

# WEEKLY CROP UPDATE



UNIVERSITY OF DELAWARE  
COOPERATIVE  
EXTENSION

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## Vegetable Crops

### Vegetable Crop Scouting Report

David Owens, Extension Entomologist,  
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#### Cucurbits

Continue scouting for spider mites and cucumber beetles. Cucumber beetle pressure has been fairly light across the area. Thresholds are 2 beetles per plant. If your field is not at threshold, there is no need to put a pyrethroid in a fungicide tank mix, and that could possibly hurt mite management and flare up aphids. Also, bioassays conducted earlier this spring demonstrated rather poor results from the pyrethroids generally, except for Hero at its high rate. Spider mites continue to move into fields from field edges. If honeybees haven't been placed, abamectin is a very efficacious miticide. Field edge treatments may also be quite effective at this time, provided no hotspots are detected in field interiors. There is a lot of spider mite management information in a fact sheet written in part by Cody Stubbs and can be found here:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/fact-sheets/two-spotted-spider-mite/>

#### Sweet Corn

Our trap counts are now live and are updated by Tuesday and Friday mornings. You can find them here:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/pest-management/insect-trapping/>.

One of the most frustrating facets about earworm control is early season worm development in whorls and tassels. Thresholds for tassel infesting worms are around 10-15%. If a cleanup spray is deemed necessary, we have several options including pyrethroids (especially with a Lannate tank mix), Radiant, Blackhawk, Intrepid and Intrepid Edge, Avaunt, and Vantacor. The advantage to avoiding a pyrethroid or a Besiege and Elevest is that impact to beneficial insects is minimized. Exposed worms, especially this time of year are much easier to kill than they are later in the season. I would prefer to hold off on a Vantacor, Besiege, or Elevest application to save the active ingredient for silk protection. If a Besiege application is made, adjust your rates such that you can get 2-3 applications during the silking period.

Thursday trap captures are as follows:

Trap Location	BLT CEW	Pheromone CEW
<i>3 nights total catch</i>		
Dover	1	15
Harrington	1	10
Milford/Canterbury	0	161
Rising Sun	2	161
Wyoming	0	0
Bridgeville/Redden	0	2
Concord	2	57
Georgetown	1	19
Woodenhawk	0	12
Laurel	5	116

#### Potatoes

Continue scouting for Colorado potato beetle

and potato leafhopper. Some questions came in earlier regarding European corn borer activity. Fortunately, ECB is highly attracted to corn, most of which expresses Bt toxins which have largely crashed ECB. For example, in Rising Sun, we have captured 6 moths over the last 7 years. Thresholds in potato are fairly high, with 10% of stems with tunneling. If CPB and potato leafhopper are not present and levels of concern, than no insecticide applications are necessary.

### **Tomatoes**

Begin scouting for signs of stink bug injury as well as spider mites. Thus far, very few stink bugs have been intercepted in our black light traps. In case you did not know, we do track stink bugs in blacklight traps. The data is uploaded at the same page where the earworm trap counts are. For stink bugs, the most effective materials are dinotefuran and bifenthrin.

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### **Will Smoke from Wildfires Affect Vegetable Crops?**

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

I was recently asked if smoke from wildfires will affect vegetable crops. The answer is complex and largely dependent on how long the wildfires continue to burn and weather patterns bring the smoke into our region.

When Emmalea Ernest and I were in eastern Washington State several years ago they had gone through a period where smoke from fires in British Columbia covered the seed growing region of that state for over a month. Researchers commented that crops stopped growing and were delayed in maturing for at least 4 weeks.

This is because smoke limits sunlight reaching crops and thus reduces photosynthesis. In addition, temperatures are reduced, which also slows growth. Deposits of fine particles from smoke on plants can also reduce effective sunlight until washed off by overhead irrigation or heavy rain.

Another consequence of wildfire smoke can be an increase in ozone levels. Ozone is a major cause of air pollution and can damage plants. Certain vegetables are highly susceptible to ozone injury.

Those vegetables most susceptible include potatoes, watermelons, cantaloupes, snap beans, pumpkins, and squash.

Ozone injury in susceptible vegetable varieties develops when ozone levels are over 80 ppb for four or five consecutive hours, or 70 ppb for a day or two when vegetable foliage is at a susceptible stage of growth. Ozone levels for Delaware are at 64 ppb, near the critical level for damage. Ozone levels are predicted to be 77 on Saturday, June 10. (DNRC's Air Quality Forecast can be found at:

<https://dnrec.alpha.delaware.gov/air/quality/forecast/>)

On potatoes, symptoms of ozone damage occur on the most recently emerged leaves and can be seen as a black flecking. Early red varieties are most susceptible.

Injury on watermelon leaves consists of premature chlorosis (yellowing) on older leaves. Leaves subsequently develop brown or black spots with white patches. Watermelons are generally more susceptible than other cucurbits to ozone damage. Damage is more prevalent when fruits are maturing or when plants are under stress. Injury is seen on crown leaves first and then progresses outward. Seedless watermelon varieties tend to be more resistant to air pollution injury than seeded varieties, so injury often shows up on the pollinizer plants first. "Ice box" types are the most susceptible.



Ozone injury on watermelon

In muskmelons and other melons, the upper surface of leaves goes directly from yellow to a bleached white appearance.

Ozone injury on squash and pumpkins is intermediate between watermelon and cantaloupe starting with yellowing of older interior or crown leaves. These leaves subsequently turn a bleached white color with veins often remaining green.



Ozone injury on squash. Note leaf yellowing.

In snap and lima beans, ozone causes small bleached spots giving a bronze appearance on upper leaf surfaces and pods. Leaves may ultimately turn chlorotic and senesce (drop).

Ozone injury can be easily misdiagnosed as mite injury, pesticide phytotoxicity, or deficiencies.

The key to avoiding air pollution injury is to plant varieties that are of low susceptibility and to limit plant stresses. Certain fungicides such as thiophanate methyl (Topsin and others) offer some protection against ozone damage.

### **Avoiding Blossom End Rot**

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

Variable June weather often creates conditions favorable for blossom end rot in susceptible crops, with tomatoes and peppers being the most affected. In most years, there is a transition point in June where temperatures move from the moderate side to an extended hot period with temperatures in the 90s. This is also when many tomatoes and peppers have reached full plant size with high water demand and have large numbers of flowers and developing fruit with heavy calcium demand.

While field tomatoes are not near this stage yet in 2023, high tunnel tomatoes are susceptible. When days are in the 90s, high tunnel tomatoes will have high water demand and will be susceptible to blossom end rot.

Blossom End Rot (BER) is a disorder where developing fruits do not have enough calcium for cell walls, cells do not form properly, and the fruit tissue at the blossom end collapses, turning dark in color. Calcium moves through cation exchange with water movement in the fruit, so the end of the fruit will be the last to accumulate calcium. Larger fruits and longer fruits are most susceptible. With fruits, the rapid cell division phase occurs early in the development of the fruit and if calcium accumulation in the fruit is inadequate during this period, BER may occur. While it may not be noticed until the fruit expands, the deficiency has already occurred and cells have already been negatively affected. We most commonly see signs of blossom end rot on fruits two weeks after the calcium deficiency has occurred.

Understanding blossom end rot also requires an understanding of how calcium moves from the soil into and through the plant. Calcium moves from the soil exchange sites into soil water and

to plant roots by diffusion and mass flow. At plant roots, the calcium moves into the xylem (water conducting vessels), mostly from the area right behind root tips. In the xylem, calcium moves with the transpirational flow, the movement of water from roots, up the xylem, and out the leave through stomata. Calcium is taken up by the plant as a divalent cation, which means it has a charge of +2. It is attracted to negatively charged areas on the wall of the xylem, and for calcium to move, it must be exchanged off the xylem wall by other positively charged cations such as magnesium ( $Mg^{++}$ ), potassium ( $K^{+}$ ), ammonium ( $NH_4^{+}$ ), or additional calcium cations ( $Ca^{++}$ ). This cation exchange of calcium in the xylem requires continuous movement of water into and up through the plant. It also requires a continuous supply of calcium from the soil.

In general, most soils have sufficient calcium to support proper plant growth. While proper liming will ensure there is adequate calcium, it is not the lack of calcium in the soil that causes blossom end rot in most cases. It is the inadequate movement of calcium into plants that is the common culprit. Anything that impacts root activity or effectiveness will limit calcium uptake. This would include dry soils, saturated soils (low oxygen limits root function), compaction, root pathogens, or root insect damage. In hot weather on black plastic mulch, roots can also be affected by high bed temperatures. Low pH can also be a contributing factor. Calcium availability decreases as pH drops, and below a pH of 5.2 free aluminum is released, directly interfering with calcium uptake. Again, proper liming will ensure that this does not occur. Applying additional calcium as a soil amendment, above what is needed by normal liming, will not reduce blossom end rot.

In the plant, there is a “competition” for calcium by various plant parts that require calcium such as newly forming leaves and newly forming fruits. Those areas that transpire the most will receive more calcium. In general, fruits have much lower transpiration than leaves. In hot weather, transpiration increases through the leaves and fruits receive lower amounts of calcium. High humidity will reduce calcium movement into the fruit even more.

Tissue tests will often show adequate levels of calcium in leaf samples; however, fruits may not be receiving adequate calcium. In addition, in hot weather, there is an increased risk of interruptions in water uptake, evidenced by plant wilting, when transpirational demand exceeds water uptake. When plants wilt, calcium uptake will be severely restricted. Therefore, excess heat and interruptions in the supply of water (inadequate irrigation and/or rainfall) will have a large impact on the potential for blossom end rot to occur. Proper irrigation is therefore critical to manage blossom end rot.

As a positive cation, there is “competition” for uptake of calcium with other positive cations. Therefore, if potassium, ammonium, or magnesium levels are too high in relation to calcium, they can reduce calcium uptake. To manage this, do not over-fertilize with potassium or magnesium and replace ammonium or urea sources of nitrogen with nitrate sources.

Applying additional soluble calcium through irrigation, especially drip systems, can reduce blossom end rot to some degree if applied prior to and through heat events and if irrigation is applied evenly in adequate amounts. Foliar applications are only partially effective when applied to very young developing fruit. Fruits do not absorb much calcium, especially once a waxy layer has developed, and calcium will not move from leaves into the fruit (there is little or no phloem transport). Foliar applications of 2-4 lb Calcium (Ca) per acre is recommended. Foliar calcium can be applied as calcium chloride at the rate of 5-10 lb per 100 gallons per acre, calcium nitrate at the rate of 10-15 lb per 100 gallons per acre, or chelated calcium at labeled rate.

In conclusion, the keys to controlling blossom end rot are making sure roots are actively growing and root systems are not compromised, soil pH is in the proper range, and irrigation is supplied in an even manner so that calcium uptake is not interrupted. Supplemental calcium fertilization will only marginally reduce blossom end rot if water is not managed properly.





Blossom end rot of peppers is a problem when irrigation is irregular limiting calcium uptake.

### Primed Seed and Pelleted Seed in Vegetable Production

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

#### **Seed Priming**

Seed priming refers to several techniques used to initiate vegetable seed germination prior to planting. This is useful for seeds that have natural dormancy, hard seed coats, or other physiological conditions that can slow germination. It is also useful where rapid, uniform germination is required such as in greenhouse transplant production or direct field seeding of small seeded vegetables. Priming initiates the germination process but does not go to the point that the radicle (seedling root) has emerged.

One common vegetable seed that is often primed is lettuce. Lettuce is prone to heat dormancy in high temperatures and seed priming can reduce or eliminate this problem. Other vegetable seeds that are often primed include onions, leeks, carrots, tomatoes, peppers, and seedless watermelons.



Heat dormancy resulted in uneven emergence timing in these lettuce seedlings. (Empty cells are from large plants that emerged first and were transplanted.)

There are several types of seed priming:

**Water priming** - this is the oldest and most common form of seed priming where seeds are soaked in water for a period of time prior to planting. This is often used where hard seed coats are an issue. However, water priming provides the least uniformity of all the priming methods.

**Osmopriming** - Seeds are soaked in solutions of polyethylene glycol, glycerol, or mannitol. These solutions have lower osmotic potential and can control the rate of water entry into the seed. These chemicals do not enter the seed but serve to control imbibition.

**Halopriming** - this method uses solutions of inorganic salts such as potassium nitrite, calcium chloride, potassium chloride, and others. Halopriming is used to improve germination rates and percentages and increase the salinity tolerance of seeds and seedlings. Salts used must be matched to the specific seed type - not one salt can be used for all seeds.

**Solid matrix priming** - in this method seeds are placed in a wetted inert material such as sand, sawdust, vermiculite, or charcoal. This simulates seed in a soil environment and uses the matric potential of the wetted media to control water intake into the seed. The matric material used must be able to be easily separated from the seed.

**Thermopriming** - in this method seeds are heat treated. This is used where soils that seeds will be planted into will be hot. This controlled heating conditions the seed ahead of time to these conditions.

During priming beneficial microorganisms such as biocontrol agents or plant growth promoting bacteria can be added to seed. In addition, mineral nutrients, such as nitrogen, calcium, manganese, zinc, and boron can be added to improve early seedling growth.

One of the major disadvantages of primed seed is that it has a shorter longevity or shelf life because the seed is imbibed and then dried again. Primed seed should be used for one season only and should not be stored for future seasons.

### Seed Pelleting

Pelleted seeds are used to improve seeding efficiency by making all seeds the same size, increasing the size of small seeds, and making elongated or irregular seed round. This allows for improved mechanization of seeding in greenhouse transplant production or in direct field seeding.

Pelleting is accomplished commonly by covering seeds using a rotating drum with a clay coating that easily breaks apart when exposed to soil (or growing media) moisture. Seeds will be round

when coating is complete. Lime coating is commonly used for small seeded legumes.

Common vegetables available in pelleted form include lettuce, carrots, onions, and beets. Many herbs such as basil are also pelleted.



G Johnson, University of Delaware  
Pelleted lettuce seed.

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### Potential Catface Problems in Tomatoes

*Jerry Brust, IPM Vegetable Specialist, University of Maryland*

It is possible that in about 4-5 weeks from now several sets of tomato fruit will start to show up with catface or that are deformed. Catface results in tomato fruit with deep indentations in the blossom end or fruit with significant distortions (Fig. 1). Chilly temperatures during flowering have been shown to increase incidence of catface. Temperatures of 54° F or lower at the time of blossom set distorts and kills specific cells that should have developed into fruit, resulting in the deformities. While the disorder is most often observed in first-formed fruit, it can occur in any age fruit. We have had many cool nights the past few weeks with lows at or below 54° F for several hours. These night temperatures are some 8-10° F below what the average low should be for late May and early June for much of Maryland. Tomatoes in high tunnels should not have any problem with catface as night temperatures would not have



dropped below 55° F. Some tomato varieties will be more sensitive to these lower temperatures than others. It seems the 'rounder and larger' the fruit the greater the chance of catface. So, in the same field that has several cultivars of round tomatoes that have catface, plum tomatoes would have fewer problems and the cherries and grapes much less if any.

Other less common causes of catface could be extreme fluctuations in night versus day temperatures, tomato plants exposed to 2, 4-D but you should see a pattern in the field if this is the case with the area of the field possibly exposed to the herbicide with more damage than other areas of the field. Heavy pruning in indeterminate varieties may increase catface because of reductions in auxins in the plant. Jointless tomato varieties seem to be more prone to catface than jointed varieties. There is some research that shows catface can also be caused by thrips damaging the side of the pistil of tomato flowers.

Unfortunately, there is little that can be done to control this problem, except selecting varieties that are not prone to catface or growing plants in a high tunnel. Older cultivars appear to be more susceptible. If possible, removal of the catfaced fruit would be beneficial as these fruit are unmarketable and will continue to drain nutrients from the plant.



G Brust, University of Maryland

**Figure 1a.** Catface on tomato fruit



G Brust, University of Maryland

**Figure 1b.** Catface on tomato fruit

## Fruit Crops

### Fruit Crop Scouting Report

*David Owens, Extension Entomologist,*  
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Spotted wing drosophila is making an appearance around blueberry plantings. Insecticide efficacy charts can be found here: <https://swdmanagement.org/wp-content/uploads/2021/05/SWD-rankings-document-2021.pdf>. Pay attention to products and mode of action class for efficacy and rotation. Not all members of a MOA perform equally well.

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### Carrying Over Plasticulture Strawberries for a Second Year

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

The 2023 strawberry season is still going strong, and we have had a good season due largely to the cool, dry weather. As we look to later June, with annual strawberry production on plastic mulch, many growers may consider carrying the beds over for a second year's harvest. These are

some guidelines for renovation of plasticulture strawberries:

1) Evaluate disease pressure. If the planting had significant anthracnose, botrytis crown rot, phytophthora, or identified viruses do not carry over the planting. In future variety selection, if carry over is desired, choose varieties with high disease resistance, particularly to anthracnose. For example, Sweet Charlie and Flavorfest have anthracnose resistance and can be carried over whereas Chandler does not and should not be carried over. Camino Real is intermediate in anthracnose susceptibility and may be carried over if anthracnose was well controlled.

2) Evaluate plastic mulch and drip lines. Do not carry over beds with deteriorated mulch or plugged drip systems.

3) If relatively disease free, mow the tops with a rotary mower (in smaller plantings this can be done with a line trimmer or with hand clippers). You want to leave some leaves. Do not damage the crown.

4) After mowing, remove any runners that are left by hand. Make any plastic mulch repairs and drip system repairs as necessary. Treat and flush drip lines as necessary.

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

6) Evaluate crown thickness (number of crown plants). If over 4, crowns must be thinned out. This can be done by breaking off part of the crown by hand or by using an asparagus knife to cut away part of the crown. Leave a minimum of 2-3 crown plants.

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

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

health. Take leaf tissue samples to evaluate plant nutritional status.

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

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

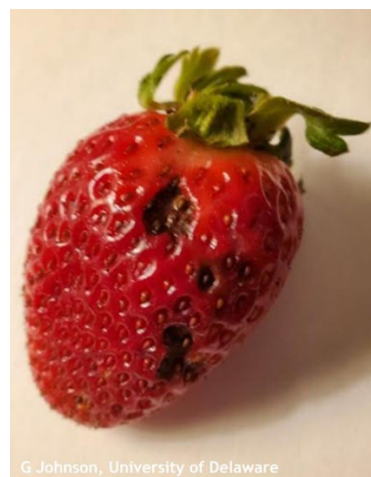
Research has shown that with proper renovation and care, second year yields will be higher than the first year, but berry size will be smaller.

### Renovating Day Neutral Plantings

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

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

Carry over production of day neutral varieties to the next spring can be problematic because of the susceptibility of most varieties, such as 'Albion', to anthracnose. The variety 'Sweet Ann' may have more anthracnose resistance than other day neutral varieties.



G. Johnson, University of Delaware

Anthrachnose is a major limiting factor in carry over of plasticulture strawberries.



# Agronomic Crops

## **Agronomic Crop Scouting Report**

David Owens, *Extension Entomologist*,  
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### **Alfalfa**

Continue scouting for potato leafhopper. We checked a couple of fields at the end of last week but did not see any PLF. However, a vineyard farther north had many on leaves, so they are in the general area

### **Soybean**

Most fields are pretty clean at this point, I am concerned that Kent and New Castle may experience more spider mite activity than usual. We also are starting to approach the time of year to make an herbicide application. We have tested the practice of including a prophylactic insecticide with the herbicide application in more than 12 fields in large strip trials here in Delaware. Generally, none of those trials suggested that an insecticide tank mix would result in a yield response. Many thanks to USDA NIFA and Northeast SARE for funding on-farm strip trial work.

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## **Harvest Aids for Wheat and Feed Barley**

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

There have been a few calls about harvest aids for small grains due to poor weed control. There are only a few options available as harvest aids for wheat and feed barley (not malting barley). These include Aim, Defol, glyphosate, and Sharpen. While 2,4-D and dicamba are labeled, we generally do not recommend them for this region.

Aim, Defol, and Sharpen will “burn off” the leaves and provide some drying of the stems, but they are unlikely to kill weeds or rogue plants present in the field. They will not influence weed seed production.

When desiccating weeds to facilitate harvest, these products work best on clear, calm, sunny days with high temperature and high humidity

Sharpen up to 2 fl oz

- include methylated seed oil and ammonium sulfate
- wait until the hard-dough stage or later
- label says to allow up to 10 days for optimum desiccation although actual time depends on environmental conditions

Defol up to 4.8 qts

- recommended with non-ionic surfactant or crop oil
- do not harvest for 3 days

Aim up to 2 fl oz

- methylated seed oil or crop oil concentrate is required
- nitrogen fertilizer or ammonium sulfate is allowed
- do not harvest for 7 days

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## **Postemergence Herbicide Sprays in Corn**

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

A couple of thoughts and reminders on postemergence spraying in corn. Our options for postemergence control fall into a few herbicide groups:

glyphosate (Roundup)

glufosinate (Liberty)

HPPD herbicides, or Group 27 (i.e. Callisto, Impact, Laudis)

ALS herbicides, or Group 2 (i.e. Accent Q)

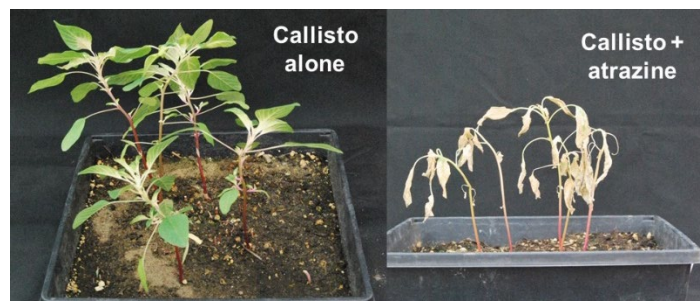
dicamba, or Group 4 (i.e. Status, DiFlexx)

atrazine

There are many premixes out there with these active ingredients. Be sure to read the labels on application timing and rates.

HPPD herbicides have gained a lot of popularity as a postemergence spray, but remember they should be tank mixed with atrazine. If they are not tank mixed with atrazine they are much less effective as a postemergence application. If corn is too tall for atrazine application, that often means the weeds are tall as well, further

reducing the effectiveness of the HPPD herbicides. If weeds over 4 inches tall and corn is too tall to include atrazine may want to consider an alternative herbicide.

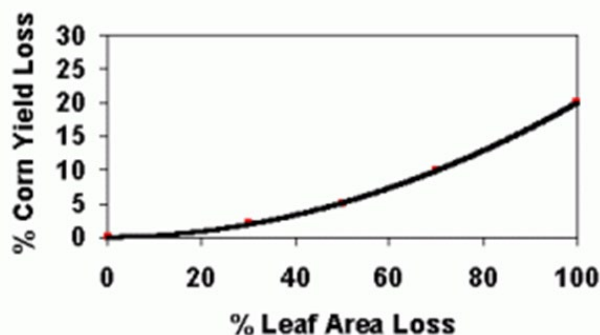


## Early Drought's Impact on Corn Revenue

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

Dry weather conditions have resulted in concerns about potential corn revenue loss. Corn is highly sensitive to drought conditions. Yield and revenue loss attributed to dry weather is possible at every growth stage but is most prominent during tasseling. Still though, drought can hinder corn yields and result in loss of revenue in the early stages of growth from emergence to V8. The size of individual leaves occurs during this growth stage. Dry weather can reduce plant and leaf size. Any yield, and potential revenue loss, during this growth stage can be attributed to reductions in plant leaf area available for photosynthesis. Below, is a chart from a North Carolina State University fact sheet that shows percentage yield loss attributable to correlating percentage leaf area loss.

**Yield Loss Emergence to V8**



Source: R. Heiniger, North Carolina State University

The average dryland corn yield in Delaware from the last ten years has been 148 bushels per acre (USDA National Agricultural Statistics Service). Assuming this average, we can estimate loss in potential corn revenue at various leaf area percentage losses. Below is a table that shows dryland corn revenue at different prices per bushel under various percentage corn leaf area loss.

**Corn Leaf Area Loss Impact on Dryland Corn Revenue Per Acre**

% Corn Leaf Area Loss	Corn Price Per Bushel				
	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50
100%	\$532.80	\$592.00	\$651.20	\$710.40	\$769.60
75%	\$599.40	\$666.00	\$732.60	\$799.20	\$865.80
50%	\$632.70	\$703.00	\$773.30	\$843.60	\$913.90
25%	\$649.35	\$721.50	\$793.65	\$865.80	\$937.95
0%	\$666.00	\$740.00	\$814.00	\$888.00	\$962.00

Revenue is only income from corn sales and does not include cost of production. To estimate loss in net returns, or profit, costs of production need to be subtracted from revenue. Extended periods of dry weather that results in leaf burning has the greatest impacts on corn revenue. Even if minimal or no leaf burn attributable to drought conditions has occurred, corn revenue may still already be lost to a reduction in leaf area size.

<https://quickstats.nass.usda.gov/>

<https://corn.ces.ncsu.edu/corn-production-information/the-impact-of-early-drought-on-corn-yield/>

## General

### Guess The Pest! June 2 Answer: Thrips

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

Congratulations to John Swaine for correctly identifying the cause of the silvery streaking in corn as thrips feeding. Thrips generally are not considered an economic threat to either corn or soybean. In soybean, thrips might become important in hot, dry conditions in which bean plants are not growing and more than 8-12 thrips per leaflet can be found.



## Announcements

### **Guess The Pest! June 9**

David Owens, Extension Entomologist,  
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This week, we are walking corn fields doing PSNTs and side dressing and herbicide applications. When we look down, we see suspicious looking plants. There are several reasons why corn seedlings might collapse or tiller funny. What are they?

Click on the link <http://www.udel.edu/008255> or the Guess The Pest Logo to log your answer!



### **A Day in the Garden Open House**

Saturday, June 24, 2023 10:00 a.m.-2:00 p.m.  
 Carvel Research & Education Center  
 16483 County Seat Hwy, Georgetown, DE

Join Sussex County Master Gardeners for a tour of their demonstration garden! Attend workshops and tours, enjoy the Peter Rabbit puppet show, go on a scavenger hunt, and shop the Plant and Book Sale!

[Register online](#) or call 302-856-7303

### **Mini Workshops**

10:30 a.m. - New to Delaware with MG Susan Trone and MG Maggie McLaughlin

11:00 a.m. - Propagating Hydrangeas with MG Michele Walfred

11:30 a.m. - Making Salsa with MG Ana Dittel

12:00 p.m. - Growing Groundcovers with MG Gainor Urian

12:30 p.m. - Log and Succulent Centerpiece with MG Mary Noel - space limited to 20

1:00 p.m. - Small Fruits Tour with Emmalea Ernest, UD Fruit & Vegetable Scientist

### **Displays**

Plant Sale - lots of natives!

Beekeepers - MG Chris Dominic, Jim Hopkins

Ask an Expert with Brian Kunkel, Megan Pleasanton, and Tracy Wootten - Bring your sick plants and gardening questions!

Invasives - Crape Myrtle Bark Scale, Invasive Plant Law, Ban Information



Bugs - Dennis Barto

And more!

### **Children's Activities**

CD Painting

Butterfly Scavenger Hunt

Peter Rabbit Puppet Show

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### **Grower Survey to Understand Implementation of Produce Safety Practices, Costs, and Barriers**

The Produce Safety Alliance (PSA) Team and personnel from the Northeast Center to Advance Food Safety (NECAFS) at the University of Vermont would like to understand the costs and the barriers of beginning or expanding food safety practices on farms and in packinghouses to make educational materials more relevant to fruit and vegetable growers and packers. To do so, we are asking personnel from fruit and vegetable operations to share their experiences of produce safety practice implementation and the costs they have incurred meeting produce safety standards and market expectations.

Use the link below to learn more and participate in the survey:

[https://qualtrics.uvm.edu/jfe/form/SV\\_agW9o6VWOU\\_CivCC](https://qualtrics.uvm.edu/jfe/form/SV_agW9o6VWOU_CivCC)

The survey is also available in Spanish:

[https://qualtrics.uvm.edu/jfe/form/SV\\_agW9o6VWOU\\_CivCC?Q\\_Language=ES](https://qualtrics.uvm.edu/jfe/form/SV_agW9o6VWOU_CivCC?Q_Language=ES)

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### **Seeking Soils with Acidic pH (<5.8) for soil pH and Lime Requirement Research**

The University of Delaware Soil Testing Program and the Penn State Agricultural Analytical Services Laboratory are seeking soil samples for a research project related to improving soil pH measurements and lime recommendations. Specifically, we need approximately 30 low pH soils collected from across

Pennsylvania and the Delmarva to represent a variety of soil types and cropping systems.

### **What do we need?**

A 5-gallon bucket of topsoil collected from the top 6-inches of the soil from agricultural fields, with documented soil pH of 6.0. or lower that has not received lime in at least two years (>3 years preferred).

The sample can be collected from a single location in the field (no need to take a random sample).

Please remove plant residues from the sample.

Please collect the soil when it is relatively dry.

Please provide the latitude and longitude from the sample location (or a precise address) so that we can obtain soil series information. Exact locations of the samples collected will not be shared beyond the project team.

### **When do we need it?**

Preferably by late July 2023.

We need to receive soils early enough that we can dry and homogenize them prior to starting the research in Fall 2023.

### **Where do we bring the soil samples?**

You can drop off the samples at any UD Extension office or the UD Soil Testing Lab. When dropping off a sample, please label the bucket with the following: "UD Soil pH Study c/o Amy Shober", your name, where the sample was collected, and a contact number (or email).

For individuals located farther from a UD Extension Office or Newark main campus, we will arrange a sample pick up or have the samples shipped to Newark at no cost to you.

### **Who do I contact to arrange sample pick up or if I have additional questions?**

Delmarva - Amy Shober ([ashober@udel.edu](mailto:ashober@udel.edu))

Pennsylvania - John Spargo ([jts29@psu.edu](mailto:jts29@psu.edu))

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## Survey of Italian Ryegrass in Delaware and Maryland

The number of questions about Italian ryegrass increase every year and it seems as if Italian ryegrass is in many more fields this year than in the past. Therefore, we are interested in investigating what is going on, by gathering seeds from as many fields as possible for some greenhouse testing to see if populations are responding differently to herbicides. We are looking for some help in collecting seeds.



M. VanGessel, University of Delaware

**Italian Ryegrass Seedhead.** If seedheads are smaller than shown-here, then increase the number collected.

How can you help?

1. Collect 50 ryegrass seedheads from the field (only seedheads are needed).
2. You do not need to wait for the seedheads to dry down.
3. Put in paper bag or paper envelope (do not use plastic bags).
4. Write the nearest crossroads on bag or envelope.
5. Write the crop on the bag/envelope.
6. Note if any of the following herbicides were sprayed since last fall:
  - glyphosate (Roundup)
  - Axial
  - PowerFlex
  - Osprey

- Select
  - Assure II
7. Store in dry area.
  8. Deliver to nearest county extension office

OR

Contact Mark VanGessel or Kurt Vollmer for collection or pickup.

Mark VanGessel 302-542-8160

Kurt Vollmer 443-446-4260

Specific farms or individuals will not be identified in any reports or summary.

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## Delmarva Weed Management Tours

A series of field days will be held on June 27th and 28th for farmers, ag industry, and others interested in seeing the latest results from university weed management trials. These events are free and open to the public.

### First stop

June 27 at the Virginia Tech Eastern Shore AREC, 33446 Research Drive, Painter, VA from 8:00 AM to 11:00 AM. Event will include:

- tours of corn and soybean herbicide research and demonstration plots,
- herbicide tolerance and weed management studies for edamame (vegetable soybean), and
- results from drone applications of PRE and POST herbicides.

If you have questions, please contact Vijay Singh ([vijaysingh@vt.edu](mailto:vijaysingh@vt.edu))

### Second stop

June 28 at the University of Delaware Carvel Research and Education Center, 16483 County Seat Highway, Georgetown, DE from 9:00 AM to 11:00 AM. Event will include

- herbicide evaluations in corn, soybeans, and vegetables
- integrated weed management trials, focusing on cereal rye for weed suppression
- crop safety evaluation from herbicide treatments

If you have questions, please contact Mark VanGessel ([mjv@udel.edu](mailto:mjv@udel.edu))

## Final stop

June 28 at the University of Maryland Wye Research and Education Center, 211 Farm Lane, Queenstown, MD from 4:00 PM to 6:00 PM. Event will include:

- tours of corn and soybean herbicide research and demonstration plots,
- tours of demonstration plots for organic weed management in corn and soybean, and
- integrated weed management trials for watermelon and hemp production.

If you have questions, please contact Kurt Vollmer ([kvollmer@umd.edu](mailto:kvollmer@umd.edu))

## Job Posting UD Vegetable Crops Agent

University of Delaware Cooperative Extension is seeking applicants for the position of **Extension Agent II, Vegetable Crops**.

### Direct Link to Full Job Posting:

<https://careers.udel.edu/cw/en-us/job/499978/extension-agent-ii-vegetable-crops>

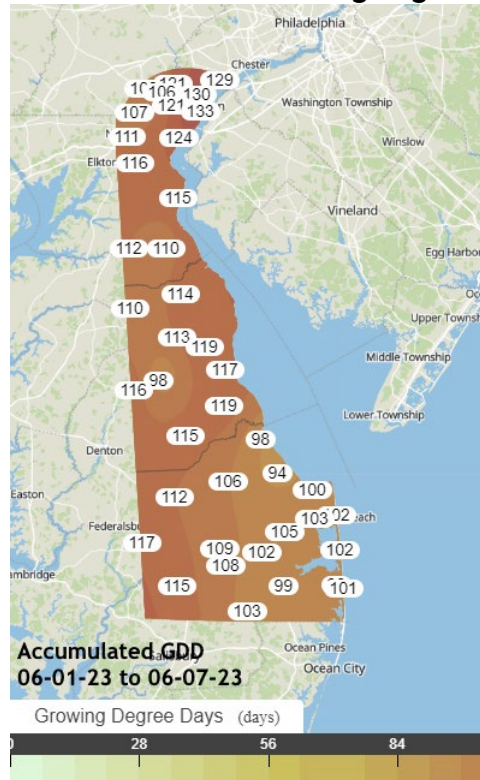
### CONTEXT OF THE JOB:

The Carvel Research and Education Center serves as the College of Agriculture and Natural Resources' southern Agricultural Experiment Station and is located near Georgetown, Delaware. This well-equipped station, comprising 350 acres, is the primary facility for vegetable and grain crop research. Plant and Soil Sciences faculty and Cooperative Extension staff are located there and include a strong multidisciplinary vegetable team with expertise in weed science, irrigation, agronomy, plant pathology, plant breeding, and entomology. Cooperative Extension enjoys the support of a dynamic agricultural community. The incumbent's responsibilities will include interactions with the farmers and ag industry throughout Delaware. Major vegetable crops for Delaware include lima bean, snap beans, peas, sweet corn, spinach, tomatoes, pumpkins, watermelon, ethnic vegetables and more.

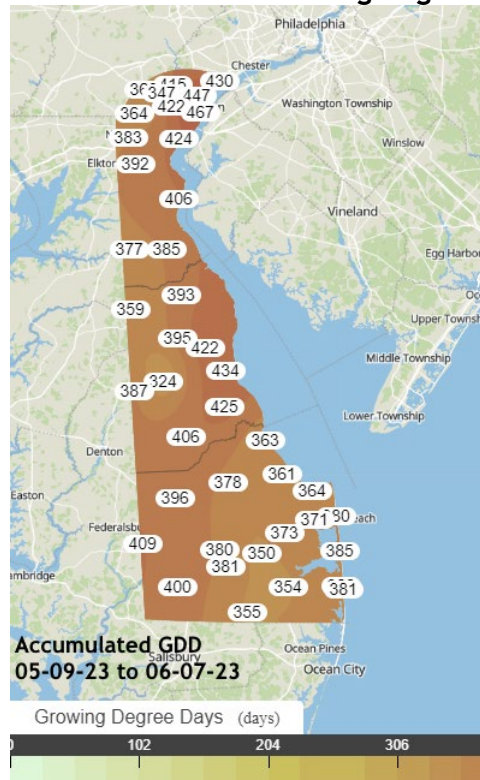
This position will be part of a dynamic team of specialists and agents working on vegetable crops important to Delaware's agricultural community. Delaware is a regional leader in the production of fresh market and processing vegetable crops. This position will work closely with the Extension Vegetable & Fruit Specialist to develop a research and outreach program to benefit vegetable producers in Delaware.

# Weather Summary

## 1 Week Accumulated Growing Degree Days



## 1 Month Accumulated Growing Degree Days





**Accumulated Precipitation**  
**06-01-23 to 06-07-23**

Precipitation (inches)

0 0.4 0.8 2 4

**Accumulated Precipitation**  
**05-09-23 to 06-07-23**

Precipitation (inches)

0 2 4 6 8

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.

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!