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Vegetable Crops

<u>Grafted Watermelons Revisited</u> - Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

Research on grafted watermelons has expanded in the last 5 years on the US East Coast. There are two main reasons for using grafted watermelon plants: 1) to manage soil-borne diseases such as Fusarium wilt and 2) to increase plant productivity by providing a more vigorous root system.

Grafted watermelons are widely used throughout the other major watermelon producing areas of the world including southern Europe, the Middle East, and the Far East. However, use in the US has been limited, largely due to wider availability of land for production and the added cost of grafting plants. Grafted plants are currently 4 times more costly than non-grafted plants.

Watermelon are commonly grafted onto interspecific hybrid squash (*Cucurbita maxima x Cucurbita moschata*) or bottle gourd (*Lagenaria siceraria*). These will have Fusarium wilt resistance. Interspecific hybrid squash rootstocks have chilling tolerance in addition to the disease resistance, but some rootstocks may be so vigorous that they delay flowering if fertilization is not managed properly. Another issue with interspecific squash rootstocks in some cases is a reduction in watermelon sugar content (Brix) as well as off flavors. Bottle gourd rootstocks have chilling tolerance and less vigor then squash rootstocks, and have little effect on fruit quality or flowering.



Seedless watermelon plant grafted onto interspecific squash rootstock. Arrow points to the graft union and plastic grafting clip.



Close up of graft union. Watermelons are more difficult to graft than other vegetables.

Neither bottle gourd nor interspecific squash rootstocks have root knot nematode (RKN)

resistance and are very susceptible to RKN injury. Work at the USDA in Charleston, SC has identified some wild watermelon rootstocks with root knot resistance and these may be available as rootstocks in the future.

With wider availability of grafted watermelons, costs per plant have been reduced. Studies also have shown that productivity of grafted watermelons is 30-50% higher than non-grafted plants, that grafted plants can be planted at two thirds of the population of non-grafted plants to achieve those yields and that grafted plants require much less fertilizer to produce those results. Partial budget economic analyses have shown economic advantages using grafted watermelon plants. In one analysis, the above effects lead to a net change in profit of over \$1300 per acre using grafted plants.

In 2016 trials in Delaware, the seedless variety "Fascination" that was grafted using interspecific Cucurbita rootstock, and planted at 78% of population of ungrafted Fascination, yielded 22% higher. Fruits were heavier and there were significantly more fruits in the second and third harvests compared to ungrafted Fascination.

2017 trials will look at reducing populations further and reducing nitrogen fertilizer with grafted plants.

Mild Winter Induces Three Pest Problems

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

There have been problems in our vegetable fields with three pests: striped cucumber beetles, leafhoppers and twospotted spider mites. I think most of the problems we are having with these three comes from our mild winter, as each has had an outbreak population after a mild winter sometime in the last 12 years.

So far this has been a particularly bad year for striped cucumber beetles in squash, cucumber and watermelon, and, when they are up, pumpkins. Some fields have been hit particularly hard with beetles causing 5-12% plant loss due

just to their feeding. The cool wet May we had slowed the emergence of the beetles from their overwintering sites. When you combine the delayed emergence of the beetles with the slow planting schedule of squash and cucumber because of the wet weather you end up with a massive movement of beetles into some fields as soon as there are any cucurbit plants available. The beetles tend to mass on small plants where they eat, mate and defecate (Fig. 1). This type of frenzied activity where there are many beetles feeding on a few leaves or on a small plant leads to increased chances of bacterial wilt infection. The bacterium that causes bacterial wilt in cucurbits, Erwinia tracheiphila, is in the cucumber beetles' feces. As the beetles defecate on the leaves where they are feeding the bacteria move into the open (feeding) wounds with the help of water that is in the form of precipitation or dew. The more beetles that are feeding and opening wounds on susceptible crops like cucumber, cantaloupe and squash the greater the chance of bacterial wilt infection. In a few small cucumber fields I saw as much as 30% of the plants with bacterial wilt. One additional problem with these pests and why control sprays have not worked as well as they should have under some conditions is that the beetles are consistently hiding at the base of the plant (in the plastic hole) where they are feeding on the stem. Sprayers are set up usually to cover the leaf canopy and often do not do a very good job of putting chemical down in the plant hole. This stem feeding can be severe enough to cause some wilting. It is hard enough to control cucumber beetles with a good cover spray, but when only small amounts of spray are reaching them down in the plastic hole they will not be controlled.



Figure 1. A frenzy of striped cucumber beetle

The second outbreak pest has been potato leaf hopper. When looking on the underside of leafscorched leaves (Fig, 2), I found many potato leafhopper Empoasca fabae nymphs (but no adults) (Fig. 3). Potato leafhoppers prefer warm, dry conditions and are commonplace in southern states where they overwinter; leafhoppers do not overwinter in our area, but the more mild the winter the better able they can overwinter close to us. PLH are generally first seen in late April or early May, but are arriving on average 7-10 days earlier in our area than just 20-30 years ago. Females lay 2-4 eggs per day in the leaf stems or veins of plants. In 7 to 10 days nymphs emerge. Nymphs undergo five instars and reach maturity in about 2 weeks. The newly emerged nymph is nearly colorless with red spots that fade. Nymphs then become yellow, finally changing to pale green in the third and later instars. There are 3-4 generations each summer. Leafhoppers are capable of very rapid population increases so scouting is important to control the pest to avoid damage to crops. Alfalfa and a few other forage legumes are the primary hosts for the potato leafhopper and once the first cutting of the forage is done, PLH will move into other susceptible crops such as potato, raspberries and hops.

Damage: The most obvious symptom of potato leafhopper feeding is hopper burn. Hopper burn is the yellowing of the leaf margin (Fig. 2). This damage is followed by leaf curling and necrosis. Hopper burn occurs because potato leafhoppers feed by sucking the juices out of leaf veins and blocking the veins with a toxin in their saliva. Once hopper-burn is seen the plant has been damaged.

Monitoring and Management: Because potato leafhoppers can have very rapid population surges, it is important to scout and control them before major damage can occur. While there is no agreed upon threshold for leafhoppers in several of our crops such as eggplant, raspberry or hops, most recommendations have a threshold at 2-3 PLH per leaf. Fields should be scouted weekly by checking the undersides of 5-10 leaves per 10-20 plants. If the average number of leafhoppers per leaf is at or above the threshold, then a control is needed. Because hops are a newer crop in our area, states may differ in what they allow to be used, so be sure to check the label to see what your state will allow to be used on hops for PLH control. In general, neonicotinoids, pyrethroids, or spinosyns could be used. Organic growers could use spinosad or pyrethrins that are OMRI approved for potato leafhopper management. If PLH are more of a consistent problem for you one suggestion is to plant red clover in drive rows (do not mow) as potato leafhoppers prefer to feed on the red clover than most of our vegetables.







Figure 2. Leaf scorching 'hopper-burn' on hops, eggplant and raspberry



Figure 3. Immature leaf hoppers on underside of hop leaf

The third pest problem is twospotted spider mites (TSSM) Tetranychus urticae. Even in May, after all that rain, there were reports of mite infestations on a few crops which included hops -- yes not a good year so far for hops. Spider mites overwinter as adults in the soil or leaf litter, although they may remain somewhat active in high tunnels through the winter. The light yellowish eggs are pearl-like in appearance and are attached to the undersides of leaves or stems (Fig. 4). The most difficult thing to accomplish for good TSSM control is getting adequate spray coverage. Many of the spray applications do a good job of covering the top of the leaves, but do a poor job of reaching the underside of the leaves. Good coverage is essential. One grower used a leaf blower-like back pack sprayer and applied two sprays of 1% (by volume) horticultural oil 7-10 days apart. He got excellent spray coverage on the underside of his leaves and consequently excellent control of the mites that were present. By using two applications about one week apart it was possible to control not only the adults and nymphs, but the eggs as well. Oil is a good management tactic to use at this time of year as plants are small. An added benefit of the oil is that it is rather inexpensive. Using oils now also will greatly reduce any development of mite resistance to other chemicals over the course of the season. If miticides are needed Kanemite, Acramite and Portal are all excellent miticides.

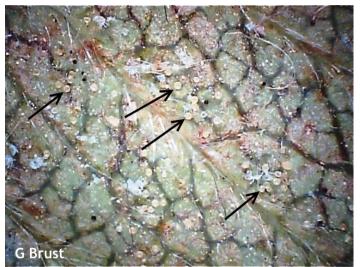


Figure 4. Twospotted spider mite eggs on underside of leaf

Potato Late Blight Update #8 - June 16, 2017 -

Nathan Kleczewski, Extension Specialist - Plant Pathology; <u>nkleczew@udel.edu;</u> @Delmarplantdoc

Late Blight was reported 5/29 near the NC -VA border. The late blight detected in VA was US-23.

Greenrow - May 1, 2017

Frederica			
Date	DSV	Total DSV	P Value
6/8-6/16	4	30	354
6/1-6/8	4	26	<mark>302</mark>
5/30-6/1	<mark>5</mark>	<mark>22</mark>	244
5/25-5/30	3	17	225
5/23-5/25	4	14	179
5/15-5/23	7	10	161
5/4-5/15	3	3	104
5/1-5/4	0	0	30

Notes: Season severity of 18 severity values indicates the need for the first fungicide application. An accumulated severity of 7 after fungicide application identifies the need for a subsequent fungicide application. You can personalize your late blight forecasts for specific fields, sign up for email or text alerts, and enter in management information at http://blight.eas.cornell.edu/blight/. Real time fungicide application timing tables for locations within Delaware can be accessed at http://blight.eas.cornell.edu/blight/DE

See the 2016 Commercial Vegetable Production Recommendations-Delaware for recommended fungicides:

http://extension.udel.edu/ag/vegetable-fruitresources/commercial-vegetable-productionrecommendations/

Any suspect samples can be sent to the Plant Diagnostic Clinic or dropped off at your local Extension office. Dr. Nathan Kleczewski can also be contacted at nkleczew@udel.edu or 302-300-6962.

The website USABlight tracks tomato and potato late blight across the nation and can be found here: <u>http://usablight.org/</u>. Information on scouting, symptomology, and management can also be found on this website.

Agronomic Crops

<u>Scout Alfalfa for Potato Leafhoppers</u> - Bill Cissel, Extension Agent - Integrated Pest Management; <u>bcissel@udel.edu</u>

Continue to sample alfalfa for potato leafhoppers. Sample weekly starting seven days after the first cutting until final harvest. Ten sweep net samples should be taken in 10 random locations throughout the field when the alfalfa is dry. The threshold for alfalfa 3" or less is 20 leafhoppers per 100 sweeps, 4-6" tall is 50 per 100 sweeps, 7-10" tall is 100 per 100 sweeps and greater than 11" is 150 per 100 sweeps. If the field is more than 60 percent bud stage or if it has experienced "hopper burn", the alfalfa should be cut instead of sprayed.

For more information on the identification, biology, and management of potato leafhoppers, please review our fact sheet: <u>http://extension.udel.edu/factsheets/potato-</u> <u>leafhopper-control-in-alfalfa/</u>

Here is a link to our Insect Control in Alfalfa Recommendations (pure stands only): <u>https://cdn.extension.udel.edu/wp-</u> <u>content/uploads/2012/05/18063238/Insect-</u> Control-in-Alfalfa-final-for-2017.pdf Here is a Youtube video discussing how to sample for potato leafhoppers: https://youtu.be/7ybclcNu2rA

<u>Early Season Soybean Pests</u> - Bill Cissel, Extension Agent - Integrated Pest Management; bcissel@udel.edu

Scout soybeans for early season pests including grasshoppers, bean leaf beetles, slugs, and deer.

Continue to sample fields for slugs and other defoliators. The past few weeks, I have seen several fields with grasshopper and bean leaf beetle feeding injury. Soybeans can typically withstand a decent amount of defoliation before yield losses occur, however, if stands are being reduced, an insecticide application may be warranted.

A treatment may also be needed if you are finding one grasshopper per sweep and greater than 30% defoliation. (Note: once plants reach bloom and pod fill stages, the threshold for defoliation is reduced to 15%).

Here is a short Youtube Video discussing early season soybean pests: https://youtu.be/ug6wHwIHftk





Grasshopper feeding injury on seedling soybeans. Notice the irregular shaped holes and leaf feeding from the leaf margins, a good indication of grasshopper feeding.

In addition to grasshoppers, also keep an eye out for bean leaf beetle damage (chewing on cotyledons and small round holes in unifoliate and trifoliate leaves). This can often be confused with slug damage so look for slime trails, slugs, and beetles. The threshold for bean leaf beetles is 2 per ft of row and 25% stand reduction from emergence to 2 trifoliate. After 2 trifoliate, the threshold is 2-3 per plant and 30 percent defoliation.



Bean leaf beetle feeding injury. Bean leaf beetles will often drop from the plants when disturbed and are excellent at hiding under crop residue.



Slug injury on soybean unifoliate leaves. In some cases, this damage can look similar to damage from bean leaf beetles so when diagnosing the cause, be sure to look for slugs, slug slime trails, and for beetles.

Here is a link to our Soybean Insect Management Recommendations:

https://cdn.extension.udel.edu/wpcontent/uploads/2012/05/18063934/Insect-Control-in-Soybeans-2017-final.pdf

I also had several calls this week about deer damage and have heard of many other fields with stand losses from deer. Here is a picture of soybeans with deer damage.



Deer damage to soybeans

Watch for Stink Bugs Moving into Corn - Bill

Cissel, Extension Agent - Integrated Pest Management; <u>bcissel@udel.edu</u>

As wheat matures and is harvested, watch for stink bugs moving into adjacent corn fields. Brown stink bugs are the most common species found in wheat in Delaware. Corn is most sensitive to stink bug feeding injury when infestations occur during earlier plant growth stages (late vegetative-tasseling) compared to later growth stages (pollen shed-grain fill). Based on recommendations from NC State, the threshold for stink bugs in corn is one stink bug per four plants when the ear is forming, during ear elongation and beginning of pollen shed; and one stink bug per two plants after pollen shed (these thresholds have not been evaluated in Delaware).



Begin scouting corn fields for stink bugs, especially those fields adjacent to wheat and fields bordered by weedy ditches. The greatest yield loss potential from stink bug feeding occurs prior to pollination, so waiting until tasseling may be too late. A paper recently published by Dr. Dominic Reisig, NC State Associate Professor and Extension Specialist, has determined that getting control of stink bugs is difficult once tasseling occurs. This is due to the dense foliage above the ear zone and the habit of stink bugs to seek refuge in leaf axils and in the folds of leaves. Also, if you are planning on including an insecticide with your fungicide application at tasseling to target stink bugs, it will likely be too late because most of the damage is already done.

Here is an excerpt from a newsletter published by Dr. Dominic Reisig, NC State Associate Professor and Extension Specialist, discussing his results evaluating aerially applied pyrethroid applications to manage brown stink bugs in corn:

"Stink bugs are difficult to kill with aerial applications because the insects can hide in leaf folds near the stalk. Make it clear to your aerial applicator that you want to penetrate the canopy and kill insects. There are aerial applicators that can kill stink bugs based on follow ups we've made in the field after sprays. Stink bugs can be killed for up to a week using a high-clearance tractor (see screening information graph). Don't expect much, if any, residual from your chemical. Stink bugs can reinvade the field after sprays."

Here is a link to the full article: <u>https://entomology.ces.ncsu.edu/2017/06/man</u> <u>age-stink-bugs-in-corn-before-it-tassels/?src=rss</u>

Here is a link to the publication: http://www.bioone.org/doi/pdf/10.1673/031.01 1.16801

What about including an insecticide with fungicide applications at tasseling? This approach has not been shown to be effective at reducing stink bug infestations and preventing injury to corn from stink bugs for several reasons:

1. Stink bug injury on corn is more severe when feeding occurs during earlier growth stages (prior to pollen shed).

2. Most of the yield limiting damage to developing corn ears has already occurred.

3. Controlling stink bugs in corn after tasseling is difficult.

4. These two timings do not overlap.

This year, wheat appears to be maturing ahead of schedule and many of our corn fields are slightly behind in development. With this in mind, I expect brown stink bugs to move from wheat and other host plants and into corn when many fields are at the most vulnerable stage. If stink bugs are moving from wheat into adjacent corn fields, consider spot treating before they disperse throughout the entire field. If you need to spray your corn for stink bugs, most pyrethroids should provide control. However, based on a vial bioassay conducted in NC using brown stink bugs collected from wheat, bifenthrin was found to be the most efficacious.

Here is a link to the report: <u>https://entomology.ces.ncsu.edu/2017/06/insec</u> <u>ticide-choice-for-stink-bugs-in-corn/?src=rss</u>

If you have high stink bug populations in your wheat fields that are in proximity to corn, can you control the stink bugs in the wheat before they move to the corn? There hasn't been any research to answer this question. However, given the pre-harvest intervals of most of the materials labeled in wheat that will provide stink bug control and their short residual activity on stink bugs, it is unlikely that an application will be successful in preventing populations from building in the wheat.

General

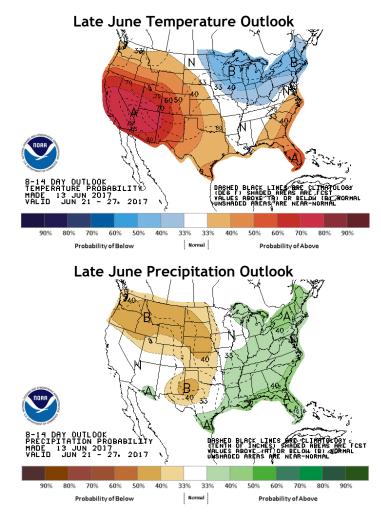
Delaware June-July Agriculture Weather

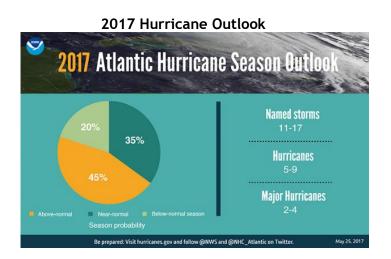
<u>Report</u> - Scott A. Minnick, NOAA-National Weather Service, Wakefield, VA; scott.minnick@noaa.gov, www.weather.gov

The first half of June has been characterized by dry conditions. Much of the state is 1 to 2 inches below normal through June 13. That's only 10 to 15 percent of normal to date. Temperatures overall have generally been near-normal, but cool conditions from June 6-9 and recent warm conditions have averaged out. Looking ahead for the rest of the month, long range guidance indicates a series of storm systems tracking across the Northeast and southeast Canada. This will bring the occasional (weakening) cold front and opportunities for showers and thunderstorms. As a result, the Climate Prediction Center (CPC) has increased probabilities for above normal precipitation through the end of the month. We will have to wait and see if there is enough widespread rainfall to make up for the lack of rain to begin the month. CPC calls for equal chances for above, below, or near-normal temperatures due to the occasional front. While this may not be very helpful, it does let us know we are likely not looking at extreme heat or cold.

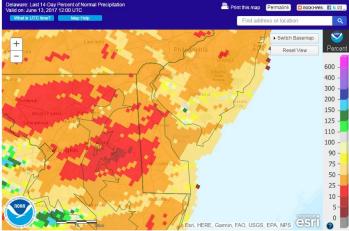
Looking ahead to July, uncertainty prevails with the lack of a strong climate driver such as El-Niño or La Niña. When that is the case, we look to recent trends, which calls for equal chances for above, below, or near normal rainfall and increased probabilities for above normal temperatures. Average high temperatures across the state for July are generally in the mid-80s. Overnight lows are generally in the mid-60s. Rainfall for the month is around 4 to 4.5 inches.

Calendar summer begins June 21. Also starting in June is the Atlantic Hurricane Season. The National Hurricane Center predicts another active year with above normal activity. The prediction is for 11-17 named storms, with 5-9 of those storms becoming hurricanes. 2-4 of those named storms are forecast to become major hurricanes. The above normal forecast is due to weak, or non-existent El-Niño in the Pacific and warm waters across the tropical Atlantic and Caribbean. The peak of the season occurs in September.





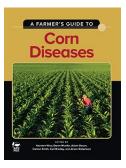
Early June Percent of Normal Rainfall



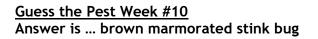
Scott A. Minnick from NOAA-National Weather Service, Wakefield, VA will provide a weather report and outlook for the Weekly Crop Update each month through September. Thank you to Phillip Sylvester, Kent Co. Ag Agent, for making these arrangements.

<u>Guess the Pest!</u> - Bill Cissel, Extension Agent -Integrated Pest Management; <u>bcissel@udel.edu</u>

Congratulations to John Comegys for identifying the insect in this past week's Guess the Pest and for being selected to be entered into the end of season raffle for \$100 not once but five times. Everyone else who guessed correctly will also have their name entered into the raffle. John will also receive a FREE copy of <u>A Farmer's</u> <u>Guide to Corn Diseases</u>. Click on the Guess the Pest logo below to participate in this week's Guess the Pest! For Guess the Pest # 11, we will also be giving away <u>A Farmer's Guide To Corn</u> <u>Diseases (</u>\$29.95 value) to one lucky participant.



http://www.plantmanagementnetwork.org/book /cornfarmersguide/





The brown marmorated stink bug (BMSB) is an invasive species that was accidentally introduced in the US in the mid-1990s. Since its accidental introduction, it has rapidly spread and been detected in 43 states. Currently, it is fully established throughout the Mid-Atlantic States and considered a pest of many vegetables, field crops, and tree fruit. BMSB has five nymphal instars ranging in size from 2.4mm to 12mm in length. First instar nymphs are black with orange markings on their back. Later instars are black with white bands on their legs and antennae. Adult BMSB are often confused with our native brown stink bug and can be distinguished by the white banding on their antennae. BMSB also have tan-grey colored stomachs compared to the native brown stink bug which has a yellow-green colored stomach.

The picture of the BMSB in wheat is actually a little misleading because most (99.9%) of the stink bugs I have seen in wheat are our native brown stink bug, not the invasive BMSB. Stink bugs in wheat have not been a major concern in Delaware because it takes an unusually high number to cause yield losses. It is important to know if you have large populations of brown stink bugs building in wheat because they can move to neighboring corn fields as the wheat matures and is harvested. Please read this week's Weekly Crop Update article discussing brown stink bug movement from wheat to corn for more information.



C DiFonzo, University of Michigan Brown Marmorated Stink Bug Adult.



Brown Marmorated Stink Bug, Adult. Note the white banding on the antennae.



Brown Marmorated Stink Bug Nymph. Note the white bands on the legs and antennae.



Brown Stink Bug Adult.



Brown Stink Bug. Note the yellow-green stomach.

Guess the Pest Week #11





What is this insect?

To submit your guess click the Guess the Pest logo below or go to: https://docs.google.com/forms/d/e/1FAIpQLSfU

PYLZnTRsol46hXmgqj8fvt5f8-JI0eEUHb3QJaNDLG_4kg/viewform?c=0&w=1



Announcements

2017 Dickeya and Pectobacterium Summit November 9, 2017

University of Maine staff are working to address Dickeya, a recent and potentially "devastating bacterial disease in Maine seed potatoes." Projects are being conducted in Maine and in collaboration with colleagues in other states. We have been successful in pursuing funding opportunities and hope to have news soon on additional pending grants.

Some of the efforts include:

- Chemical control of Enterobacteria
- Identifying seed lots with Enterobacteria
- Enterobacteria spread and epidemiological studies
- Enterobacteria identification
- Enterobacteria pathogenicity
- Enterobacteria levels in a seed lots related to stand loss
- Movement of Enterobacteria in a seed system
- Postharvest test for the presence of Enterobacteria

Results from these studies will be presented at the 2017 Dickeya and Pectobacterium Summit November 9, 2017. The summit will be your chance to hear about improvements in the dormant tuber post-harvest test, among other topics.

For interest, please see a <u>bulletin #482</u> entitled: "<u>Factors Affecting Potato Blackleg and Seed Piece</u> <u>Decay</u>."

The Introduction has this sentence:

"State potato seed certification officials discriminate against the presence of blackleg and many buyers refuse to purchase seed stocks known to have even a small percentage of the disease." By the way, the bulletin was from 67 years ago, May 1950.

To register for this meeting and for additional information go to: <u>https://extension.umaine.edu/agriculture/programs/dic</u> <u>keya-and-pectobacterium-summit/</u>

Growing Farmers Workshops

Coverdale Farm Preserve is a 356-acre farm and nature preserve located in Greenville, DE. We are pleased to offer a series of free hands-on workshops for farmers of all levels of experience and scale of operation. Registration is required. *To register please contact Michele Wales: michele@delnature.org.*

Spring 2017 Series: Protected Culture Growing includes the use of greenhouses, high tunnels, low tunnels, hoop houses, and caterpillar tunnels. Both high and low tech options are designed to help defend your crops against the extremes of nature from torrential rains, parching drought, scorching heat, and frigid cold. Protected Culture Growing extends your seasons, brings harvests earlier in spring and later in fall to your customers, and can be used on acres of open field to urban raised bed gardens. Engage in hands-on workshops that take you from construction to production targeting key topics for your growing success.

Troubleshooting in High Tunnels

Wednesday, June 21, 6:00pm - 8:00pm

Keep your plants thriving and productive. Learn to identify common pests including insects, plant diseases, nutrient deficiencies. Discover preventative strategies, steps, and solutions to compromising conditions in order to maximize yields.

Organic Farming of Specialty Crops and Field Day

Tuesday June, 27, 2017 8:30 a.m.-1:30 p.m. Delaware State University Outreach & Research Center 884 Smyrna-Leipsic Road, Smyrna, DE

Presented by DSU Cooperative Extension, Small Farms Program

Field Day Focus:

Get the most out of your high value crops!

•Cover crops, sweet potato •EQIP program and organic farming •Farmer perspective

Developing High Yielding Varieties of Small Fruits Dr. Nicholi Vorsa, Rutgers University

Diagnosing Problems with Highbush Blueberries and Managing Nutrition Dr. Gary Pavlis, Rutgers University

The State of High Tunnel Production in Delaware Dr. Rose Ogutu, DSU

Participants will tour the farm!

To register, for assistance due to disabilities, or for more information, contact Lekha Paudel: (302) 857-7796; <u>Lnpaudel@desu.edu</u>. This workshop is free but RSVP required by Monday June 19, 2017.

Cooperative Extension Education in Agriculture, 4-H and Home Economics, Delaware State University, University of Delaware and United States Department of Agriculture cooperating, Dr. Dyremple B. Marsh, Dean and Administrator. It is the policy of Delaware Cooperative Extension that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.

2017 UD Weed Science Field Day

Wednesday, June 28 8:30 a.m. University of Delaware Carvel Research and Education Center 16483 County Seat Highway, Georgetown, DE

The 2017 Weed Science Field Day will be held **Wednesday**, **June 28** at the University of Delaware Research and Education Center, Route 9 (16483 County Seat Highway), Georgetown, DE. The day will begin with **registration beginning at 8:30** at the Grove near the farm buildings and new office building on the north side of the road. We will start to view the plots at 8:45 am. Coffee, juices, and donuts will be provided. We will also provide sandwiches for lunch. Pesticide credits and Certified Crop Advisor continuation credits will also be available.

Dr. Charlie Cahoon, VA Tech, will hold a field day on Tuesday, June 27^{th} at the Painter Research Facility

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of June 8 to June 14, 2017

Readings Taken from Midnight to Midnight

Rainfall:

0.02 inch: June 9

Air Temperature:

Highs ranged from $94^{\circ}F$ on June 13 to $66^{\circ}F$ on June 8.

Lows ranged from 73°F on June 13 to 48°F on June 9.

Soil Temperature:

74.9°F average

Additional Delaware weather data is available at <u>http://deos.udel.edu/</u>

Weekly Crop Update is compiled and edited by Emmalea Ernest, Associate Scientist - Vegetable Crops with assistance from Don Seifrit.

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