted through the planting stock or by aphids and it is thought because garlic is clonally propagated much of the planting stock could be infected with some type of virus. These viruses are usually mild and do not seriously affect yield. The problem comes in when the plants are infected with several different Potyviruses, and then there can be moderate to severe yield reductions. We may have had more aphid movement earlier this year, which may have increased additional virus infections in garlic plantings. You cannot reduce virus transmission by spraying pesticides. Any garlic with symptoms should be watched and possibly harvested early or rouged out if yellowing and decline increase in the coming weeks.



Figure 1. Garlic plants showing symptoms of infection with virus complex



Figure 2. Striking, striping on leaves of garlic infected with virus complex

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### **Watch for Thrips and Mites in Vegetables-** *Jerry Brust, IPM Vegetable Specialist, University of Maryland; [jbrust@umd.edu](mailto:jbrust@umd.edu)*

The hotter temperatures we have had have caused thrips and to a lesser extent two spotted spider mite, TSSM (*Tetranychus urticae*) populations to rapidly increase in some vegetable fields. These pests feed by puncturing the outer layer of plant tissue and sucking out the cell contents, which results in stippling, discolored flecking, or silvering of the leaf surface (Fig.1). We will talk mostly about thrips this time as I covered TSSMs in an earlier article. Thrips feeding is usually accompanied by black flecks of frass (thrips poop) (Fig. 1a), while mite poop is white or clear. These two pests can discolor and scar leaf, flower, and fruit surfaces, and distort plant parts and, in the case of thrips, vector plant pathogens. There are several species of vegetable thrips with the most common being the Eastern flower thrips, *Frankliniella tritici*, Tobacco thrips *Frankliniella fusca*, Western flower thrips, *F. occidentalis* and Onion thrips *Thrips tabaci*. The last three species are the ones most likely to transmit tomato spotted wilt virus, TSWV. Thrips feeding produces various tissue responses, including scar formation and distorted growth (fig. 2). Females of most plant-feeding species lay their kidney-shaped eggs on or into plant tissue (this latter placement makes it practically impossible to find thrips eggs on plants). Thrips hatch from an egg and develop into two larval stages and then the ‘prepupa and pupa’ stages, before becoming an adult. The prepupae and pupae of most species drop to the soil or leaf litter to pupate. Thrips

have several generations (up to eight) a year. When the weather is warm, the life cycle may be as short as 2 weeks.

Thrips thresholds for vegetables are: flowers of tomato, pepper or watermelon can tolerate 5 thrips/flower with no fruit developmental problems. Squash and pumpkin flowers can tolerate 5-10 thrips/flower with no effect on fruit quality. One or two applications of a pyrethroid or neonic or spinosad (see [2020/2021 Mid-Atlantic Commercial Vegetable Production Recommendation](#) guide) applied with enough water (60-80 gal/a, you have to have thorough coverage) should control most thrips infestations. For two spotted spider mites Agri-Mek has shown very good results even when spray coverage was inadequate. There are several other miticides such as Acramite that also will give good control of TSSM and can be found in the recommendations guide. Be sure to apply any pesticides when bees will not be active in the field.

Some of the populations of thrips and mites in the field now are probably the result of transplants that were lightly infested with these pests. These infestations usually consist of immatures, which are hard to spot or eggs that are just about impossible to find if they laid inside leaf tissue (thrips) or there are only a few of them on the underside of the leaf in crevices (mites). Studies I have conducted show that if you treat your transplants (especially tomatoes) with 2 applications of a horticultural oil spray (0.5-1% by volume) with the first application coming 7-10 days before transplanting and the 2<sup>nd</sup> coming 1-2 days (or per label instructions) before you go to the field, you can almost eliminate any thrips or two spotted spider mite problems that started from your transplants. During the season spraying more than 3-4 times for thrips or two spotted spider mites in the field over a 4-5-week period with little control will lead to an even worse problem. This is because the sprays will greatly reduce all of the pests' natural enemies, but not the thrips or TSSM that may have developed resistance to the applied pesticides. Once you apply an insecticide or miticide you need to evaluate how well it worked by scouting the field again a few days after the application. If the pests are still very

active you need to reevaluate what was applied and how it was applied. Contact your county educator or crop specialist for help in making the evaluation.



Figure 1. Thrips feeding on tomato leaf, black specks are thrips feces (A) and feeding damage by mites (B)



Figure 2. Pepper leaf distortions due to thrips feeding

# Fruit Crops

## **Tree Fruit Insect Scouting** - David Owens, Extension Entomologist, [owensd@udel.edu](mailto:owensd@udel.edu)

We captured our first San Jose Scale on April 28 and April 29 on pheromone traps. Sometime earlier this week, crawlers should have become active (400-450 degree days past biofix). If you have had fruit injury at harvest due to these insects, sampling with black double sided tape and treating is advisable.

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## **Carrying Over Plasticulture Strawberries for a Second Year** -Gordon Johnson, Extension Vegetable & Fruit Specialist; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

The 2021 strawberry season is still going strong, and we have had a good season due largely to the dry weather. As we look to June, with in our annual strawberry production on plastic mulch, many growers may consider carrying the beds over for a second year's harvest. These are some guidelines for renovation of plasticulture strawberries:

- 1) Evaluate disease pressure. If the planting had significant anthracnose, botrytis crown rot, phytophthora, or identified viruses do not carry over the planting. In future variety selection, if carry over is desired, choose varieties with high disease resistance, particularly to anthracnose. For example, Sweet Charlie has anthracnose resistance and can be carried over whereas Chandler does not and should not be carried over.
- 2) Evaluate plastic mulch and drip lines. Do not carry over beds with deteriorated mulch or plugged drip systems.
- 3) If relatively disease free, mow the tops with a rotary mower (in smaller plantings this can be done with a line trimmer or with hand clippers). You want to leave some leaves. Do not damage the crown.
- 4) After mowing, remove any runners that are left by hand. Make any plastic mulch repairs and drip system repairs as necessary. Treat and flush drip lines as necessary.

5) Remove all dead plant material around the crowns. This can be done by hand or with a leaf blower. A fungicide treatment at this time might be warranted.

6) Evaluate crown thickness (number of crown plants). If over 5, crowns must be thinned out. This can be done by breaking of part of the crown by hand or by using an asparagus knife to cut away part of the crown. Leave a minimum of 3 crown plants.

7) Apply additional herbicides to row middles using a shielded sprayer to control weeds during the summer months. Hand weed holes during the summer if weeds emerge.

8) Maintain plant health by controlling diseases, insects, and mites throughout the summer months and irrigate regularly. A small amount of nitrogen fertilizer (20 lbs. N per acre) can be applied at this time if needed to maintain plant health. Take leaf tissue samples to evaluate plant nutritional status.

9) In late August or early September, apply 60-60-60 (N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O) through the drip system.

10) Replant any holes with missing plants by the middle of September.

Research has shown that with proper renovation and care, second year yields will be higher than the first year, but berry size will be smaller.

## **Renovating Day Neutral Plantings**

Fall planted day neutral (repeat blooming) varieties such as Albion, Seascape, or San Andreas will often stop blooming in the heat of the summer. To extend bloom period, manage irrigation so plants have enough water (do not drop lower than 60 % of field capacity) in the hot period and apply 5-7 lbs. of nitrogen per acre every week and add other nutrients as indicated by tissue testing. Remove any runners that form. If crowns are crowded, thin as described above.

If production has ceased in day neutral fields (flowering often stops in mid-July), then renovate as described above but fertilize to stimulate new growth in early August to fruit again in the fall.

# Agronomic Crops

**Agronomic Crop Insect Scouting** - David Owens, Extension Entomologist, [owensd@udel.edu](mailto:owensd@udel.edu)

## Wheat

While I have not received any reports of armyworm activity in small grain, be advised that the window for using a pyrethroid is just about closed. Mustang Maxx's PHI is 14 days. If a treatment is deemed necessary inside this window, Prevathon has a shorter PHI.

## Soybean

Bean leaf beetle and grasshoppers are active in soybeans. Grasshoppers may be more easily controlled when young with pyrethroids, but in last year's spray trials targeting mid-sized grasshoppers, efficacy was only achieved using dimethoate, Prevathon (with methylated seed oil per label recommendation), and Elevest (chlorantraniliprole + bifenthrin), and I have no reason to believe Besiege wouldn't also have similar efficacy.

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**Small Grains Disease Updates** - Alyssa Koehler, Extension Field Crops Pathologist; [akoehler@udel.edu](mailto:akoehler@udel.edu)

We are now about 2 weeks past flowering in wheat. Symptoms of Fusarium Head Blight (FHB) become visible by about 3 weeks post anthesis (Figure 1). So far, I have observed very little disease across the region. Barley heads have been very clean and we are anticipating that there will be low FHB incidence in wheat this year. We remain at low risk on the Fusarium Risk Tool (Figure 2). I have noted a few pustules of common rust starting to move in, but we are past the point where this would be of concern for potential yield loss.



Figure 1. Wheat head with bleaching and orange sporulation due to Fusarium Head Blight

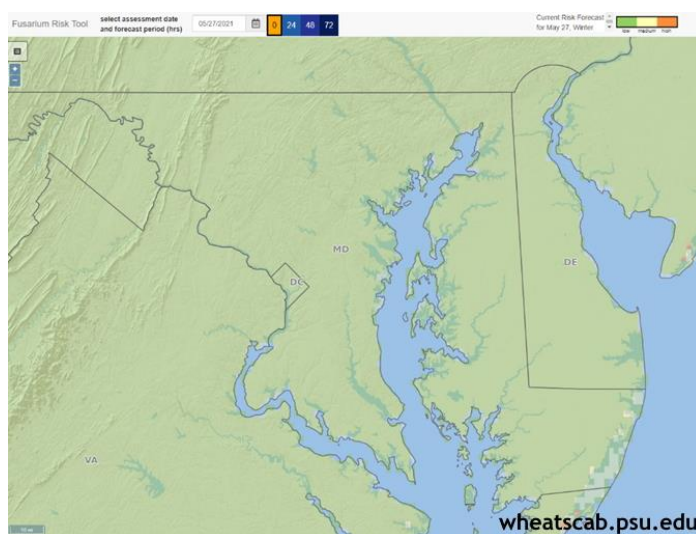


Figure 2. FHB Risk Model for May 27, 2021

Barley Yellow Dwarf virus is around and can be identified by purple to yellow discoloration of leaf tips (Figure 3). Leaf discoloration begins at the tip and the color and level of symptom development can vary based on variety, weather, fertility, and a number of other factors. In wheat, early infections are typically associated with more stunting and red-purple to yellow leaves, while later infections tend to have yellow flag leaves without stunting. BYDV is transmitted by aphids, with most infection occurring in the fall and early winter. Early infection is more damaging than infection of mature plants.



Figure 3. Wheat infected with Barley Yellow Dwarf Virus displaying symptoms of purple to yellow leaf tip discoloration

### Checking Vegetative Growth Stages - Jarrod O. Miller, Extension Agronomist, [jarrod@udel.edu](mailto:jarrod@udel.edu)

Corn at our research station is at V4, which means we will probably be sidedressing several fields next week. Anyone who planted prior to April 25<sup>th</sup> may be one leaf ahead, and plans for sidedressing should be done. If you are unsure of which stage you are at, one common method is to count leaves based on the presence of the collar (Figure 1a). While many leaves can be emerged from the whorl, only those with collars are considered fully developed. So the corn plant in Figure 1a would be at V3, even though the fourth leaf is present, but still lacking the collar. As the season progresses, lower leaves are often lost. If fields are lacking in macronutrients N, P, or K, lower leaves could senesce and be lost earlier are nutrients are cannibalized and moved up to new growth (Figure 1b). If you have missed scouting some fields, you may be further ahead that you realize. One trick is to write the leaf number with a sharpie on a selected plant in the field (Figure 1c), but this will require more frequent scouting.

Soybeans are also tracked by leaf (or node) stages, but also includes a cotyledon stage between emergence and the first trifoliate leaf stage. For soybeans VE includes initial emergence and the presence of cotyledons (Figure 2a and 2b). The VC (cotyledon) stage includes the presence of unifoliate (single leaves) above the cotyledon (Figure 2c). The V1 stage occurs when the first trifoliate (triple leaf) is fully unrolled (Figure 2d). You may continue to count unrolled trifoliate leaves until the reproductive stages begin.





Figure 1. Counting corn leaves by collars (a), early loss of the first leaf (b), and writing on leaves to keep track in case leaves are lost (c).

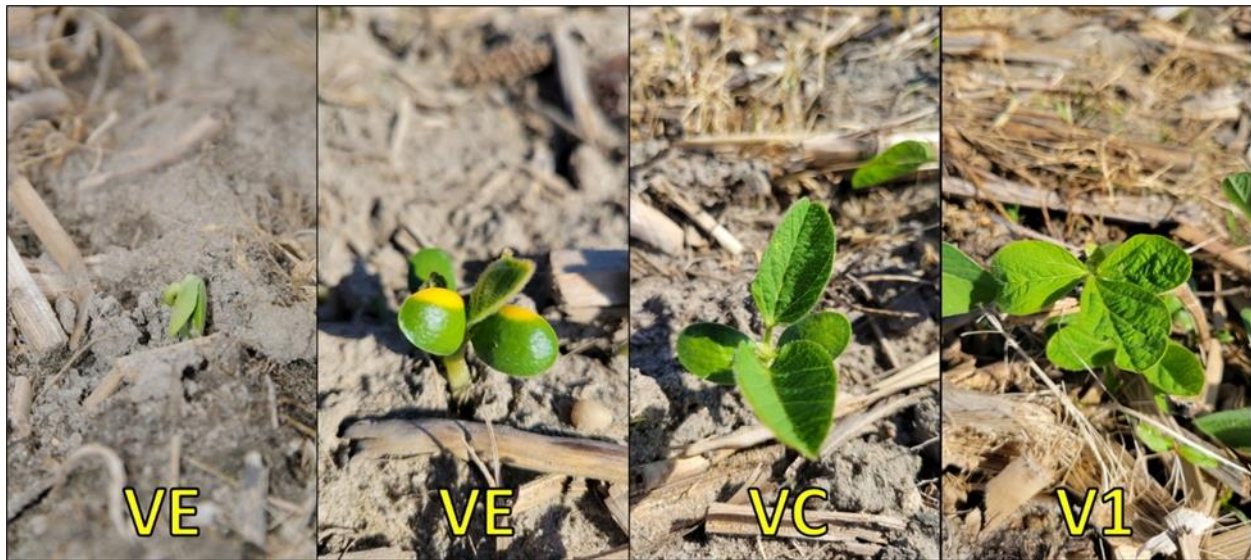


Figure 2. The emergence of the soybean plant (a) and its cotyledons (b) is the VE stage, while unrolled unifoliate leaves represent the VC stage (c), and the first fully unrolled trifoliate (triple leaf) is the beginning of the V1+ stages (d).

**Reduced Grass Control with Postemergence Tank Mixtures** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

Postemergence grass herbicides like clethodim (Select), sethoxydim (Poast), quizalofop (Assure II), and others are very effective for the control of emerged grasses. But, we know that tankmixing them with broadleaf herbicides can reduce the level of grass control. Recent reports have seen this when these postemergence herbicides are tankmixed with dicamba, 2,4-D, or glufosinate (Liberty). Increasing the rate of the grass herbicide can reduce the chance of this occurring, but it is not consistent. The best option is to make separate applications, particularly if the grasses are large.

Likewise, glyphosate is very effective on grasses, but when tankmixed with dicamba, 2,4-D, and glufosinate, reduced grass control can occur. Fall panicum, goosegrass, barnyardgrass, and johnsongrass are some of the species that seem to be most impacted by this antagonism.

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**Reminders on Dicamba Use for Soybeans Control** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

There were changes made to the dicamba formulations labeled for use in dicamba-resistant soybeans when reissued last fall, so be sure to revisit the labels and information from the company's website before applications are made. Furthermore, there are some differences between the brands of dicamba so be sure check out the appropriate website. A few key points to remember:

- Volatility and off-target movement is always a concern, and the risks increase with temperature. That is why there is a cutoff date of June 30<sup>th</sup>. So as temperatures begin to increase, so should our concern of off-target movement.
- Do not spray when wind is blowing towards sensitive plants

>Note there is no distinction for wind speed, nor how far away these sensitive plants are located

>When in doubt don't spray

- All dicamba formulations require additional approved volatility reduction agent (or pH buffers)
- Tankmixtures of glufosinate (Liberty) and dicamba products are not allowed with XtendiFlex soybeans
- Some tankmixtures require use of an approved drift reduction agent

In addition, there have been reports of excessive foaming and pressure building in the spray tank when glyphosate (multiple formulations tested), Engenia, and Sentris were tankmixed together. University of Arkansas tested this in small batches and were able to replicate what was reported. They also found a de-foamer was effective, but it did not eliminate the pressure buildup. University of Tennessee is recommending to fill the tank with half the required water and then add Sentris. With inductor systems, add Sentris, flush it with water and get it circulating. Do not mix glyphosate and Sentris together in the inductor tank; and be sure to flush the inductor between each added product. However, other universities were not successful in replicating the excessive foaming or pressure buildup and the manufacturer has not reported any issues. For more details on the University of Arkansas study see:

<https://arkansascrops.uada.edu/posts/weeds/sentris-glyphosate-tank-mix-compatibility-problems.aspx>

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**Enlist Soybean Reminder**- Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

While Enlist One and Enlist Duo do not have as many label restrictions as the dicamba products, we need to read the label and follow instructions.

- Remember only Enlist One (2,4-D choline) and Enlist Duo (2,4-D choline plus glyphosate) are

allowed for application to Enlist soybeans when applied near or at planting and/or applied postemergence

- Risk of off-target movement increases with temperature so be cautious when applying postemergence
- Do not apply during temperature inversions (little to no wind)
- Requires a 30 foot downwind buffer
- Do not spray when sensitive plants are downwind

## General

### True Armyworm and Black Cutworm Trap Report - David Owens, Extension Entomologist, [owensd@udel.edu](mailto:owensd@udel.edu)

This is the last week that we will be reporting True armyworm and black cutworm activity. Many thanks to Maegan Perdue, Emily Zobel, and Joanne Whalen for maintaining traps during the previous 8 weeks.

Location	Number of Nights	Total Catch TAW	Total Catch BCW
Willards, MD	7	1	7
Salisbury, MD	7	0	6
Laurel, DE	7	3	6
Seaford, DE	7	4	8
Sudlersville, MD	7	0	3
Harrington, DE	7	0	7
Smyrna, DE	7	116	31
Middletown, DE	7	1	20

### Guess The Pest! Week 8 Answer:

Wireworm - David Owens, Extension Entomologist, [owensd@udel.edu](mailto:owensd@udel.edu)

Last week's guess the pest was a bit tricky, as there are a couple of things that can cause wilted leaves. Whenever a whorl is dead but the lower leaves appear healthy, it indicates the growing point has been killed under ground. In this particular case, there is also a strip of yellow on one side of the lower leaf blade.

Digging this plant up revealed a small hole near the base, most likely caused by wireworm, and both symptoms are characteristic of wireworm injury. Seed treatments generally do a good job even at low rates, although there is a rate response. In previous years we have seen only a small difference between Poncho 250 and P500. UMD entomologist Dr. Kelly Hamby estimates that the cost of going to a 1250 rate was greater than the inclusion of bifenthrin in the furrow while still providing excellent control. So where should such a heavy hand be applied? Sample fields either in the fall or spring for wireworm and white grub by digging 8"x8"x6" holes or by baiting a field with a dough ball in spring.



### Guess The Pest! Week 9 - David Owens, Extension Entomologist, [owensd@udel.edu](mailto: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!

In marginal weather conditions like we have seen the past couple of weeks, paying attention to stand retention is extra important. Who has been nipping plants and partially dragging them underground?



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



## American Rescue Plan Debt Payments

The American Rescue Plan Act (ARPA) Section 1005 includes provisions for USDA to pay up to 120% of loan balances, as of January 1, 2021, for Farm Service Agency (FSA) Direct and Guaranteed Farm Loans and Farm Storage Facility Loans (FSFL) to any Socially Disadvantaged producer who has a qualifying loan with FSA. This includes producers who are one or more of the following: Black/African American, American Indian, Alaskan Native, Hispanic/Latino, Asian American, or Pacific Islander.

The 120% payment represents the full cost of the loan to include 100% toward loan balances as of January 1, 2021, and the 20% portion is available for tax liabilities and other fees associated with payment of the debt. Any payments by borrowers made since January 1 will be reimbursed in full.

More information on eligibility and the program timeline are online at: <https://www.farmers.gov/americanrescueplan>.

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## Should You Get Vaccinated if You Had COVID?- *Kali Kniel, Professor of Microbial Food Safety, University of Delaware, [kniel@udel.edu](mailto:kniel@udel.edu)*

At this point in time, just short of 33 million Americans have been sick with COVID-19, and people continue to be sickened with the virus each day. Another number to consider is that more than 287 million Americans have received a vaccination to protect them from the COVID-19 disease. Many of those vaccinated are people who were previously sick and have recovered. Disease from COVID-19 can start an immune response that gives some protection from future disease, but it is important to note that this protection will vary depending on your individual immune system. That is why the Centers for Disease Control and Prevention (CDC) recommend that individuals who have had COVID-19 should still get vaccinated. The immune protection that a person gets with a full vaccination is superior to what a person might have after natural infection. Also, these vaccines

have been shown to protect against the variations in the virus that causes COVID-19.

To understand this, let's consider how our immune systems fight illness. Our immune systems' response is a multi-pronged attack on an infection, using different types of white blood cells that fight the pathogen. Macrophages are white blood cells that specifically digest the germs and leave behind parts of these germs called antigens. The B-lymphocytes are defensive white blood cells and they produce antibodies to those antigens left behind by the macrophages. Then there are T-lymphocytes that are also defensive and attack infected cells, and these T-lymphocytes can have memory of these infections. A person's immune system may take days or weeks to make these cells against the virus that causes COVID-19 and may only make a few cells that have lasting memory to the virus. This is where the vaccines are really effective. After the full vaccination the person has a great supply of memory T-lymphocytes.

Stopping the COVID-19 pandemic involves all of us. With recent guidance and data showing the incredible protection of these vaccines, after you are fully vaccinated you can unmask in many locations and visit with family and friends. Remember that fully vaccinated means 2 weeks-time after the second dose in a 2-dose mRNA vaccine or 2 weeks-time after the single dose of the J&J Janssen vaccine. So, to restate the question, should you get vaccinated even if you had COVID-19? The answer is absolutely!

## 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, June 23, 2021

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](https://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](mailto:amanda.strouse@delaware.gov) or 302-698-4575.

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### Extension302 Podcast

#### Episode 18: Cicada Mania!

With Dr. Brian Kunkel and Dr. David Owens

You've heard rumors about the impending Brood X emergence...but what is Brood X, and what does that mean for us here in Delaware?

To listen, go to:

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

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### 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/>.

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### 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, June 11, 2021** 9 a.m.–3 p.m.

Register by May 15

<https://www.pcsreg.com/mental-health-first-aid-training-june-21>

**Friday, July 30, 2021** 9 a.m.–3 p.m.

Register by June 30

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

**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.*

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## **University of Delaware's Spring Twilight Crop Update**

Thursday, June 10, 2021 6:00-8:15 p.m.

Online via Zoom

Join your fellow producers and the UD Agriculture Extension team with a timely virtual update of this year's current production practices and topics as well as timely issues. Delaware nutrient management and pesticide credits will be available.

*Please pre-register and a Zoom link will be sent to you the day before the meeting.*

<https://www.pcsreg.com/university-of-delaware-2021-spring-twilight-crop-update-session>

### **AGENDA**

#### **Welcome and Introductions 6:00-6:05**

Dan Severson, University of Delaware Cooperative Extension

#### **Weed and Cover Crop Update 6:05-6:25**

Mark VanGessel, University of Delaware Cooperative Extension Weed Specialist

#### **2021 Insect Pest Outlook 6:25-6:45**

David Owens, University of Delaware Extension Entomologist

#### **Nutrient Management Update 6:45-7:05**

Amy Shoher, University of Delaware Extension Nutrient Management Specialist

#### **Agronomy Update 7:05-7:25**

Jarrod Miller, University of Delaware Extension Agronomy Specialist

### **Plant Pathology Update 7:25-7:45**

Alyssa Koehler, University of Delaware Plant Pathologist Specialist

### **Plant Diagnostic Update 7:45-8:05**

Jill Pollok, University of Delaware Plant Diagnostician

### **Conclusion and Evaluations 8:05-8:10**

Dan Severson, University of Delaware Cooperative Extension

This program is brought to you by University of Delaware Cooperative Extension, a service of the UD College of Agriculture and Natural Resources, a land-grant institution. University of Delaware Cooperative Extension in accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

This institution is an equal opportunity provider. If you have special needs that need to be accommodated, please contact the office two weeks prior to the event.

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## **Vegetative Buffers Demo Days**

By using native plants, Delmarva poultry growers can:

- capture dust
- shade chicken houses
- deter Canada geese
- absorb excess nutrients before they reach local waterways
- reduce maintenance costs & time

We are inviting poultry growers out to see vegetative BMPs (best management practices) installed on two independent growers' properties. There will be two opportunities for poultry growers to come see what they can do to save time and money while supporting pollinators.

Nutrient management credits available.  
Tasty lunch provided.  
Event held rain or shine.

### **Two Dates/Locations**

**Thursday, June 3, 2021** 11:00 a.m.-1:00 p.m.

Minh Ma's Farm  
11686 San Domingo Road, Sharptown, MD 21837

**Wednesday, June 9, 2021** 11:00 a.m.-1:00 p.m.

Terry Baker's Farm  
26073 Hidden Acres Lane, Millsboro, DE 19966

*Due to COVID-19 registration is limited and required.*

*Register at:*

[www.NanticokeRiver.org/Chicken](http://www.NanticokeRiver.org/Chicken)

*or call the Delmarva Chicken Association:*

302-856-9037

Biosecurity boots will be provided. Please be sure to adhere to any biosecurity practices before and after visiting the farm.

Funding provided by the Chesapeake Bay Trust, Delaware Department of Natural Resources and Environmental Control, and National Fish and Wildlife Foundation.

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## **Cultivating Farm and Food Safety for Visitors -- Guided Video Tours of Two Farms**

Tuesday, June 1 7:00 – 8:00 pm

Online via Zoom

A series of online sessions are planned through June 15 to assist agritourism enterprises making decisions about welcoming visitors on their farms and vineyards during the evolving COVID-19 pandemic.

The sessions are free, but advance registration is required. Go to <https://go.uvm.edu/farm-safety-covid19> for details and links for registration as well as links to previous webinars in this series.

Agritourism operators throughout the Northeast also may sign up at this site for a free safety and liability consultation with an agricultural service provider. These one-on-one videoconference or on-farm consultations will help individuals assess their risks and develop a customized safety plan for visitors.

Register here:

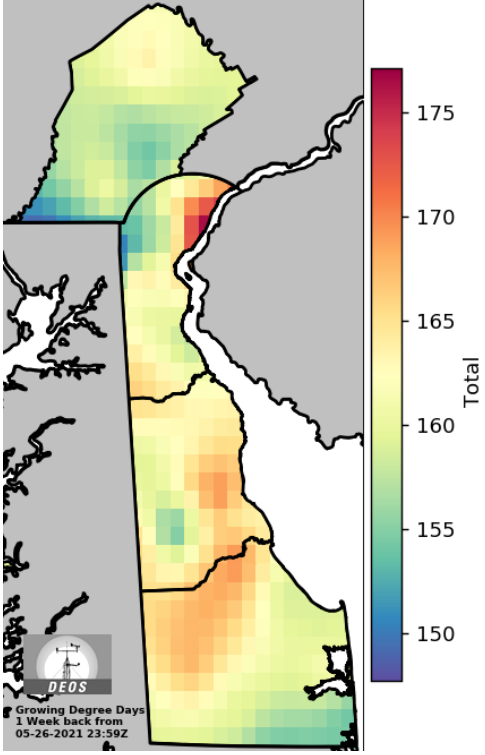
<https://uvmextension.zoom.us/join/2oqj0iGdLkDqn8DKBt5WFMGBYUxBpW>

For more information, contact Lisa Chase at [lisa.chase@uvm.edu](mailto:lisa.chase@uvm.edu) or (802) 257-7967, ext. 311. If requiring a disability-related accommodation to participate, contact Christi Sherlock at [christi.sherlock@uvm.edu](mailto:christi.sherlock@uvm.edu) or 802-476-2003.

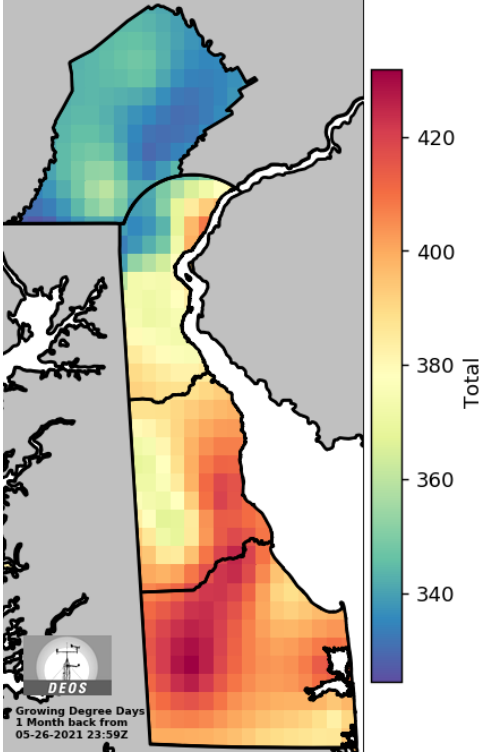
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# New Weather Summary!

### 1 Week Accumulated Growing Degree Days

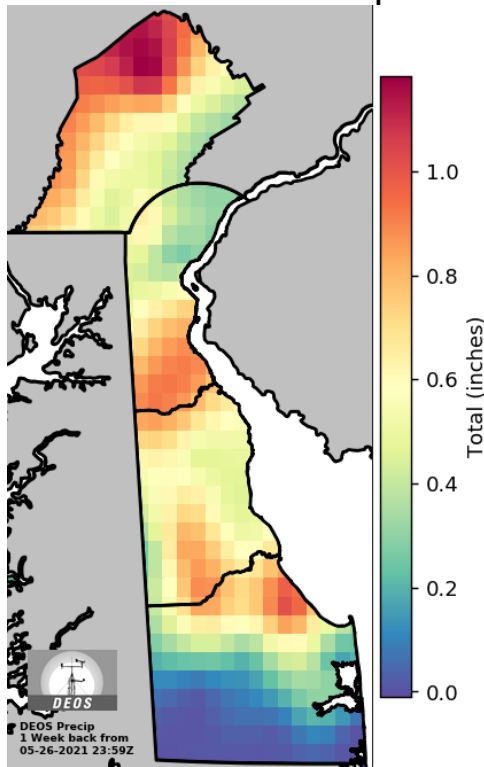


### 1 Month Accumulated Growing Degree Days

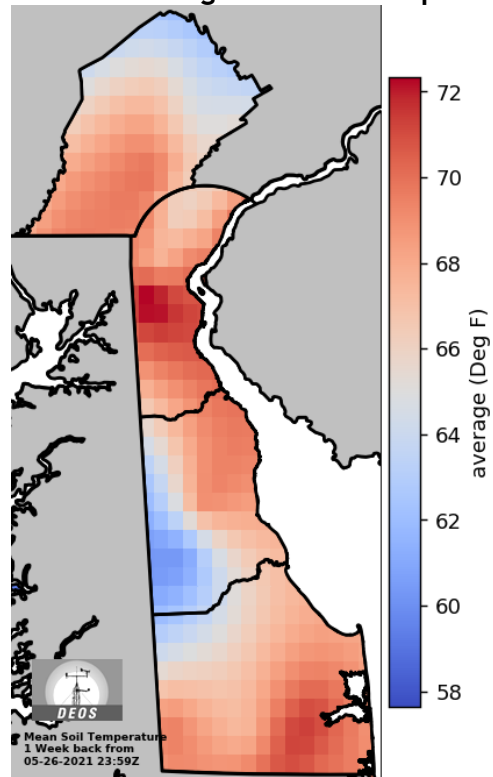




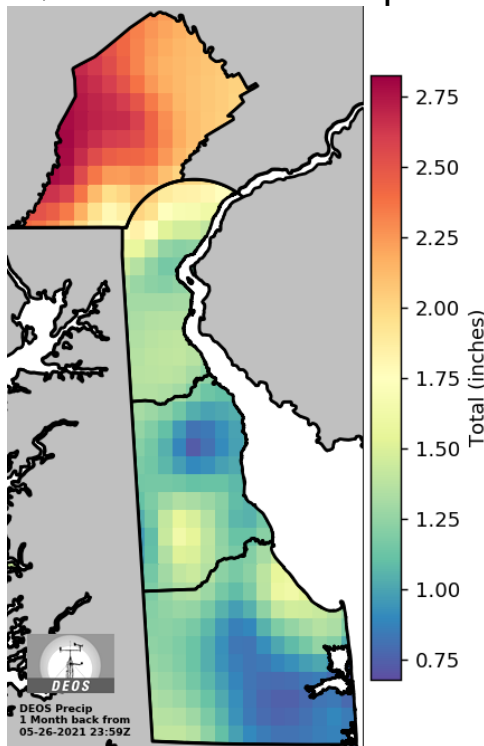
1 Week Accumulated Precipitation



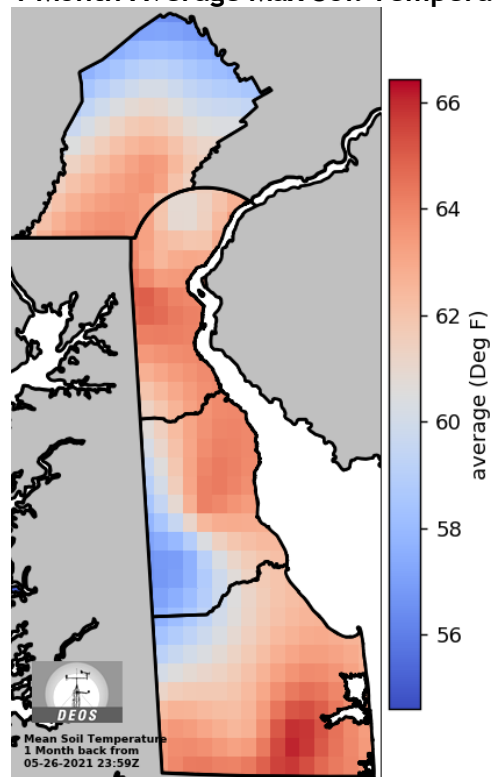
1 Week Average Max Soil Temperature



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](mailto:emmalea@udel.edu))

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

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