



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Special Issue of WCU

Typically, there is only one March issue of WCU. Hopefully this unusual second March issue is helpful as you navigate the unfamiliar territory we are all in; around the world people are experiencing change and being asked to alter their daily habits to protect their own health and to help others survive. Remember to thank and encourage your family members, friends and neighbors who work in hospitals, medical offices and clinics. As you go about your day, let your actions be guided by care and not by fear.

Emmalea Ernest

How to Contact Extension Agents Working Remotely

Due to the current COVID-19 situation, University of Delaware offices will be closed and staff will be working remotely through at least March 29. We have taken this step to protect the health and safety of our community but we want to remain as responsive to clientele as possible. Agents are still responding to phone calls and distance communication. Below is a listing of the best way to contact agents at this time.

If you have plant or insect **diagnostic samples** please contact the agent covering agriculture or horticulture for your county.

Soil test submission procedures have changed. For up to date soil testing information, including how to purchase kits and submit soil samples

please visit the Soil Testing Laboratory's website:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/environmental-stewardship/soil-testing/>

Sussex County

For commercial agriculture needs contact Cory Whaley at 302-542-1857 or whaley@udel.edu

For commercial horticulture needs contact Tracy Wootten at 302-236-0298 or wootten@udel.edu

For poultry management for seasonal readiness, ventilation, animal husbandry and welfare, troubleshooting performance contact Georgie Cartanza at 302-632-3173 or cartanza@udel.edu

For general lawn and garden questions use our "Ask an Expert" service <https://www.udel.edu/extension/ask/> or contact our Garden Line at (302) 856-2585 x535

Kent County

For agriculture needs contact Jake Jones at 302-612-1828 or jgjones@udel.edu

For livestock/equine, pasture and Quality Assurance certification needs (PQA/YQCA, etc.) contact Susan Garey at (302) 730-4000 or truehart@udel.edu

For commercial horticulture needs contact Blake Moore at (302) 730-4000 or rbmoore@udel.edu

For general lawn and garden questions use our "Ask an Expert" service

<https://www.udel.edu/extension/ask/> or contact our Garden Line at (302) 730-4000

New Castle County

For agriculture, animal science, hay and pasture needs contact Dan Severson at 302-299-9158 or severson@udel.edu

For commercial horticulture needs contact Carrie Murphy at 302-831-1426 or cjmurphy@udel.edu

For general lawn and garden questions use our "Ask an Expert" service <https://www.udel.edu/extension/ask/> or contact our Garden Line at (302) 831-8862

Vegetable Crops

Vegetable Crop Insect Scouting - David Owens, *Extension Entomologist*, owensd@udel.edu

Cole Crops

Spring has sprung, and with it, the first harbingers, cabbage whites, have emerged from overwintering chrysalises. These white butterflies are now widespread. Early in February, adult diamondback moth were also observed on overwintered kale, and last week harlequin bugs were observed in the same location. Be sure to scout brassicas as soon as plants are out in the field for all worm and bug pests. Cabbage maggot flies should also be active, given that seedcorn maggot is highly active.

Sweet Corn Starter Fertilizer - Gordon Johnson, *Extension Vegetable & Fruit Specialist*; gjohn@udel.edu

The first sweet corn has been planted on plastic and bare ground plantings will be starting soon. This is a good time to revisit starter fertilizer use in sweet corn.

Sweet corn does respond to starter fertilizer. Of the nutrients that can be provided in a starter fertilizer, research has shown nitrogen (N) and Sulfur (S) to be the most beneficial, followed by phosphorus (P). In sweet corn it is common to

include all 3 in starter fertilizer, although P does not always show a response.

We are starting to see some potassium (K) deficiencies in sweet corn on Delmarva. K in starter can be beneficial but rates should be limited. If soil K levels are high, K in starter fertilizer is not necessary.

We usually do not see a response to boron (B) in sweet corn so it is generally not recommended in starter fertilizer. Fields that receive B broadcast applications (1-2 lbs/A) at least once every 2 years should have sufficient B for sweet corn growth. If B has not been broadcast in the rotation it can be added to starter fertilizer but the rate should be very low to avoid B toxicity ($\frac{1}{8}$ lb/A, or less).

Zinc is usually not added to starter fertilizer for sweet corn except on high pH soils or soils with excessive P.

It is important to be careful in how close you place starter fertilizer to the seed (a concern with sweet corn starter fertilizer is reduction in stands due to fertilizer salt injury). The standard recommendation is to place starter fertilizer 2" to the side and 2" deep. This provides a concentrated band for early uptake (plant roots will proliferate around the band); and the band will be far enough away not to cause salt injury to germinating seedlings. Do not use pop-up (in seed furrow) fertilizers with sweet corn because there is too much risk of salt injury.

Suggested rates for starter fertilizer nutrients in sweet corn are shown below:

N = 20 lbs/A (10-20 lb/A range)

P = 20 lbs/A (15-20 lb/A range)

K = 10 lbs/A (10-15 lb/A range) only if K is not testing high in soils

S = 10 lbs/A (10-15 lb/A range)

Zn = 1 lb/A (none if Zn levels in soil are sufficient)

B = 0.125 lbs/A (none if you apply broadcast B in previous crops).

COVID-19 Considerations for Delaware Fruit and Vegetable Growers -Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

The following has been adapted from the University of Vermont web resource

"Considerations for Fruit and Vegetable Growers Related to Coronavirus & COVID-19" Updated 3/18/2020:

<https://blog.uvm.edu/cwcallah/2020/03/18/considerations-for-fruit-and-vegetable-growers-related-to-coronavirus-covid-19/>

The current COVID-19 pandemic is a common concern and many are wondering what they can and should do. The information here is intended to help guide the fruit and vegetable farming community. If you have concerns or additional suggestions please contact the University of Delaware Produce Safety Team (gcjohn@udel.edu, jbjones@udel.edu, kniel@udel.edu) or you county Extension educator.

Background

COVID-19 is the disease caused by a new coronavirus (SARS-CoV-2). Symptoms include fever, cough, and shortness of breath, and may appear 2-14 days after exposure. It is a respiratory disease. The virus is thought to spread mainly from person-to-person between people who are in close contact with one another (within about 6 feet) and through respiratory droplets produced when an infected person coughs or sneezes. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

While most COVID-19 illnesses are mild, it can result in severe and fatal illness, particularly in the elderly and among those with severe underlying health conditions. Because it is a new virus, researchers and health workers across the country and Federal and State agencies are working hard to better understand the virus, how to control its spread, and how to treat those infected. Many restrictions on travel, dining, and social gathering have been put in place across the region. However, food is considered a critical need and food producers, distributors,

wholesalers, and retailers are considered essential in this epidemic.

Currently, most Delaware produce growers are preparing for the growing season, doing field preparation, planting in the field and greenhouse, ordering supplies, applying fertilizer and lime, and other farm activities. However, greenhouse growers, hydroponic farms, and high tunnel producers of early crops are currently selling to wholesale channels and to the public. Within 4 weeks, harvest of the first produce from the field will begin with asparagus and strawberries.

According to the FDA, there is no indication that this virus has spread via food. Unlike foodborne gastrointestinal (GI) viruses like norovirus and hepatitis A that often make people ill through contaminated food, SARS-CoV-2, which causes COVID-19, is a virus that causes respiratory illness. Foodborne exposure to this virus is not known to be a route of transmission.

What Should Growers Do?

Stay Away if Sick -Make sure employees stay home if they feel sick and send them home if they develop symptoms at work. Consider posting signs asking customers not to shop at your farm stand if they have symptoms.

Practice Social Distancing - By putting a bit more space between you and others you can reduce your chances of getting ill. This might mean limiting or prohibiting farm visitors or reducing the number of off-farm meetings you attend in person. Avoid shaking hands and other physical contact.

Minimize the Number of Touches - Consider changes in your policies and operations that minimize the number of times produce, packaging, and containers are touched by different people. This may include workers, distributors, and customers.

Wash Your Hands - Reinforce the importance of washing hands well when arriving at work, when changing tasks (e.g. moving from office work to wash/pack), before and after eating, after using the bathroom, before putting on gloves when working with produce, and after contact with animals. Soap + water + 20 seconds or more are needed to scrub all surfaces of your hands and

fingers thoroughly. Then, dispose of paper towels in a covered, lined trash container.

Cleaning, Sanitizing, and Drying - The SARS-CoV-2 virus, which causes COVID-19, can survive on surfaces for many hours. While transmission through produce has not been found, it is a good policy to review, improve, and reinforce your standard operating procedures for cleaning, sanitizing, disinfecting, and drying any food contact surfaces, food handling equipment, bins, and tools. Sales facilities should be routinely disinfected. The EPA has provided a list of disinfectants for use against SARS-CoV-2, the virus causing COVID-19. Very few of these products are common on the farm and may be hard to find. If you are currently using a sanitizer as part of a standard cleaning and sanitizing procedure for hard surfaces on your farm, continue doing so. Consider reviewing the label for that product and using it for disinfection of specific high-touch surfaces if applicable. You can also follow the CDC guidance and use a mixture of bleach and water (5 tbsp / gallon or 4 tsp / quart). EXAMPLE: Reviewing the label for Ultra Clorox® Brand Regular Bleach (alternate name, "Clorox Germicidal Bleach"), a 6.0% sodium hypochlorite product, we note that this product is labeled as effective against human coronavirus (p.35 revised). We also note that the concentration used for disinfection of hard, nonporous surfaces (p. 14 and 22 of PDF) is 2700 ppm (¾ cup per gallon of water) available chlorine compared to the lower rate used for sanitizing (p. 14 of PDF) of 200 ppm (1 tbsp per 1 gallon of water). The effectiveness of chlorine depends on the pH of water.

Plan for Change - Many produce farms are lean operations run by one or two managers and a minimal crew. Have a plan for if you become severely ill. Plan on how to handle reductions in workforce due to illness. More business and labor planning guidance is available at the Cornell Agricultural Workforce Development site <https://agworkforce.cals.cornell.edu/> and at the Penn State ReadyAG site <https://extension.psu.edu/readyag-workbook>.

What Should Markets and Farmers Markets Do?

Everything Above - Growers, retail food market owners, and farmers market managers should do

all the things above. All markets should have access to handwashing.

Communicate with your Customers - Consider reaching out to your customers and recommend they stay home if they are ill. Inform your customers about any changes in your hours or policies.

Reinforce the Health Benefits of Fruits and Vegetables - Be sure to promote the nutritional value of your products. But, keep in mind that promotion of your products should be within reason. Avoid making overly broad or unsupported health claims. Fresh produce contains many minerals and nutrients important for immune health which may reduce the severity and duration of an illness.

Consider Alternative Delivery - Some markets are taking this opportunity to launch pre-ordering and electronic payment options to enable social distancing at market. Other markets are moving to a drive-through pickup option.

Some farmers markets have changed the way they do business to implement some of the best practices listed above. A North Carolina farmers' market has communicated changes with market customers, practiced social distancing by rearranging the market layout, rounded prices for limited use of coins, running "tabs" for customers to minimize cash transactions, prohibited samples, prohibited tablecloths to ease sanitation, and the added a hand washing station among other things.

Another farmers' market has shifted to online ordering and pre-bagged orders from each farm that are combined into larger collective orders delivered to each customer via a drive-up system. The biggest decision was deciding that they'd actually continue to have the market. The new approach required the addition of an on-line ordering system (Google Forms for now), coordination among farms and some serious organization at the market. Orders are organized by last name and, pickups are scheduled by name. People don't get out of their cars.

COVID-19 Resources for Delaware Producers and Food Providers -Gordon Johnson, *Extension Vegetable & Fruit Specialist*; gcjohn@udel.edu

From Pennsylvania Department of Agriculture

COVID-19 (Novel Coronavirus) Prevention Practices for Food Banks and Food Pantries
<https://www.agriculture.pa.gov/Documents/COVID-19%20Guidance%20for%20Food%20Assistance%20Agencies.pdf>

COVID-19 GUIDANCE: Farms and On-Farm Deliveries
<https://www.agriculture.pa.gov/Documents/Farms%20and%20On-Farm%20Deliveries.pdf>

COVID-19 GUIDANCE: Farmers Markets & On-Farm Markets
<https://www.agriculture.pa.gov/Documents/Farmers%20Markets%20and%20On-Farm%20Markets.pdf>

From Rutgers University

Produce Pick-Up and Deliveries During the COVID-19 Outbreak- Keeping Things Safe
<https://plant-pest-advisory.rutgers.edu/produce-pick-up-and-deliveries-keeping-things-safe/>

From University of Florida

COVID-19 FAQ for U-Pick Farms, Steps for Farm Managers
<https://edis.ifas.ufl.edu/pdffiles/FS/FS33800.pdf>

COVID-19 FAQ for Farmers Markets, Steps for Markets AND Market Managers
<https://edis.ifas.ufl.edu/pdffiles/FS/FS32600.pdf>

COVID-19 FAQ for Community Gardens: Steps for Garden Managers and Gardeners
<https://edis.ifas.ufl.edu/pdffiles/FS/FS34200.pdf>

From the University of Vermont

Considerations for Fruit and Vegetable Growers Related to Coronavirus & COVID-19" Updated 3/18/2020
<https://blog.uvm.edu/cwcallah/2020/03/18/con>

[siderations-for-fruit-and-vegetable-growers-related-to-coronavirus-covid-19](#)

From North Carolina State University

Links to many COVID-19 resources for Home and Community and for Retail Food Environments and Farms

<https://foodsafety.ces.ncsu.edu/covid-19-resources/>

Controlling Cercospora Leaf Spot in Beet -

Andy Wyenandt, *Specialist in Vegetable Pathology*, Rutgers University;
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This article originally appeared in the Plant & Pest Advisory from Rutgers Cooperative Extension: <https://plant-pest-advisory.rutgers.edu/controlling-cercospora-leaf-spot-in-beet/>

Cercospora leaf spot (CLS), caused by *Cercospora beticola*, is an important and emerging disease in beet and swiss chard production in New Jersey. Efforts to control this disease has become more difficult in the past few years in some areas of southern New Jersey. The soil-borne fungal pathogen, once established in fields, can survive in the soil for up to 2 years on infected debris and on weed hosts such as Chenopodium, goosefoot, and pigweed. The pathogen may also be seed-borne. Symptoms of infection include numerous, small tan leaf spots with distinct dark purple margins that are easily diagnosed (Fig. 1). Overhead irrigation and rainfall help spread the pathogen throughout the field. *Cercospora beticola* is most damaging in warm weather (day temperature of 77 to 90 °F and night temperature above 60 °F).

Controlling Cercospora leaf spot with preventative fungicide applications has become challenging for some growers in New Jersey. The pathogen is known to have developed resistance to important fungicide classes in recent years, such as the QoIs (FRAC code 11) and the DMIs (FRAC code 3) in different regions of the country, based on fungicide use. This is not surprising since resistance development can occur when fungicides in these groups are used extensively over many years. In New Jersey,

azoxystrobin has been used extensively for years to manage this disease.



Figure 1. Cercospora leaf spot on beet.

Cultural Practices to Help Mitigate Losses to Cercospora Leaf Spot

There are a number of cultural practices growers can do to help reduce losses to CLS.

- Start with certified, disease-free seed, or treat seed using hot water seed treatment method.
- Avoid fields with a known history of CLS.
- Rotate to non-host crops (outside of the Chenopodium family) for 2-3 years.
- Bury infected crop residues and destroy volunteer plants and weed hosts.
- Burn down fields after harvesting.

- Avoid planting succession crops close together (at least 100 meters apart).
- Avoid overhead irrigation if it will result in prolonged leaf wetness periods (e.g., late evening or at night); irrigate early to mid-day when leaves will dry fully or use drip irrigation for small plantings.
- Using the proper fungicides, rates, and fungicide rotations.

Fungicides for Controlling Cercospora Leaf Spot

In recent years a number of new fungicides have been labeled for CLS control. Many of these fungicides contain two different active ingredients with more than one mode of action. Growers who have relied on managing CLS with azoxystrobin (FRAC code 11) for years and suspect a loss in efficacy should consider removing it from their fungicide program. There is a good chance fungicide resistance has developed. In 2019, a field study was done at RAREC to examine the efficacy of different fungicides for CLS control (Table 1). The fungicide efficacy trial was established in field with a history of CLS; where the field was inoculated with infected debris collected from a farm in southern New Jersey. Fungicides were applied weekly for 5 weeks with overhead irrigation to help promote disease development.

Table 1. Fungicides Tested for CLS Control Efficacy in NJ in 2019

Fungicide program (application timing)	FRAC code	active ingredient(s)	Rate per acre	Labeled for beet	AUDPC value
Untreated control	n/a	n/a	n/a	n/a	617 a
Kocide 3000 (1-5)	M01	copper hydroxide	1.0 lb	Yes	564 ab
Quadris 2.08F (1-5)	11	azoxystrobin	15.5 fl oz	Yes	538 bc
Fontelis 1.67SC (1-5)	7	penthiopyrad	30.0 fl oz	Yes	510 bcd
Miravis Prime 3.34SC (1-5)	7 + 12	pydiflumetofen + fludioxonil	13.4 fl oz	Yes	497 bcd
Merivon 2.09SC (1-5)	7 + 11	fluxapyroxad + pyraclostrobin	5.5 fl oz	Yes	471 cd
Tilt 3.6EC (1-5)	3	propiconazole	4.0 fl oz	Yes	445 d

Cercospora leaf spot development was extremely high during the course of the study. Area Under Disease Progress Curves (AUDPC) were calculated to determine the amount of disease development under each fungicide program

(Table 1). CLS development was highest in the untreated control (UTC), with no significant differences between the UTC and weekly copper applications suggesting that weekly copper applications did not help reduce CLS in this study

(Table 1). Weekly applications of Quadris, Fontelis, Miravis Prime were not significantly different, but significantly lower than the UTC (Table 1). Control of CLS was best with weekly applications of Tilt and Merivon, but these were not significantly different from weekly applications of Miravis Prime or Fontelis (Table 1). Results of this study suggest that growers with resistance concerns who have relied heavily on copper and azoxystrobin for CLS control should consider using other fungicides in their weekly preventative fungicide programs. Control programs should focus on applying fungicides with more than one mode of action and focus on rotating fungicides with different modes of action. For example: (please see 2020/2021 Commercial Vegetable Production Guide), Apply Tilt (FRAC code 3) followed by Miravis Prime (7 + 12), then tebuconazole (3), then Merivon (7 + 11), then Tilt (FRAC code 3), then Luna Tranquility (7 + 9). Remember, resistance development to [FRAC code 11 fungicides \(QoIs\)](#) is qualitative and controlled by single point mutations, once resistance develops the fungus is completely resistance (to all fungicides in the group). Resistance development in [FRAC code 3 fungicides \(DMIs\)](#) is quantitative which often characterized as a gradual loss of resistance over time. As a note, FRAC code 3 fungicides should always be applied at the highest rate, using lower rates may increase selection pressure.

Organic Control Options

Controlling CLS in organic production systems starts by following and executing good cultural practices listed above. Always purchase certified seed. Use the hot water seed treatment method to help disinfested seed. Avoiding fields with a history of the disease. Producing beet on mulch and drip irrigation in small operations should be considered. This will help reduce weed pressure (as well as potential hosts) and reduce the need for overhead irrigation. Organic copper applications may not be effective in some operations where disease pressure is extremely high. Unfortunately, control of CLS with organic and biopesticides has been difficult, therefore good cultural practices must be followed accordingly.

Fruit Crops

Plasticulture Strawberry Management 2020

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

If growers have not done so already, plasticulture strawberries should be cleaned to remove dead leaves and other dead plant material. Winter injury has left many dead leaves that will serve as a major source of Botrytis spores during bloom (the critical stage for infection). Dead material can also lead to crown rots in strawberry plants.

Plasticulture strawberries should have nitrogen applications prior to bloom. Base recommendations are 25 lbs/a of nitrogen at greenup and another 25 lbs/a of nitrogen 2-3 weeks later. If fertigating weekly, addition of 3-5 lbs of nitrogen per acre per week may be warranted. Nitrogen is critical prior to and during early bloom. Altering between potassium nitrate and calcium nitrate as the nitrogen source will often improve fruit quality.

Growers are also encouraged to take petiole and leaf tissue samples for laboratory analysis. To collect and submit strawberry tissue samples, follow these guidelines:

- select the most recently mature, healthy, trifoliate leaves from uniform field areas and the same variety;
- detach the petioles from the leaves as you collect them and save each separately;
- include leaves and petioles from 20 to 25 plants; and
- then submit leaves and petioles together as one sample.

We have a lab on Delmarva that can run these tissue samples. Leaf tissue nutrient levels should be maintained as follows: N (%) 3-4, P (%) 0.2-0.4, K (%) 1.1-2.5, Ca (%) 0.5-1.5, Mg (%) 0.25-0.45. When in full bloom, petiole tissue nitrate content should be between 4000-6000 ppm and then will decrease thereafter.

Petiole nitrate levels for most plasticulture strawberry varieties in ppm:

- greenup, pre-bloom 600-1500 ppm;
- bloom 4000-6000 ppm,
- main fruiting period 3000-5000 ppm,

- later fruiting decrease each week from 3000 to 1000 ppm.

Note that some varieties, such as Flavorfest, require much lower nitrogen levels.

Further note that day neutral varieties such as Albion that fruit into July should maintain higher levels of petiole tissue nitrate later in the season than June bearing types.

Agronomic Crops

Agronomic Crop Insect Scouting - David Owens, *Extension Entomologist*, owensd@udel.edu

Small Grains

Aphid populations are spotty in small grains. Some barley fields have very high populations, with reports up to 70 per foot in some spots. The good news is that parasitoid and lady beetle activity is much greater this spring than last year. Fungal infected aphids have also been detected. The natural enemies should keep aphids from taking off this year. Malting barley seems to be more susceptible to aphids than wheat or feed barley, but there is very little research on the matter. Last year we had little parasitoid activity in March and early April when aphid populations really took off. In a small plot malt trial, we did not see any quality loss due to aphid numbers, but possible yield loss with a population that was at or above our typical small grain threshold for 3 weeks. Wheat yields did not appear to be affected by the enormous but brief 2019 aphid outbreak.

Alfalfa

Sometime during the week of March 30 southern Delaware will have accumulated enough degree days for alfalfa weevil eggs to start hatching. Be on the lookout for them. We will be posting updated alfalfa insect control recommendations on our website soon.

Act Now! Do Not Delay Spring N

Applications to Small Grains - Amy Shober, *Extension Nutrient Management and Environmental Quality Specialist*; ashober@udel.edu and Jarrod O. Miller, *Extension Agronomist*, jarrod@udel.edu

We urge you to get out check your small grain fields now and make final spring N applications soon to maximize the potential of your small grain crop. Small grains are expected to be significantly ahead of last season, as we have already accumulated 958 growing degree days (GDD base 32°F) since Jan 1 (through Mar 18) at Georgetown (compared with 644 GDD in 2019).

Feekes 5 (Zadoks 30) is the recommended stage for an application of N to small grains, as this is right before the period of maximum N uptake by the crop. The application at Feekes 5 will help with seed head formation. If nodes are observed above ground when scouting, the wheat has passed Feekes 5 and N applications should be made as soon as possible.

Typically, we would recommend that a Feekes 5/6 N application rate be based on a tissue test. However, since small grains must accumulate approximately 967 GDD from planting to get to jointing (Feekes 6/Zadoks 31), it seems safe to assume that some crops have already reached this stage. It takes approximately 1110 GDD for small grains to reach Feekes 7 (Zadoks 32) at which point crop response to N is minimal. As such, there may not be time to wait for results of a tissue test before applying N.

The University of Delaware recommends total N applications of 80-120 lbs/acre for wheat and 60-90 lbs/acre for barley. The higher end of the UD range is for sandy soils or fields receiving a single spring N application. If you do not have time to base your Feekes 5 application of N on a tissue test, then you should adjust the N rate by subtracting the rate of N applied during the previous fall to promote fall tillering or at green up in early spring to help with tillering.

If tissue testing is still timely, base your Feekes 5 application on the rates in Table 1, regardless of whether this is your first or second spring application to small grains. Avoid total N applications greater than 120 lb/ac for wheat

and 100 lb/ac for barley, as excessive N can result in lodging and yield loss, as well as N leaching. Also, avoid making N applications once the small grain crop is at or past Feekes 7 (Zadoks 32).

Table 1. Nitrogen rate recommendations for single or split spring applications to small grains based on tissue N content. Based on research conducted by Virginia Tech scientists.

Tissue N Content (%)	Recommended Spring N Rate at Feekes 5 (lb/acre)	
	Wheat	Barley
2.0	120	90
2.25	110	90
2.5	100	90
2.75	90	80
3.0	80	50
3.25	70	30
3.5	60	0
4.0	40	0
4.5	20	0
5.0	0	0

General

Some More Pests to Scout For - David Owens, Extension Entomologist, owensd@udel.edu

Ticks

Before you get back into your trucks after looking at fields, take a moment to check pant legs for ticks. Ticks have remained active winter-long in states to our north. Last year I saw my first tick at the end of March.

Soil Pest Sampling for Field and Root Crops

With the soil warming nicely, now is a good time to scout for soil insect pests. There's one method that is especially useful for wireworm and one for wireworm and white grub: baiting and compact soil sampling. With baiting, you want to bury about a cup of naked corn seed (Poncho or Cruiser free-seed) or corn seed mixed

with naked small grain about 2-3 inches deep and cover with a piece of black or clear plastic. The black material will heat the soil up causing seed to germinate. The germinating seed is very attractive to wireworms. Come back to the spot in about 2 weeks and dig up the baits. One wireworm per location is enough to consider some sort of treatment. Wireworms are pretty susceptible to neonic seed treatment. You may see wireworms while digging the holes to place bait. If so, your job is done. Baiting is most effective in fields without cover crop. The second method is the compact soil sample method. Dig up a hole 8 x 8 x 6". One wireworm or one white grub is considered justification for a treatment. You will want to take 5 to 10 samples per field. Sampling may miss low populations that can cause damage to high value root crops such as potato or sweet potato.

Beef and Small Ruminant Certifications

While we know agriculture doesn't stop for anything, Delaware Cooperative Extension is taking precautionary measures to reduce the spread of COVID-19. We appreciate your support and understanding as we work together to keep our communities safe and healthy. Currently, we are not able to conduct face to face meetings but we encourage you to visit:

<https://www.bqa.org/bqa-certification/online-bqa-certification> for Beef Quality Assurance

(BOA) certification. The courses that are available teach methods for raising your cattle in accordance with BOA fundamentals. Topics involve: cattle health, stockmanship, marketing, emergency planning, and meat quality. With three certification classes available, you can choose one that relates to your operation.

In addition, for those small ruminant producers who would like FAMACHA® certification, the University of Rhode Island has an on-line course: <https://web.uri.edu/sheepngoat/famacha/>. Use of the FAMACHA® scoring system allows small ruminant producers to make deworming decisions based on an estimate of the level of anemia in sheep and goats affected by barber pole worm (*Haemonchus contortus*) infection. As the barberpole worm is most abundant in the

warm and humid months of the year it is very important that small ruminant producers are prepared for the spring and summer months to come.

The FAMACHA® card, developed in South Africa, was introduced to the U.S. by the American Consortium for Small Ruminant Parasite Control (<https://www.wormx.info/>) This online training program was developed by Dr. Katherine Petersson and Dr. Anne Zajac, DVM, members of the ACSRPC, as part of a Northeast SARE grant and is administered by the University of Rhode Island. The ACSRPC fully endorses the program for those who are unable to attend a workshop.

If you have any questions please feel free to contact:

Dan Severson: severson@udel.edu | 302-299-9158

Kwame Mathews: kmatthews@desu.edu | 302-857-6540

Susan Garey: truehart@udel.edu | 302-242-1510

Coronavirus (COVID-19) – Protect Your Health and Find Help for Financial Stress

Developed by Dorothy Nuckols, University of Maryland Extension. Adapted for Delaware by Maria Pippidis, University of Delaware Cooperative Extension. March 18, 2020

Questions about Coronavirus Disease 2019 (COVID-19) continue to swirl through daily updates and new information. How do I stay healthy? How can I afford to be sick? What happens if I lose my income? How do I protect myself and my family?

Stress is often the result of uncertainty. Because stress alone can make us sick or more susceptible to disease, it is important to take steps to reduce uncertainty by staying informed and planning ahead when possible.

How can I stay healthy? Most importantly, get answers and information from a reputable

source. Helpful suggestions can be found from the [CDC](#), The [World Health Organization](#), and your [State Health Department](#). All provide instructions for simple preventative precautions that you can take to reduce the likelihood of getting sick:

- Wash your hands frequently for at least 20 seconds.
- Avoid touching your mouth, nose, and eyes.
- Keep a distance of six feet from others whenever possible.
- Stay home from work or other activities if you are sick.
- Identify ways to keep yourself and family members calm and reduce stress. Ideas are provided here and below.

World Health Organization Coping with stress during the 2019-nCoV outbreak

It is normal to feel sad, stressed, confused, scared or angry during a crisis. Talking to people you trust can help. Contact your friends and family.

If you must stay at home, maintain a healthy lifestyle - including proper diet, sleep, exercise and social contacts with loved ones at home and by email and phone with other family and friends.

Don't use smoking, alcohol or other drugs to deal with your emotions. If you feel overwhelmed, talk to a health worker or counsellor. Have a plan, where to go to and how to seek help for physical and mental health needs if required.

Get the facts. Gather information that will help you accurately determine your risk so that you can take reasonable precautions. Find a credible source you can trust such as WHO website or, a local or state public health agency.

Limit worry and agitation by lessening the time you and your family spend watching or listening to media coverage that you perceive as upsetting.

Draw on skills you have used in the past that have helped you to manage previous life's adversities and use those skills to help you manage your emotions during the challenging time of this outbreak.



Helping children cope with stress during the 2019-nCoV outbreak



Children may respond to stress in different ways such as being more clingy, anxious, withdrawing, angry or agitated, bedwetting etc.

Respond to your child's reactions in a supportive way, listen to their concerns and give them extra love and attention.

Children need adults' love and attention during difficult times. Give them extra time and attention.

Remember to listen to your children, speak kindly and reassure them.

If possible, make opportunities for the child to play and relax.



Try and keep children close to their parents and family and avoid separating children and their caregivers to the extent possible. If separation occurs (e.g. hospitalization) ensure regular contact (e.g. via phone) and re-assurance.

Keep to regular routines and schedules as much as possible, or help create new ones in a new environment, including school/learning as well as time for safely playing and relaxing.



Provide facts about what has happened, explain what is going on now and give them clear information about how to reduce their risk of being infected by the disease in words that they can understand depending on their age.

This also includes providing information about what could happen in a re-assuring way (e.g. a family member and/or the child may start not feeling well and may have to go to the hospital for some time so doctors can help them feel better).

Coping with Financial Stress

Can I afford to get sick? The new virus strain might be scary, causing worry about paying for the virus testing and hospital bills. Staying home from work might mean a missed paycheck, or even a lost job.

There is help. Many insurance providers are covering the cost of the test as well as waiving co-payments. Check with your own insurance company for details. If you're on Medicare, Medicare Part B covers coronavirus (COVID-19) testing. This test is covered when your doctor or other health care provider orders it.

Important: Call your health care provider first before seeking the test. A referral is required, and testing is not appropriate in all cases.

What about loss of income? Employer response varies widely — some are offering paid or partial paid leave, some are not or simply can't. Discuss concerns with your employer.

Are you self-employed? Proposed federal legislation offers relief. Unemployment benefits are being offered. The Department of Labor asks Delawareans to file for unemployment benefits online at <https://ui.delawareworks.com>. Questions to the department can be answered via email at dol_dui_wilmington_claims@delaware.com or via phone at (302) 761-8446.

How can I meet my obligations and expenses? Policies are quickly being implemented to specifically meet coronavirus related needs.

In Delaware:

- Delmarva Power has suspended service disconnections and waiving new late payment fees through at least May 1. They will be working with customers on a case-by-case basis to establish payment arrangements and identify energy assistance options. If not a Delmarva customer, contact your service provider for more information.

- [Meals for children](#) There are over 197 locations across the state that provide meals and a snack to children impacted by school closings. Families may pick up meal bags for children 18 and under who live in their home. Children must be present. Any family needing additional information may contact their district or charter office. You do not have to go to the location in your district; you can go to the location close to you.

- The Food Bank of Delaware directly distributes EMERGENCY food to the public through the Healthy Pantry Centers. You would make an appointment to pick up food. Appointments are required for both the Newark Healthy Pantry Center (for appointment call (302) 292-1305 ext 227) and for the Milford Healthy Pantry Center (for appointment call (302) 424-3301 ext 106). For more information go to: <https://www.fbd.org/get-help/>

- Mortgage, student loan, and other debts. Talk directly with your lender for updates on terms. There is proposed legislation to provide debt relief for student loan and other borrowers.

- Eviction from federal Housing and Urban Development sites will temporarily be prohibited for any coronavirus-related delay in rent payment. In addition, the Federal Housing Finance Agency directed Fannie Mae and Freddie Mac to suspend foreclosures and evictions in connection with single-family mortgages for at least 60 days.

- For help with basic needs. Dial 2-1-1 or 1-800-560-3372. Or text your Zip Code to 898-211. This service will provide referrals to specific resources based on your needs and location.

How do I plan ahead for events like this? The biggest concern now is to stay healthy. However, when the crisis is over, there are steps you can take to reduce financial stress in the future.

1. Have an emergency fund just for loss of income. Start saving with small steps. If you can save one hour of pay each week for a year, you will have more than a full week's pay saved.
2. Evaluate your health insurance plan each year during open enrollment to make sure the plan you have is your best choice. Resources for this can be found [here, especially on pages 13-18](#).
3. [Know your health insurance deductible and estimate your annual health care costs](#) so they can be included in your spending plan. Set aside money to cover these out of pocket costs.
4. Learn more about health insurance options at UD Cooperative Extension's online [Health Insurance 4U course](#).
5. Identify you and your family's needs and the resources you need to address them. These resources could include money, but your list may also include friends or family that will help in a time of need or community resources that you could access in the future. Keep updating your list as needs change.

Reliable Resources:

It is very important to receive information about

the coronavirus and financial help from reliable sources. A few are listed below:

Protecting Your Health

Delawareans with questions about coronavirus [COVID-19] or their exposure risk can call the Division of Public Health's Coronavirus Call Center at [1-866-408-1899](tel:1-866-408-1899) or 711 for people who are hearing impaired from 8:30 a.m. to 8:00 p.m. Monday through Friday, and 10 a.m. to 4 p.m. Saturday and Sunday, or email DPHCall@delaware.gov. For the latest on Delaware's response, go to www.de.gov/coronavirus

[Coronavirus information from Centers for Disease Control and Prevention \(CDC\)](#)

Coping with Stress

[UD Cooperative Extension Fact Sheet: Stress is Gonna Get You if you Don't Watch Out](#)

[World Health Organization \(WHO\), coping with stress during the coronavirus outbreak](#)

[World Health Organization \(WHO\), helping children cope with stress during the coronavirus outbreak](#)

Coping with Financial Stress

[National Extension's Financial Security for All](#)

Announcements

Job Opening: Farm Business Management Specialist

Application deadline: April 10, 2020

The Extension Specialist I Farm Business Management Specialist serves as a recognized statewide resource in commercial agriculture production to help improve business profitability through informed decision-making. Working closely with the University of Delaware Cooperative Extension Agriculture team, the Specialist will identify and address important business management issues for farmers and the agriculture industry.

Some potential areas the Specialist could work on include strategic business planning and financial management, crop, poultry, and livestock enterprise analysis, farm machinery/precision ag technology and sustainable agriculture methods, crop insurance and grain marketing, and economics of alternative agricultural enterprises.

This will include in-person visits, development and delivery of agricultural workshops, presenting at annual educational meetings such as Delaware Ag Week and Mid-Atlantic Crop Management School, and working together with external partners.

This position will be located at the University of Delaware Carvel Research and Education Center in Georgetown, Delaware.

To apply go to: <https://careers.udel.edu/cw/en-us/job/494848/extension-specialist-i>

Profiting From a Few Acres Presentations via Zoom

Tuesday, March 31, 2020

Due to the cancellation of DSU's annual small farms conference, we have coordinated with a few of the planned speakers to hold their presentations remotely on Tuesday, March 31. Participants can simply use the links below at the times indicated for the sessions that you would like to join; no registration is needed. If you prefer, you can also call into the numbers provided and enter the meeting ID. If you join with the link and have audio problems, you can also use the call-in number and still follow along with the presentation online. You can try using the link beforehand to test out Zoom on your computer, but the presentation won't start until the times indicated.

These should be great presentations so we encourage all to participate. You will have the opportunity to ask questions if you participate live, but the presentations will also be recorded for future viewings.

If you have questions contact Jason Challandes at jchallandes@desu.edu

Insurance Options for Farming Enterprises

Speaker: Kole Swanser, Ag Research, Analysis, Education, and Information Solutions (AgRAEIS)

Tuesday, Mar 31 - 10:00 AM - 10:30 AM

Join Zoom Meeting:

<https://udel.zoom.us/j/468724839>

By Phone: 13462487799

Meeting ID: 468 724 839

High Tunnel Niche Opportunities

Speaker: Meredith Mendes, Rutgers University

Tuesday, March 31 11:00 AM - 12:00 PM

Join Zoom Meeting:

<https://udel.zoom.us/j/968805696>

By Phone: 12532158782

Meeting ID: 968 805 696

Soil Health - Lessons learned in New England High Tunnels

Speaker: Katie Campbell-Nelson, University of Massachusetts

**1 Delaware Nutrient Management Credit Available
with Verified Participation*

Tuesday, March 31 - 1:00 PM - 2:00 PM

Join Zoom Meeting:

<https://umass-amherst.zoom.us/j/324911424>

By Phone: 1 646 876 9923

Meeting ID: 324 911 424

Cultivating Your Legally Resilient Farm

Speaker: Eva Moss, Farm Commons

Tuesday, March 31 - 2:30 PM - 3:30 PM

Join Zoom Meeting:

<https://zoom.us/j/607828006>

By Phone: +1 312 626 6799

Meeting ID: 607 828 006

Mental Health First Aid Training

What is this training about? The Mental Health First Aid training is an 8 hour evidence based program that introduces participants to risk factors and warning signs of mental illnesses, builds understanding of their impact, and overviews common ways to help and find support. Using interactive educational methods, you'll learn how to offer initial help in a mental health crisis and how to connect with the appropriate level of care. You will also receive a list of community healthcare providers and national resources, support groups, and online tools for mental health and addictions treatment and support.

Why attend? In Delaware our agriculture community is facing many stressors. Those who are in the position to consult and aid them need to know the signs, symptoms and strategies to best serve them. Farm family members also need to know how best to help their loved ones.

A certificate of completion is provided to attendees who attend all 8 hours of the training.

Two Types of Mental Health First Aid Training Offered:

Adults working with Adults – this training focuses on signs, symptoms and support strategies for adults experiencing mental health disorders. This training is being taught by instructors from the Delaware Mental Health Association.

Georgetown

March 19 — 9:00 a.m.-5:00 p.m. **this training has been postponed**

Carvel Research & Education Center

Milford

April 23 9:00 a.m.-5:00 p.m.
Milford Library

Dover

May 28 9:00 a.m.-5:00 p.m.
Paradee Center

Dover

June 18 9:00 a.m.-5:00 p.m.
Farm Services Agency

Adults working with Youth – This training focuses on signs, symptoms and support strategies for youth experiencing mental health disorders. The training is taught by Certified Mental Health First Aid instructor from the National Alliance on Mental Illness in Delaware (NAMI Delaware).

Dover

May 11 and 18 8:30 a.m. – 1:00 p.m.
Paradee Center

Georgetown

June 9 and 11 10:00 am – 2:30 p.m.
Carvel Research & Education Center

Cost for the Training: is \$10/person*. This covers course materials and depending on the date of training a light lunch and/or refreshments. In addition, this training is underwritten by the Sustainable Coastal

Communities Project, Delaware Farm Bureau and University of Delaware Cooperative Extension

For more information and to register go to:
www.udel.edu/extension/mhfa

*Scholarships and support for special needs can be provided. For more info, contact Maria Pippidis, Extension Educator, University of Delaware Cooperative Extension, pippidis@udel.edu or 302-831-1239.

These organizations are an equal opportunity providers.

Stormwater Workshop Series

Carvel Research and Education Center
16483 County Seat Hwy
Georgetown, DE

The public is invited to attend a free stormwater workshop series being held at the Carvel Research and Education Center in Georgetown, DE. This series is made possible by the Sussex Conservation District (SCD), University of Delaware Cooperative Extension (UDCE), and the Delaware Department of Natural Resources and Environmental Control (DNREC).

The workshops are designed to present property owners, homeowner associations and property maintenance companies a holistic approach to stormwater and open space management. SCD, UDCE and DNREC will provide technical resources to aid in the management and enhancement of your community. Each workshop will address seasonal issues many property owners and communities encounter.

~~April 16, 2020~~ – **Postponed** Overview of drainage in Delaware, open space management and wildlife management.

~~June 18, 2020~~ - Preventative maintenance, irrigation management and water conservation practices.

~~Aug. 13, 2020~~ - Water quality, invasive species management and stormwater facility winterization tips.

Each workshop will be held from 9 a.m. to noon, at the Carvel Research and Education Center in Georgetown, Del. Registration will begin at 8:30 a.m. and light refreshments will be served.

For more information or to register, visit www.sussexconservation.org/events or call Siobhan

Kelley, communications and outreach specialist at
SCD, 302-856-2105 ext. 122.

Weather Summary	
Carvel Research and Education Center Georgetown, DE	
Week of March 12 to March 18, 2020	
Rainfall:	
0.03 inch:	March 12
0.42 inch:	March 13
0.09 inch:	March 15
Air Temperature:	
Highs ranged from 73°F on March 13 to 50°F on March 16.	
Lows ranged from 49°F on March 13 to 29°F on March 16	
Soil Temperature:	
51.4°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*

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