WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

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

Sweet Corn

This is about the time of the year that fall armyworm may start paying us a visit. Be on the lookout for whorl damage. Treatment thresholds are 12-15% infested plants. Good armyworm products include methomyl, though it doesn't have residual activity (Lannate), diamides (Coragen), methoxyfenozide when worms are small (Intrepid), indoxacarb up till tassel push (Avaunt) and spinosyn class insecticides (Radiant, Entrust). Pyrethroids generally do not do as well on fall armyworm, in part because worms feed deep in the whorl where adequate coverage and contact is difficult to achieve.

Sweet corn pheromone and blacklight traps are checked twice weekly on Mondays and Thursdays. By Tuesday and Friday morning, data is uploaded to our website: https://agdev.anr.udel.edu/trap/trap.php. For reference, action thresholds based off of blacklight and pheromone trap can be found here: http://extension.udel.edu/ag/insect-management/insect-trapping-program/action-thresholds-for-silk-stage-sweet-corn/. Moth counts have come up a lot over the last week. In addition, we were able to test 24 moths this past week with 19% survivorship. This is still lower than last year at this time, but greater than June's moth survivorship. With the warm weather and elevated trap captures and rising potential resistance, shorter spray schedules than on our webpage would be advised. Thursday's trap capture is as follows:

Trap Location	BLT - CEW	Pheromone CEW
	3 nights total catch	
Dover	6	28
Harrington	1	38
Milford	0	15
Rising Sun	0	34
Wyoming	5	51
Bridgeville	1	15
Concord	1	21
Georgetown	0	64
Greenwood	0	
Laurel	1	23
Seaford	1	43
Harbeson		6
Trap Pond	2	0
Lewes	0	7
Dover	6	28

Watermelons

Weather conditions are conducive to rapid mite population build up. Also, be on the lookout for first generation cucumber beetles and worms. If worms are present, pyrethroids may help knock them down, but there are better options, including the diamides Coragen, and Harvanta, the spinosyns including Radiant, Bt, and Intrepid.

Sunburn in Vegetables Revisited; Use of Particle Films

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

Recent weather has produced conditions where there is high potential for sunburn in fruits and fruiting vegetables. Growers may need to consider ways to protect against sunburn. Sunburn is most prevalent on days with high temperatures, clear skies and high light radiation. We commonly see sunburn in watermelons, tomatoes, peppers, eggplants, cucumbers, apples, strawberries, and brambles (raspberries and blackberries).

There are three types of sunburn which may have effects on the fruits. The first, sunburn necrosis, is where skin, peel, or fruit tissue dies on the sun exposed side of the fruit (Figure 1). Cell membrane integrity is lost in this type of sunburn and cells start leaking their contents. The critical fruit tissue temperature for sunburn necrosis varies with type of fruit. Research has shown that the fruit skin temperature threshold for sunburn necrosis is 100 to 104°F for cucumbers; 105 to 108°F for peppers, and 125 to 127°F for apples. Fruits with sunburn necrosis are not marketable. Injury may be white to brown in color.

Figure 1. Sunburn necrosis on pepper fruit.

The second type of sunburn injury is sunburn browning. This sunburn does not cause tissue death but does cause loss of pigmentation resulting in a yellow, bronze, or brown spot on the sun exposed side of the fruit. Cells remain alive, cell membranes retain their integrity, cells do not leak, but pigments such as chlorophyll, carotenes, and xanthophylls are denatured or destroyed. This type of sunburn browning occurs at a temperature about 5°F lower than sunburn necrosis (i.e. 115 to 120°F in apples). Light is required for sunburn browning. Fruits may be marketable but will be a lower grade.

The third type of sunburn is photooxidative sunburn (Figure 2). This is where shaded fruit are suddenly exposed to sunlight as might occur with late pruning, after storms where leaf cover is suddenly lost, or when vines are turned in drive rows. In this type of sunburn, the fruits will become photobleached by the excess light because the fruit is not acclimatized to high light levels, and fruit tissue will die. This bleaching will occur at much lower fruit temperatures than the other types of sunburn. Damaged tissue is often white in color.

Figure 2. Photooxidative sunburn on pepper fruit.

Sunburn increases when storms cause canopies in vine crops to be more open, exposing fruits to a high risk of both sunburn necrosis and photooxidative sunburn.

Genetics also play a role in sunburn and some varieties are more susceptible to sunburn. Varieties with darker colored fruit, those with more open canopies, and those with more open fruit clusters have higher risk of sunburn. Some

varieties have other genetic properties that predispose them to sunburn, for example, some blackberries are more susceptible to fruit damage from UV light.

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Control of sunburn in fruits starts with developing good leaf cover in the canopy to shade the fruit. Fruits most susceptible to sunburn will be those that are most exposed, especially those that are not shaded in the afternoon. Anything that reduces canopy cover will increase sunburn, such as foliar diseases, wilting due to inadequate irrigation, and excessive or late pruning. Physiological leaf roll, common in some crops such as tomato, can also increase sunburn.

In crops with large percentages of exposed fruits at risk of sunburn, fruits can be protected by artificial shading using shade cloth (10-30% shade). However, this is not practical for large acreages.

Particle Films

For sunburn protection at a field scale, use of film spray-on materials can reduce or eliminate sunburn. These materials are kaolin clay based, calcium carbonate (lime) based, or talc based and leave a white particle film on the fruit (such as Surround, Screen Duo, Purshade and many others). There are also film products that protect fruits from sunburn but do not leave a white residue, such as Raynox. Apply these materials at the manufacturer's rates for sunburn protection. They may have to be reapplied after heavy rains or multiple overhead irrigation events.

Purshade treated pepper. Note the sunburn on the side with lower coverage.

Particle films also have been used to reduce heat stress related disorders in fruits and vegetables. While particle films have gained use in tree fruits, their usefulness in vegetables is still unclear. Research in a number of states has shown reduced fruit disorders such as sunburn in peppers and white tissue in tomatoes when applied over those crops. Watermelon growers have used clay and lime based products for many years to reduce sunburn in that crop in southern states. Research at the University of Delaware in 2018 showed improved tomato interior quality with some particle film products. Past work on watermelons has shown limited usefulness for overall stress avoidance.

There are some drawbacks to the use of particle films. If used for sunburn protection on fruits, there is added cost to wash or brush the material off at harvest. Where overhead irrigation is used, or during rainy weather, the material can be partially washed off of plants, reducing effectiveness and requiring additional applications. Produce buyers can also have standards relating to the use or particle films and may not accept products with visible residues.

Stinkbug Damage Found in Many Tomato Fields – *Jerry Brust, IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

I have seen and have gotten reports of (and some really nice pictures of) stinkbug damage in tomatoes over the past 10 days from all over Maryland including the Eastern Shore. Stinkbug feeding damage is called cloudy spot in tomato fruit (Fig. 1). It occurs when the adult or immature stinkbug puts its needle-like mouth parts into the fruit and removes material from a large number of cells. On green fruit the damage appears as whitish areas with a black dot in the center and indistinct borders (Fig. 2) on ripe fruit the spots are golden yellow (Fig. 1). Individual spots may be 1/16 - 1/2 inch in diameter; or, the spots may merge and encompass a large area of the fruit surface (Fig. 2). Peeling back the skin shows these areas as white shiny, spongy masses of tissue (Fig. 3). This damage is usually most common from mid-July until the end of the season, but this year we started seeing it at the end of June. The Green and Brown as well as the Brown Marmorated stinkbug are often difficult to see and usually go unnoticed as they spend much of the day deep inside tomato plants, any disturbance and the stinkbugs will drop to the ground and move under the plastic, which results in monitoring difficulties. Only a few are necessary to cause the appearance of cloudy spot on many tomato fruit. Although stinkbug damage has been observed in greater than usual amounts in tomato fields this year, observations of stinkbugs have been much less numerous.

Figure 1. Stinkbug injury to grape tomatoes, white when tomato is green turning yellow as fruit ripens

Figure 2. In the center of each cloudy spot is a tiny black dot where stinkbug mouthparts penetrated into the tomato

Figure 3. Stinkbug feeding causing cloudy spot on tomato fruit

Stinkbugs are extremely difficult pests to control. As alluded to earlier, there are no good methods for monitoring these pests. Traps do not work well, visually scouting for them has proven to be unreliable and too time consuming. Usually stinkbug damage is only a nuisance, but so far this year it has resulted in moderate losses in some fields. Growers should examine the edges of their fields carefully for tomato fruit with cloudy spot. There are some acceptable chemical choices for stink bug control. Pyrethroids (Warrior II, Hero EC, Tombstone and Mustang Maxx) or Venom or Scorpion can be used to reduce damage. Sprays should be directed towards the center of the plant with high pressure and a high gallonage (50-100 gal/a). If harvest has started there are neonics and pyrethroids that have very short PHIs - check your Mid-Atlantic Commercial Vegetable Production Recommendations guide. It should be understood that none of the chemicals will give complete control but will reduce damage compared with no chemical usage. Organic growers can try Entrust or Azera or Pyganic for control of nymphs, but not for adults, i.e., these materials will not control adults.

Oregon Department of Ag Stops Sale of Some Neem Products

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

The Oregon State Dept of Agriculture stopped the sale of 6 products containing neem due to pesticide contamination. The contamination was not 1 or 2 synthetic pesticides, but many different ones. Some of the contaminated products were made by Safer, Certis, Bonide and others. Below is the link to the announcement on the Oregon Dept. of Ag website (you'll have to scroll down to find it): https://www.oregon.gov/ODA/programs/Pesticides/Pages/PesticidesCurrentIssues.aspx

Thrips Feeding Damage to High Tunnel Peppers

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

Because of the bright sunny days we have had in the past 3-4 weeks, as well as higher temperatures lately, vegetables in high tunnels (HT) are highly susceptible to thrips and two spotted spider mite infestations because of the hot dry conditions. Peppers are a favorite of thrips as they will feed on the tender developing new leaves and this feeding causes the leaves to have a slight yellowing appearance and become deformed and puckered over time as the leaves expand (Fig. 1). This damage can appear as possible virus infections such as tomato spotted wilt, which some thrips (usually western flower thrips) are capable of transmitting. But infection with the virus causes a more mottled overall-distorted appearance of the foliage (Fig. 2). Growers can monitor for thrips using yellow sticky cards that are placed at the same height as the peppers and checking them 2-3 times a week. Early detection can mean using horticultural oils for thrips control rather than relying on synthetic chemicals such as methomyl, tolfenpyrad, spirotetramat or cyclaniliprole in HTs. Be sure you know how your state regulates pesticide use in HTs.

Figure 1. Thrips feeding damage on pepper

Figure 2. Pepper plant with TSWV

Garlic and Bulb Mites are a Bad Combination – *Jerry Brust, IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

Bulb mites (usually *Rhizoglyphus* spp) are a problem of garlic that easily go unrecognized. Usually growers notice a general yellowing of their garlic plants with the tips of leaves often turning brown (Fig. 1). If you examine the bulb it can have feeding marks on the outside of the bulb (Fig. 2) or the basal plate can separate easily from the bulb (Fig. 3). The best way to determine whether these mites are present is to carefully dissect the region where the roots and bulb come together. There are usually other mites present, but with a hand lens the bulb mites usually can be identified from other mites. The mite is bulb shaped with its legs moved forward and a bulbous rear end and many long fine hairs (Fig. 4). The mouthparts and legs are purplish-brown while the main body is creamy white. The mites are extremely small (from 0.02 to 0.04 inches) and are very slow moving. They are usually found in clusters underneath scales and at the base of the roots.

Early in the growing season, bulb mites can cause poor plant stands and stunted growth as they feed on the plants. Infested plants easily can be pulled out of the soil because of the poor root growth. Later in the season, greater than normal amounts of *Botrytis* or soft rot or *Fusarium* dry rot may be seen because of the wounds caused by these mites. In some cases, garlic that became infested with bulb mites was grown in new fields that never had any Allium species in it (usually it is new bulbs in an infested field). But bulbs were saved from last year's garlic harvest and used in the new soil and some of them were infested with the mites. Be sure to start with clean fields and clean bulbs as there is little chemically that can be done for control. If you find you have bulb mites in your harvested bulbs that you intend to use next year you can hot water treat the garlic seed but this will decrease germination. Put the seed in water heated to 130°F 10-20 minutes or you can soak the seed for 24 hours in a 2% soap (don't use detergent) and 2% mineral oil solution before planting.

Figure 1. Garlic plants with early signs of root/bulb problems

Figure 2. Garlic bulb with feeding damage from bulb mites

Figure 3. Roots separate easily from garlic bulb

Figure 4. Bulb mite on garlic

Agronomic Crops

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

Soybeans

The usual defoliator suspects are active. Full season beans are beginning to enter the reproductive stages. As a reminder, defoliation thresholds are lower for R-stage soybean. Dectes stem borer continue to emerge from the soil. With the hot, dry weather, especially in the southern part of the state, be on the lookout for spider mites. Action thresholds are a combination of leaf defoliation and mite presence: 10% of plants with 1/3 or more leaf stippling and 20-30 mites per leaflet. Agri-Mek SC is the only Abamectin containing product labeled for use on soybeans. Zeal is another equally effective miticide labeled for spider mites on soybean. Of the pyrethroids, only bifenthrin is labeled for spider mites. If bifenthrin is used, go with its high label rate and in enough water to ensure thorough coverage. Two older insecticides that can be used include dimethoate and Lorsban. Lorsban is not systemic and will remove natural enemies. Scout the field soon after application and be prepared to re-treat. Be sure to follow label restrictions on reapplication intervals, in most cases you will need to switch products. Dimethoate will break down quickly in UV light, and needs to be absorbed by the leaf. Leaf absorption slows down when plants are drought stressed. Dimethoate is also sensitive to water conditions. Joanne wrote a great review of dimethoate and Lorsban in a WCU post on July 2, 2010. It can be

found here: https://sites.udel.edu/weeklycropupdate/?p=2206

Alfalfa
Potato leafhopper populations have been heavier this year and across the region. On small alfalfa less than 3 inches, thresholds are 20 per 100 sweeps, increasing to 50 in 4-6 inch alfalfa and 100 per 100 sweeps in 7-11 inch alfalfa.

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

A lot of corn across the area has begun to tassel. Scouting fields at this time can be helpful to decide if a fungicide application will be economical. When considering economics of a fungicide application, it is important to know your potential for disease based on environmental conditions and hybrid selection. Hybrids with higher resistance may not need a fungicide. In dryland fields, the hot, dry weather of the past week has stalled some of the disease pressure that we were beginning to see at the end of June. Irrigated fields keep enough moisture and may still be seeing some development of Grey Leaf Spot or possibly Northern Corn Leaf Blight. When scouting, look at the ear leaf or two leaves below. If you have lesions on over 5% of the leaf surface on half of the plants or more, you may want to consider a fungicide application. If applying a fungicide, application is typically recommended at VT/R1 timing for greatest chance of economic return.

Dicamba Resistant Soybeans – *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

A number of fields were planted with Xtend soybeans, not necessarily with the intention of spraying dicamba, but some folks are reconsidering whether to spray. So here are a few reminders:

- Only approved formulations of dicamba can be used and applicators need to have received training.
- Be sure to read the label (at least twice because it can be confusing).
- Applications must be made before 45 days after planting or before R1, whichever occurs first.
- The new formulations of dicamba were developed to reduce volatility, but the issue of volatility has not been eliminated. We know high temperatures can increase the likelihood of these products to volatilize. We saw volatility with these products when they were applied to wheat stubble and air temperatures were 95°F.

When considering a dicamba application please use common sense. Do not only consider "can I spray it" but also give serious thought to "should I spray it".

Growing Degree Days Through July 2 - *Jarrod O. Miller, Extension Agronomist,* jarrod@udel.edu

Corn planted on April 24th in Georgetown tasseled late last week and has been pollinating this week, while corn planted in early May started tasseling on Tuesday. With a cooler spell coming this weekend, corn planted in early May could have better weather during pollination than corn planted mid-April. In the northern end of Delaware, corn planted in mid-April should be tasseling this week, while corn planted early May should start next week.

Daytime temperatures have remained high, but we have been lucky with some cooler nights. When nighttime temperatures drop below 72°F, the corn plant can slow down metabolism. Higher temperatures can cause grain fill and maturity to occur faster, and reduce yield. As you can see in Figure 1, we keep bumping up against that ceiling. Now that we are about to hit the reproductive stage across the state, this 72°F ceiling becomes more important to watch. Rainfall has dropped off significantly across the state, except for Newark. New Castle county has received a significantly greater amount of rainfall than the rest of Delaware since mid-June (Figure 2).

Figure 1: Statewide temperatures since April 1st.

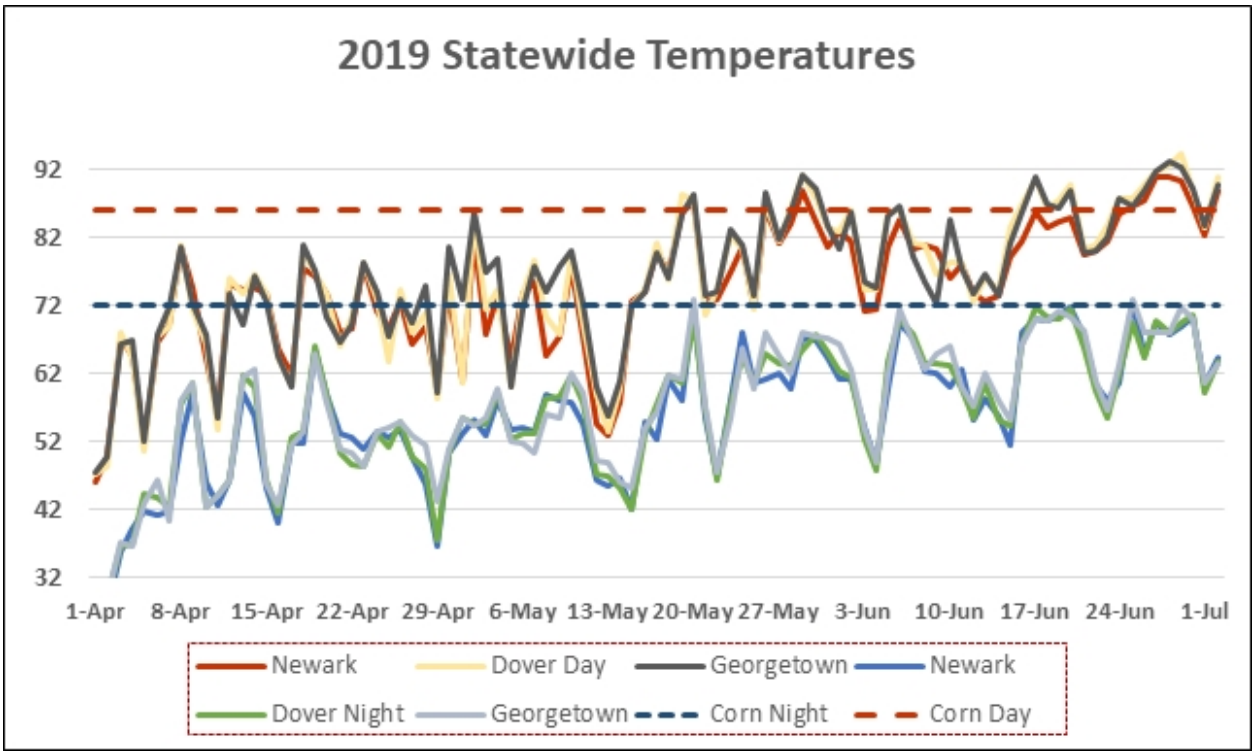
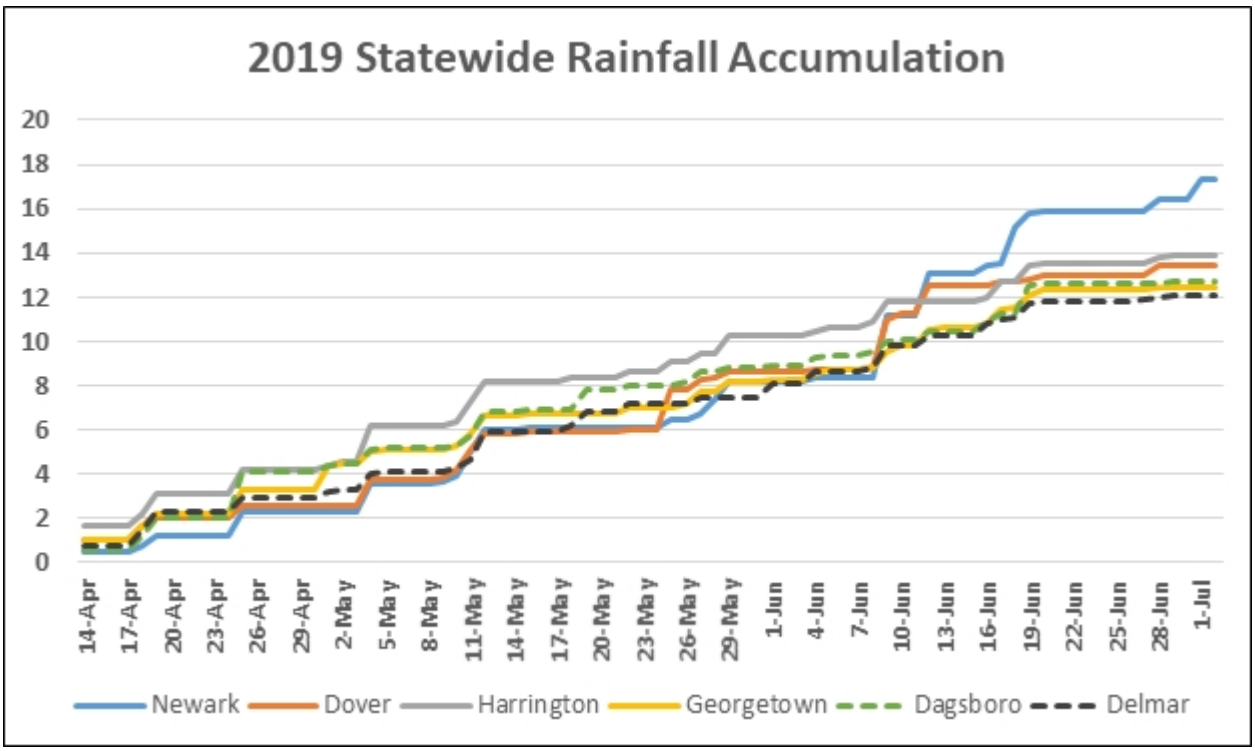


Figure 2: Statewide rainfall accumulation since April 14th.



Glyphosate Did Not Control Grasses – *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

I have had a number of questions and conversations about grasses surviving an application of glyphosate plus Liberty. I have also visited a number of fields treated with glyphosate but not Liberty and the grasses survived. I think a few things are going on here.

First, the fields I have visited had fall panicum in them (https://weedid.cals.vt.edu/weedimg/197). And I think a number of things might be occurring:

● Fall panicum seems to be quite common in areas of drowned out crops and with the season we had last year, there is probably more fall panicum seed in the soil then in previous years and fall panicum densities are higher than expected

● Dual/Medal is not very effective on fall panicum so there is not as much control from residual herbicides as we may expect.

● Fall panicum is one of those species that is not as sensitive to glyphosate as other grasses. The Roundup PowerMax label says for effective control at 22 fl oz the maximum height of large crabgrass is 12 inches, giant foxtail is 20 inches, while fall panicum is 6 inches

● It seems tankmixing some herbicides with glyphosate can reduce control (although I only have a suspicion that this is occurring). It seems glyphosate plus Liberty and glyphosate plus atrazine can reduce control

So, when more than one of these situations are occurring, fall panicum control can be reduced. Consider increasing your glyphosate rates or include a postemergence grass herbicide such as Select (clethodim) or Poast (sethoxydim) to improve control or to control those plants that escaped control.

General

New Kent Co. Ag Agent – *Jake Jones, Extension Agriculture Agent, Kent County*; jgjones@udel.edu

Hi everyone, my name is Jake Jones and I am excited to be your new UD Kent County Ag Extension Agent! I'm a fifth-generation farmer from Milford, Delaware. Our family operation currently grows corn, soybeans, barley, and hay along with broiler chickens and some cows. Recently, I started a small beef herd and am tilling a few acres of grain crops and hay. I earned a bachelor's degree in Plant Science with a minor in Food and Agribusiness Marketing and Management from the University of Delaware. After that I earned my master's degree in Plant Science from UD, with my research focused on controlling root-knot nematode in lima bean. Currently, I am working towards my PhD in Plant Science from the University of Maryland, studying the management of fungal diseases in melon and cucurbit downy mildew biology and control. My office is at the Paradee Center in Dover, so you can stop by, reach me at my email jgjones@udel.edu, or my office number (302) 730-4000 ext. 2005. I look forward to meeting everyone and becoming an asset to the growers and stakeholders in Kent County!

Irrigation Demands Continue - *James Adkins, Agricultural Engineer;* adkins@udel.edu

Scattered thunderstorms across the region brought limited relief to a few farms this past week, however most are well into the second week of high irrigation demand. The excessive humidity and low winds have slightly reduced the ability of crops to transpire thus reducing crop water use rates. With sporadic and limited thunderstorms in the forecast the demands on irrigation systems and their operators will continue into next week.

A significant portion of the corn crop is approaching or already into the pollination stage. Maximizing water availability is critical during reproduction and irrigation should be applied liberally as research has not shown a yield reduction from overwatering. I am unaware of evidence suggesting heavy irrigation negatively affects pollination. Full soybeans are well into the reproductive stage where adequate soil moisture is critical for high yields. Double crop beans need to maximize canopy to intercept as much sunlight as possible requiring frequent irrigation in small amounts to avoid pushing water beyond the shallow root zone.

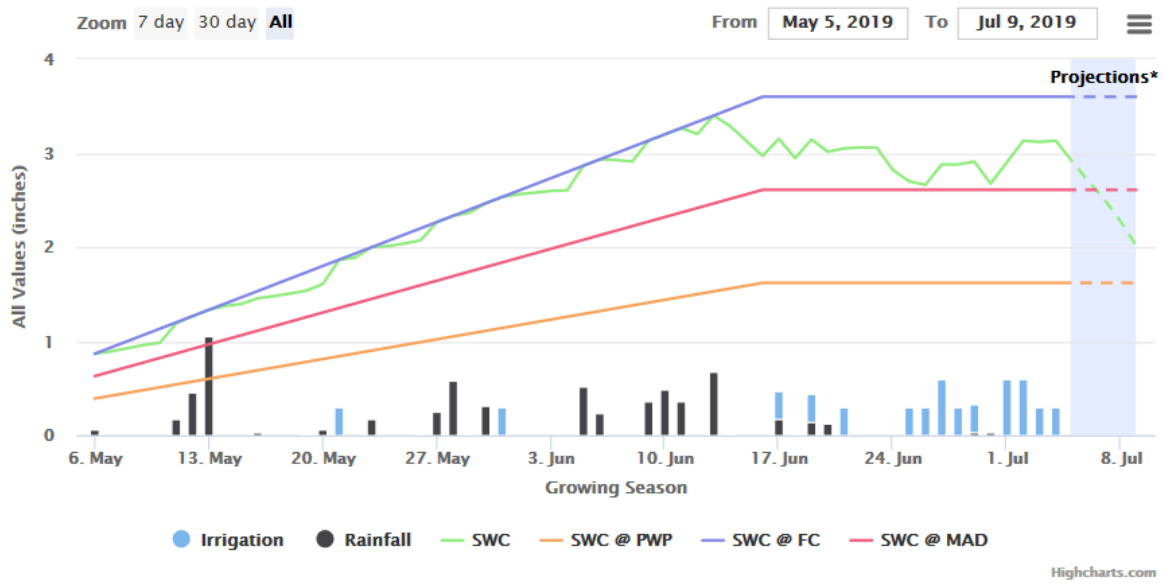
I have witnessed 2 incidents of high volumes of water moving in the field from center pivot irrigation systems. In both cases the irrigation rate was fairly low at 0.3' and 0.45" using drop nozzles in a dense corn canopy. Farmers should be occasionally walking behind pivot irrigators to see if water is moving from the high parts of the field down rows or wheel tracks. Water movement is most likely to happen in soils with moderate clay content and high compaction. Drop nozzle sprinkler packages and fixed pad sprinklers with small wetted diameters amplify off target application. If significant water is moving, reduce the amount of irrigation applied per event and irrigate more frequently.

The information presented below is an example of the soil moisture status at University of Delaware's Warrington Irrigation Research Farm. Actual field values will vary greatly depending on crop stage, soil type and local rainfall. There are many tools available that provide field by field values to assist farmers in making irrigation scheduling decisions including paid services through local crop consultants, irrigation equipment manufacturer's, Climate Corp, etc. and free tools like KanSched and the Delaware Irrigation Management System (DIMS) http://dims.deos.udel.edu/

Field Corn

Daily corn evapotranspiration (ET) rates for April 25th planted 114 day corn at VT averaged 0.25"/day for the past week. This field has received 2.4" of irrigation in 8 events since last Thursday. This same field is predicted to use 0.22", 0.21", 0.2", 0.24", 0.27" for Friday 7-5 - Tuesday 7/9. In absence of rainfall, the equivalent of 0.20– 0.28 inches of daily irrigation will be needed for corn in the V14-R1 stages. For corn under V12, 0.18 – 0.22 inches per day will be needed. These are estimated values and are no substitute for daily ET use models and field level soil moisture data.

Irrigated Corn Soil Moisture Report for the UD Warrington Farm Stage VT – DIMS Report



Forecast Data	Friday 7/05	Saturday 7/06	Sunday 7/07	Monday 7/08	Tuesday 7/09
Chance of Rain	40%	60%	40%	20%	10%
Crop ET*	0.22	0.21	0.20	0.24	0.27
Soil Water Content*	65%	55%	45%	33%	19%

*** Projections based on dry conditions. Rainfall would increase values.**

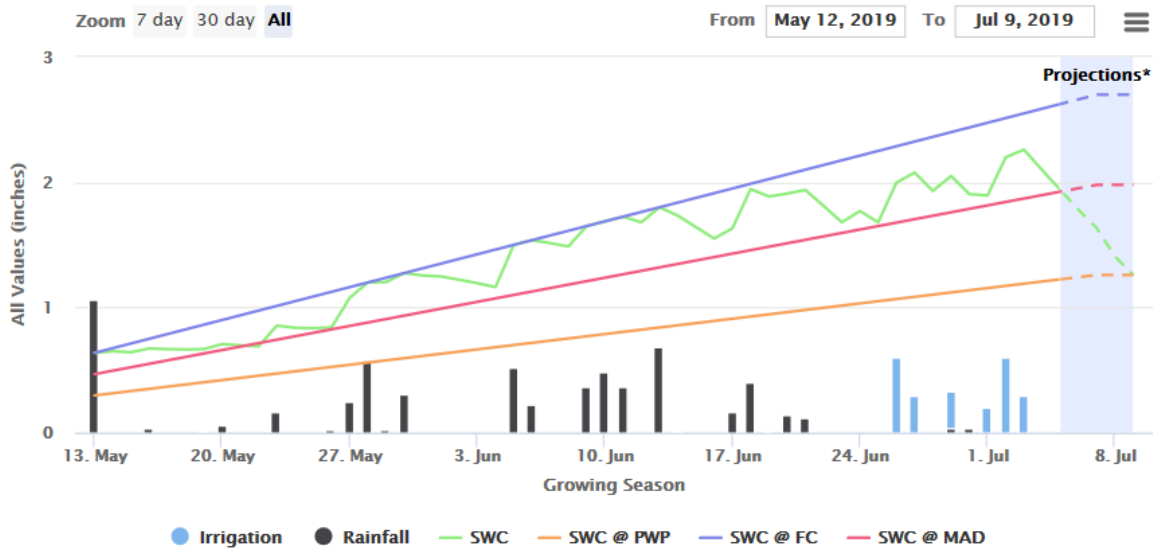
Full Season Soybeans

May 2nd planted soybeans at the UD Warrington Irrigation Research Farm are into the R2 stage as of July 4th and we applied a total of 1.4" in 5 irrigation events last week. At this stage soybeans are using approximately 0.15-0.25 inches per day. Keep in mind that once irrigation is initiated, multiple small applications may be necessary to refill a depleted profile. Multiple years of soil moisture sensor data show soybeans to use water primarily from the shallow (0-8") soil profile.

Double Crop/Late Season Soybeans

Small irrigations around 0.2-0.3 inches should be applied to help germination and maximize canopy development. Keep in mind that irrigation that infiltrates beyond 6" will be of little benefit to the crop.

Irrigated Soybean Soil Moisture Report for the UD Warrington Farm Stage R2 – DIMS Report



Forecast Data	Friday 7/05	Saturday 7/06	Sunday 7/07	Monday 7/08	Tuesday 7/09
Chance of Rain	40%	60%	40%	20%	10%
Crop ET*	0.20	0.20	0.18	0.23	0.26
Soil Water Content*	51%	38%	26%	10%	0%

*** Projections based on dry conditions. Rainfall would increase values.**

Guess the Pest! Week 13 Answer: Anthracnose Leaf Spot

– *David Owens, Extension Entomologist,* owensd@udel.edu

From Nancy Gregory:
Anthracnose leaf spot on corn is common in early summer. Symptoms include small elongate oval leaf spots on leaves, often with a yellow border or halo. Leaf spots first appear on lower leaves, and enlarge and coalesce, leading to a blighted look. Anthracnose will spread to stalks, causing a late season stalk rot. We have seen some younger plants with stalk rot due to anthracnose this season, exhibiting a water-soaked brown stem rot. The causal fungus overwinters in crop debris and is favored by wet weather due to spread of spores by rain splash. Resistant hybrids are available. For more information, see the UD factsheet: http://extension.udel.edu/factsheets/anthracnose-leaf-blight-and-stalk-rot-of-corn/.


N Gregory, University of Delaware

Guess the Pest! Week 14 – *David Owens, Extension Entomologist*, owensd@udel.edu

Test your pest management knowledge by clicking on the GUESS THE PEST logo and submitting your best guess. For the 2019 season, we will have an "end of season" raffle for a $100.00 gift card. Each week, one lucky winner will also be selected for a prize and have their name entered not once but five times into the end of season raffle. A lucky winner will also receive a heavy duty sweep net.

What is causing the discoloration on the bottom of this leaf?

To submit your answer, please go to: https://docs.google.com/forms/d/e/1FAIpQLSfUPYLZnTRsoI46hXmgqj8fvt5f8-JI0eEUHb3QJaNDLG_4kg/viewform

Announcements

A Day in the Garden Open House

Saturday, July 13, 2019 10:00 a.m. – 2:00 p.m.
UD Carvel Research & Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Join Delaware Master Gardeners and explore the multitude of benefits a garden can bestow! Exercise with a leisurely stroll. Relax on a bench and observe our many pollinators and birds! Delight in watching children discover a garden toad or spot a fish in the pond. Take deep breaths and soak in the aromas of our fragrant annual and perennial show stoppers! Catch up with a friend under a shade tree! Bring your curiosity along with your camera and capture the astounding flora and fauna that call our garden home. Be dazzled by the new meadows we've established for pollinators!

Come visit our garden for inspiration on how to create your own special outside oasis! We can help you create that happy place! Get ideas for backyard fun and games for the whole family. Be creative and help us create a kindness rock garden. Channel the child inside you and join little ones as they hopscotch through our special children's sensory garden. Shop the plant sale! Attend our free mini-workshops (see below). Enjoy ice cream from the UDairy Creamery's Moo Mobile (free to children under 16 with a coupon from Farmer McGregor). We have plenty of seating and shady spots in the garden to enjoy. We hope to see you there!

Come see TWO model trains in our garden! Thomas the Tank Engine will be one. A special thank you to Delmarva Model Railroad Club.

FIVE Mini-Workshops! They're Free!

10:00 a.m. – Worm Composting with Judy Pfister

10:30 a.m. – Salsa Demonstration with Ana Dittel

11:00 a.m. – New to Delaware with panel:
Bob Williams | Susan Trone | Tracy Mulveny

12:00 Noon – Art in the Garden with Tina & Bunny

1:00 p.m. – Good Bug/Bad Bug Walk with David Owens, UD Entomologist

Events this year include:
● Grow healthy foods in a vegetable garden

● We've created incredible meadows! Small or large, learn how a meadow can enhance your landscape or open space!

● The perfect patio: In 2016 it was a "man cave!" 2017 it was all about "Thinking Pink!" For 2018 it was a restful meditation garden. For 2019…???

● UDairy Creamery Ice Cream available for sale from the MooMobile! (Free to children who attend the Master Gardener puppet show!)

● Ask an Expert – Sick Plant Clinic

● Our popular home-grown plant sale

● Raffle and Door Prizes

Special Children Events
● The international award winning "The Misadventures of Peter Rabbit in Farmer McGregor's Garden" will show at 11:00 a.m. and 12:30 p.m. Kids, ask Farmer McGregor for a coupon for free ice cream!

● Art in the Garden – a hands-on activity!

Come see what we've designed, planted and cultivated. There is a lot new this year! Do you have a plant that's under the weather, or not cooperating with the weather? Bring it to our Sick Plant Clinic. Visit our plant sale and take home a new plant to enjoy in your garden!

Rain or Shine

Free Admission & Parking

Details at:
http://extension.udel.edu/lawngarden/mg/sussex-county/a-day-in-the-garden-sussex-county-open-house/

Integrated Pest Management Implementation Workshop

Monday, July 8, 2019
Delaware State University, Smyrna Outreach Research Center
884 Smyrna-Leipsic Road, Smyrna, 19977-3440

The workshop will cover:
● Integrated Pest Management Strategies
● Insect and Mites: life cycles, detection methods, monitoring thresholds and control options
● Experience with predatory mites
● Housing pests and control
● Weed management and cover cropping for specialty crop growers

Pesticide Credits: 6

Speakers:

Dion Lerman Lewis
Penn State Center

David Owen
University of Delaware

Cerruti Hooks
University of Maryland, College Park

Brian Kunkel
University of Delaware

Please register by July 3, 2019.

For more information, to register for this free workshop, or for assistance due to disabilities, contact: Rose Ogutu rogutu@desu.edu- Phone number 302-857-6397

Field Tour of Carvel Crops Research

Wednesday, August 14, 2019 3:30-5:30 p.m.
University of Delaware
Carvel Research & Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Please mark your calendars and save the date to join us for the 2019 Crops Research Tour at the University of Delaware Carvel Research and Education Center. This event will include wagon tours of agronomic and vegetable research plots. Dinner will be provided.

Cut Flowers 1: Succession Planting, Harvesting Tips, & Pest Control

Sunday, July 21, 2019 1:00 – 4:00 p.m.
Hattie's Garden
31341 Kendale Rd, Lewes, DE 19958

Local, sustainable flowers are increasingly popular with farmers, at markets, and with florists! Join us at

Hattie's Garden to learn the following important cut flower production skills: succession planting, harvesting techniques, and organic pest control. All experience levels are welcome! (Rain Date: July 22nd, same time, same place.)

This workshop will be led by farmer/owner Hattie Allen, who is deeply committed to growing flowers sustainably and organically. Thanks to Hattie and to the organizers of Future Harvest CASA and the University of Delaware.

https://www.eventbrite.com/e/cut-flowers-1-succession-planting-harvesting-tips-pest-control-tickets-63985426132

Cut Flowers 2: Advanced Annuals, Post-Harvest Handling & Season Extension

Saturday, September 28, 2019 1:00–4:00 p.m.
Masterpiece Flower Farm
7945 Old Ocean City Road, Whaleyville, MD 21872

Join us at Masterpiece Flower Farm and learn how to grow advanced annuals such as Dahlias, Ranunculus, and Lisianthus. Special focus will be given to post-harvest handling practices. We will also discuss tips for season extension. All experience levels are welcome. (Rain Date: September 29th, same time, same place.)

This workshop will be led by farmer/owner Crystal Giesey, who is deeply committed to growing flowers sustainably and organically. Thanks to Crystal and to the organizers Future Harvest CASA and the University of Delaware.

https://www.eventbrite.com/e/cut-flowers-2-advanced-annuals-post-harvest-handling-season-extension-tickets-64194508503

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of June 27 to July 3, 2019

Readings Taken from Midnight to Midnight

Rainfall:

0.05 inch: June 29

Air Temperature:

Highs ranged from 93°F on June 28 to 84°F on July 1.

Lows ranged from 72°F on June 29 to 61°F on July 1.

Soil Temperature:

80.8°F average

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

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