

WEEKLY CROP UPDATE



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Vegetable Crops

Vegetable Crop Insect Scouting - David Owens, *Extension Entomologist*,
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Asparagus

Scout for asparagus beetle adults and eggs on emerging spears. Eggs are small, cylindrical and dark colored. They stick into the spear at a 90-degree angle. Asparagus beetles have large white square shaped spots bordered by dark metallic blue bands. It can take a week for eggs to hatch. Feeding on spears results in scarring, browning, and hooked tips. Examine 10 plants in 5-10 different spots in a field, best on a warm, sunny afternoon when beetles are going to be most active. A treatment may be justified if 10% of spears are infested with beetles or 1-2% have eggs. Labeled products for spears include malathion, permethrin, and carbaryl.

Greenhouses

Now that transplants are starting, scout greenhouses for signs of aphids and spider mites. Pay attention to any weeds growing underneath tables and near doorways.

Seedcorn Maggot

By the end of next week, first generation seedcorn maggot adults will begin emerging from the soil. Favorable conditions for SCM include organic matter, especially manure, incorporated within 3 weeks of planting, fields that are wet, and when cool weather is in the forecast. A seed treatment is highly recommended in these conditions.

Cole Crops

Cabbage is going in the ground and all the cute white butterflies are looking for them. Begin scouting for larval infestation. There is often very high mortality in cabbage white eggs. While a useful indicator of potential infestation, do not take any action on eggs by themselves.

2023 Fresh Market Vegetable Enterprise Budgets - Nate Bruce, *Farm Business Management Specialist*, nsbruce@udel.edu

Enterprise budgets for fresh market vegetables have been updated with prices and information for 2023. You can use these budgets to estimate your production costs and returns for several different crops: bell peppers, broccoli, cabbage, cantaloupe, seedless watermelon, sweet corn (hand harvested), tomato, and potato. All enterprise budgets are in Excel. The first tab contains research estimated costs and returns. The second tab allows you to enter your own costs and returns.

To download the new enterprise budgets use the links below:

[bell pepper](#) | [broccoli](#) | [cabbage](#) | [potato](#)

[cantaloupe](#) | [seedless watermelon](#)

[sweet corn \(hand harvest\)](#) | [tomato](#)

These budgets will soon be posted at: <https://www.udel.edu/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/>. If you have any questions on the budgets, please contact me at by email at nsbruce@udel.edu or by phone 302-363-7619.

Vegetable Seed Germination in Direct Seeding - Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

Many vegetables are commonly direct seeded in the field. There are many factors that affect seed germination but soil temperature and moisture are the most critical. Other factors include seed quality (age, conditioning, handling), seed treatments, and seeding depth.

Early Spring Planted Crops

The table below shows the average days to germination for cold season crops. For example, peas will take over a month to germinate with soil temperatures at 41°F, two weeks with soil temperature of 50°F, and one week with soil temperature in the 70s. Spinach, onions, and radish will germinate at the lowest temperatures. Some crops (celery, lettuce, and spinach) stop germination at high soil temperatures.

	Average Days to Germination							
Crop	32°F	41°F	50°F	59°F	68°F	77°F	86°F	95°F
Beets	---	42	17	10	6	5	5	5
Cabbage	---	---	15	9	6	5	4	---
Collards	---	---	15	9	6	5	4	---
Carrots	none	51	17	10	7	6	6	9
Cauliflower	---	---	20	10	6	5	5	---
Celery	none	41	16	12	7	none	none	none
Kale	---	---	15	9	6	5	4	---
Lettuce	49	15	7	4	3	3	3	none
Onions	136	31	13	7	5	4	4	13
Parsley	---	---	29	17	14	13	12	---
Parsnips	172	57	27	19	14	15	32	none
Peas	---	36	14	9	8	6	6	---
Radishes	none	29	11	6	4	4	3	---
Spinach	63	23	12	7	6	5	6	none
Turnips	none	none	5	3	2	1	1	1

Warm Season Crops

Most warm season crops will not germinate until soil temperature is above 50°F. Sweet corn will take over 3 weeks to germinate at 50°F but less than a week at 68°F. Snap beans will take over 2 weeks at 59°F but only one week at 77°F. Cucumbers are similar.

	Average Days to Germination							
Crop	32°F	41°F	50°F	59°F	68°F	77°F	86°F	95°F
Lima Beans	none	none	none	31	18	7	7	none
Snap Beans	none	none	none	16	11	8	6	6
Sweet Corn	none	none	22	12	7	4	4	3
Cucumbers	none	none	none	13	6	4	3	3
Eggplant	none	none	none	none	13	8	5	5
Melons	none	none	none	none	8	4	3	3
Okra	none	none	none	27	17	13	7	6
Peppers	none	none	none	25	13	8	8	9
Tomatoes	none	none	43	14	8	6	6	9
Watermelons	none	none	none	none	12	5	4	3

This information came from UC Davis research over 60 years ago. Since that time, some crops have been bred for better cold germination such as sweet corn.



G Johnson, University of Delaware
Spinach direct seeded on March 14 germinated in 10 days.

Improving Early Fruit Set in Seedless Watermelons - Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

The first watermelons will be planted at the end of April across the region. Markets for early watermelons are normally the strongest, so early planting is often more profitable. However, fruit set is often below desired levels in the earliest plantings and crown sets in early plantings often have quality issues such as higher levels of hollow heart. The following are some considerations for managing watermelons to maximize early fruit set:

Get plants off to a good start with a minimum of stress. In early plantings always plant on a warming trend where temperatures are expected to increase and skies are mostly clear. Black plastic mulch will then allow soils to

accumulate heat and roots will be able to establish more quickly. Use every row rye windbreaks (or row covers if windbreaks have not been planted) to reduce heat losses and protect plants. Watermelons that are transplanted in cold, rainy, and cloudy conditions risk significant losses and will have slow establishment.

Use only high quality, healthy plants for early plantings. Plant well hardened off plants and train transplanting crews to handle plants carefully with a minimum of damage. Provide adequate water at planting and avoid putting excess starter fertilizers in transplant water which can cause salt stress on plants. Manage early fields more intensively by monitoring irrigation and fertigation programs so that stress is reduced throughout the growing period. Extra nitrogen can delay flowering so there is a fine balance between promoting growth and initiating flowering.

Avoid practices that put extra stress on plants and be careful of phytotoxicities with misapplication of foliar fertilizers, fungicides (such as copper products), and herbicides (proper shielding when spraying row middles, follow label guidelines for herbicides). Manage insecticide applications so that bees are not affected during flowering (see pollinator protection information on labels).

Manage pollinizer-seedless combinations for maximum pollination potential. Loss of pollenizers after planting will reduce fruit set. This has been a problem in the past when pollenizers were not hardened off properly because they were seeded later in the greenhouse. In-row or co-planted pollenizers should be used to achieve best early fruit set. Pollenizers should be chosen so that they are flowering adequately as the seedless come into flower. Pollen is the key for early fruit set and earlier flowering pollenizers should be used to improve crown sets.

A case can be made also for increasing the number of pollenizer plants for the earliest plantings. A 1:3 ratio of pollenizer to seedless should be the minimum used and extra pollenizers that flower early could be planted at intervals to provide additional pollen. Another

issue is the vigor of pollenizers. Make sure that pollenizers have good disease packages. In fields with a history of Fusarium wilt, Fusarium resistance in both pollenizers and seedless is needed. Place early plantings in fields with little or no history of watermelon production to avoid soil borne disease stress.

Manage pollinators (bees) so that pollen is transferred effectively and in adequate quantity. Consider placing extra hives in early plantings. Have hives set when pollenizers are 10% in bloom so bees start to work fields immediately. If there are not enough bees when first female flowers open, you will lose much of the crown set. Avoid having flowering crops nearby that are more attractive to bees and could siphon off bee activity.

Fruit set is often reduced when weather conditions at first flowering is rainy and windy or night temperatures are cold. Honeybees rarely work when the temperature is below 57°F and don't fly when the temperature is below 55°F. They do not forage in rain or in wind stronger than 12 mph. Cloudiness also reduces flight activity, especially near threshold temperatures. A cold spell in late May or early June can reduce fruit set significantly because of reduced bee flights. While honeybees can work over a 2-mile distance, a case can be made for placing honeybee hives at more than one location in or around the field in early plantings to address shorter flights in bad weather.

Bumblebees are stronger fliers that can fly in heavier winds and are active at lower temperatures. Placing bumblebee hives throughout the field may improve early fruit set. Growers should be cautioned not to place bumblebee hives near honeybees because the honeybees will place stress on and rob from the bumblebee colonies if both honeybees and bumblebees are used.

Fruit Crops

Strawberry Insect Scouting - David Owens, *Extension Entomologist*, owensd@udel.edu

Be sure to scout strawberry plants for spider mites, cyclamen mite, and tarnished plant bugs. Spider mite thresholds for fruiting strawberries vary, but a good ballpark is 10-15 mites per leaflet. Cyclamen mites are extremely small mites that feed on the growing points leaving deformed leaf tissue and severely stunted plants. If you see indicators of cyclamen mite activity, please let us know! They are occasional pests in the area and there is an effort underway to understand how widespread they may be.

Tarnished plant bug are the most damaging insect in our area at this time. Adults and nymphs feed on flowers and developing fruit. They feed on seeds causing the portion of the strawberry around those seeds to stop growing, resulting in misshapen fruit and 'button' berries. Adults are a little bit smaller than your small fingernail with dark brown and yellow stripes. Nymphs are quite small and green. Shake or flick flower clusters onto plastic and count adults and nymphs. There is a dynamic sampling plan here: <https://ag.umass.edu/fruit/fact-sheets/strawberry-ipm-tarnished-plant-bug>. Check a minimum of 15 flower clusters and consider a treatment if 3 or more bugs are found. Less than that, continue sampling. Pay attention to weedy field edges where they overwinter, and especially any fields that might be near alfalfa.

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

Plasticulture strawberries are blooming now across Delmarva. Plasticulture strawberries should have had nitrogen applications prior to bloom. Base recommendations are 25 lbs/a of N at greenup and another 25 lbs/a of N 2-3 weeks later. If fertigating weekly, addition of 3-5 lbs of nitrogen per acre per week may be warranted. Nitrogen is critical prior to and during early

bloom. Including potassium at a 1:1 ratio with nitrogen will often improve fruit quality (sugars).

You can monitor petiole sap N and K concentration in the field. This is based on sampling leaf petioles from the most recently expanded leaves, extracting the sap, and using portable nitrate and potassium meters. The procedure can be found at this website <http://edis.ifas.ufl.edu/cv004>, along with recommended levels for different growth stages. Targets initially are 600-800 ppm petiole sap nitrate and 3000-3500 ppm petiole sap potassium.

While this is a quick way to monitor nutrient levels, growers are also encouraged to take petiole and leaf tissue samples for laboratory analysis. To collect and submit strawberry tissue samples, follow these guidelines: Select the most recently mature, healthy, trifoliate leaves from uniform field areas and the same variety; detach the petioles from the leaves as you collect them and save each separately; include leaves and petioles from 20 to 25 plants; and then submit leaves and petioles together as one sample.

There are a number of laboratories in the region that can run these tissue samples. Leaf tissue nutrient levels should be maintained as follows: N (%) 3-4, P (%) 0.2-0.4, K (%) 1.1-2.5, Ca (%) 0.5-1.5, Mg (%) 0.25-0.45. When in full bloom, petiole tissue nitrate content should be between 4000-6000 ppm and then will decrease thereafter. The recommended levels for petiole tissue nitrate from laboratory analyses can be found at this publication from North Carolina: <http://www.ncagr.gov/agronomi/pdffiles/sberrypta.pdf> (our week one would be beginning bloom). Day neutral varieties that fruit into July should maintain higher levels of petiole tissue nitrate later in the season than June bearing types.

Agronomic Crops

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

Early Season Moth Activity

Many thanks to Haley Sater with UMD Cooperative Extension and Joanne Whalen, Extension entomologist emeritus extraordinaire for assistance with checking traps.

Location	# of Nights	Total Catch	
		TAW	BCW
Willards, MD	7	31	4
Salisbury, MD	4 (Apr 3)	1	5
Seaford, DE	7	59	45
Sudlersville, MD	7	13	2
Harrington, DE	7	287	37
Smyrna, DE	7	1266	185
Middletown, DE	8	97	122

For the third year in a row, Smyrna traps are catching extremely high numbers of true armyworm. This may be a landscape quirk or indicative of greater pest pressure in the northern Kent/southern New Castle County area, especially along the coast. Black cutworm trap counts are also extremely high in Smyrna, more so than the last several years of trapping. Cutworm numbers also came up in Seaford and Harrington, but so far are in line with this time last year.

Given the unusually high activity in one trap, I highly recommend cover crop and weeds be terminated well in advance of planting. Both species can cause significant damage to corn. True armyworm prefers to lay eggs in grasses while black cutworm is much less choosy. Neonicotinoid seed treatments are not effective on either species, and only a few of the Bt trait packages are. Early larval feeding often appears as small, circular holes in leaves (often paired and symmetrical).

Alfalfa

Continue scouting alfalfa. Many fields were sprayed within the last two weeks for alfalfa weevil. Weevil activity began more than 3 weeks earlier than usual this year, but larvae have grown slowly until most recently. Because of

several cold spells, larvae might not have come into contact with an adequate amount of insecticide residue before it degraded, thus it is possible that product efficacy targeting these early, small larvae may not have been as great as expected. Adults are active and laying eggs, thus we also get a continuing ‘trickle’ of new larvae in fields. Third, many of the fields that we scouted had populations many times above threshold. Given these three factors, products that ordinarily would achieve high rates of control might not bring the larval population down enough to be under a treatment threshold. Recent spray trial work continues to show Steward has the greatest weevil activity, followed by Warrior II and tank mixes of pyrethroid + dimethoate. Combinations that have not been tested and will be next season include pyrethroid + Lannate and pyrethroid + Imidan. We tested Carbaryl two years ago and it was about equivalent to a pyrethroid but had shorter residual activity.

With the current crop and insect conditions, follow-up scouting is extremely important.

Morgan Malone and I filmed a video discussing alfalfa weevil management and is posted to UD Cooperative Extension’s YouTube page. Many thanks to Michele Walfred for editing assistance. You can find it here:

<https://www.youtube.com/watch?v=HY6RPjC8oE0&t=7s>

Corn and Soybean

In addition to the elevated moth counts observed in the Smyrna area, gray garden slug eggs have hatched, courtesy of an unusually warm February. This is considerably earlier than usual. Dry weather, soil disturbance, moving residue out of the way, and ensuring seed gets into the ground will all help reduce the likelihood of significant damage from slugs.

Small Grains

A report came in earlier this week of elevated aphid activity in a malting barley field. Fortunately, natural enemies were present and they may be able to hold aphids back until a flag leaf fungicide or scab fungicide application. Several fields are exhibiting signs of root pathogen and barley yellow dwarf virus, even in fields that had low aphid counts up until

February. At this point in the season, any continued virus transmission is unlikely to cause significant damage. Cereal leaf beetle, if you can find it, should be laying eggs now. Pyrethroids are very effective on all small grain pests, but pay attention to the long PHI’s of some of them, especially once we move into May.

Grid Sampling Soils to Improve Understanding of Soil Variability - Jarrod O. Miller, Extension Agronomist, jarrod@udel.edu and James Adkins, Irrigation Engineer, adkins@udel.edu

For grid sampling, prior work in other states has shown advantages of grids no larger than 2.5 acres, with increased accuracy at 1 acre. To observe how accurate grids must be on the Delmarva peninsula, the Maryland Grain Producers sponsored a project at the University of Delaware Warrington Irrigation Research farm in Harbeson, DE. Soils were sampled on 0.25 acre grids, and then down sampled to create maps based on ¾, 1 ½, and 3 acre grids.

Grid Sampling Correlations

The densest sampling scheme (¼ acre) was strongly correlated with soil characteristics and nutrient contents at the next densest sampling of ¾ acres (Table 1). The ¼ acre sampling was not as strongly related to 1 ½ or 3 acre sampling schemes, particularly for organic matter and CEC measurements. This is important, considering that organic matter and the CEC are unlikely to change over the long term, so a more accurate map could last a longer period. In some cases, correlations were not significant between 3 and 1.5 acre grids (CEC, OM, and Mg), so the relationships to general soil characteristics are again better represented by a denser grid.

Table 1: Correlations Between Grid Densities

	1/4 Acre vs			3 Acre vs	
	3/4	1.5	3	3/4	1.5
CEC	0.79	0.65	0.34	0.40	ns
OM	0.63	0.20	0.40	0.58	ns
pH	0.80	0.45	0.61	0.58	0.56
P	0.92	0.76	0.54	0.62	0.48
K	0.87	0.77	0.66	0.62	0.45
Ca	0.82	0.58	0.63	0.61	0.48
Mg	0.62	0.31	0.35	0.37	ns

Interpolated Maps of Different Soil Properties and Nutrient Concentrations

Maps for soil pH reveal more accuracy at $\frac{1}{4}$ density, but with a large loss in resolution when grids reach $1\frac{1}{2}$ acres (Figure 1). What is particularly striking about the pH map for the $\frac{1}{4}$ grids is the blocked pattern on the lower half of the pivot, following the shape of the research plots, indicating past management. This pattern is not present in the lower density sampling. Grid sampling is often described as best at finding past management issues but may miss the smallest details above $\frac{1}{4}$ acre grids. Read the full article on the DE Agronomy blog: <https://sites.udel.edu/agronomy/2023/03/22/grid-sampling-soils-to-improve-understanding-of-soil-variability/>

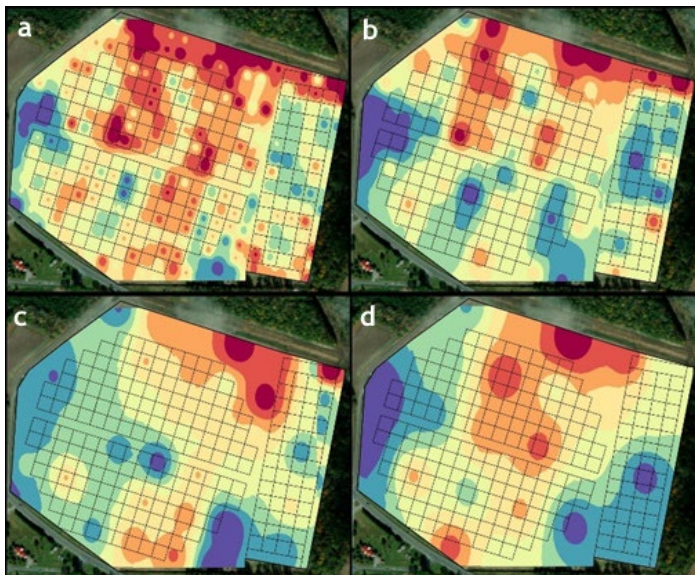


Figure 1. Grid sampling for a) $\frac{1}{4}$ acre soil pH, b) $\frac{3}{4}$ acre soil pH, c) $1\frac{1}{2}$ acre soil pH, d) 3-acre soil pH.

Small Grain Disease Management Resources

- Alyssa Koehler, Extension Field Crops Pathologist; akoehler@udel.edu

2023 Wheat Fungicide Efficacy Ratings

Spring is moving right along and the warm weather this week will really have small grains growing. If you are considering use of a fungicide during the season, the [2023 wheat fungicide efficacy ratings](#) are now available. These ratings are developed by the North Central Regional

Committee on Management of Small Grain Diseases (NCERA-184) and show results from field-testing across many states over multiple years. This resource is available online at: <https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-wheat-diseases>

Fusarium Risk Assessment Tool

Fusarium Head Blight (FHB), caused by species of the fungus *Fusarium*, is typically the most important disease of small grains in our region. Last year we saw moderate disease pressure across the region. The weather over the next few weeks will determine how large our risk will be this year. The Fusarium Risk Assessment Tool (www.wheatcab.psu.edu), a forecasting model that uses current and predicted weather forecasts to predict FHB risk, is now live for the season (Figure 1). Historically about 70% accurate, this tool aids in assessing FHB risk as wheat approaches flowering and fungicide application decisions are made. The pathogen that causes FHB infects through the flower and rainfall 7 to 10 days prior to flowering favors spore production and increases risk of infection. Within the map you are able to look at predicted risk for the current day or 2, 4, or 6 days out. You can click to adjust anticipated susceptibility based on the hybrid planted. You can sign up to receive text and/or email alerts at https://scabusa.org/scripts/FHB_Alerts/

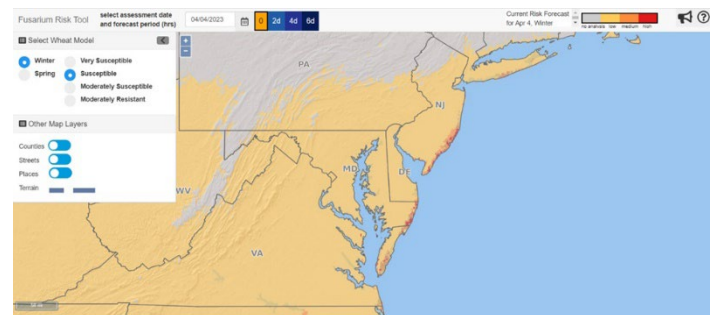


Figure 1. Fusarium Risk Assessment Tool screenshot of predicted risk from April 4, 2023, www.wheatcab.psu.edu

Fusarium Head Blight Overview - Alyssa Koehler, *Extension Field Crops Pathologist*; akoehler@udel.edu

Fusarium species that cause FHB can infect both corn and small grains. Walking through fields with corn stubble, you may see orange growth on old debris (Figure 1). Since much of our small grain acreage is planted into corn fodder, FHB inoculum is maintained over winter. Wet spring conditions favor fungal sporulation that can lead to infected wheat or barley heads. As the fungus grows on corn fodder or other debris, spores are released that are then rain-dispersed or moved through air currents. As the grain crop is flowering, spores land on the head or anthers, colonize these tissues, and move into the grain. Once inside the grain, water and nutrient movement is disrupted which results in the bleached florets we associate with FHB (Figure 2). Shriveled and wilted “tombstone” or “scabby” kernels can reduce yield and result in grain contaminated with mycotoxins (Figure 3). Deoxynivalenol (DON), also referred to as vomitoxin, is a health hazard to humans and animals. Wheat heads colonized later in development may not show dramatic symptoms, but can still have elevated DON.



Figure 1. Corn stubble with *Fusarium* that can contribute to FHB in wheat.



Figure 2. Wheat heads showing bleached florets from FHB.



Figure 3. Healthy kernels (left) White, shriveled, scabby kernels from FHB (right).

Optimal wheat fungicide application is at early flowering (10.5.1) to about 5 days after. A well-timed fungicide application can help to reduce disease severity and DON levels. It is important to remember that fungicides help to reduce disease levels and DON (traditionally around 50% reduction on a susceptible variety), but they do not eliminate all FHB or DON. To try to maximize the efficacy of fungicides, it is important to apply at the correct timing. Fungicides for FHB are most effective when applied during flowering in wheat and at head emergence in

barley. Although new products like Miravis Ace can be applied earlier, it is still best to wait for main tillers to be at 10.5.1 or a few days beyond, so that secondary tillers have a greater chance of being at 10.3-10.5.1. If you spray too early, heads that have not emerged will not be protected by the fungicide application. When wheat heads begin to flower, look for yellow anthers in the middle of the wheat head. When at least 50% of main stems are flowering, you will want to initiate fungicide applications. As the flowering period continues, anthers will emerge from the top and then the bottom of the wheat heads. Anthers can stay attached after flowering, but usually become pale white (Figure 4). Triazole (FRAC group 3) fungicides that are effective on FHB include Caramba (metconazole), Proline (prothioconazole), and Prosaro (prothioconazole + tebuconazole). Miravis Ace (propiconazole + pydiflumetofen) offers a triazole + SDHI, FRAC group 7. Other newer products to the market include, Spharex (metconazole [3] + prothioconazole [3]) and Prosaro Pro (prothioconazole [3] + tebuconazole [3] + fluopyram [7]). As a reminder, fungicides containing strobilurins (QoI's, FRAC 11) should not be used past heading because these fungicides can result in elevated levels of DON. Flat fan nozzles pointed 90° down are great at covering foliage, but they do not provide as good of coverage on heads, which is the target for FHB management. Nozzles that are angled forward 30-45° down from horizontal (30 degrees is better than 45) or dual nozzles angled both forward and backward give better contact with the head and increase fungicide efficacy. For ground sprays, fungicides should be applied in at least 10 gallons of water per acre.

Thinking beyond this season, an integrated approach can improve management of FHB and help to keep DON levels low. In your field rotation plan, if you have soybean fields that can be harvested early enough for a timely wheat or malting barley planting, this rotation helps to reduce the amount of pathogen overwintering and starting the season. In addition to rotation considerations, seed selection is another important piece of FHB management in wheat. There is no complete host resistance against FHB, but you can select wheat varieties with partial resistance. The University of Maryland

sets up a misted nursery to compare FHB index and DON levels across local wheat varieties under very high disease pressure to aid in variety selection decisions

(https://psla.umd.edu/sites/psla.umd.edu/files/files/documents/Extension/Small%20Grains%20n%20MD/Wheat%20and%20barley_trial_data_2022-combined_withCF.pdf)



Figure 4. From left to right Feekes 10.3, Anthesis, Feekes 10.5.1 (yellow anthers beginning flowering), 4 days after anthesis (white anthers post flowering).

General

Recommended IPM Resources - David Owens, Extension Entomologist, owensd@udel.edu

What's On Your Seed

"What's on your seed" lists all seed treatments on corn, soybean, and small grain by product type and active ingredient:

<https://ipcm.wisc.edu/blog/2022/02/whats-on-your-seed-chart-updated-for-2022/>

Handy Bt Trait Table

Want to know what the other funny words on the corn bag mean? Want to know if you are getting your money's worth from traited corn? Check out the Handy Bt Trait Table:

https://www.texasinsects.org/uploads/4/9/3/0/49304017/bttraittable_feb_2023.pdf

Pest Patrol

Occasionally, urgent pest issues come up between WCU postings. You can get such alerts when they are recorded as a text that will send you to a 2-4 minute voice recording. This is a free service sponsored by Syngenta. Last year alerts went out for alfalfa weevil, corn earworm,

stink bugs, slugs, seedcorn maggot, cucumber beetle, and others. You can find more information here: <https://www.syngenta-us.com/pest-patrol>

Guess The Pest April 6, 2023



Back by Popular Demand! This year, Guess the Pest participants will be entered into an end of season sweep net drawing (as well as other potential items). To enter a guess, click on the Guess The Pest Logo or by visiting: <http://www.udel.edu/008255>

Warm weather is stimulating overwintered insect eggs to hatch. What insect is this?



Photo by Lawrence Barringer

EPA Announces Accelerated Action on Four Organophosphate Pesticides Based on Updated Exposure Assessments - Kerry Richards, Pesticide Safety Education Coordinator; kerryr@udel.edu

As part of the registration review process, EPA assessed the potential risks to people who mix, load, and apply four organophosphate pesticides, farmworkers who work with crops that have been treated with these pesticides, and bystanders who are potentially exposed to spray drift, including families living in agricultural communities.

The Agency identified the following potential risks for each pesticide:

- The diazinon assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who could be exposed to spray drift.
- The ethoprop assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who could be exposed to spray drift.
- The phosmet assessment identified potential risks to workers who mix, load, and apply the pesticide, workers conducting certain post-application activities (e.g., weeding, hand harvesting, or workers re-entering treated areas), and bystanders (including farmworkers) who may be exposed to spray drift.
- The tribufos assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who may be exposed to spray drift.

Although registration review for these pesticides was not scheduled to be completed until 2025-2026, after recognizing that several of uses of these four pesticides present significant human health risks, EPA is taking accelerated and early action to address these risks. This will allow the Agency to put important protections in place quickly for some high-risk uses of these pesticides, while allowing time to work through

the complicated scientific issues that need to be addressed before completing registration review. The complete announcement can be found at

[EPA Announces Accelerated Action on Four Organophosphate Pesticides Based on Updated Exposure Assessments | US EPA](#)

Technical Assistance and Financial Assistance for Farm Energy Projects

Energize Delaware Farms is funded by the Delaware Sustainable Energy Utility (DELSEU) and currently offers cost shares for two different types of audits for all farm operations, comprehensive and targeted, along with several different loans and grants for installing renewable energy or energy efficiency measures.

The comprehensive audit will analyze the energy usage at your entire operation to assess for all possible energy efficiency improvements, while the technical assistance report will assess for up to two measures at your farm to see if the equipment of interest meets payback.

[Energize Delaware Solar Program Flyer](#)

[Energize Delaware Farm Energy Technical Assistance Flyer](#)

In addition to the comprehensive and technical assistance reports, Energize Delaware Farms is now offering a comprehensive irrigation pre- and post-evaluation for farmers through the Sustainable Water Energy Efficiency Program (SWEEP).

[Energize Delaware Sustainable Water Energy Efficiency Program Flyer](#)

Recommendations mentioned in audits completed through Energize Delaware Farms or by other energy consulting firms may be eligible for grants or loans of up to 50% of the equipment's cost. In addition, farmers can combine incentives through Energize Delaware Farms with NRCS' EQIP and USDA REAP to help reduce out-of-pocket costs.

For additional information go to:
<https://www.energizedelaware.org/nonresidenti al/farm/> or call (800) 732-1399

DDA Cost-Share for Poultry House Removal

The Delaware Department of Agriculture (DDA) is accepting applications through May 1, 2023, for a new Poultry House Demolition Assistance Program announced March 28, 2023. The program provides cost-share assistance to remove old poultry houses past their useful life.

DDA will reimburse the poultry house owner 50% of the actual costs for remediation, up to a maximum of \$10,000 per house. Prior to approval, DDA Nutrient Management staff will perform a site visit to verify houses to be removed and discuss the need to manage residual litter or nutrients. Funding will be reserved for approved applications to give applicants time to complete the removals.

“Many poultry houses across Delaware have reached the end of their productive life-span and have been abandoned as producers have upgraded to more environmentally friendly poultry houses,” said ***Secretary of Agriculture Michael T. Scuse***. “Our goal by offsetting the costs to remove these houses is to assist producers in lessening their environmental impact and enhance our rural landscape.”

According to research by the University of Delaware's Cooperative Extension, the soil under a poultry house can accumulate mineral nutrients through the diffusion of the ammonia component of manure over 30 to 50 years. Once the roof deteriorates, rainwater can enter the house, which can cause the excess nutrients to leach into the groundwater.

Landowners who wish to apply for the Poultry House Demolition Assistance Program can download an application at <https://agriculture.delaware.gov/grants-loans>. Applications can be emailed to nutrient.management@delaware.gov, mailed to DDA, or faxed to (302) 697-6287. Anyone receiving funding from the Delaware Department

of Agriculture must complete a [W-9 form online](#) before approval.

Poultry house remediation cost-share is also available through programs such as NRCS-EQIP. Cost-share through the DDA program may be combined with other programs to help the landowner to reduce costs further, but DDA will not reimburse expenses that have or will be covered by another source. The applicant is responsible for meeting the requirements of any other cost-share program used.

Announcements

Agricultural Land Preservation Program

Monday, April 24, 2023 6:00-8:00 p.m.

University of Delaware

Paradee Center

69 Transportation Road, Dover, DE

Delaware's Farmland Preservation Program received \$20 million for farm preservation this year, the highest state funding in the program's history. This program will explain how the Delaware Department of Agriculture's Farmland Preservation program works and discuss the tax implications of preserving farmland. Light dinner will be provided to registrants. Space is limited.

[Detailed Program Agenda](#)

To register, please contact Karen Adams.

E: adams@udel.edu

P: 302-856-2585 ext 540

Please contact Nate Bruce nsbruce@udel.edu with any questions.

Free Safety Training for Farmworkers

Telamon is offering safety training programs for farmworkers. All the trainings are offered in English and Spanish, and by request can be provided in Haitian Creole and French. The trainings are provided at no cost to the employer.

If you are interested in any of the free trainings listed below for workers on your farm, please contact:
Cheryl Redd

credd@telamon.org

Cell (304) 960-6691

Worker Protection Standard

This satisfies the yearly training requirement of the worker protection standard – a pesticide safety training required by the EPA at agricultural establishments for workers that work in the field where pesticides have been used or will be used during their employment. All instructors have at least a Train the Trainer Certificate from PERC, approval number: EPA WPS TTT W/H 00030.

Heat Stress Prevention

This is an OSHA approved training that teaches workers how to recognize the symptoms of heat-related illness, including heat exhaustion and heat stroke. It teaches what to do to prevent injury, and how to treat someone suffering from heat stroke while waiting for emergency medical help.

Limiting Exposures Around Families

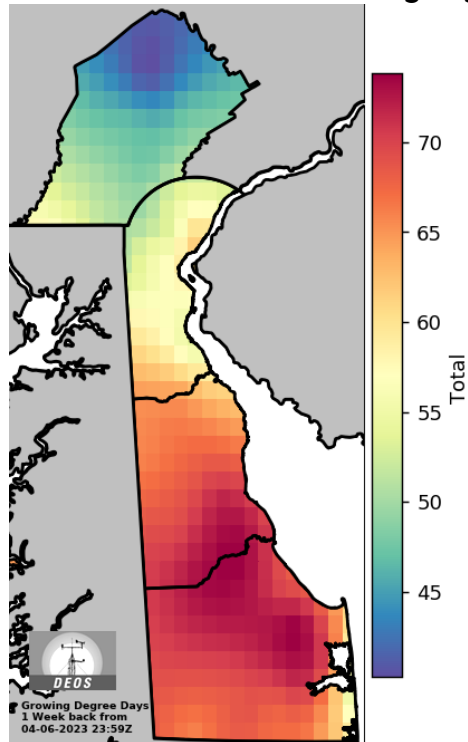
This training is intended for families, or spouses of farmworkers and explains how to protect yourself or family from pesticides in the environment including clothing of a farmworker, or residues that reach the home from spraying by a nearby farm.

José Learns About Pesticides

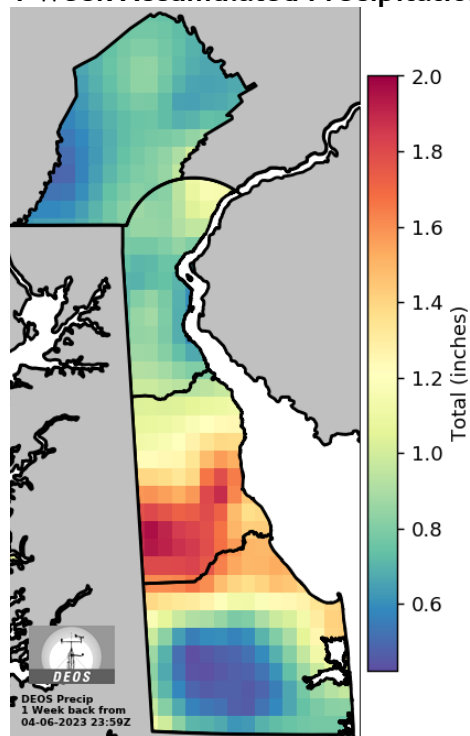
This presentation is for children and teaches them how to protect themselves from pesticides that may be near the home or on the clothing of their parents who work on a farm. It teaches them to not touch clothing that may be contaminated, not to play with pesticide containers, and to not enter a field when pesticides are being applied or have a "No Entry" sign displayed.

Weather Summary

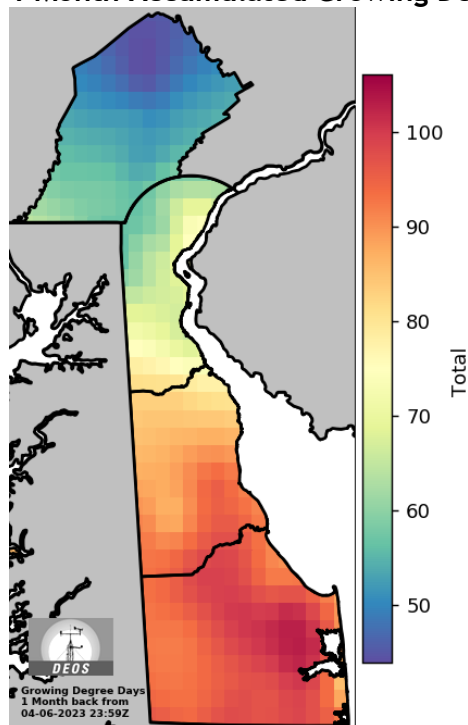
1 Week Accumulated Growing Degree Days



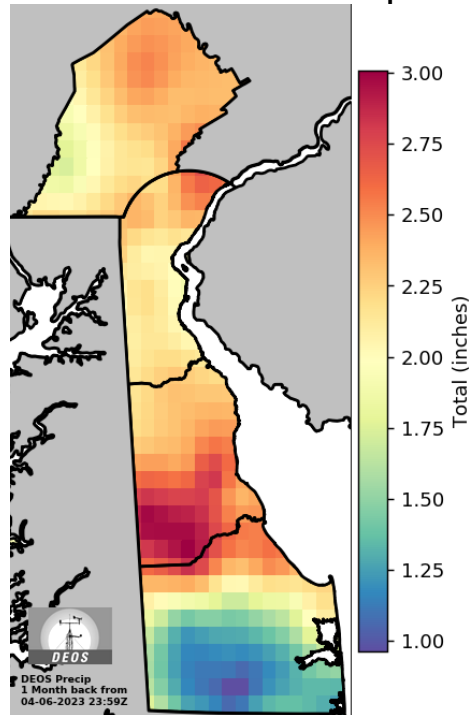
1 Week Accumulated Precipitation



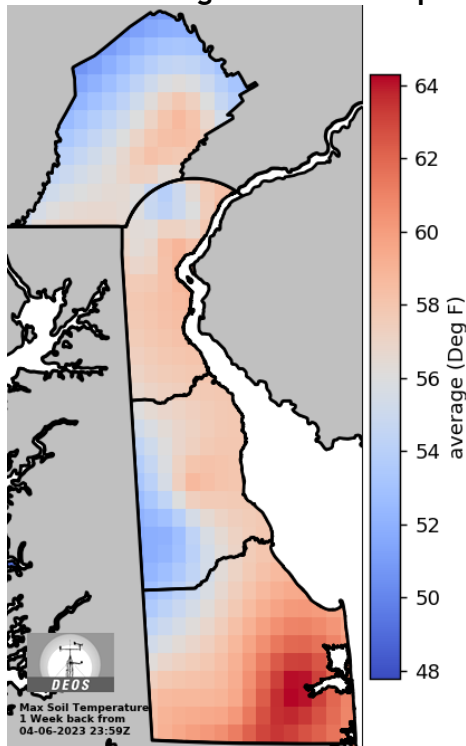
1 Month Accumulated Growing Degree Days



1 Month Accumulated Precipitation



1 Week Average Max Soil Temperature

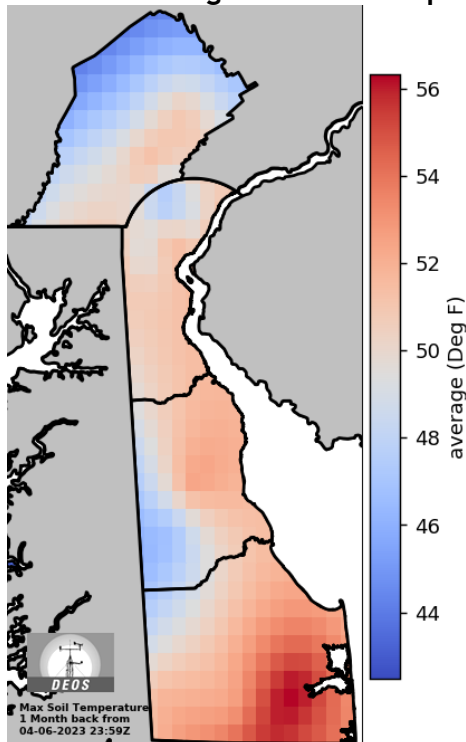


Weekly Crop Update is compiled and edited by Emmalea Ernest, Scientist - Vegetable Crops

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Reference to commercial products or trade names does not imply endorsement by University of Delaware Cooperative Extension or bias against those not mentioned.

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!