WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 29, Issue 1 **March 5, 2021**

WCU Subscription Options for 2021: Mail, Email or Text

Welcome to the first issue of WCU for the 2021 season. The next WCU for this year will be issued on April 2. WCU will then be posted on the web and sent to mail subscribers by 4:30 p.m. each Friday until September 24. The cost of mail subscription is $40. You can subscribe by returning the form at the back of this issue.

The WCU is also available for free online as a printable PDF or blog format at: https://sites.udel.edu/weeklycropupdate/.

For those who access the newsletter via the internet we send a weekly email reminder which will let you know when the WCU has been posted online, provide a link directly to the current issue, and give you a taste of the headlines. If you would like to receive the email reminder, enter your email address in the sidebar of the WCU blog page. If you experience problems with the online WCU please contact me at emmalea@udel.edu or (302)-856-7303.

I will also send out a text message each week when a new issue is posted. The message will be brief, and the text message distribution list will not be used for other announcements except those of an urgent nature (i.e. pest or disease alerts). If you would like to receive the text reminder please send your name, number and cell phone carrier to me at the above email address or send a text message to 302-233-4719.

Emmalea Ernest

Vegetable Crops

Using Growing Degree Days to Schedule Sweet Corn

– *Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

Sweet corn is one of the most important fresh market vegetable crops in the region. Direct market growers and wholesalers strive to have a continuous supply for their customers during the growing season.

Some growers will make a planting and then wait until that corn has emerged to make the next planting while others use their experience to create a calendar or determine when to plant.

With sweet corn, maturity will be based largely on two factors: the variety grown, and the amount of heat accumulated. There can be other factors that delay maturity such as crop injury, flooding, or hail; however, the genetics and temperature will be the major drivers.

To ensure a steady supply of sweet corn, the most accurate way to space plantings in the spring is by the use of growing degree days.

Growing Degree Days (GDD) are calculated as follows GDD = ((Maximum Temperature + Minimum Temperature)/2) -50°F. So, if the daytime temperature is 68 and the nighttime temperature is 48, you would add 68+48=116 then divide 116/2 = 58 and then subtract 58-50= 8 GDD. Negative numbers are not counted. You can find growing degree days already calculated for nearby weather stations at this DEOS site:

http://www.deos.udel.edu/data/agirrigation_retrieval.php

To schedule sweet corn by growing degree days you will need the following information:

1.) How much corn you plant to sell per day and the number of acres or row feet to plant to supply that amount,

2.) How many days you expect to harvest from that planting (1-4 days usually),

3.) The GDDs required to harvest for the varieties of sweet corn that you grow (an alternative is your records of the first harvest for the varieties you use),

4.) The average GDDs during the expected harvest period,

5.) GDDs during your planting season (calculate daily). Having your own maximum and minimum thermometer is the best way do this. Information from the nearest weather station is an acceptable alternative.

So, for example, you have determined that you need 200 dozen ears per day. This requires 2400 ears or about 3000 seeds accounting for germination losses and unmarketable ears. At 24000 seeds per acre this is 0.125 or ⅛ acre and if you plan to harvest over three days this would be 0.375 or ⅜ acres to plant.

Historically, your records indicate that the specific variety you plant April 10 matures July 1. Or you can use historical GDD information and GDDs for that variety from your seed supplier to calculate first harvest (a 1300 GDD corn will mature on average between July 1 and July 4 when planted in early April in southern Delaware).

As our weather becomes more variable, the use of the GDD scheduling model will be more useful as historical temperature data changes. You can create your own historical GDD charts from the information provided at the DEOS site (or other historical weather records for your area). Use a 10-year rolling average. A GDD tracking tool with 15 and 30 year averages and extremes is available online at: http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/

Average growing degree days in July for southern Delaware are 25 per day (from weather records). To have the corn you require every 3 days, you would multiply 3 x 25 = 75 growing degree days. Therefore, you would space your plantings in the spring 75 growing degree days apart. As you move into August, the growing degree days are similar but for September corn the growing degree days drop to 20 per day and plantings should be 60 GDD apart. This means that the first 20 plantings should be spaced 75 GDD's apart (April through early June) and after that you would space plantings 60 GDD apart (mid-June onward).

In summary:

• Make the first planting as you normally do for you first intended harvest date.

• Estimate the time of harvest and calculate average GDD per day in the harvest period.

• Determine the number of days you plan to harvest the planting (three in our example).

• Calculate the GDD that will accumulate during the harvest period (3 days x 25 GDD/days) = 75.

• Record maximum and minimum temperatures and calculate GDD = ((Maximum Temperature + Minimum Temperature)/2) -50° F

• Add daily GDD from planting until they equal the GDD in the intended harvest period (75).

• When GDD equal those in the harvest period, make the next planting.

• The process can be repeated for subsequent plantings and other varieties.

• To obtain specific variety GDD information, contact your seed supplier

Processing Vegetable Growers and the Produce Rule of the Food Safety Modernization Act

-Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

In Delaware, all vegetable growers, including those who grow vegetables for processing, are required to register their farms with the Produce Food Safety Program of the Delaware Department of Agriculture.

As of June 11, 2019; new State Produce Safety regulations (Produce Safety Regulations 302 Del. Code. § 3.0) went into effect which require that all farms within Delaware that grow produce, must register with the Delaware Department of Agriculture to verify compliance with the Produce Safety Rule. In order to verify compliance; fill out the "Grower Registration" provided at this link: https://agriculture.delaware.gov/wp-content/uploads/sites/108/2020/02/2020-Produce-Safety-Grower-Reg.pdf and return to the Delaware Department of Agriculture, via the options provided on the form. Once they receive your registration, DDA will contact you to verify if your facility is covered or exempt from the Produce Safety Rule and discuss any next steps.

The Produce Rule largely focuses on vegetables that are consumed raw. Therefore, most processing crop growers will be eligible for a processing exemption. However, this must be verified for each crop.

To receive the processing exemption, you must have a document accompanying each shipment of produce, that the food is "not processed to adequately reduce the presence of microorganisms of public health significance". In other words, coming from the farm it is still raw. You should state that the produce grown receives commercial processing that adequately reduces the presence of microorganisms of public health significance. In other words that the produce is being processed.

In the future, you will be required to annually obtain written assurance from your buyer stating that they are following procedures that reduce the presence of microorganisms of public health significance and that your produce will undergo an appropriate kill-step process.

If your processor is harvesting and trucking the crop to the processing plant, they can provide language in your contract or as an additional document stating the above. Those growers that do their own harvesting will have to keep these documents on record.

Dry Bulb Mite Found in Maryland Garlic

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

In December we received a sample of damaged garlic cloves from a grower on the Eastern Shore. The grower quite astutely thought it might be due to mites and he was correct. But it was not the garlic bulb mite *(Rhizoglyphus* spp*)*, instead it was a mite that has not been recorded in Maryland until now, the dry bulb mite *Aceria tulipae*. It is the most important eriophyid mite attacking bulbous plants such as garlic, onion and tulip. This pest is a microscopic (only 1/100 inch), white mite with a cylindrical shape that tapers away from the head-end where its four legs are located. The mites go through two larval phases during their development. A complete life cycle at 75-80^{o} F takes just 8-10 days. All life stages of the mite can overwinter on infected garlic while in storage and all stages also can survive in the soil on wild and cultivated *Allium species*, including onion, garlic and leeks.

Mites can be found on the foliage of *Alliums* where they are mainly located in the central veins or midribs of the leaves. Once the plant leaves die, the mites move to the bulbs in the ground. The mite is then found between the layers of the bulb when in storage and will feed using their very short pincer-like mouthparts to prick the plant tissue often making brown very small pits in cloves (Fig. 1). Dry bulb mites will feed on healthy green plant tissues while bulb mites *Rhizoglyphus* spp, feed primarily on decaying tissue, thus making the dry bulb mites much more of a problem for garlic and onion growers. Light infestations of this mite are very difficult to detect and is the reason infested bulbs can be used as seed in a field.

Figures 2, 3 and 4 do an excellent job of showing how hard it is to actually detect even a very large population of dry bulb mites on a garlic clove. Figure 2 shows the clove under low magnification with large areas of feeding damage (browning tissue) with a whitish 'dust' to the left in the picture (you cannot see any mites yet), magnifying this further you can see in Figure 3 the white 'dust' now can be seen as tiny white thread-like shapes and Figure 4 under

greater magnification shows hundreds of these cylindrical or thread-like shapes—all being dry bulb mites. Most of the mites on this bulb were dead most probably due to the drying process of the bulb.

Most, but not all management tactics involve cultural controls. The first is to rotate out of a field that is known to have the mite for at least 3-4 years making sure there are no volunteer or wild *Allium* species left in the field during the rotation. Be sure to plant clean seed, as infested cloves are the most frequent source of infection in the field. Flood irrigation or even heavy winter rains can reduce these mite populations. Soaking seed stock for 24 hours immediately before planting in a 2% soap (do not use a detergent) and 2% mineral oil water bath will greatly reduce mite populations in the field. Light or moderate infestations are usually controlled via the normal drying process prior to storage. Dusting bulbs with sulfur prior to planting has reduced populations in the field. Be sure to control any wild *Allium* species in the field before and after planting. In storage the mites' feeding can cause the cloves to desiccate and shrivel. Dry bulb mite feeding may also open the bulb up to soft rot bacteria resulting in rotting bulbs. Although hot water treatment of the seed garlic at 130º F for 10–20 minutes can give you good control of the mites it will more than likely damage the bulbs and reduce germination. So be careful with this last recommendation and use only as a last option.

Figure 1. Feeding damage on garlic clove by dry bulb mites

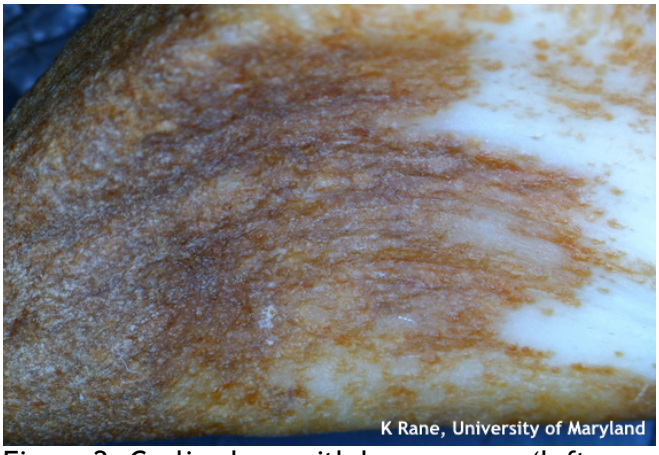


Figure 2. Garlic clove with brown areas (left side) showing dry bulb mite feeding damage with a white 'dust'

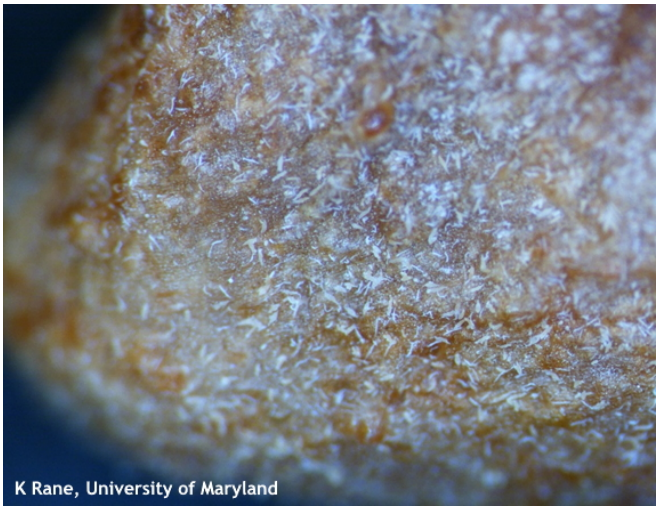


Figure 3. Area of garlic clove with heavy mite feeding under greater magnification showing tiny white thread-like objects

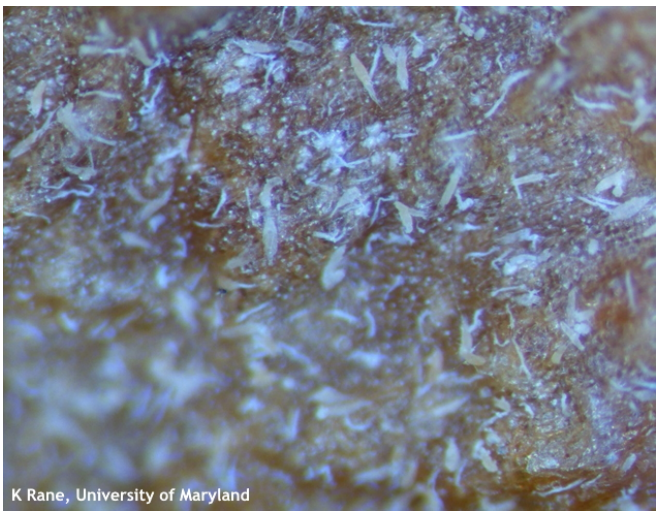


Figure 4. Greater magnification of Fig. 2 showing 100s of dry bulb mite bodies

High Tunnel Planning and a Few Reminders for High Tunnel Tomato Growers – *Rose Ogutu, Horticulture Specialist, Delaware State University* rogutu@desu.edu

The cold months are over and you are probably thinking in terms of the major 3 planting cycles for your high tunnels: early spring, summer and early fall. It is always a good idea to prevent pathogens and insects from overwintering

Tomatoes still remain the number one crop in high tunnels in Delaware. Transplanting dates are approaching for growers who intend to hit the early market. Target the dates of transplanting to be 2-4 weeks before field planting. The average last frost dates are May 1 to May 10th. Seeding dates are normally 5 weeks prior to transplant dates. Transplants need to be hardened off before planting. If you are into growing grafted tomatoes, note that the grafting process will delay the seedling growth for 6 to 7 days, pushing your start date even earlier. Get in touch with your local Extension office for updates on varietal trials and recommended varieties. Local supplier of seedlings normally have great information and can provide guidance on choice of variety.

Varietal Selection

Your choice of variety is very crucial. Remember that the **determinate varieties** (60 to 75 days to maturity) are best for a quick early crop while **indeterminate varieties** produce all summer long. Determinate varieties form bush type plants that are more compact than indeterminate ones and are easier to support and contain. They ripen over a concentrated time period usually producing one or 2 main harvests. BHN 589, Primo Red, Scarlet Red and Mountain Fresh Plus are popular determinate varieties. There exist hundreds of tomato varieties in the market today. When choosing wisely, consider, yields, flavor, disease resistance and training needs. A number of varieties bred for greenhouse/high tunnel conditions also perform well in the open field conditions. Make the right choice because high tunnels have 20% less light than outdoors. As much as possible, avoid varieties with a vigorous growth habit and instead go for plants that have 'tidy-growth habit which is more regular', smaller leaves and fewer suckers.

High Tunnels help keep rain off the foliage, eliminating a number of fungal and bacterial diseases. Aphids, Spider mites, leaf mold, grey leaf spot and powdery mildew remain a challenge on sheltered tomato plants because of the high humidity and conducive temperatures. Verticillum, Nematodes, Fusarium, and Corky Root Rot are soil borne diseases which can be avoided by not growing on the same spot year after year. Problems associated with monoculture can be avoided by switching from growing in the soil to using media bags.

Other Considerations

For sturdy tomato plants, prepare a bed which is deep and well- draining. Spacing depends on varieties and trellising method. 30 inch raised inch raised beds can accommodate plants spaced 18 inches apart on Florida weave trellising- and double row spacing of 24 in staggered plants.

Always monitor plants in high tunnels. Close the high tunnels in the afternoon to capture peak heat. Consider using row covers to further protect plants from cold damage. Once nighttime lows are forecasted to be 50 °F or higher, leave the high tunnel open or vented to avoid unnecessary leaf moisture.

Scouting an early tomato crop 'BHN 589' in a high tunnel in Sussex County. Note the additional protection from row covers.

Tomatoes have the best nutrient uptake when the soil pH is 6.2 to 6.5.

Avoid episodes of fruit cracking by managing irrigation well during fruit development.

Slower release fertilizers such as greensand as a potassium source and aragonite as a calcium source applied at plow down have demonstrated high potential to further reduce Blossom End Rot and Yellow shoulder.

References

https://www.udel.edu/content/dam/udelImages/canr/pdfs/extension/sustainable-agriculture/vegetable-trials/TomatoVarietyTrial2019.pdf

Fruit Crops

Bacterial Blossom Blast and Canker in Stone Fruits –*Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

2020 was a bad year for bacterial blossom blast in stone fruits. Blossom blast (and bacterial canker) is most common on Prunus species including cherries, apricots, peaches, nectarines, and plums. The disease is caused by *Pseudomonas syringae* pv. *syringae* and *Pseudomonas syringae* pv. *morsprunorum*. These are common bacteria in stone fruits. This bacterium can colonize bark and flower buds in stone fruits and occasionally cause bacterial blossom blast in pome fruits (apples). These bacteria also cause limb and trunk cankers, "dead bud", and leaf spotting. Cankers serve as a reservoir for the disease and can girdle and kill entire limbs.

Bacterial blossom blast is commonly found after a frost event. Some strains of *P. syringae* have ice nucleation activity, allowing ice to form around them in bud, flower, and stem tissue. This will cause more severe damage during frost or near-frost events in spring. This then predisposes the bud or flower tissue to infection by the same bacteria. Frequent rainfall, high humidity and cool temperatures in late winter and early spring also favor growth of this pathogen.

Blossom blast can be confused with blossom blight, caused by *Monilinia fructicola* (brown rot pathogen). If you see fungal sporulation it is *Monilinia*, if you there is no sporulation then It is likely *Pseudomonas* bacterial blast.

Control of bacterial canker and blossom blight is difficult. Cankers should be pruned from trees when feasible. Some benefit has been achieved from copper applications made when most of the leaves have dropped in the fall and just before bud swell in the spring.

Bacterial Blossom Blast in cherry

Agronomic Crops

Early Spring Nitrogen Application Strategies - *Amy Shober, Extension Nutrient Management and Environmental Quality Specialist;* ashober@udel.edu and *Jarrod O. Miller, Extension Agronomist,* jarrod@udel.edu

Now that we are past February 15th, applications of nutrients in fertilizers and manures are now legally allowed in Delaware. But before you start slinging manure or fertilizer, it is important to remember that nutrient loss potential is still high during the late winter and early spring; especially when conditions are as wet as we have seen in the last few weeks. Here we quickly outline some strategies for getting maximum return on your spring nitrogen (N) applications, while minimizing the potential for losses to the environment. These strategies will ensure you are ready to go when soils dry out and conditions are more favorable for plant growth.

Cereal Crops

Cereal crops provide excellent feed for livestock when grazed or cut for silage or hay. Cereal crops grown for forage will benefit from spring N applications of 60-90 lb/A. As with grasses, apply N in early spring (late February to early March)

to stimulate growth. A single N application is ok. However, splitting the spring N application can reduce lodging and improve yield and protein levels. We highly recommend splitting spring N applications if the crop will be grazed to prevent nitrate poisoning of livestock. For split N applications, apply approximately 30 lb/A of N at green up. Terminate grazing and apply the remainder of the N just prior to joining (Feekes 5).

If you plan on growing cereal crops for grain (with or without grazing), more intensive N management is recommended. Research out of Virginia Tech supports splitting N applications to wheat or barley in the spring to achieve higher yields. The first application of N is recommended at green up, around Feekes growth stage 2-3 based on tiller counts (Table 1). The second N application is recommended at jointing (approximately Feekes 5) based on a whole plant total N tissue test (Table 2); cut the whole plant ½ inch above the soil line and submit the sample to a reputable laboratory.

If only a single spring application is possible, we recommend applying N at jointing (Feekes 5) if tiller counts at green up are >105 tillers per square foot for wheat and >150 tillers per square foot for barley. If tillering is below these thresholds, apply N at Feekes 2-3. Virginia Tech researchers recommend that this single early season N application be based on the results of a soil nitrate test (to a 3 foot depth). If collecting a 3 ft soil sample is infeasible, use the tiller count guidance in Table 1 and double the N rate.

We understand that tiller counts are time consuming, but proper tiller counts ensure that enough N will be applied to stimulate adequate tillering before Feekes 5. This is especially important if your cereal crops were planted late in the fall, as fall tillering is greatly impacted by the onset of winter weather. Taking the time to complete tiller counts now will help your crop reach maximum yield. Follow these instructions to complete early season tiller counts:

1. Lay a yard stick (3 feet long) on the ground and count the tillers along the length of the stick.

2. Multiply the number of tillers by 4 and divide that number by your row width. This will give you tiller density in tillers/sq. ft.

3. Repeat these counts in five locations in the field and average the values.

Table 1. Nitrogen rate recommendations for early spring greenup application to wheat or barley at Feekes growth stage 2-3.

	Wheat tiller Density (tillers per square ft) at Feekes 2-3						
	<60	**68**	**75**	**83**	**90**	**98**	**>105**
lb N/A	60	50	40	30	20	10	0

	Barley tiller Density (tillers per square ft) at Feekes 2-3				
	<50	**75**	**100**	**125**	**>150**
lb N/A	50	40	25	10	0

Table 2. Nitrogen rate recommendations for second spring application to wheat at Feekes growth stage 5.

	Percent N in Wheat Tissue from Whole Plant Sampled at Feekes 5						
	<2.0	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**>5.0**
lb N/A	120	100	80	60	40	20	0

	Percent N in Barley Tissue from Whole Plant Sampled at Feekes 5				
	<2.5	**2.75**	**3.0**	**3.25**	**>3.5**
lb N/A	100	75	50	25	0

For barley, University of Delaware recommends a total N rate of 60 to 100 lb/A, with the higher range recommended on sandy soils to compensate for higher potential leaching loss. Managing N is particularly important for malting barley, where protein levels must stay between 9-12%. University of Delaware researchers have not observed yield gains when N was applied at rates above 100 lb/A for both the Thoroughbred or Violetta malting varieties. In fact, protein levels of Violetta exceeded 12% when 125 lb/A of N was applied in UD variety trials, likely because the soil had sufficient N prior to fertilization. Therefore, we recommend taking tissue samples for malting barley to identify an appropriate spring N rate, which will prevent quality issues.

Grasses or Grass-Legume Mixes

Consider a spring topdress application N to pastures to promote growth, especially if pastures have thinned and were not fertilized in the fall. Early spring application can help extend hay supplies. We recommend N applications of 30 lb/A to stimulate growth in pastures with <25% clover in the stand. For stands with 25-50% clover, reduce the N application to 15 lb/A. Apply N when additional tillers start forming and before stem elongation. Nitrogen applications are not recommended for pastures with >50% clover or legume.

Early spring manure applications are not best for quick greenup of grass species. Manure N availability will be delayed with cool temperatures due to low microbial activity. Microbes must be active to break down organic matter and release N in a plant available form; microbial activity is slow until soil temperatures reach around 50-55 F (late April to early May). Instead, apply commercial N fertilizers (either liquid or granular), which are immediately available to crops coming out of dormancy. Walk the fields about 30 days after the first application of N in the spring to determine if more N is needed.

Skip P and K fertilization at this time. Winter breakdown of plant tissues due to freeze and thaw events should provide enough P and K to support spring growth, unless soil test levels are LOW (<25 FIV). Save P and K applications for early summer after the first hay harvest.

Once fields green up, avoid grazing too early; wait until grasses are 4 inches tall to prevent overgrazing and animal health issues (e.g., grass tetany).

Field Crops Plant Pathology Winter Recap, 2021 Nematode Surveys and Small Grain Disease Observations

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

It is hard to believe we are already in March. Over the winter, the UD Plant Pathology lab (find us @UDPlantPath) has been busy working on lab and greenhouse projects. In 2020, we began research to better understand *Pythium* species in corn. Symptomatic seedlings were brought back to the lab and over 13 species have been identified to date. We are currently screening these species in the greenhouse to compare aggressiveness. Results from the first trial showed varying aboveground symptom development from limited (Figure 1) to quite a bit of stunting (Figure 2) depending on the species. The second round of trials is in progress and we will keep you posted as we complete greenhouse and in vitro fungicide trials to develop best management recommendations for each of these species.

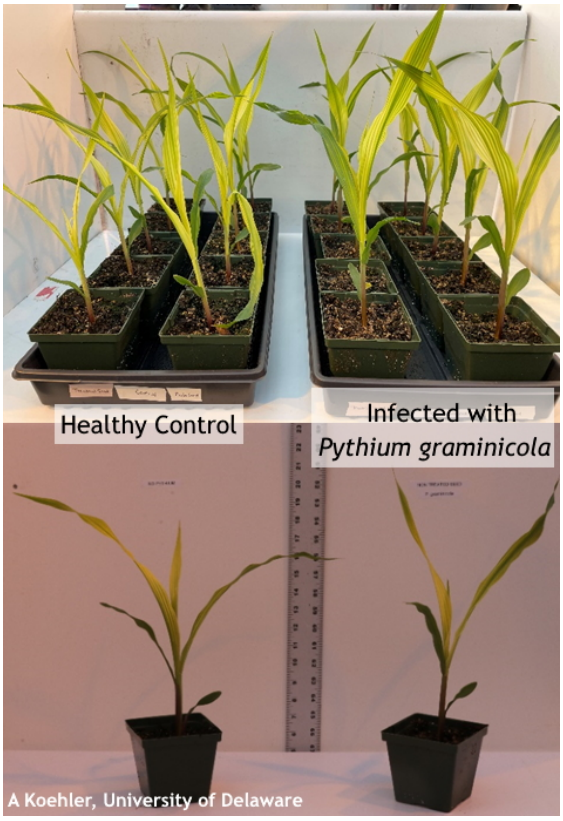


Figure 1. Healthy control (left) versus corn seedling(s) infected with *Pythium graminicola* (right)

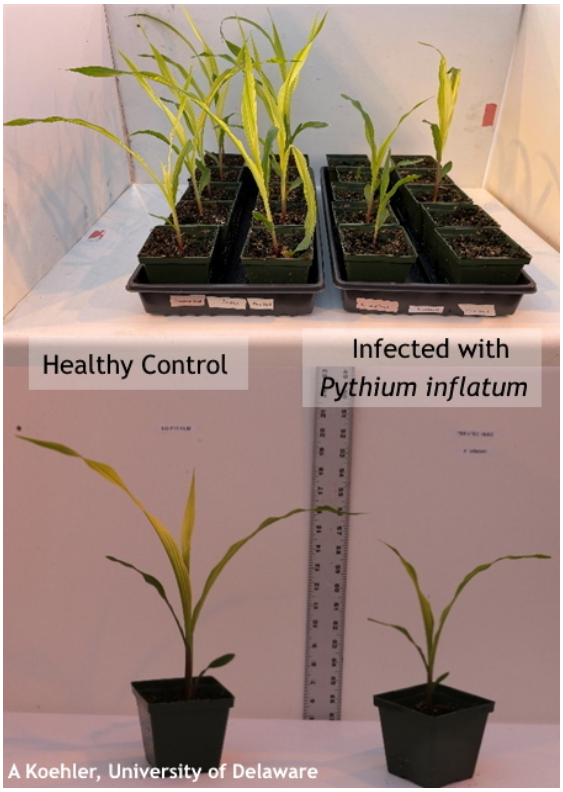


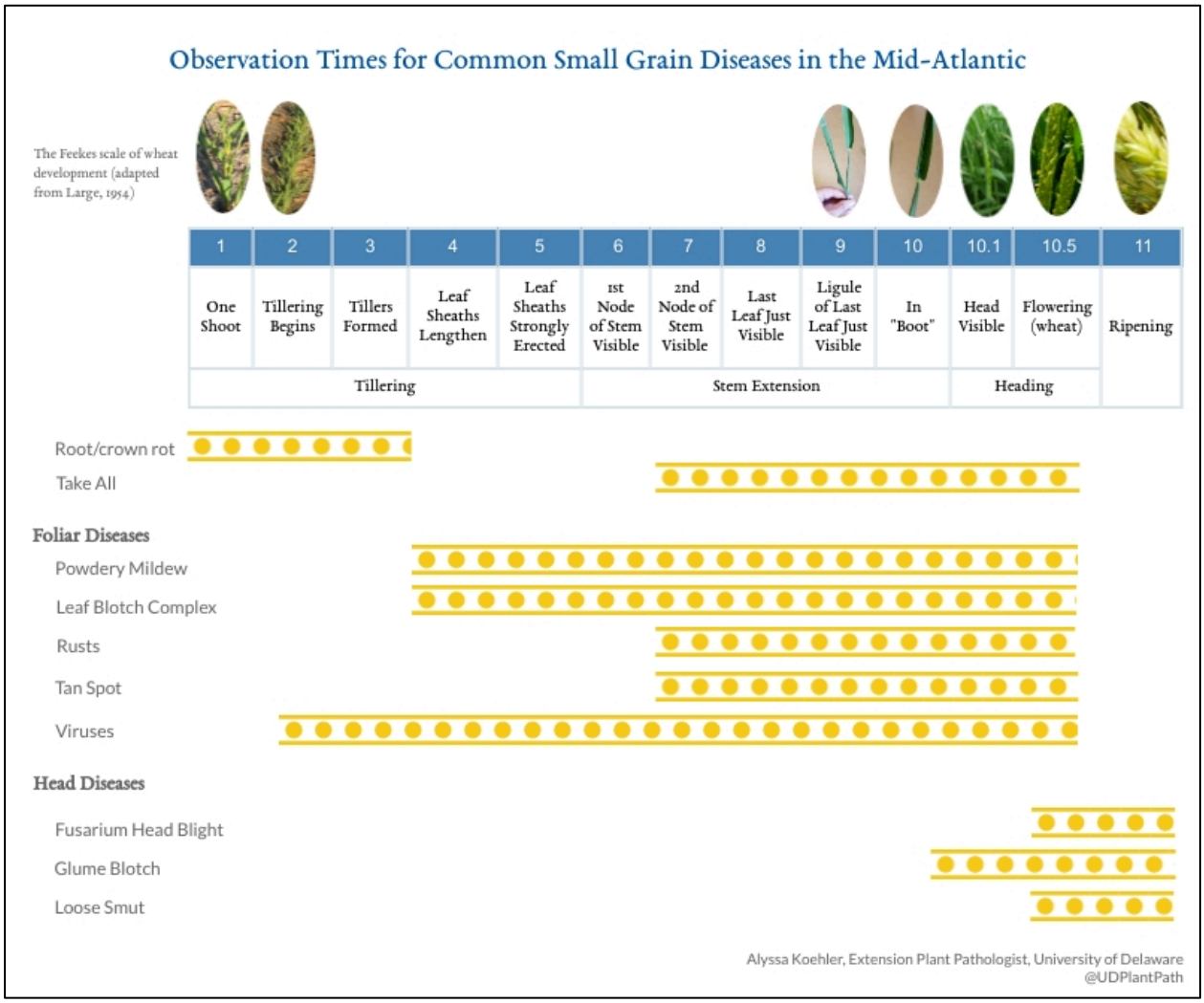
Figure 2: Healthy control (left) versus corn seedlings infected with *Pythium inflatum* (right)

Nematode Management

Another focus of the lab is nematode management. Initial surveys of soybean fields in 2019 and 2020 showed that Soybean Cyst Nematode is widely present and there are numerous fields with elevated levels of Root Knot and Lesion nematodes. We will be continuing nematode survey sampling for soybean in 2021 and adding corn sampling. If you have soybean or cornfields with suspected problems and would like to be added to the survey, please let me know at akoehler@udel.edu.

Small Grain Disease Observations

Small Grains are on the horizon. We will dive into management of the most economically important diseases for our region in future articles. As fields dry enough to get out for a first nitrogen application, that is a good opportunity to scout for diseases like powdery mildew. However, we typically do not observe powdery mildew until temperatures are above 59-60°F for 1-2 weeks. If it stays cold, it will likely be a few weeks before powdery mildew has a chance to "wake up".



General

Still Need Nutrient Management Credits? – *Sydney Riggi, Extension Agent – Nutrient Management*; sydney@udel.edu and *Amy Shober, Extension Nutrient Management and Environmental Quality Specialist*; ashober@udel.edu

It had been almost an entire year since in-person programming stopped. We understand this is frustrating, especially to those who need programming to maintain state-mandated certifications like nutrient management. There are several options available if you find yourself in need of credits to renew your Delaware Nutrient Management Certification that expires on May 1, 2021.

Option #1: There are currently 23 online continuing education modules available that cover a wide variety of nutrient management related topics. Some of these modules require you to watch a video, while others are readings. Whether you choose a video or a reading you will need to take and pass a short quiz after you complete the module to obtain nutrient management credits. Modules are worth 0.25 to 1.25 CEUs depending on the option. You can access the online modules via the UD Nutrient Management Online Continuing Education website.

Option #2: A packet with reading materials on a variety of subjects related to nutrient management can be mailed to you. Just like the online options, you will need to complete and pass a short quiz after each reading. Once you mail back the completed packet, we will enter credits in your account.

Option #3: The Delaware Department of Agriculture has agreed to extend the certification period by one year for anyone who has a certification that expires on May 1, 2021 and is unable to obtain the necessary credits using options 1 or 2. However, you must contact the Delaware Nutrient Management Program at (302) 698-4500 to receive the extension on your certification period. This extension is not automatic.

If you have questions about available continuing education options, we strongly recommend that you contact Hilary Gibson at 302-735-8137 or email nutrient-management@udel.edu. Hilary is happy to guide you through your options and help you choose the one that best suits your circumstances. Hilary can also check your current credits to determine how many credits you need to renew your current certification.

Announcements

Commercial Vegetable Production Recommendations Available

The 2020/2021 Mid-Atlantic Commercial Vegetable Production Recommendations are online at: https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/midatlantic-vegetable-recommendations/

The online pdf version is free. There are important updates to the recommendations available here: https://sites.udel.edu/weeklycropupdate/files/2021/03/2021-Critical-Updates-Vegetable-Production-Recommendations.pdf

Print copies may be purchased by contacting Emmalea Ernest at 302-233-4719 or emmalea@udel.edu. Print copies cost $20 for members of the Fruit and Vegetable Growers Association of Delaware and $25 for non-members.

Fruit and Vegetable Session Recordings

Video recordings of the presentations given during the Fruit and Vegetable Growers Association of Delaware annual educational meeting, held January 11-14, 2021 are available online. All the talks from each of the four sessions (Fruit, General, Fresh Market and Processing) are available for viewing at: https://sites.udel.edu/weeklycropupdate/?p=17608.

Survey on Bird Damage in Sweet Corn

Got bird problems? Squawk to us about them.

Researchers at the University of Rhode Island are currently distributing an online survey about **fresh market sweet corn**. If you grow fresh market sweet corn you are eligible to take this short 5-minute online survey. Your participation and feedback are extremely valuable to the success of this research.

The survey will gather information on growers' bird damage levels to sweet corn and prevention methods used to deter bird damage. To take this survey:

use this link:
https://uri.co1.qualtrics.com/jfe/form/SV_8qBBeU2HAIwcKYl

or scan this QR code:

This research has been approved by The University of Rhode Island Institutional Review Board. We thank you in advance for taking our survey. If you have further questions or interested in this study please contact:

Dr. Rebecca Brown at brownreb@uri.edu
Department of Plant Science and Entomology

Natalie Meyer at natalie_meyer@uri.edu
Department of Environmental and Natural Resource Economics

Soybean School

Wednesday, March 17, 2021 9:30-11:30 a.m.
Online via Zoom

University of Delaware Cooperative Extension, the Delaware Soybean Board, and the United Soybean Board are teaming up to bring you research updates, market intelligence, and announce yield contest winners from the 2020 season. Register at: https://udel.zoom.us/webinar/register/WN_XfZkInXvSw-2_SZE8VSZ3g

9:30 a.m.
Soybean 2020 Pest Observations for 2021
Dr. David Owens, Extension Specialist – Entomology

9:45 a.m.
Seed Treatments and Other Approaches to Managing Soybean Cyst Nematode
Dr. Alyssa Koehler, Extension Specialist – Field Crops Pathology

10:00 a.m.
Split Applied Potassium for Soybeans
Dr. Jarrod Miller, Extension Specialist – Agronomy

10:15 a.m.
Soybean Irrigation and Fertigation
Dr. Cory Whaley, Extension Agent – Sussex County

10:30 a.m.
Considering Xtend or Enlist for Weed Control: Where to Begin
Dr. Mark VanGessel, Extension Specialist – Weed Science

10:50 a.m.
Soybean Market Overview- Domestic and International Dynamics
Mac Marshall, Vice President, Market Intelligence, United Soybean Board

11:20 a.m.
Delaware Soybean Yield Contest Awards
Cory Atkins, Chairman, Delaware Soybean Board

11:30 a.m.
Questions, Quiz, and Evaluation

Profiting From a Few Acre$ Small Farms Conference

Wednesday, March 10, 2021 9:00 a.m.-2:05 p.m.
Online via Zoom

DSU Cooperative Extension presents its annual small farms conference with experts and farmers from Delaware and the Mid-Atlantic region.

Topics
Marketing Trends ● Soil Health ● Intensive Production ● Alternative/Ethnic Crops

Keynote Speaker
Patrick L. Eggleston, Vegetable Production Manager at Coverdale Farm Preserve

Patrick formally studied soils and agricultural education and extension at Pennsylvania State University and has previously managed farm and growing operations at Buckhorm Mountain Gardens/Ranch in Colorado as well as small farms in northern Delaware and California. Patrick specializes in intensive, 4-season, organic vegetable agriculture with a special focus on soil health and regenerative practices.

Entire Schedule is Online Here: https://cpb-us-w2.wpmucdn.com/sites.udel.edu/dist/f/9280/files/2021/02/Few-Acres-Update.pdf

Register here: https://zoom.us/meeting/register/tJYkd–vrTIrGdS4QNvQV_lQzeUvZdEbSHPD

For more information or for assistance due to disabilities, email mpleasanton@desu.edu

Cooperative Education in Agriculture, Youth Development, and Home Economics. Delaware State University, University of Delaware and the United States Department of Agriculture cooperating, Dr. Dyremple B. Marsh, Dean and Administrator. It is the policy of the Delaware Cooperative Extension System that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.

Pesticide Safety Exam Reviews

Beginning in March the Delaware Department of Agriculture Pesticide Section will provide a Pre-Certification Pesticide Core Exam Review. This review will provide essential information, covering laws, equipment, personal safety and more to help you prepare for the core certification exam.

The core exam is for private pesticide applicators and a prerequisite for all commercial pesticide applicators.

2021 Pesticide Exam Dates
Wednesday, March 17, 2021
Wednesday, May 5, 2021
Wednesday, June 23, 2021
Wednesday, August 11, 2021
Wednesday, September 29, 2021
Wednesday, November 17, 2021

Schedule for Exam/Review Dates
Core Exam Review: 9 – 11:30am
Lunch Break
Pesticide Testing for ALL: 1 – 4pm

You may choose to test in the afternoon of the review or on another testing date.

Sign up is free!
Log into your account on dda.force.com/pesticide then click on Exam Registrations.

For more information on this training course and testing please contact Amanda Strouse at amanda.strouse@delaware.gov or 302-698-4575.

Extension302 Podcast

Episode 14: High Tunnels with Dr. Rose Ogutu
We're kicking off the 2021 podcast year with special guest Dr. Rose Ogutu, Horticulture Specialist with Delaware State University! In this episode, the team explores the uses, benefits and challenges of using High Tunnels.

To listen, go to:
https://www.udel.edu/academics/colleges/canr/cooperative-extension/about/podcast/

Delaware Ag Safety Conference

Wednesday, March 17, 2021 9:00 a.m.-noon
Online via Zoom

Delaware Farm Bureau's 4th Annual Delaware Ag Safety Conference will be virtual.

Topics
Grain Bin Safety/Confined Space Entry
Matt Ludwig, Nationwide

Right to Repair/Safety of Repair
Atlantic Tractor, John Deere Dealer
Question and Answer session with John Deere, AGCO, Kubota, Case IH, and New Holland after the presentation

Pesticides 101 – The What's and Why's of the Pesticide Label
Dr. Kerry Richards, University of Delaware Cooperative Extension, Pesticide Educator

Register for the Ag Safety Conference at:
https://zoom.us/meeting/register/tJUvceCgqzkpHd1y7KrxpvAlJeOHb25kyekn

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of February 25 to March 3, 2021

Rainfall:

0.11 inch: February 26
0.21 inch: February 27
0.86 inch: February 28
0.34 inch: March 1

Air Temperature:

Highs ranged from 56°F on February 27 to 41°F on March 2.

Lows ranged from 42°F on February 28 to 28°F on March 2

Soil Temperature:

43.4°F average

Additional Delaware weather data is available at http://www.deos.udel.edu/data/

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