

WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

Volume 32, Issue 28

September 20, 2024

Vegetable Crops

Vegetable Crop Insect Scouting

David Owens, *Extension Entomologist*,
owensd@udel.edu

Sweet Corn

Trap counts have decreased considerably, with many sites now catching a number indicative of a 4-day spray schedule. Please keep in mind that we do not move most of our traps. A handful are near silking sweet corn, but the majority are not. Trap counts are as follows:

Location	Blacklight Trap	Pheromone Trap
Dover	0	4
Harrington	0	2
Milford	1	4
Rising Sun	1	5
Wyoming	---	20
Bridgeville	1	7
Concord	2	66
Georgetown	---	---
Greenwood	0	8
Laurel	4	7
Milton	---	3

Tomatoes

Continue to monitor for signs of worm activity in the crop and treat accordingly. Look for frass, fresh on plants. In Georgetown, we have both

cabbage looper and corn earworm damaging late tomatoes. If worm activity is noted, use one of the recommended worm materials in the Commercial Vegetable Production Recommendations guide:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/midatlantic-vegetable-recommendations/>.

Cole Crops

Many of our brassica crops are cupping or beginning to initiate curds. The threshold decreases to 15% infested plants at this stage and 5% from curd development until harvest. In Georgetown, all of the brassica worms are present, including the less common cole pests corn earworm, beet armyworm, and fall armyworm. Together with diamondback moth, these worms are resistant to pyrethroids. Rotate among your modes of action. Make sure that you get good coverage with high water volumes. If you can, nozzles directing the spray over the top of the head and to the sides of the plants would be ideal. Use of spreaders can also help but be careful with stickers! Diamides and stickers do not play well together. We still have a lot of natural enemy activity in the crop, keep using the more IPM-friendly materials. Aphid pressure has also been high this fall. Aphids that have swelled and turned into a round, straw colored ball have been attacked by parasitoid wasps.

Planting Small Grains for Spring Vegetable Windbreaks

Emmalea Ernest, Extension Fruit & Vegetable Specialist; emmalea@udel.edu

Small grain windbreaks are a useful tool in the earliest spring plantings of warm season vegetables such as watermelons, cantaloupes, summer squash and tomatoes. Rye has been the preferred small grain for windbreaks because tall types are still available, and it elongates early in the spring. While barley is also early, tall varieties are not generally available.

Windbreaks provide multiple benefits that promote establishment and growth in transplants.

- Windbreaks protect transplants from direct wind damage (whipping, tearing, shredding, and breaking stems and leaves).
- Windbreaks reduce or eliminate “sandblasting” in sandy soils where fine sand particles are picked up by the wind. Sandblasting can severely damage young plants by shredding leaves and cutting stems.
- Windbreaks reduce transpiration losses in young transplants thus reducing losses to wilting and desiccation.
- Windbreaks reduce convectional heat losses from the soil, thus providing a warmer environment for early growth.

Small grain windbreaks are typically used in combination with plastic mulch. In plasticulture systems, windbreaks can be planted in drive rows, in between every bed or between only some beds. Maximum protection and earliness are achieved when windbreaks are used between each black plastic mulch bed. Even in situations where plastic mulch is not used, windbreaks can still be maintained in drive rows or around plantings to protect seedlings from damage. In no-till or strip till systems using rye cover crops or mixtures with rye, windbreaks can be left in the field by rolling some areas and leaving others unrolled as a windbreak. East to west orientation of windbreaks is preferred to reduce shading.



Rye windbreaks between every row of black plastic mulch.

Setting up windbreaks can be done in several ways. A simple method is to plant the field solid with the small grain and then till planting strips using a narrow tillage device (tractor mounted rototiller or multiple passes with a narrow field cultivator) in the spring before it puts on much growth. Tilling bed strips is best done in March. Alternatively, a non-selective herbicide can be used to kill strips in the late winter or early spring and then tilled later. Another method is to set up grain drills to plant 2 or 3 rows of small grain and then block the seed meters to skip the area where the beds will be in the spring. This allows more flexibility in the spring for tilling beds because there is less vegetation to manage.

It is best to plant windbreaks early in the fall to get good fall tillering. The last week in September or first week in October is ideal for most of Delaware and mid to upper Delmarva. Rye can be planted later but spring growth will be delayed, and tillering may be reduced. You should plant at standard rates or higher (120 lbs/acre equivalent or more) for the most effective windbreaks. Higher seeding rates should be considered when planting late.

In the spring, timing windbreak growth termination is also important. All rye windbreaks should be killed using a non-selective herbicide before viable seed is produced, otherwise volunteer grain will come up in later crops.

Another caution on using windbreaks is that they can build up other pests such as mites, and when killed may serve as a reservoir to infest vegetable plantings (a common problem is mites

moving out of windbreaks into watermelons). Therefore, fields with windbreaks should be monitored closely for these pests and treated accordingly.

Maintain Pumpkin Foliage for as Long as you can

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

One of the main things a grower can do to ensure a good quality pumpkin is to be sure they maintain their fungicide applications until they harvest fruit. However, if it remains as dry as it has been you can increase the time between applications to 10 or 14 days rather than weekly when we have rain. Maintaining good foliage cover for your pumpkins results in pumpkin handles that are dark green stout and firm (Figure 1). If fungicides are cut too soon foliage can be lost to powdery or downy mildews or other foliar diseases and this defoliation can result in handles that are brown, withered and decayed (Figure 2).

Another reason to keep your foliage in good shape is that pumpkins that are maturing and turning color need to be protected from the sun. With our hotter and usually sunnier Septembers, pumpkin fruit can easily become sunburned, or sun scalded. A spot on orange (or at times green) pumpkins that is facing the sun can result in reddish or white-bleached areas (Figure 3). These sunburn/sunscald areas on the fruit often become soft with rot setting in a few weeks later. Clear sunny days with highs in the mid-80s are perfect settings for sunburn/sunscald fruit especially if the fruit has been clipped and left in the field. I have seen several pumpkin fields (especially U-Pick ones) over the last 5-6 years that suffered significant losses to sunburn because of reduced leaf cover due to unchecked foliage diseases.

Figure 1. Harvested pumpkins with good handles.



Figure 2. Harvested pumpkins with poor handles.



Figure 3. Sunburn (red spot) and sun scald (white spot) on harvested pumpkins



Fruit Crops

Fruit Crop Insect Scouting

David Owens, Extension Entomologist,
owensd@udel.edu

Strawberries

Scout new plantings for aphids and for spider mites. Thresholds for mites are 5 per leaflet.

Agronomic Crops

Agronomic Crop Insect Scouting

David Owens, Extension Entomologist,
owensd@udel.edu

Continue monitoring late soybeans for stink bug. Soybeans at R6.5 have higher thresholds, and fields that are yellowing are greater still. At R6, stink bugs become more of a quality pest than a yield loss.

Continued Soybean Irrigation is Needed for Most of Delaware

James Adkins, Extension Engineer,
adkins@udel.edu

The forecasted multi-day rain event was a bust for most of Delmarva with a relatively small region northwest of Bridgeville receiving over an inch (figure 1). In areas with less than ½” of rain, soybeans will need irrigation on Saturday or before even if you were actively irrigating prior to this week. Continue irrigation at an equivalent rate of 0.15” per day for fully green plants and continue at a 0.1” per day rate as the field yellows until leaves begin dropping. Keep in mind that soybeans will beneficially use approximately 1.5” of water after everything has turned yellow.

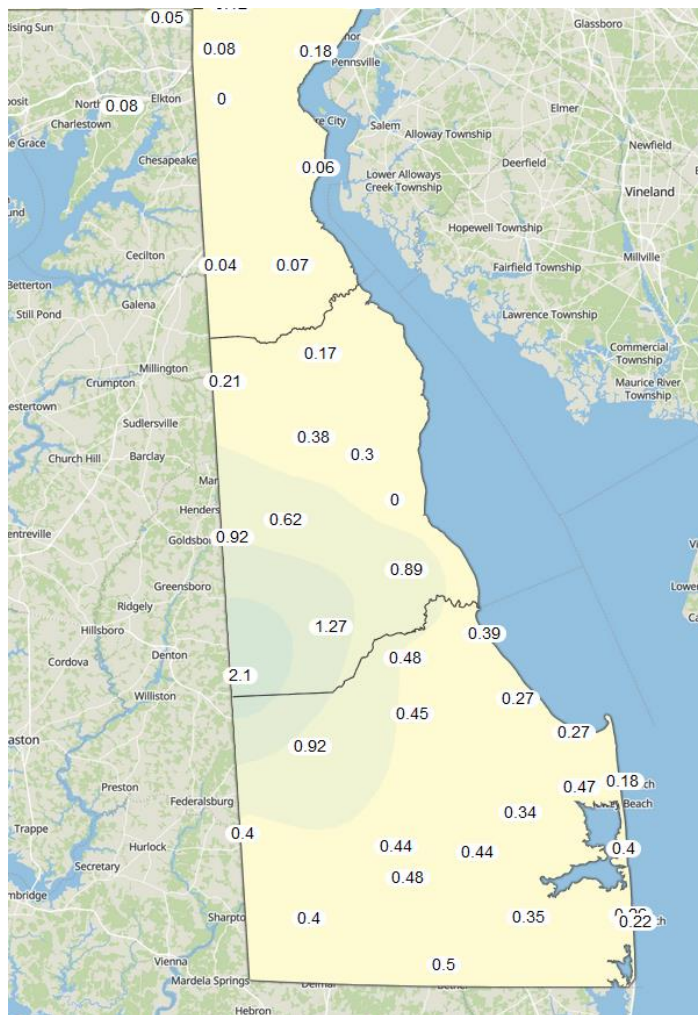


Figure 1. Precipitation Totals September 11 - September 18, 2024

Which is More Profitable to Store: Corn or Soybeans?

Nate Bruce, Farm Business Management Specialist,
nsbruce@udel.edu

A commonly heard question in farming circles around this time of the year is whether to store corn or soybeans. There are many arguments on whether to store one or the other. A Monte Carlo statistical model was developed to analyze the potential profitability of both options. Monte Carlo simulations are used to determine risk and uncertainty by randomly generating values from an observed value range and estimating what will most likely occur. Monte Carlo simulations are often used by economists to evaluate business decisions.

In this case, the Monte Carlo model is simulating the profitability or loss of storing corn or soybeans per bushel with each individual simulation representing a production and marketing year. The model assumes that 100% of what is yielded is stored. Production costs for corn and soybeans going back to 2007 from the University of Maryland were used in the analysis and converted into 2023 real dollars to account for inflation. Corn and soybean prices were collected from USDA NASS going back to 2007 and converted into 2023 real dollars. Yields and production costs are randomly distributed in each simulation. Storage costs are estimated as \$0.40 per bushel based off responses from the recently distributed grain marketing survey. When the model randomly distributes yields, the storage cost is determined based on the simulated yield value ($\$0.40 \times$ observed yield). Net returns for the marketing year are estimated in the model and the profit per bushel number is found from each simulation. There are instances the model randomly generates a profit per bushel that is extremely high or extremely low compared to what may occur in the real world. This occurs when the model is using either extremely high or low production costs and generating an extremely high or low yield. Combinations as such can create significantly high losses or profits, but statistically will almost never occur in the real world. To further reduce observations such as this, any profit per bushel greater than \$2.00 or less than -\$2.00 returns a profit per bushel value of zero. A plus or minus range of \$2.00 was chosen because this isn't completely out of the norm considering the market volatility experienced in the last couple of years and what could be achieved from storing grain.

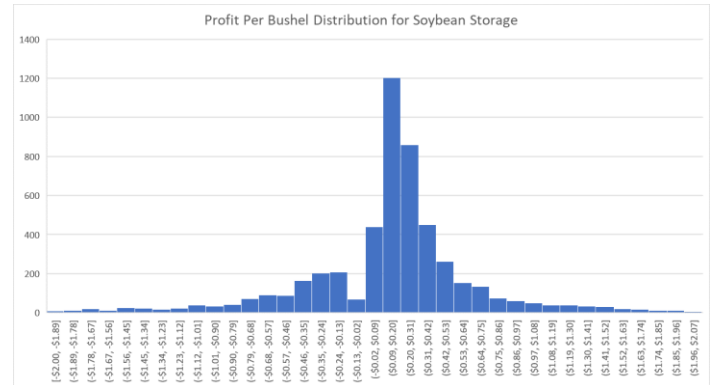
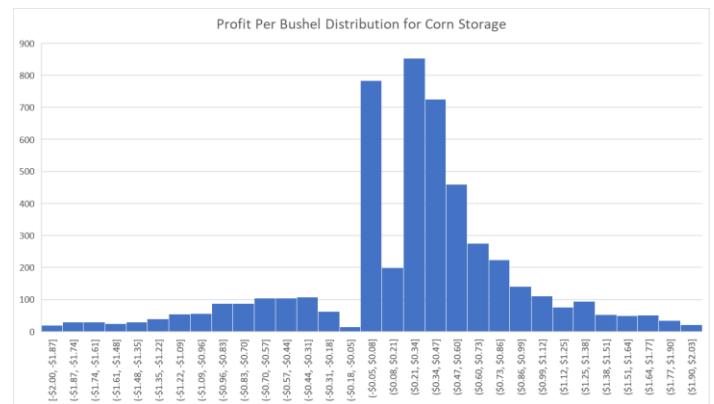
The model was simulated 5,000 times and resulted in the same conclusion every time: that there is a greater profit per bushel from storing corn than there is from storing soybeans. When the model is run, the values are randomly distributed so individual observations will vary, however this conclusion is always the same. Storing corn will always result in a profit of nearly \$0.10 per bushel more than storing soybeans. There is greater net gain opportunity for storing

corn as compared to storing soybeans. The potential profit per bushel from storing corn versus soybeans is given below:

Corn - \$0.25 / bushel

Soybean - \$0.15 / bushel

Distributions from a simulation are given in the charts below. Each bar represents either a profit or loss per bushel range. On the left axis is the number of observations the simulation model generated for each profit or loss per bushel range



This is a commonly discussed topic and the results from this model can help grain marketing decision makers. This model only evaluates the potential profitability of storing grain. All factors in the grain marketing plan should be considered before opting to store any commodity on the farm. This model and topic will be discussed in more detail at the 2025 Risk Management Conference.

Tar Spot in Corn

Alyssa K. Betts, *Extension Field Crops Pathologist*; akoehler@udel.edu

Earlier this summer we talked some about Tar Spot in corn. We had our first positive confirmation in DE in October of 2023. This week we had our first positive confirmations for 2024 in both New Castle and Kent counties (Figure 1). So far, symptoms have been in smaller areas of the fields and found right before combining so there do not appear to be any yield losses from these later season infections. As a refresher, tar spot is a foliar disease caused by the fungus *Phyllachora maydis*. The fungus produces small, raised, bumpy black lesions that look like specks of tar, giving it the common name “tar spot” (Figure 2). These structures known as stroma can be on the upper or lower leaf surface and do not wipe off the corn leaf. If you suspect tar spot in your field and need help with identification or other questions contact me with questions, akoehler@udel.edu.

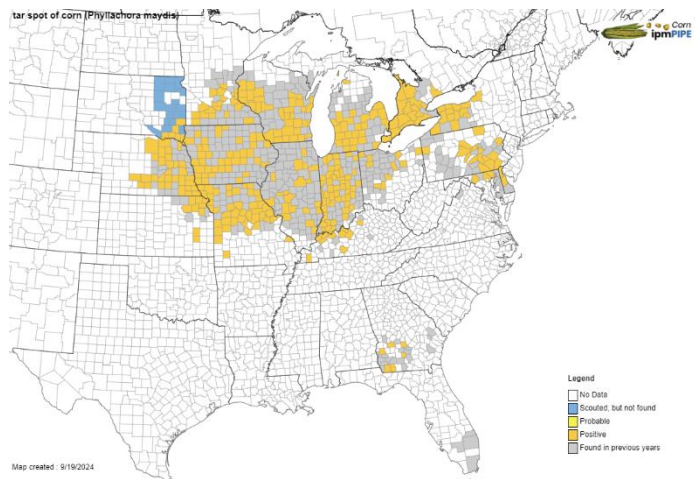


Figure 1. Confirmations of Tar Spot



Figure 2. Symptoms of tar spot on corn leaf. Black specks are the reproductive structures of the fungus.

Clean Weed Seeds from Equipment

Mark VanGessel, *Extension Weed Specialist*; mjv@udel.edu

Take time to prevent spreading headaches from field to field. If you had fields (or part of fields) that you struggled with weed control this year, do not compound the problem by spreading seeds. The key culprits are Palmer amaranth and herbicide-resistant common ragweed. Harvest the weedy sections of the fields last. Clean your equipment before you leave the field, so you are not spreading the seeds as you travel down the road. Combines, stalk choppers and mowers are all very efficient at spreading weed seeds.

General

Reminder: Fall Control of Perennial Weeds

Mark VanGessel, *Extension Weed Specialist*;
mjv@udel.edu

Fall is often a good time and most convenient time to treat most perennial weeds because it is the time that plants are best able to translocate the herbicide to the roots where it will do the most good. When considering fall weed control the emphasis should be on what the patch of weeds will look like next spring or summer not the number of dead stems this fall. Also, it is important to consider that a fall application will not eradicate a stand of perennial weeds; the fall application will reduce the stand size or the plant vigor, but applications in consecutive years is likely needed. Fall applications of glyphosate is the most flexible treatment for most perennial weeds such as bermudagrass, Canada thistle, common milkweed, common pokeweed, yellow nutsedge, horse nettle, groundcherry, and Johnsongrass. Rates of 1 to 1.25 lbs. of acid per acre are consistently the most economical (or about 1.5X the normal use rate for annual weeds). Dicamba (Banvel) at 2 to 4 pints is also labeled for artichoke, bindweeds, dock, hemp dogbane, horse nettle, milkweeds, or pokeweed. Planting small grains must be delayed after dicamba application 20 days per pint of dicamba applied. Fall herbicide applications should be made to actively growing plants. It is best to spray prior to mowing the corn stalks and allowing plants to recover after harvest. Allow 10 to 14 days after treatment before disturbing the treated plants. If fall applications are delayed, remember weed species differ in their sensitivity to frost; some are easily killed by frost (i.e. horse nettle) others can withstand relatively heavy frosts. Check the weeds prior to application to be sure they are actively growing.

Guess The Pest - September 13th Answer

David Owens, *Extension Entomologist*,
owensd@udel.edu

Congratulations to Keith McGowan and others for identifying nematodes and sudden death syndrome. The stem question was a tough one. The discoloration is actually from *Dectes* stem borer tunneling. This particular field had heavy *Dectes* and nematode populations. Nematodes and SDS often go hand-in-hand. The presence of high *Dectes* is a bit odd and the field will need to be watched carefully so that it can be harvested as soon as possible to lessen the chances of a windstorm causing the beans to lodge.





A. Betts, University of Delaware

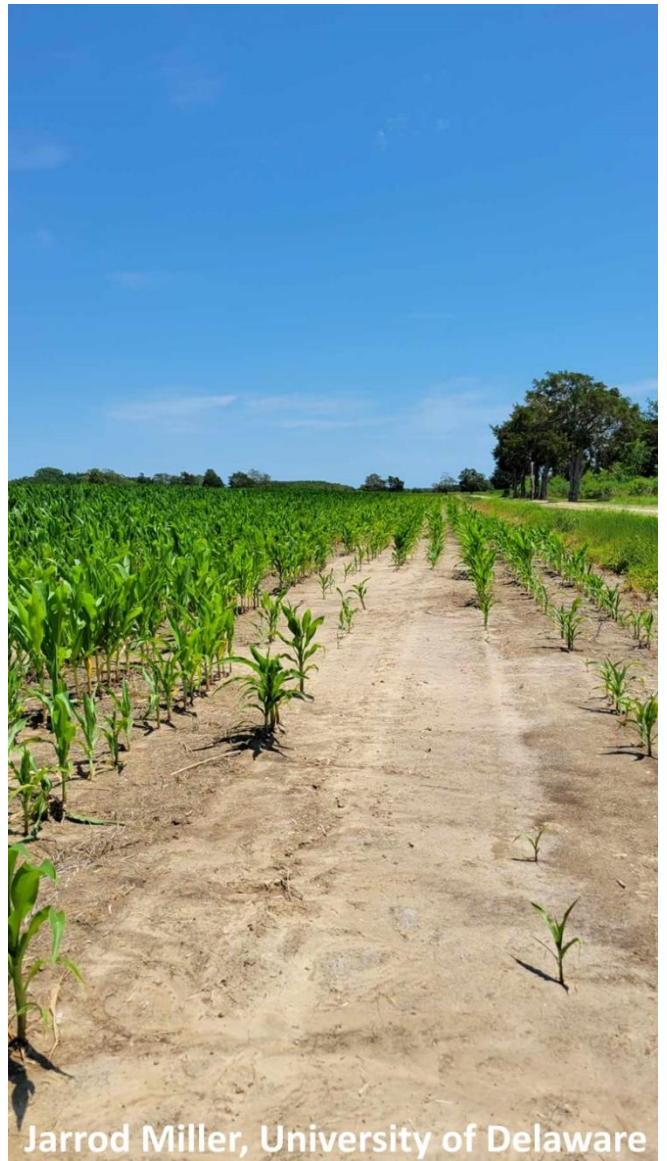
Guess The Pest - September 20th

David Owens, *Extension Entomologist*,
owensd@udel.edu

As combines roll into fields, thought it might be fitting to share this photo of a corn field with uneven, poor stand along the edge of the field. What might have contributed to the unthriftiness of these plants?

Enter your guess here:

<https://docs.google.com/forms/d/1oz5-yCm8xifZtDlvZ-vPbd8a0GR-V6H9ddb9fhAyyzY/edit>.



Jarrold Miller, University of Delaware



Announcements

2024 Beginning Farmer Program

Wednesdays & Saturdays September-December
University of Delaware, Fischer Greenhouse
533 S. College Ave, Newark, Delaware 19716

The Delaware Beginning Farmer Program is for new and beginner farmers working in small-scale vegetable and/or fruit production. Through hands-on training, demonstrations, workshops, field trips and farm tours, as well as self-study, growers will spend an entire season learning and growing with Delaware Cooperative Extension, and other invited agriculture industry professionals

Although not limited to the following topics, this training will explore the fundamentals of soil fertility and health, basic crop production, integrated pest management, food safety, and business planning and development.

This training will also provide an excellent networking opportunity. Sessions are covered by one affordable registration fee of \$75. Sessions are held at the University of Delaware Cooperative Extension office and Fischer Greenhouse on the University of Delaware campus.

Sessions are held at Fischer Greenhouse on the College of Agriculture and Natural Resources' campus in Newark, unless otherwise noted.

- Wednesday, September 11, 6-8 pm
Course Orientation, Soil Basics
- Saturday, September 14, 9-11 am
Greenhouse Production/Tour
- Wednesday, September 25, 6-8 pm
Variety Selection
- Wednesday, October 9, 6-8 pm
Small Farm Business Planning
- Saturday, October 12, 9-11 am
Field Trip to Against the Grain Farm at William Penn Farm
- Wednesday, October 23, 6-8 pm
Weed Identification and Management

- Wednesday, November 6, 6-8 pm
Integrated Pest Management: Insect and Disease Pests
- Saturday, November 9, 9-11 am
Plant Diagnostic Clinic, UD Fresh to You
- Wednesday, November 20, 6-8 pm
Small Animals
- Wednesday, December 4, 6-8 pm
Delaware Beginning Farmer Resource Panel with DDA, NRCS, Farm Bureau and others

Register here: <http://www.udel.edu/0012105>

If you have any questions about the program, please reach out to either Carrie Murphy (cjmurphy@udel.edu) or Nick Adams (naadams@udel.edu)

Category (03) Ornamental and Turf Pre-Exam Training

October 16, 2024, 8:00 AM to 12:00 PM
Delaware State Fair Grounds,
AG Commodities Building
Murphy St. Harrington, DE 19952

The Delaware Department of Agriculture in conjunction with University of Delaware Cooperative Extension is excited to bring to your pre-exam training designed to assist with the content connected to the DDA Ornamental & Turf (Category 03) exam. The pre-training will NOT cover all of the material on the exam. The training will consist of 6 categories of emphasis and will cover identification, control, and various best management practices (BMP's) that applicators need to know or study as part of the category (03) Ornamental & Turf exam. The presenters will be Amanda Strouse (DDA) and John Emerson (UD). Both the training and the exam will be at the AG Commodities Building at the DE State Fairgrounds.

Use the following link to register:

<https://www.udel.edu/0012295>

Webinar Series on Cover Crops
August 21st to October 23rd, 2024
Wednesdays 12:00 to 12:30

Online

The Northeastern Cover Crop Council is hosting a series of webinars on cover crops including species selection, planting considerations, and management considerations. Webinars are from noon to 12:30 p.m. every Wednesday until October 23rd. Certified Crop Advisor continuing education credits are available. All webinars are recorded so if you were not able to join live, the information is still available. More information and registration is available at https://northeastcovercrops.com/conferences_webinars/

**2024 TURFGRASS PLOT WALK
AND SPRAYER CALIBRATION**

October 18th, 2024
4:00:00 PM to 5:30 PM Newark, De

Registration Link:

<https://udel.ungerboeck.net/prod/emc00/PublicSignIn.aspx?&aat=35596e6756313169315161334577736776373151554d5477446b6668334153423072716c5a642fd6164673d>

Contact Jremer@udel.edu for further information

**UD BIOFUMIGANT MUSTARDS
FIELD DAY**

Wednesday, October 29th, 2024,
3:00-6:00 p.m.
University of Delaware
Carvel Research and Education Center
16483 County Seat Highway, Georgetown, DE
19947

Join University of Delaware Extension Specialists as we discuss recent research exploring the use of biofumigant mustard crops. Discussion will include fall v. spring planting, optimal planting dates, nitrogen studies, and disease control. Live demonstrations will show the steps necessary for terminating and incorporating biofumigant crops to maximize the release of glucosinolates, the compounds that break down to have activity in controlling pathogens.

Presenters:

Emmalea Ernest, Extension Vegetable & Fruit Specialist

Jarrold Miller, Extension Agronomist
Alyssa Betts, Extension Plant Pathologist
Shiv Singla, PhD student

Topics include; variety assessment, planting date options, nitrogen rates and fertility management, integrating biofumigant planting before a cover crop system, nematode control, Phytophthora control.

Please call 302-831-3328 or email adams@udel.edu to register by Oct 22. Registrations after this date will not be guaranteed a boxed dinner.

Delaware Grain Marketing Club Meeting

Thursday, October 30th, 2024,
6:00-8:00 p.m.

University of Delaware
Carvel Research and Education Center
16483 County Seat Highway, Georgetown, DE
19947

The last 2024 Grain Marketing Club meeting will be on October 30th at the Carvel Research and Education Center in Georgetown. Jody Lawrence from Strategic Trading Advisors / Helena Agri-Enterprises will discuss markets. Jody provides commentary to a grain marketing letter that is received by 3500 recipients in 31 states. Jody has been working with Helena since 2002 and provides the newsletter to Helena customers and speaks at national meetings. A Mission BBQ dinner will be provided at the event.

To register, please contact Lisa Collins.

E: lcollins@udel.edu

P: 302-831-3402

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

Mid-Atlantic Crop Management School



Credit Opportunity Available for Carvel Field Day Online Activity

Recordings of the Agronomic Crop and Fruit and Vegetable Tours held at Carvel on August 7, 2024, are now available along with an opportunity to earn credits by watching the videos.

<https://www.udel.edu/academics/colleges/canr/carvel/current-research/2024-field-crop-tours/>

Each tour contains five videos representing the stops on each tour. To obtain credit for a full tour, all five videos for that tour must be viewed. Viewers are required to submit the two keywords that appear randomly in each video (a total of 10 keywords per tour). Keywords will appear as closed captions for approximately 10 seconds. **The opportunity to earn credits will expire on December 31, 2024.** Visitors may earn credits for one or both tours. Use the google document from the link above to submit for credits.

Please verify your credits have been received by contacting Karen Adams, adams@udel.edu after **January 3, 2025.**

Watermelon and Pumpkin Grower Biofumigation Study Survey Online Activity

Watermelon and pumpkin growers, we are seeking survey responses to evaluate your familiarity with using biofumigation to reduce phytophthora and root-knot nematodes in these crops. We would like to hear about your experiences with this topic. The survey should take no more than five minutes to complete. Here is the link to the survey:

https://delaware.ca1.qualtrics.com/jfe/form/SV_02i7KXdpzDhbgS

Contact Nate Bruce at nsbruce@udel.edu or 302-362-7616 if you have any questions.

Grain Marketing Producer Survey Online Activity

Grain marketers, the University of Delaware, in collaboration with the Universities of Kentucky and Nebraska Lincoln, seeks your input on how you make grain marketing decisions on your own operation. The survey will help inform us to understand the risks and factors involved in making these decisions. In addition, data will be used to help us refine outreach education on grain marketing. Your individual survey responses will remain confidential as data will be aggregated. The survey will take 10 minutes or less to complete. Below is both a link to the survey and a QR code.

Link to Qualtrics survey:

https://delaware.ca1.qualtrics.com/jfe/form/SV_0JpiRk4gHsN2yHQ

QR Code:



Contact Nate Bruce at nsbruce@udel.edu or 302-362-7616 if you have any questions.

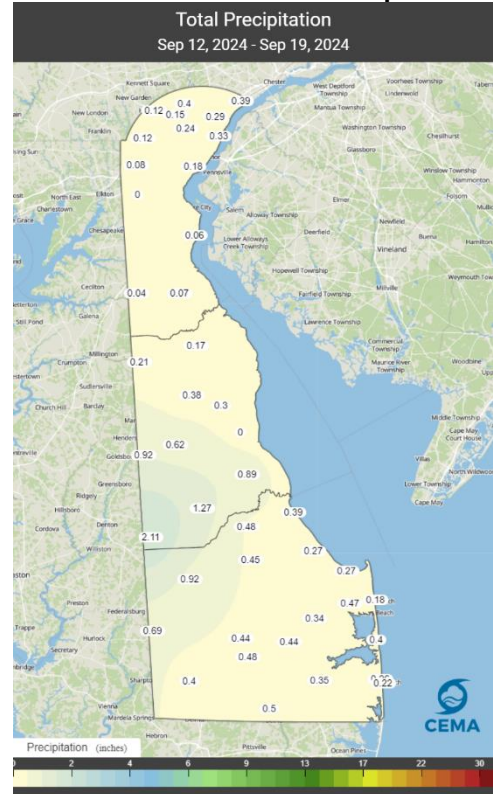
Maryland Pesticide Disposal Program

Maryland Department of Agriculture Pesticide Regulation Section is sponsoring a Pesticide Disposal Program. Registrations are available now and can be obtained by contacting their office at 410-841-5710 or on the website at <https://mda.maryland.gov/plants-pests/Pages/Pesticide-Disposal-Program.aspx>.

This program is FREE to all ag producers on a first-come, first-served basis. Commercial pest control businesses and applicators, including public agencies generally cannot participate. Limited space may be available

Weather Summary

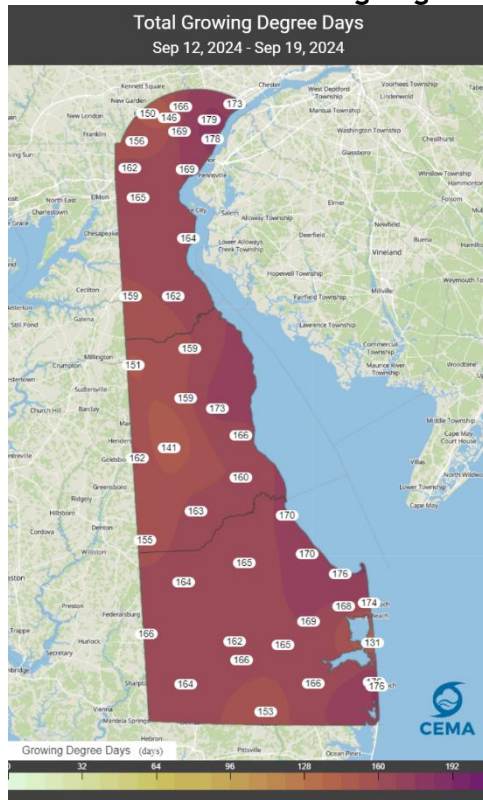
1 Week Accumulated Precipitation



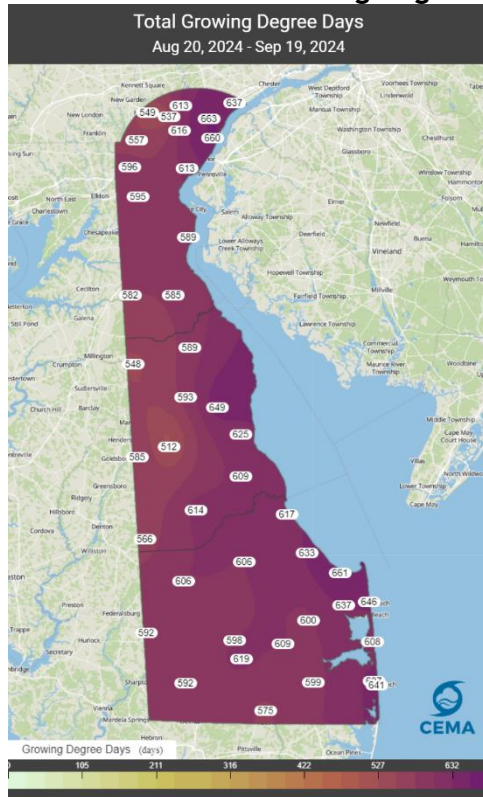
1 Month Accumulated Precipitation



1 Week Accumulated Growing Degree Days



1 Month Accumulated Growing Degree Days



Weekly Crop Update is compiled and edited by Emmalea Ernest - Extension Fruit & Vegetable Specialist, Drew Harris - Kent Co. Ag Agent and Lyndsie Mikkelsen - Fruit and Vegetable Agent

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