

WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

Volume 33, Issue 6

April 18, 2025

Vegetable Crops

Vegetable Insect Scouting

David Owens, Extension Entomologist,
owensd@udel.edu

Cole Crops

Continue scouting young broccoli, cabbage, and napa cabbage for worms and for flea beetles. The threshold for young plants is a 20% infestation. When plants are young and when caterpillars are young, Bt. should provide excellent control. Flea beetles are typically an early spring, cool weather pest. Thresholds are 1 beetle per transplant or 5 per 10 plants during cotyledon/first leaf stages. There are several effective products for flea beetles, most of which have cross-efficacy with other cole crop pests. Pyrethroids, Torac, and Verimark have activity on cabbage maggot, which should be active now. Those three products are also effective on cabbage whites, and Torac and Verimark are effective on diamondback moth (assuming your local population is not resistant to them).

Asparagus

Scout asparagus for asparagus beetle activity, especially with warm weather allowing beetles to be active. The threshold is 10% spears with beetles or 1-2% of spears with eggs.

Potatoes

Begin scouting potatoes for Colorado potato beetle, especially if near a previous planting.

Beetles can fly once the temperatures approach the upper 70's and low 80's, which we will get for the first time this weekend.

Greenhouses

Scout transplants for signs of mite and aphid activity. To look for mites, look for small stippling marks on the upper surface of the leaves indicating the potential presence of mites on the underside. Treat the plants while they are hardening off but before transplant. Its easier to treat when on a wagon then when in a large field. For aphids, I like to get on my knees and look up on a sunny day. Aphids generally settle on the underside of leaves, and looking through them will backlight the aphid making them easier to spot.

Snap Beans

Snap bean planting is right around the corner. If tilling a field, and ESPECIALLY if incorporating any organic matter (cover crop, heavy residue, poultry manure), make sure there is an insecticide seed treatment. If not and you have the ability to put something in-furrow, bifenthrin can aid in seedcorn maggot suppression.

Insect Trapping

If you would like to see the hotline brought back, please let us know: owensd@udel.edu or carvelent@gmail.com. Hotline messages would be restricted to 90 seconds, which is just enough time to relay trap counts and maybe a couple of other quick notes.

Harden Transplants for More Successful Establishment

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

Cool season vegetables like cole crops and lettuce have been transplanted into the field and the first warm season crops will go into the field soon. As you prepare to transplant, don't skip the step of acclimating transplants to outdoor conditions before planting them in the field, commonly known as "hardening off".

Every year, spring brings erratic weather with huge swings in temperatures, light levels and humidity. Transplants that have been growing in a controlled greenhouse environment are not ready to thrive in these conditions. Transplants should be placed in a semi-protected outdoor space for a week before being planted in the field. Suitable locations include a porch or pavilion, or an area with a building blocking prevailing winds and providing some shade. Limiting water and fertilizer during hardening will also help transplants acclimate to field conditions.

The hardening process will:

- Allow plants to build up the waxy cuticle layer on their leaves to keep them from drying out under dry or windy conditions.
- Acclimate leaves to higher light conditions to prevent sunburn.
- Slow growth and control transplant height.



These broccoli transplants were being hardened off. Plants in the center were a variety that didn't root in as quickly as the others and wilted when exposed to wind.

Transplants that are hardening should be moved into a greenhouse or shed if freezing temperatures, thunderstorms or high winds are expected. Placing transplants on a wagon for hardening will facilitate this. As conditions become more favorable for establishment later in the growing season, hardening is not as crucial, but can still be important, especially if light conditions in the transplant production area are different than the field (i.e. shade cloth is being used on the greenhouse).

Fruit Crops

Fruit Crop Insect Scouting

David Owens, Extension Entomologist, owensd@udel.edu

Plum Curculio

Plum curculio has been active. If you have had problems with them in the past, consider scouting for them and treating for them at peach shuck split. Branches can be jarred and jostled over a white sheet to knock beetles off. This may have the added advantage of dislodging stink bugs which can also be a significant pest of small fruit. If you treat for plum curculio, Avaunt is a good material that is also active on worms, but it needs to be ingested. The neonicotinoids are also extremely effective, but have anti-feedant properties, thus they should be used after Avaunt (or Avaunt should not be used after neonics). Organophosphate insecticides and Neonics can destroy larvae already present in fruit.

There are several other materials that have efficacy on plum curculio but are probably best used when targeting other pests. These (and the above notes) are discussed in great detail in this Michigan State University article:

https://www.canr.msu.edu/news/effectively_controlling_plum_curculio_in_stone_and_pome_fruits.

San Jose Scale

Apples began blooming a week to a week and a half ago. In years past, this would be when we would have caught our first San Jose Scale in

pheromone trap. This year, we do not have any San Jose Scale pheromone traps out. If you had the red spots indicative of scale feeding on the fruit, or if you see large numbers of scale on the branches, you may want to consider scale management later this spring, especially if they were not treated with dormant oil before now. The pheromone traps help kick off a degree day model for timing when crawlers should be active. Using a base temperature of 51F, maximum temperature limit of 90F, and a hypothetical start date of April 15, crawlers should be active in 600-700 degree days. You can use NEWA's weather tools to easily calculate and forecast the degree day target:

<https://newa.cornell.edu/crop-and-pest-management/>

Agronomic Crops

Agronomic Crop Insect Scouting

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

Alfalfa

Small larvae are still present in alfalfa from spring eggs. Alfalfa is growing well now, so check its height and compare your counts per 30 stems with the threshold table found in the UD Alfalfa Weevil fact sheet.

Small Grains

A report came in yesterday of a scout finding their first armyworm in a sweep net. True armyworm puts its first generation in grasses. It is normal to find a few, it would be unusual to find large numbers, but that only highlights the value of scouting for them. You can find good guidance on managing armyworm and sawfly in barley and wheat here:

https://www.udel.edu/content/dam/udelImage/s/canr/pdfs/extension/sustainable-agriculture/pest-management/Insect_Control_in_Small_Grains_2020.pdf.

Slug Scouting Update

We continue to encounter very few slugs in the fields we are monitoring. We deployed shingles

in an additional five fields this week hoping to find some. Ironically, I found my first gray garden slug and my first leopard slugs of the season hanging out by a greenhouse where I was plugging a blacklight trap in, nowhere near a soybean field.

Early Season Moth Activity

Many thanks to Haley Sater and Joanne Whalen for checking traps for us. Moth activity decreased this week on account of cold nighttime temperatures. Trap counts are down considerably this past week compared to last week's report on account of cool and wet weather. Trap counts are as follows:

Location	# nights	True Armyworm	Black Cutworm
Salisbury, MD	7	7	9
Laurel, DE	8	16	10
Seaford, DE	8	22	7
Harrington, DE	8	---	13
Suddlersville, MD	7	7	13
Smyrna, DE	8	111	14
Middletown, DE	8	4	0

Small Grains Disease Updates

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

Barley heading is getting close, and wheat is approaching flag leaf. We are currently at low risk across most of the state and medium risk along coastal Sussex in the Fusarium Risk Tool (Figure 1). The next few days are dry, but we will need to keep an eye on the rains forecasted for the end of next week. Barley starts flowering prior to heading, while wheat usually starts to flower after heading out. Look for yellow anthers in the center of the wheat head to signal the start of flowering (Figure 2). Weather can impact how many days from when heads become visible until flowering begins. Some years it may be 3-4 days while others I have waited 10-11 days. Once wheat is flowering, fungicides are

most effective when applied within 4-5-days. For best mycotoxin (DON) control, it is better to be at flowering or a few days beyond, than to spray too early when heads are not out yet. Anthers can remain attached after flowering but become a pale white. Fungicide products should be applied at the manufacturers recommended rate with nozzles angled 30-45° from horizontal (30 degrees is better than 45). Nozzles angled both forward and backward or twinjet nozzles that spray in two directions give better contact with the head and increase fungicide efficacy. For ground sprays, fungicides should be applied in at least 10-15 gallons of water per acre; aerial applications are recommended at 5 gallons per acre.

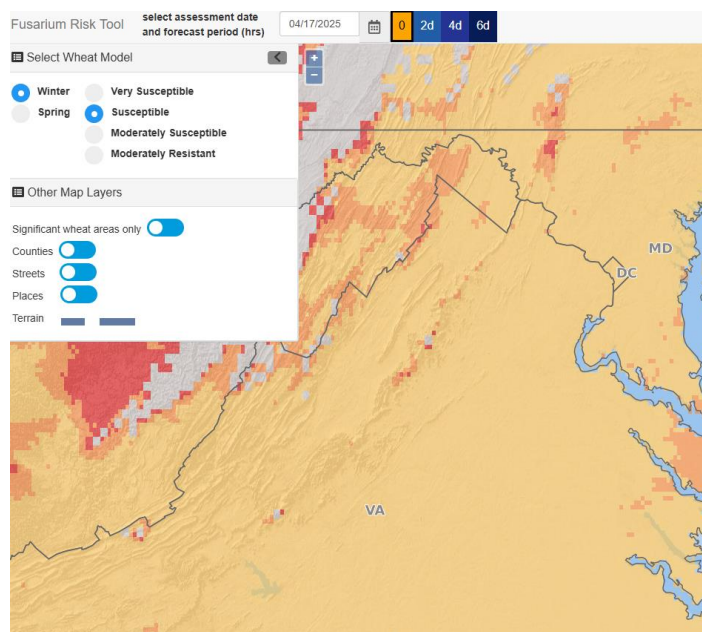


Figure 1. FHB Risk Model for April 17, 2025 (wheatcab.psu.edu)



Figure 2. Wheat at flowering (Feekes 10.5.1) with yellow anthers visible

General

Brown Lacewings Voracious Aphid Predators In Field & Greenhouse

Veronica Yurchak, Vegetable Specialist, UMD;
vjohnso4@umd.edu



BENEFICIAL BUG SPOTLIGHT

The goal of this series is to increase awareness and knowledge of insect natural enemies in cropping systems and to help differentiate these

beneficial insects from pests of concern. This week's feature predator is the brown lacewing. Brown lacewing adults (Figure 1) have been active in crop fields and non-crop areas across the Delmarva region for a few weeks now. Overwintering as large larvae or pupae, brown lacewing adults started to emerge as temperatures began to increase in early Spring. These adults will live for several months, and during this time, they will lay several hundred eggs and prey on a diversity of small, soft-bodied insects. As active predators with voracious appetites and a strong preference for aphids, the adult female lacewings even take the time to search crop fields for the odors of excreted honeydew to find aphid infested areas to lay their eggs (Figure 2). By doing this, they ensure their offspring are provided with a readily available food source immediately after hatching. With their prominent, hook-shaped mouthparts, lacewing larvae resemble tiny alligators (Figure 2) and can consume up to 200 aphids per week, earning them the nickname aphid lions. After developing through two larval stages, these aphid lions then construct a small silken cocoon on the surface of a leaf (Figure 2), transform into a pupa, and ultimately emerge as a new winged adult.



Figure 1. Brown lacewing adult

Brown lacewings can be found in almost any cropping system and are most active at night and during overcast conditions. They can also be purchased commercially and released to help reduce pest populations. For this reason, they are especially important biological control

agents in greenhouses where the use of pesticides is often not preferred and naturally occurring predator populations are typically nonexistent. Of all commercially available insect predators, the brown lacewing may be the most voracious and have the greatest versatility for pests of various fruit and vegetable crops. Compared to the closely related green lacewing which feeds primarily on nectar, pollen, and honeydew as an adult, brown lacewings will continue to prey on pests throughout their adult life cycle. Altogether, the brown lacewing's propensity for aphids and secondary willingness to prey on a wide variety of other small insect pests makes them valuable contributors to natural pest management in numerous crops and production systems.



Figure 2. Brown lacewing egg (left), larva (center), and pupae (right).

Announcements

Category (03) Pesticide Pre-exam Training
 April 16, May 14, and June 11 from 9am-12pm
 69 Transportation Circle Dover DE
<https://udel.edu/0013039>

Produce Safety Rule Agricultural Water Assessments Workshop
 April 25, 2025
 9:00AM-4:00 PM
 Wye Research and Education Center 124 Wye Narrows Drive
 Queenstown, MD 21658

This workshop will help growers understand the recent changes to the Produce Safety Rule (PSR) Subpart E Agricultural Water Assessment

requirements, how to properly evaluate risks and hazards, and how to comply with the Federal requirements. It will also provide a tour of the Wye Research Farm to practice water source assessments at different types of water sources and a discussion comparing requirements under Good Agricultural Practices (GAP), audit standards, and the PSR standards.

Attendees will receive a certificate of workshop completion for their records from the Produce Safety Alliance (PSA).

Event Registration:

<https://www.eventbrite.com/e/produce-safety-rule-agricultural-water-assessments-workshop-tickets-1276550830899?aff=oddtcreator>

*The \$ 20 registration fee is to cover expense for light breakfast and lunch for attendees.

Additional questions contact: Jennifer Jones
jbjones@udel.edu or 302-856-7303

Produce Safety Alliance Training

April 29, 2025

8:00 AM- 4:30PM

Delaware Department of Agriculture 2320 S
Dupont Highway Dover DE 19901

Topics will include:

Introduction to Produce Safety

Worker Health, Hygiene, and Training

Soil Amendments

Wildlife, Domesticated Animals, and Land Use

Agricultural Water (Part I: Production Water;
Part II: Postharvest Water)

Postharvest Handling and Sanitation

How to Develop a Farm Food Safety Plan

Who Should Attend:

Fruit and vegetable growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety. The PSA Grower Training Course is one way to satisfy the FSMA Produce Safety Rule

requirement outlined in § 112.22(c) that requires ‘At least one supervisor or responsible party for your farm must have successfully completed food safety training at least equivalent to that received under standardized curriculum recognized as adequate by the Food and Drug Administration.’

**Any attendee who does not participate for the duration of the course will not be eligible for certification.*

Event Registration:

<https://www.eventbrite.com/e/produce-safety-alliance-grower-training-tickets-1308158741009>

April 22nd is the registration deadline

Please contact for questions: Jennifer Jones at
jbjones@udel.edu or 302-856-73

Reminder for Paraquat Training

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

Paraquat requires training for applicators, mixers, and handlers. Training certificates need to be updated every three years. This training is free and is available on-line at <https://npsec.us/paraquat>. Do not let your certificates become out of date.

The AI-CLIMATE Institute invites you to join a focus group led by researchers at Cornell University.

We are looking for farmers and foresters to share their insights on using precision tools and AI to help address climate challenges in agriculture.

Your views and experiences are essential to shaping a more inclusive and sustainable future!

Participants will receive a \$20 gift card.

What is the AI-CLIMATE Institute? AI-CLIMATE is a joint effort of the University of Minnesota, Colorado State University, Cornell University, Delaware State, NC State, and Purdue. We’re working to combine knowledge from agriculture and forestry sciences with unique new methods

in artificial intelligence (AI), curb the effects of climate change, and lift rural economies.

Where: Zoom

When: Anytime in April

Time Commitment: 1.5 hours

Scan the QR code or fill out this [form](#) to express your interest!



https://cornell.ca1.qualtrics.com/jfe/form/SV_3rDPKseqccaYXpY

Linking Agriculture and Aquaculture Farm Vitality and Health

June 3, 2025

9:00AM-4:30PM

Delaware Agriculture Museum

Delaware Cooperative Extension and other co-sponsoring organizations invite stakeholders from various community sectors to learn about the challenges confronting Delaware's land and sea farming communities and share resources that address these challenges.

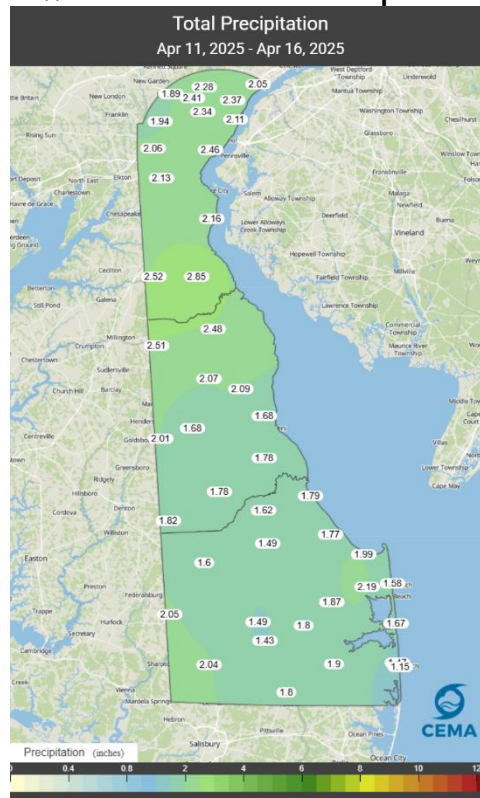
Using a Strategic Doing process Big Easy Ideas will be created for a variety of topics that will be implemented by participants over the next few months after the forum. Come collaborate to address issues of concern for you or your clientele.

Event Details here:

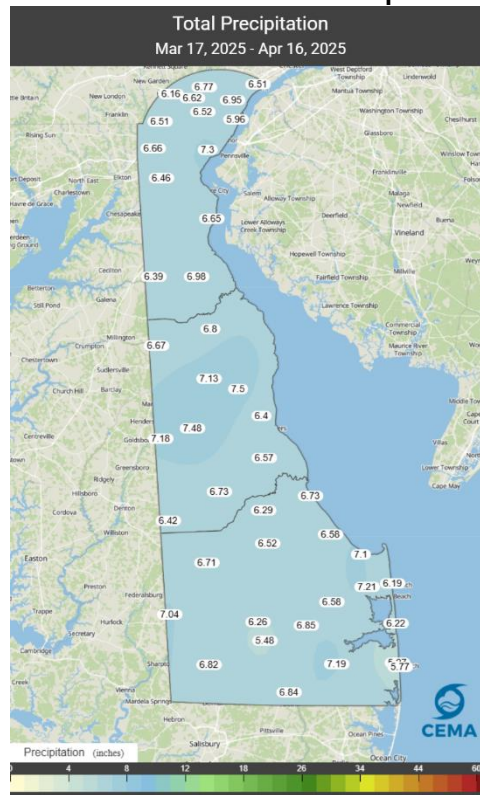
<https://events.udel.edu/event/linking-agriculture-and-aquaculture-vitality-and-health-forum>

Weather Summary

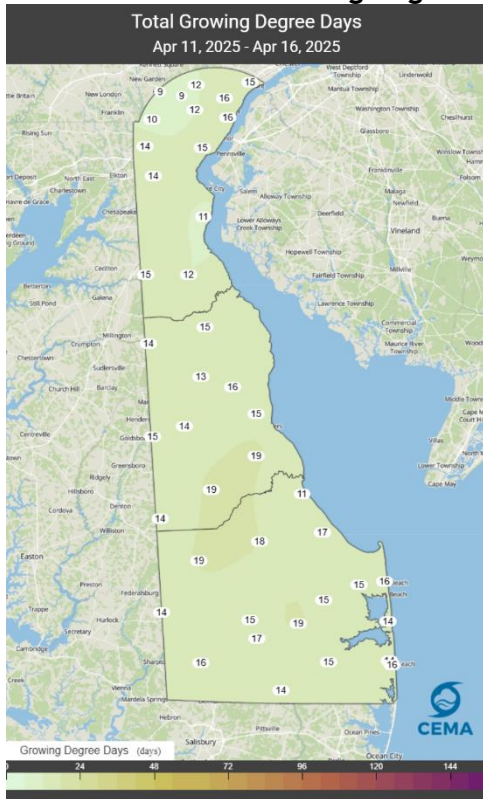
1 Week Accumulated Precipitation



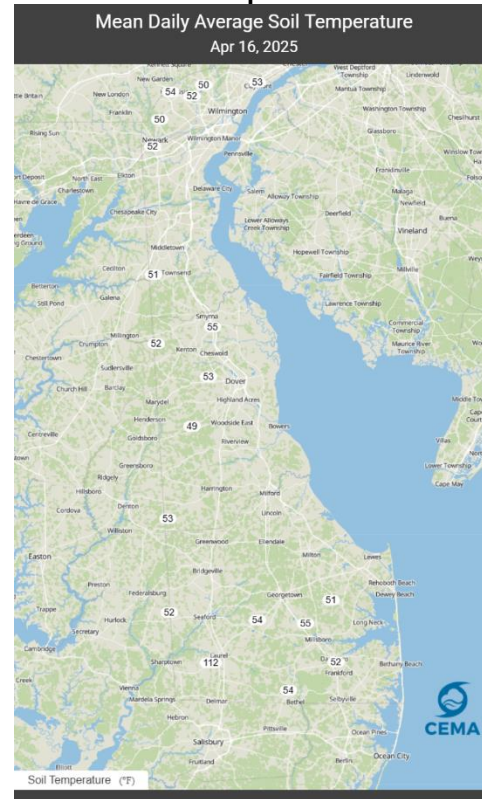
1 Month Accumulated Precipitation



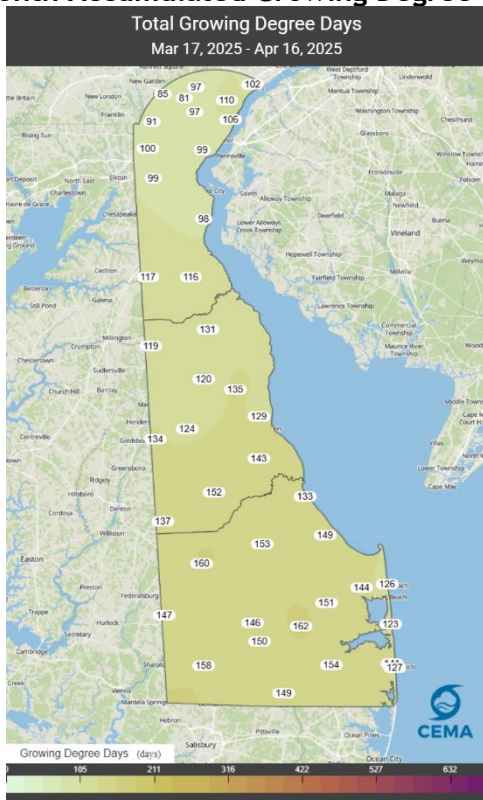
1 Week Accumulated Growing Degree Days



Current Soil Temperatures



1 Month Accumulated Growing Degree Days



Weekly Crop Update is compiled and edited by Drew Harris - Kent Co. Ag Agent and Lyndsie Mikkelsen - Fruit and Vegetable Agent 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. Reference to commercial products or trade names does not imply endorsement by University of Delaware Cooperative Extension or bias against those not mentioned.