

# WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE  
COOPERATIVE  
EXTENSION

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## Last Weekly Issue of WCU for 2023

This is the last weekly issue of Weekly Crop Update for the 2023 season. Throughout the season, I trust this proved to be a valuable tool and provided the necessary information to address issues or improved other aspects of your operation.

There will be a monthly update to WCU Blog with notes, articles, and announcements from October through February. Notification of the monthly updates will be sent to email subscribers.

Thank you to the Extension specialists, agents, and other contributors that have made this newsletter the tremendous success it has been this season. If it wasn't for their insight and knowledge this would not be the valuable resource that it is. If there were WCU articles that were beneficial and specifically helped you throughout the season I hope you will let the writer know. Our thanks as well to Karen Adams, who gets WCU to mail subscribers.

Kind regards,

Emmalea Ernest and Drew Harris, WCU Editors  
wcueditors@udel.edu

## Announcements

### **Register for the 2023 Mid-Atlantic Crop Management School**

November 14-16, 2023

Princess Royale Oceanfront Resort, Ocean City, MD

The registration for 2023 Mid-Atlantic Crop Management School is live! Registration is through Eventbrite this year and all information about the event, including program booklet and registration link, can be found here: <https://bit.ly/MidAtlanticCropSchool>. New for 2023 the Mid-Atlantic CCA Board will be hosting an off-site evening reception on Tuesday November 15th. Please register for this limited seating reception when you register for the event.

### **Farmland Rental Rate Study**

*Nate Bruce, Farm Business Management Specialist, [nsbruce@udel.edu](mailto:nsbruce@udel.edu)*

University of Delaware Cooperative Extension is conducting a farmland rental rate survey. The purpose of this project is to evaluate various farmland rental rates and how they impact a farming operations ability to cash flow. You must fill out the survey for each farm that is rented. Land that is owned, does not need to be included in the survey. Your local county agent can assist you in filling out the survey. Your response to the survey is greatly appreciated.

Each individual response to this survey will not be shared to anyone in the public and kept private. If you have any questions about this project or survey, feel free to contact Nate Bruce at [nsbruce@gmail.com](mailto:nsbruce@gmail.com). Below is a URL link and QR code to the survey.

Survey URL:

<https://survey123.arcgis.com/share/c5fa508a182044359393b2a5e5251c47>

Survey QR Code:



## Vegetable Crops

### Vegetable Crop Insect Scouting

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

#### **Cole crops**

Cabbage aphid populations are increasing. Imported cabbageworm is very active, along with lower populations of many other cabbage pests. We even had a cutworm destroy the growing point in one of our plot plants. Thresholds for cupping cabbage decrease. Products with systemic activity are going to be every important now as coverage may be increasingly difficult. Consult the MidAtlantic Vegetable Recommendations Guide for products that have both worm and aphid efficacy if you need to control both.

#### **Spinach and Beets**

Continue scouting for beet webworm. Moth activity is still very high. Look for windowpaning on leaves or rolled and folded sections of leaves.

#### **Sweet Corn Addendum**

Many thanks also are due to Nick Adams, New Castle County Ag Agent for checking the Middletown trap and to all cooperators and stakeholders that allowed us to steal electricity to operate our blacklights.

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### 2023 Vegetable Research Photo Retrospective

*Emmalea Ernest, Extension Fruit & Vegetable Specialist;* [emmalea@udel.edu](mailto:emmalea@udel.edu)

Many of my 2023 field research projects are completed and over the next few months I will be preparing trial reports and presentations for winter meetings. I look forward to sharing some interesting and useful results during the Fruit and Vegetable Growers Association of Delaware's educational meetings during Ag Week. The Fruit Session will be on Monday, January 8, the General and Fresh Market sessions will be on January 9, and the Processing Session will be January 10. In the meantime, I am sharing some photos from this past season's trials. Thank you to the Carvel farm crew and the Veggie Team



(seasonal employees Austin Truitt, Ketsia Murat, Lily Hearn, Paige Sammons, Arely Arriaga-Gonzalez and Mya Jones, and technician Rob Hanifin.)



E Ernest, University of Delaware

About 130 experimental baby lima varieties from the UD lima breeding program were tested for yield, maturity and quality characteristics. About 50 varieties were also tested to determine yield under root-knot nematode pressure.



E Ernest, University of Delaware

Heat tolerant lettuce varieties performed well in summer plantings. Other trials tested effects of mulch color and shade cloth.



E Ernest, University of Delaware



We evaluated yield and quality for ten watermelon varieties, many of which were new to the trial.



Twenty-eight Fordhook type limas from the UD breeding program were tested for yield, maturity and quality traits.



Some varieties in the snow and snap pea trial produced beautiful flowers and impressive quality pods.



Experimental pole limas from the UD breeding program were tested at the research farm and with seven farmers.



Two snap bean trials were a great test of heat tolerance. One very wet harvest day was a good test of grit for the Veggie Team.



# Fruit Crops

## Fruit Crop Insect Scouting

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

### Spider Mites

Make sure to periodically scout new strawberry transplants between now and row cover placement for spider mites. Thresholds are around 5 per leaflet. Cyclamen mites are also a potential, if uncommon, threat. Cyclamen mites feed on the crowns and youngest tissue. They are small and require at least a 20x magnification.

# Agronomic Crops

## Agronomic Crop Insect Scouting

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

### Small Grains

Once small grains are planted, begin scouting them for aphids up until cold weather sets in. Last year, aphids remained active up until December, and then because of unusually warm January and February aphid populations increased extremely rapidly. We also had unusually high barley yellow dwarf virus incidence last year. BYDV is unpredictable, and because we had it last year does not necessarily mean we will see much of it this year. Southern states use a threshold of 2-3 aphids per row foot at seedling, 6 per row foot 30-60 days after planting. North Carolina uses a threshold of 20 aphids per row foot when cold weather is not in the forecast. Small grains planted after the Hessian Fly-free date are at lower risk of high aphid colonization. Historically, fly free dates ranged from October 3 (New Castle) to October 10 (Sussex). If, however, we have a late fall, aphids will remain active long after the fly free date. Small grains treated with an insecticide should be protected from 3-9 weeks. If aphid counts are approaching concerning levels in the fall, pyrethroids, neonicotinoids (for barley), and Sivanto are all very effective options.

### Soybeans

We received a call earlier this week of high green stink bug counts in a field of late soybean. At early R6 stages, thresholds are around 5 per 15 sweeps, but they start increasing as the field moves through R6 to R7. Some states use a threshold of 7 bugs per 15 sweeps at R6.5 when seeds begin separating in the pods, and closer to 10 bugs per 15 sweeps at the beginning of R7. At this point, they are more of a quality concern than as much of a yield concern. If you encounter a large number of stink bugs, be sure to sweep the whole field and take a field average. Often, stink bugs will aggregate and sometimes aggregations can be very intense but small. Other times, they will be present near a woodline but not extend too much more than 100-150 feet into the field.

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## Effects of Cover Crops and Nitrogen Rates on Corn Yields

Jarrold O. Miller, Extension Agronomist,  
[jarrod@udel.edu](mailto:jarrod@udel.edu)

**Quick summary:** *When available soil N is lower, rye cover crops may occasionally reduce yields while clover cover crops may occasionally improve yields. At adequate fertilizer levels, yields are not affected by cover crops on sandy, Delaware soils.*

As part of the Precision Sustainable Agriculture network (<https://www.precisionsustainableag.org/>), a study was deployed across multiple states to examine the nitrogen (N) cycling that occurs with cover crops. Plots of rye, clover, and a rye-clover mix were seeded each fall over three years (2020-2023). In the spring, plots were terminated two weeks prior to corn planting and then sidedressed to reach total N rates between **zero to 320 lbs N/acre**. The visual response of the variable N-rates can be observed in Figure 1.



**Figure 1.** Corn nitrogen rate trials following cover crops in Georgetown, DE in the summer of 2023.

During the first year of the project, the multi-state PSA network observed that when no fertilizer was applied (0 lbs N/acre), the corn yielded less following mix or rye cover crops, but yield was similar across all cover crops with high N rates. At our study site in Georgetown, DE, results varied each year (Figure 2), as our soils are sandy with 1% organic matter and are often lacking residual N. Under irrigation, individual plot yields could be as high as 250 bushels, but the highest N-rates would only average around 200 bushels across all plots (Figure 2).

On our sandy soils in 2021, we had no differences among cover crop types, but were also missing our 0 N-rate treatment (Figure 2a). Although not statistically significant, the no-cover control and rye plots did trend lower in yield when fertilizer rates were less than 250 lbs N. Applying 320 lbs of N produced the highest yields in control and rye plots, while clover and mixed plots only need 240 lbs of N. This is based on treatment values, and not agronomic or economic maximum N derived from calculated plateaus.

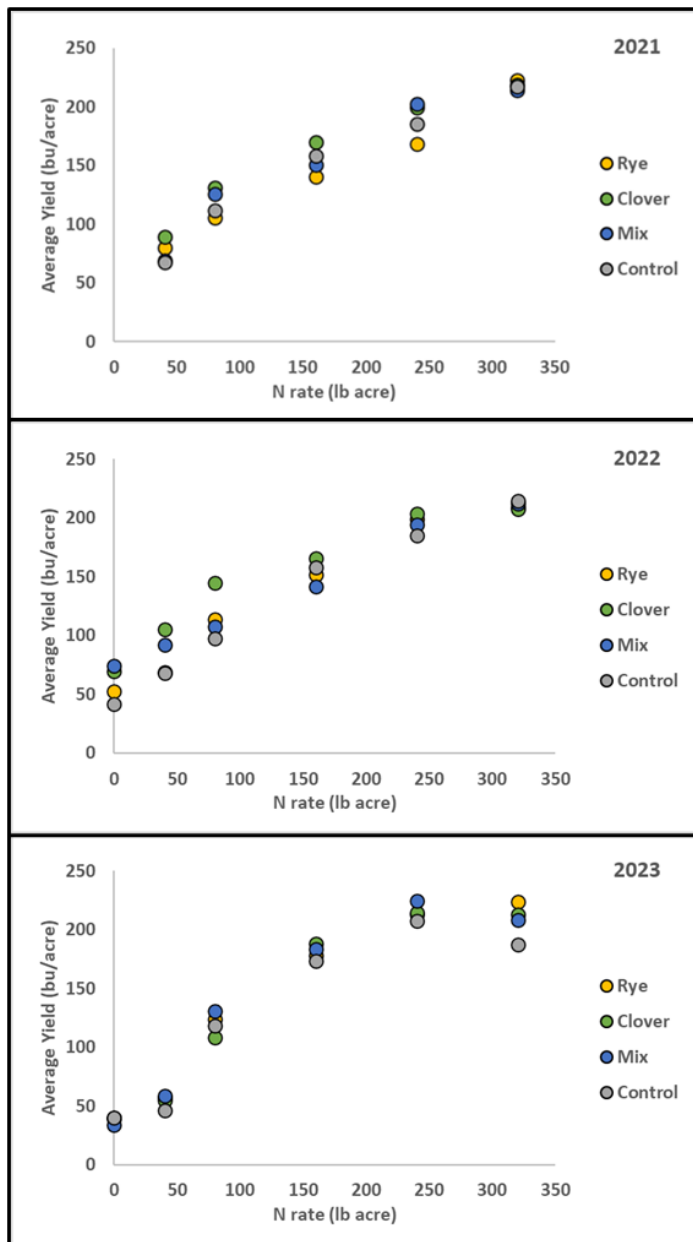
Following expected annual variability in weather and fields, 2022 had different trends (Figure 2b). We did observe differences by cover crop types, with clover and mixes producing greater yields between 0 to 80 lbs of N/acre. Above that rate,

cover crop type didn't matter. Only the control plots needed the maximum rate of 340 lbs, while all cover crop plots were similar at 240 lbs N/acre.

In 2023 (Figure 2c) we observed no differences by cover crop type, although the control plots again trended lower in yields (grey points). For all plots, a rate of 240 lbs of N would be sufficient to reach maximum yields.

As is typical in crop production, response to management varies each season. While rye may contribute to tying up N, it didn't occur every year and was more of an issue with very low N-rates. Similarly, clover can contribute to N, but this may be most beneficial when N is lacking in the soil or leaching has removed starter or sidedressed N. Nationwide recommendations from the PSA network should be forthcoming for both corn and cotton.

This research was funded by a USDA-AFRI Sustainable Agricultural Systems grant.



**Figure 2.** Corn yields based on N-rates and cover crop type in a) 2021, b) 2022, and c) 2023. Control = no cover crop.

### Monthly Grain Market Outlook

Nate Bruce, Farm Business Management Specialist, [nsbruce@udel.edu](mailto:nsbruce@udel.edu)

New corn prices traded in the \$4.70 to \$5.00 per bushel range throughout the month of September. December corn rallied in the second half of the month after trading in the \$4.75 range, increasing by over \$0.10 per bushel. Corn harvest is well underway, and yields have been

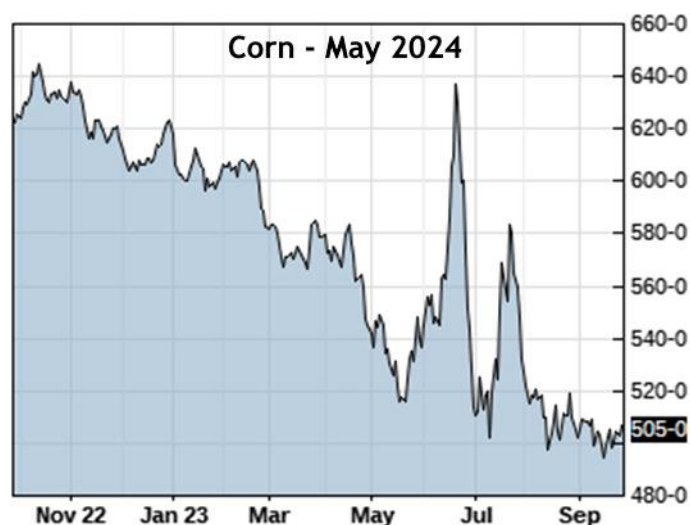
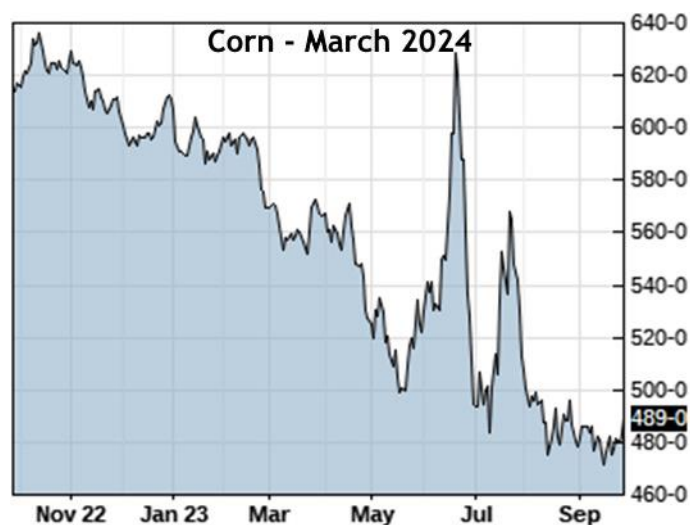
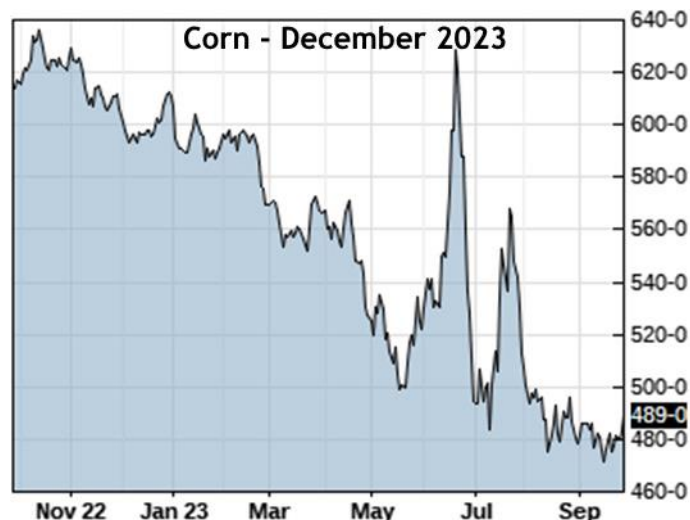
what was expected thus far, particularly in the eastern Corn Belt. Western Corn Belt yields have underperformed, but it is still early. The bottom in corn prices might be close as many commercial companies started buying back their short positions throughout the month of September. Soybean prices were in retreat throughout the month of September, trading at the lowest levels since December 2021. Soybean prices were bullish coming into the September, trading above \$14.00 per bushel. The margin for error on soybeans is still very tight with only a marginal carryover, however, bullish markets need bullish news to continue, and the opposite has occurred recently. Early harvested soybean acres show higher than expected yields in the eastern Corn Belt. In the western corn belt, yields have been highly variable. Yields in the next two weeks will tell the true story. Wheat prices were volatile over the course of the month, with July 24 Wheat (ZWN24) trading in the \$6.20 to \$6.60 range. The wheat market has been extremely challenging to navigate as downtrends continue to occur when the market appears to reach a bottom.

The September USDA World Agriculture Supply and Demand Estimates Report (WASDE) estimated corn ending stocks increasing by .86% from the August 2023/24 outlook estimate from 2,202 million bushels to 2,221 million bushels. Beginning stocks for corn decreased slightly from 1,457 million bushels to 1,452 million bushels. The September USDA WASDE report increased production and supply from the August estimate. Corn demand remained unchanged from the August estimate. The corn season-average farm price per bushel remained unchanged at \$4.90 per bushel. The USDA WASDE estimated soybean ending stocks decreasing by 10.20% from the August 2023/24 estimate from 245 million bushels to 220 million bushels. The USDA WASDE report estimated decreased beginning stocks from the August 2023/24 outlook estimate increasing from 260 million bushels to 250 million bushels. Supply decreased in the September WASDE with reductions in both production and beginning stocks. The September estimate slightly reduced the bushel yield

harvested per acre from 50.9 bushels to 50.1 bushels. Soybean demand decreased in the September estimate as well, with reductions in crushing demand and export demand. The soybean season-average farm price per bushel increased again from \$12.70 per bushel to \$12.90, due primarily to decreased estimated production. The September USDA World WASDE estimated wheat ending stocks remaining the same at 615 million bushels. Wheat demand and supply remained unchanged from the August estimate. The average farm price per bushel also remained unchanged at \$7.50 per bushel. The next USDA WASDE report will be released on Thursday November 9<sup>th</sup>.

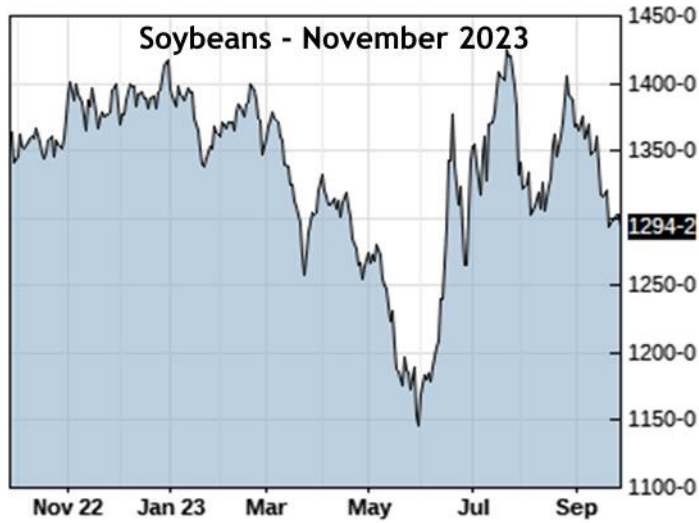
In international grain market news, Russia continues to attack vital Ukrainian grain export infrastructure since terminating the Black Sea grain corridor agreement. Several grain export facilities in the major Black Sea port of Odessa were destroyed these attacks. The United States and the European Union are assisting Ukraine in finding alternative grain export routes through Romania and Moldova to avoid drastic impacts on global food supplies. The European Union trade commissioner seeks working with China to help restart the Black Sea grain deal. China formerly received a quarter of the overall grain exported under the Black Sea corridor agreement. Brazil's corn and soybean exports in September well surpassed levels a year ago with the country shipping 5.30 million tons of soybeans and 7.28 million tons of corn. The soybean planting window is fast approaching in Brazil but could be delayed as the forecast for the next two weeks is hot and limited showers. A delayed planting could result in a delayed harvest, impacting the planting of the Brazilian second corn crop (safrinha corn). Safrinha corn accounts for 75% of the total corn production in Brazil and yields could be underwhelming if planted late.

## Corn Futures

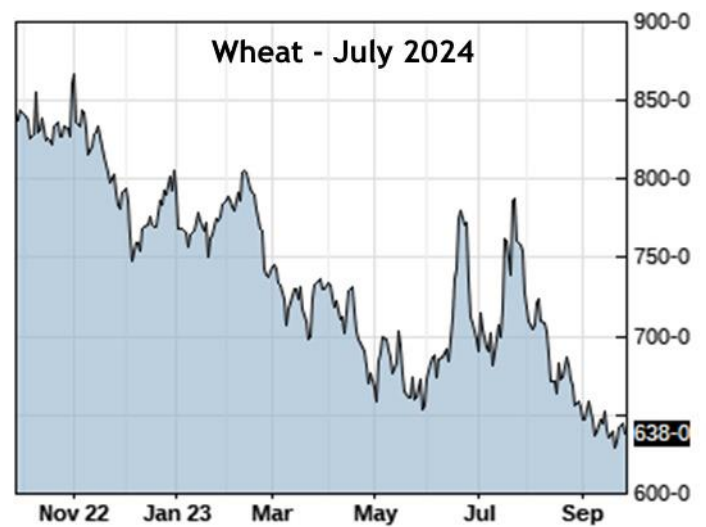
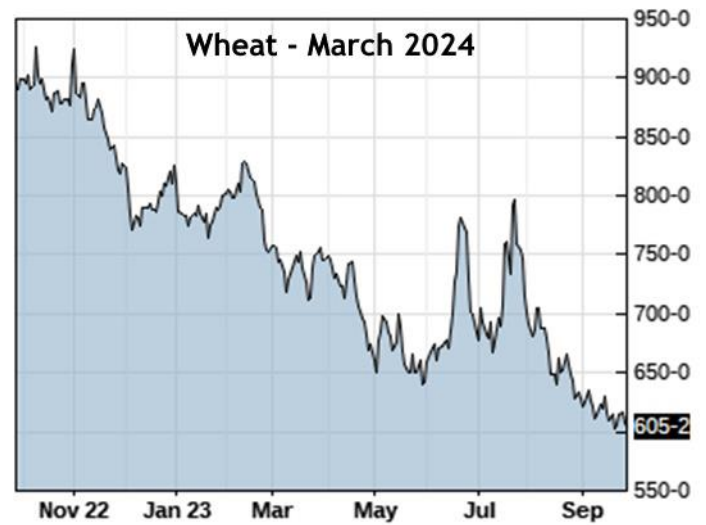
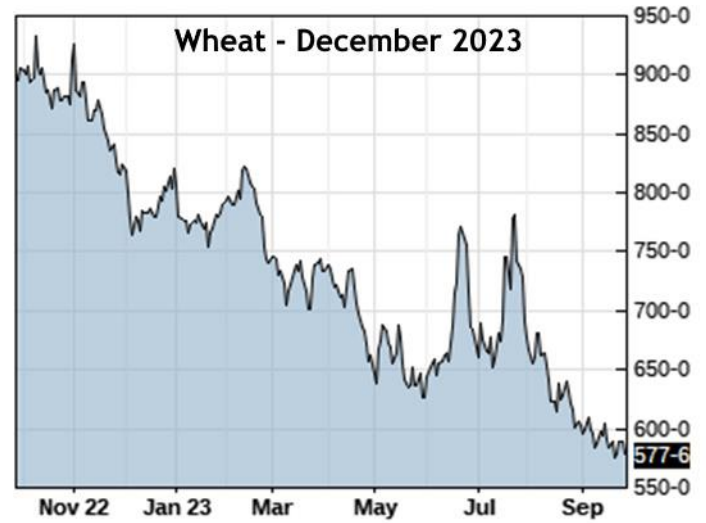




## Soybean Futures



## Wheat Futures



### Curious about Nitrogen Modeling Tools? DE, MD, and PA Corn Farmers Can Participate in a Short Online Study and Earn Money

Many corn farmers in DE, MD, and PA can expect to receive an invitation in the mail to participate in a university study this month. The study is being conducted by researchers with the University of Delaware, University of Maryland, and Penn State University.

The goal of this study is to understand farmer interest in using an in-season nitrogen modeling tool to guide nutrient management decisions. During the study participants will have the opportunity to learn about and engage with in-season nitrogen modeling tools. Results from this study will help us develop strategies to better serve farmers in this region.

Eligible farmers may participate from home on a computer, tablet, or smartphone. Internet access is required. In the online activity, participants will be asked to make in-season nitrogen management decisions for a simulated corn field. In addition to a \$50 participation payment, participants will earn additional money (up to \$100 extra) based on decisions during the 30-35-minute activity. Participants will receive their payment as a Walmart or Amazon gift card or via PayPal within one week of completing the online activity.

Participation requires a unique participant code, which can be found on the mailed invitation letter. If you do not receive a letter in the mail but you would like to participate, you may contact the research team to receive a login code and instructions. Please contact Badri Khanal at the University of Delaware (302-455-7555; [bkhanal@udel.edu](mailto:bkhanal@udel.edu)).

## General

### Guess the Pest! September 22 Answer: Beaver

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

The best answer for last week's challenge was a human stealing Halloween decorations. However, the correct answer goes to John Draper who wrote BEAVER. Who knew? Beaver was probably thinking 'gee, this was easier than a tree' and 'I can't find any trees'. Alan Leslie sent me this confirming photo of the beaver's dam. I hope all other beavers got a chuckle out of the corny joke.



Alan Leslie





Many thanks to all who participated in this year's Guess the Pest Challenge!!! Stay Tuned this Fall as award winners are revealed.



## Applications for the 2023-2024 Producers Growth Program Are Now Open

*CAIC program gives growth-ready local producers tools and resources to scale their businesses*

The Chesapeake Ag Innovation Center (CAIC) is excited to announce that applications are now open for the second cohort of our Producers Growth Program. Over the course of six months, the program gives [value-added producers](#) and consumer packaged goods (CPG) entrepreneurs the knowledge, resources, and tools they need to scale their businesses. Through one-on-one work with an advisor, classes taught by subject matter experts, and hands-on assignments, each producer will develop and execute their own scaling strategy.

“This program is uniquely valuable because it gives participants the chance to talk about the future of their business in a way that’s both realistic and aspirational,” said CAIC Program Director Emiliano Espinosa. “Everyone is assigned an industry advisor who’s already been there—who has a proven track record of building and leading successful companies. As you develop your growth strategy, your advisor will help you mitigate a lot of the risks that founders often encounter.” Participants will meet with their advisors on a weekly or biweekly basis, and will be given hands-on assignments challenging them to apply what they learn in their program classes to their scaling plan. “Our nine-module curriculum is developed and taught by subject matter experts, with the overall goal of giving producers everything they need to know to scale,” Espinosa explained. This includes a class on working with institutional and wholesale buyers taught by a consultant with more than 40 years of experience in the specialty food industry, while a founder of three successful companies will teach a session on attracting and securing investors. Other expert-taught topics will include risk assessment and management, supply chain and logistics, and legal considerations, among others. During each class, the small group size allows for personalized attention and interaction with lecturers.

In addition to their classes, tours of local companies, and advisor sessions, producers will

have access through CAIC to essential professional services that will facilitate their business growth: five hours of legal consulting, 15 hours of graphic design services, 20 hours of bookkeeping and accounting services, and 23 hours of marketing consulting. Said Espinosa, “This gives everyone a chance to develop some of the aspects of their business that they might have neglected, whether that’s business plans, pitch decks, balance sheets, or promotional materials.” Producers Growth Program participants will also have preferred access to a \$3.5 million loan fund through a CAIC partner; after working with their advisors to perfect their presentation and business plan, they’ll have a greater likelihood of securing funding from other sources, too. “The program is perfect for people who want to scale their businesses, but haven’t been able to access the resources and knowledge that they need in their communities,” Espinosa said. “That’s where we come in. And as these small businesses grow and scale, you end up seeing the economic impact on entire communities.”

CAIC launched an eight-company pilot cohort of the Producers Growth Program last year, with founders from Delaware and Maryland taking classes, networking, and touring innovative local companies. The program culminated in the inaugural Producers Unveiled showcase, where participants presented their business growth plans and products to prospective buyers, service providers, and other stakeholders. One cohort success story was Gayle Galbraith, the founder of Federalsburg, Maryland-based Federal Brewing Company. “During the cohort, I was introduced to and accepted into the Union Kitchen Accelerator in Washington, D.C.,” Galbraith said. “Participation in the Union Kitchen Accelerator is a natural progression from the CAIC cohort, and will give me access to proven strategies for successfully scaling my kombucha business and further develop[ing] my business skills—so that the business is no longer reliant solely on me for every decision or for its long-term success.” Alumni also appreciated the insights and contacts that instructors shared with them. “I love the program,” said Brady Shuert, co-founder of the Claymont, Delaware-based Hope’s Caramels. “The connection to

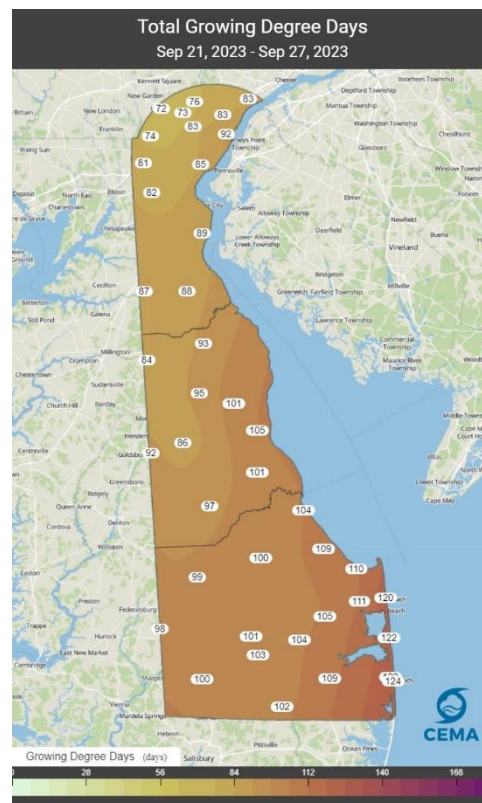
insiders and their knowledge is by far the best part.”

The 2023-2024 program will begin on October 4, 2023, and applications are currently being accepted. Eight places are available on a first-come, first-served basis, with a tuition discount available for value-added producers. Producers operating in Delaware, Maryland, Virginia, and the District of Columbia who meet the [qualifications](#) can fill out the first part of the application online; if selected to move on to the next round, they’ll be asked to interview with the program advisors. “We invite everyone to see if they qualify,” Espinosa said. “It’s a very straightforward application, and it could end up being the first step in your scaling journey.”

For more information on the Producers Growth Program go to <https://caic.org/caic-producers-growth-program/>. To view the highlights of last year’s Producers Unveiled event, [click here](#). You can learn more about CAIC and our other

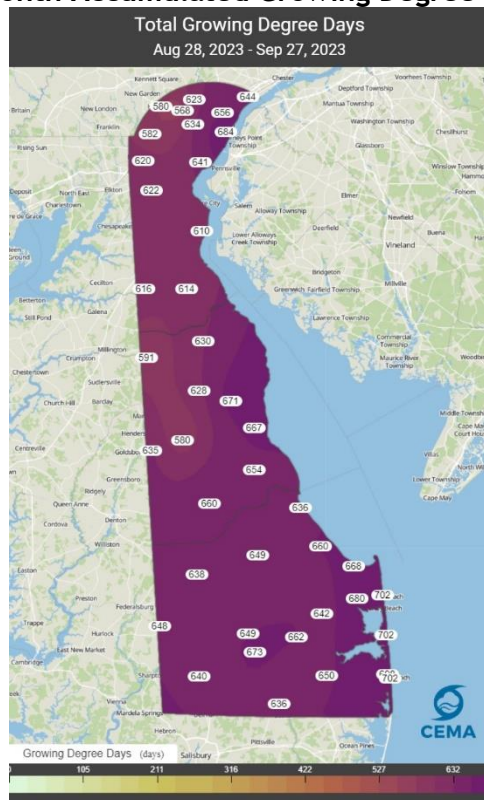
## Weather Summary

### 1 Week Accumulated Growing Degree Days

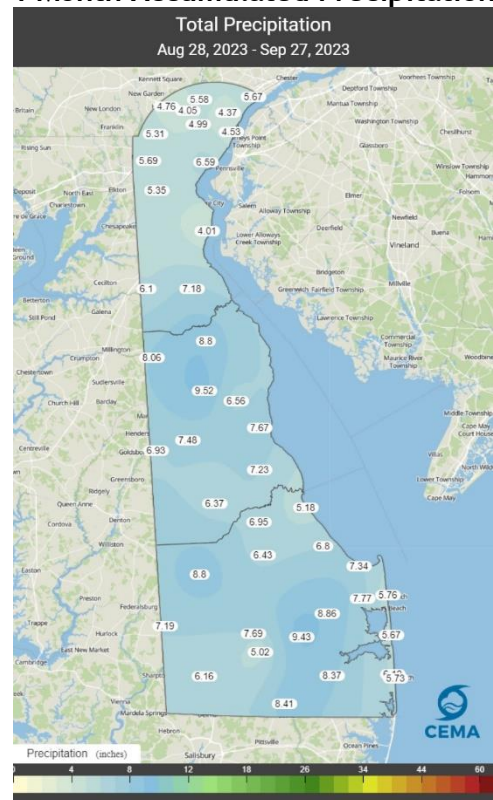




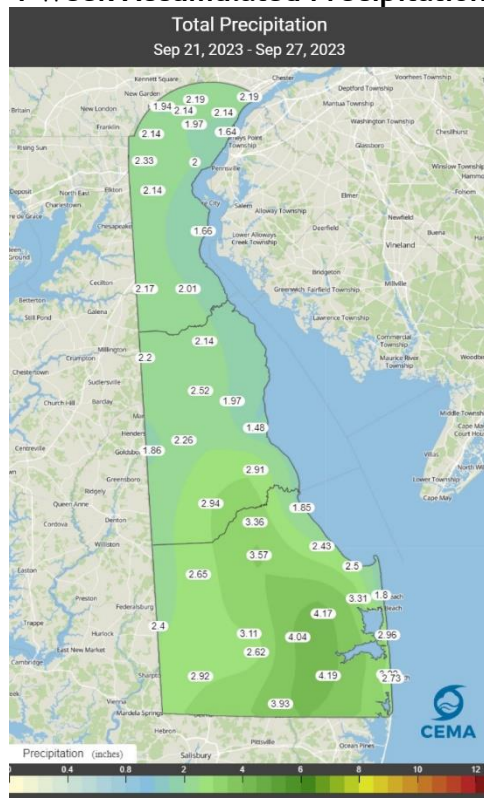
## 1 Month Accumulated Growing Degree Days



## 1 Month Accumulated Precipitation



## 1 Week Accumulated Precipitation



These weather maps are generated from DEOS weather station data and are part of a new Ag Weather website that is under development: <http://deos.udel.edu/almanac/> Your feedback is welcome!

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

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