



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 20, Issue 21

August 10, 2012

Vegetable Crops

[Vegetable Crop Insects](#) - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

NOTE - This is the time of year when we see significant increases in trap catches so be sure to check trap catches in your area. You can get updates by calling the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851) or checking our website (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>) - both are updated on Tuesday and Friday each week.

Cole Crops

Continue to sample for cabbage looper, diamondback larvae, armyworms and Harlequin bug. Although the pyrethroids will provide control of Harlequin bugs they are not effective on diamondback. So be sure to scout and select controls options based on the complex of insects present in the field.

Lima Beans

Continue to scout for spider mites, stink bugs and lygus bugs. Be sure to sample for corn earworm larvae as soon as pin pods are present. A treatment will be needed if you find one corn earworm larvae per 6 ft-of-row. With the increase in local corn earworm catches we are starting to see an increase in larval populations.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. We

continue to see an increase in aphid populations. Treatments should be applied before populations explode and leaf curling occurs.

Peppers

In areas where corn borers are being caught in local traps, fields should be sprayed on a 7-day schedule for corn borer control. As soon as corn borer trap catches increase to above 10 per night, a 5 to 7-day schedule may be needed. Since trap catches can increase quickly at this time of year, be sure to check local moth catches in your area by calling the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851) or visiting our website at (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>). We continue to find beet armyworms (BAW) so be sure to watch for feeding signs and apply treatments before significant webbing occurs. We continue to find aphids in fields and populations can explode quickly, especially where beneficial insect activity is low. As a general guideline, treatment may be needed if you find one or more aphids per leaf and beneficial activity is low.

Snap Beans

At this time of year, you will need to consider a treatment for both corn borer and corn earworms. Sprays are needed at the bud and pin stages on processing beans for corn borer control. An earworm spray will also be needed at the pin stage. Just as a reminder, Orthene (acephate) will not provide effective corn earworm control in processing snap beans. If Orthene is used for corn borer control you will need to combine it with a material that is

effective on corn earworm. You will need to check our website for the most recent trap catches to help decide on the spray interval between the pin stage and harvest for processing snap beans (<http://ag.udel.edu/extension/IPM/traps/latestblt.html> and <http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>). Once pins are present on fresh market snap beans, a 7-day schedule should be maintained for corn borer and corn earworm control.

Sweet Corn

The first silk sprays will be needed as soon as ear shanks are visible. Be sure to check both blacklight and pheromone trap catches for silk spray schedules since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings (<http://ag.udel.edu/extension/IPM/traps/latestblt.html> and <http://ag.udel.edu/extension/IPM/thresh/silkspraythresh.html>). You can also call the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851). A whorl stage treatment should be considered for fall armyworm when 12-15% of the plants are infested. We continue to find pockets of high fall armyworm infestations. Since fall armyworm feed deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control. Be sure to check all labels for days to harvest and maximum amount allowed per acre.

Cucurbit Downy Mildew Update - *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland;* keverts@umd.edu

Within the last week cucurbit downy mildew has been confirmed in crops other than cucumber in the region, including a confirmation of CDM on butternut squash in Wicomico County, MD. Check the Cucurbit Downy Mildew IPMpipe at <http://cdm.ipmpipe.org/> for information on all recent reports of CDM.

Yellow Cantaloupe Leaves - *Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

Each year we see problems with cantaloupe leaves turning yellow. There are several potential causes. If the yellowing is on leaf edges it most commonly is due to salt effects and fungicides, see the article by Jerry Brust two weeks ago for more details <http://agdev.anr.udel.edu/weeklycropupdate/?p=4562>. Copper fungicides are often the culprit in this leaf yellowing, causing a phytotoxic reaction. Foliar fertilizer applications can often worsen the yellowing by increasing salt levels on the leaves.

Each year there are some fields of cantaloupes that are affected by manganese toxicities. This occurs when bed pH drops below 5.4 which affects soil chemistry so that plant available manganese increases greatly and plants take up quantities that become toxic. As a micronutrient, Manganese is needed in only small amounts and the sufficiency range is between 20-100 ppm. Magnesium deficiencies also can occur at low pH and older leaves will show interveinal chlorosis. These symptoms can be confused with mite damage so check for mites in the diagnostic process.

Air pollution is another cause of yellowing of cantaloupe leaves. This yellowing is usually confined to older crown leaves.





Cantaloupe leaves showing signs of salt injury, copper fungicide phytotoxicity and manganese toxicity. Bed pH was 5.4.

Odd Year for Some Pests in Tomatoes and Cucumbers - Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

This has been a very hot dry summer so far and we would expect to see pests such as twospotted spider mites and their damage to be common, which we have. However, I have been surprised by the amount of worm (Lepidoptera larvae) damage in tomatoes. Usually worms are a problem in a few fields every summer where they do some damage, but the amount of damage they have done in some fields this year is much greater, around 15-20% of harvestable fruit in several instances. The biggest culprit seems to be yellow striped armyworm (YSAW) *Spodoptera ornithogalli* (Fig. 1). As the name implies the larvae have two bright yellow stripes on the upper part of the worm running the length of its body. The yellow stripe is often flanked towards the inside with black triangular-shaped markings. This worm species tends to feed on the foliage of many plants, but most of the damage I have seen this summer has been on the fruit with little feeding on the foliage. The fruit damage usually appears as surface feeding

(Fig. 1) or feeding holes that are very shallow and do not penetrate too deeply into the fruit (Fig. 2). This often leads to a dry type of damage as opposed to the smaller, deeper holes that often lead to a wet rot (Fig. 2). The YSAW overwinters as pupa in the soil and becomes active in late May or mid-June in our area. This year it has become active much earlier than it normally does and has built its population earlier too. We usually do not see this much damage until late August. Management must take place early when larvae are small; once larvae become large they are difficult to control.



Figure 1. Yellow striped AW and feeding damage on tomato



Figure 2. Yellow striped AW damage to ripening tomato fruit. Dry (yellow arrows) and wet damage.

Another surprise is that bacterial diseases are turning up in many tomato fields. Moist weather and splashing rains are most often needed for spreading bacteria. Maybe the presence of bacteria in the field is not too surprising, but what is surprising is the widespread nature of the bacterial spot, speck and sometimes canker diseases. Most tomato fields I have looked at in the last two weeks seem to have at least some if not a considerable amount of bacterial disease, usually on the lower leaves (Fig. 3) that in some cases has moved up to the pedicels of the fruit (Fig. 4). Infection of the flower or pedicel with bacterial spot is serious, causing early blossom drop (Fig. 5). From the pedicel the next stop for the bacteria, after a heavy thundershower, will be the fruit. A weekly mixture of mancozeb plus fixed copper or ManKocide should help with bacterial spot or speck, but once in the field, bacterial diseases are difficult to control. If a grower has an older tomato field that has bacterial spot in it that field should be plowed under as soon as possible as it will act as a nursery for spreading the disease to the younger tomato fields.



Figure 3 Bacterial spot or speck on tomato



Figure 4. Tomato pedicels and blossoms with bacterial spot



Figure 5. Blossom drop due to bacterial infection (yellow arrows) and the start of a flower being aborted (red arrow).

The last 'surprise' pest has been the seemingly sudden appearance of downy mildew in cucumber fields (Fig. 6). This disease usually needs cooler weather that we have had little of this summer. But on the 21 of July we had a cool wet period when several areas in the mid-Atlantic set a record low for the daily high (77° F). Right after this brief cool down the downy mildew seemed to explode. Many of the cucumber fields I visited in southern and central Maryland that had been harvested at least once had downy mildew. Once it starts it can

defoliate a patch of cucumbers very quickly leaving any fruit to sunburn (Fig. 7).



Figure 6. Downy mildew on cucumber leaf



Figure 7. Cucumber plants defoliated due to downy mildew resulting in sunburned fruit

Fruit Crops

When to Plant Plasticulture Strawberries -
Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

In 2011, the common observation was that later planted Chandler strawberries out-yielded earlier plantings. This illustrates the dramatic effects that fall and winter temperatures can have on plasticulture production.

Chandler has been our main plasticulture berry and has shown consistently high yields. For most of Delaware, the recommendation has been to plant Chandler the second week in September. In conversations with Dr. Barclay Poling, who is the recognized expert in plasticulture production in North Carolina, he stated that Chandler is

more sensitive to fall and winter temperatures than other varieties and in warmer conditions Chandler will put on too much growth, leading to small berries the following spring; therefore, knowing when to plant is difficult. If you could accurately predict fall and winter temperatures, you could adjust planting dates, but of course this is not possible.

One strategy has been to make multiple plantings of Chandler one week apart starting the second week in September. This will insure that a part of the crop will come out of winter with the proper number of crowns (not too many, not too little). Unfortunately, this means that part of the crop will be low yield and part will have small berries.

Another strategy is to switch to varieties that are less susceptible to putting on too much growth. This is where the variety Camarosa may have a fit, as it is less temperature sensitive than Chandler in the fall and is not prone to putting on excessive growth. Camarosa is however sensitive to high April temperatures which can halt flowering in the spring, but in normal years will extend the season better than Chandler.

Sweet Charlie, the early berry that also can put on a second late crop, is normally planted 7-10 days ahead of Chandler. It is not an option to replace Chandler. For other varieties being tried, such as Festival and Bish, we still do not have enough research in our region to know if they can be replacements for Chandler.

Another strawberry that should be considered by growers is Albion, a day-neutral variety. It too is not sensitive to when it is planted in the fall. While much less productive in the main Chandler season, it has some unique properties that make it valuable to growers. First, it will give some early production, ahead of Chandler. Second, even though production is lower, it produces evenly over an extended period of time from April through early July. In general it will give 5-6 weeks more production than Chandler. It is a large, firm berry, that, while not as sweet early in the season, has good quality in May and June. Because plants are smaller and there are fewer berries per plant, it should be planted at a higher density than Chandler.

Agronomic Crops

Agronomic Crop Insects - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

Alfalfa and Grass Hay Crops

As indicated in last week's newsletter, you need to continue to watch for defoliators in grass hay crops and alfalfa. Significant damage has occurred in a number of grass hay fields from true armyworm and fall armyworm. It is important to catch populations before significant damage has occurred and when larvae are small. In addition to checking labels for rates, be sure to check for all restrictions including but limited to comments on control under high populations and size of larvae; days to harvest and forage/silage restrictions.

Soybeans

Economic levels of corn earworms in Kent and Sussex counties in Delaware and on the lower eastern shore of Maryland. Trap catches continue to increase throughout the state and moths can be found laying eggs in fields. It appears that we could see an extended moth flight and egg laying period in soybeans. Since population levels vary from field to field, the only way to know if you have an economic level will be to scout all fields. Remember, corn earworms can feed on the foliage and blossoms as well as the pods. Although there is no threshold for corn earworm feeding on flowers or leaves, data from North Carolina has indicated that feeding on flowers can result in reduced yields by delaying pod set. When looking at foliage feeding by corn earworm, you will need to use the defoliation threshold as well as the presence of worms to make a decision (again - there is no worm threshold available for leaf and/or blossom feeding). Once pods are present, the best approach to making a decision on what threshold to use for corn earworm is to access the Corn Earworm Calculator developed at Virginia Tech (<http://www.ipm.vt.edu/cew/>) which estimates a threshold based on the actual treatment cost and bushel value you enter.

Be sure to scout for stinkbugs in fields that are in the pod development and pod fill stages.

Economic damage is most likely to occur during these stages and a combination of species can be found in fields throughout the state. You will need to sample for both adults and nymphs when making a treatment decision. Available thresholds are based on beans that are in the pod development and fill stages. As a general guideline, current thresholds for native stink bugs are set at 1 large nymph/adult (either brown or green stink bug) per row foot if using a beat sheet, or, 2.5 per 15 sweeps in narrow-row beans, or 3.5 per 15 sweeps in wide-row beans. We do not have a threshold for brown marmorated stink bugs (BMSB).

We continue to find beet armyworm (BAW) in fields in Kent and Sussex counties. Since this insect is primarily a defoliator, you should use the defoliation thresholds to make a treatment decision. As a reminder, the pyrethroids will not provide effective control so a beet armyworm product labeled for soybeans will be needed if the defoliation threshold is reached.

We continue to sample fields statewide for both Brown Marmorated Stink Bugs (BMSB) and Kudzu Bug, projects funded by the Delaware Soybean Board. We are finding very low levels of BMSB and so far no Kudzu Bugs have been detected. In speaking with my colleague Ames Herbert from Virginia Tech, he indicated that they have found Kudzu Bug in 17 counties but they are still only finding adults. These adults are very mobile so we will need to remain vigilant. Thresholds developed in the south are based on nymphal counts. Please view the following link for pictures of adults and nymphs.

<http://www.nccrops.com/2011/06/24/kudzu-bug-confirmed-in-34-north-carolina-counties/>

US Supply/Demand Summary, 8/10/12, Million Bushels

	Corn			Soybeans			Wheat		
Crop Year	11-12	12-13	12-13	11-12	12-13	12-13	11-12	12-13	12-13
Report Date	07/11	06/12	07/11	07/11	06/12	07/11	07/11	06/12	07/11
Carryin	1,128	903	1,021	215	170	145	862	743	743
Production	12,358	12,970	10,779	3,056	3,050	2,692	1,999	2,224	2,268
Imports	25	30	75	15	15	20	112	120	130
Tot Supply	13,511	13,903	11,875	3,286	3,235	2,857	2,974	3,087	3,141
Feed	4,550	4,800	4,075				163	200	220
Crush/Mill*	1,360	1,390	1,320	1,690	1,610	1,515	941	950	950
Ethanol Prod	5,000	4,900	4,500						
Seed/Other	30	30	30	101	124	116	77	73	73
Exports	1,550	1,600	1,300	1,350	1,370	1,110	1,050	1,200	1,200
Total Use	12,490	12,720	11,225	3,141	3,105	2,742	2,231	2,423	2,443
Carryout	1,021	1,183	650	145	130	115	743	664	698
Stocks/Use Rate	8.20%	9.30%	5.80%	4.60%	4.20%	4.20%	33.30%	27.40%	28.60%
Avg Price	6.1	5.9	8.2	\$12.45	\$14.00	\$16.00	\$7.24	\$6.80	\$8.30

*Excludes corn for ethanol

- The domestic estimates should be considered bullish for corn, bullish for soybeans and neutral for wheat.
- Ending stocks and stocks-to-use dropped for corn, soybeans and wheat.
- The buzz among commodity traders is likely to be whether the production numbers are low enough.

World S& D Summary, 8/10/12, Million Metric Tons

	Corn			Soybeans			Wheat		
Crop Year	11-12	12-13	12-13	11-12	12-13	12-13	11-12	12-13	12-13
Report Date	07/11	06/12	07/11	07/11	06/12	07/11	07/11	06/12	07/11
Carryin	127.47	129.37	135.97	70.19	52.51	51.94	197.97	197.18	197.59
Production	876.84	905.23	849.01	236.03	267.16	260.46	695.18	665.33	662.83
Total Supply	1,004.3	1,034.6	984.98	306.22	319.67	312.4	893.15	862.51	860.42
Feed	507.58	535.95	508.74				145.64	130.33	134.09
Crush				224.64	232.39	227.03			
Other	360.77	364.56	352.9	29.2	30.76	29.89	549.92	549.73	549.16
Total Use	868.35	900.51	861.64	253.84	263.15	256.92	695.56	680.06	683.25
End Carryout	135.97	134.09	123.33	51.94	55.66	53.38	197.59	182.44	177.17
Stocks/Use Rat	15.70%	14.90%	14.30%	20.50%	21.20%	20.80%	28.40%	26.80%	25.90%

- Ending stocks were reduced across the board for corn, soybeans, and wheat.

- Stock-to-use ratios were also reduced across the board for the world estimates.

Market Strategy

Commodity markets are expected to remain extremely volatile in the near term, although some analysts would argue that the August estimates may already be factored into commodity prices. It is more likely that crop production for 2012 corn and soybean production will be further reduced in the September S & D estimates. Fundamentally, the outlook remains bullish and should continue to support the corn, soybean and wheat markets. Currently, Dec '12 corn futures are trading at \$8.22 per bushel, Nov '12 soybeans at \$16.54; with July '13 SRW wheat futures at \$8.57 per bushel.

For technical assistance on making grain marketing decisions contact Carl L. German, Extension crops Marketing Specialist.

Announcements

Extension Vegetable & Fruit Program Open House

Tuesday, August 21 4:00 – 8:00 p.m.
Carvel Research and Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Come see and hear about many of the UD Extension Vegetable and Fruit Program's field research projects from the 2012 season.

Watermelons: pollination, potassium fertilization, stress mitigation, variety trial and more...

Onions: overwintering and spring transplanted onion production

Lima Beans: tillage practices, re-growth production, breeding for stress tolerance and disease resistance

Fruit: fall strawberry and blackberry production

Lettuce: spring variety trial results and tour of fall varieties

Sweet Corn: fresh market variety trial results, processing corn population and tillage practice studies

Dinner featuring local produce will be served.

Please pre-register by contacting Karen Adams at 302-856-2585 ext. 540 or adams@udel.edu.

UD Field Day for Sustainable and Organic Agriculture

September 13, 2012
University of Delaware
Carvel Research and Education Center
16483 County Seat Hwy
Georgetown, DE 19947

Additional details to follow in later issues of WCU.

Delaware Soybean Field Day

Wednesday, August 22, 2012
University of Delaware
Carvel Research and Education Center
16483 County Seat Highway
Georgetown, DE 19947

AGENDA (rain or shine)

Noon - 1 p.m.: Welcoming remarks and sponsored lunch

1 pm - 3 p.m.: Soybean Checkoff Sponsored Plot Tours—Group Splits into Two Groups

Group #1 remains at Carvel REC, Soybean Production Updates and Wagon Tour of Agronomic, Insect, and Weed Plots – UD Extension

Group #2 travels to Warrington Irrigation Research Farm (Harbeson, Del.) by charter bus, Tour of Variable Rate Irrigation and Subsurface Irrigation Plots—UD Extension

3:30 p.m. - 5:30 p.m.: Soybean Checkoff Sponsored Plot Tours—Groups Switch Places

Group #1 travels to Warrington Irrigation Research Farm

Group #2 remains at Carvel REC

6 p.m.: Social & Fundraiser including a silent auction for “Save Farm Families” coordinated by the Mid-Atlantic Soybean Association. Join us for specials on food and beverages at The Brick Hotel, 18 The Circle, Georgetown, Del.

Pesticide, Nutrient Management, and CCA continuing education credits will be available.

This event is FREE, but please register by August 15 to help us prepare for meals.

To register contact Karen Adams at (302) 856-2585 ext. 540 or by email at adams@udel.edu. You can also register by eFax at (302) 264-8638 or online at: www.desoybeans.org.

Cooperative Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Cooperative Extension Office. If you have special needs that need to be accommodated, please contact the office two weeks prior to the event.

Delaware NRCS “Meet and Tweet”

Monday, August 13, 2012 11:00a.m. EST

Tune in online by following [@DelawareNRCS](https://twitter.com/DelawareNRCS) and using #DENRCS or #askTheStateCon

On Monday, Aug. 13, Delaware NRCS State Conservationist Russell Morgan will host the first “Meet and Tweet” on Twitter. Morgan will be available to answer questions and take comments as Delaware NRCS puts down roots on Twitter. Morgan will sit down to [reply-tweet](#) during the live Twitter chat to answer *your* questions about soil health, the farm bill, drought assistance, and energy saving programs.

Since the 2008 Farm Bill, NRCS has provided \$8 million in financial assistance to Delawareans through 255 contracts covering 33,767 acres to improve water quality through the Chesapeake Bay Watershed Initiative (CBWI). Find out more results about the CBWI and other programs and initiatives during the “Meet & Tweet.”

If you are not currently a follower of Delaware NRCS, you can follow us [here](#).

Submit your related questions in advance to the @DelawareNRCS Twitter account using the hashtag #DENRCS or #askTheStateCon. Or join in once the conversation/tweet chat begins.

The “Meet and Tweet” provides an opportunity for all to connect with Delaware NRCS leadership via Twitter. The live Q&A session guarantees an answer to all ag-related questions. Join the discussion and introduction of Delaware NRCS on Twitter.

Upcoming Workshops Aim to Benefit Farmers with Drought-Plagued Fields

Monday, September 17, 2012 8:00 a.m.

Pardee Center

69 Transportation Circle

Dover, DE

Monday, September 17, 2012 7:00 p.m.

Carvel Research and Education Center

16483 County Seat Highway

Georgetown, DE

Nearly 50% of the nation’s farmers’ crops have suffered losses from extremely dry conditions during the current growing season. Sharply rising prices and crop devastation will affect not just producers themselves, but all channels of the U.S. and global economies. Therefore, it is important Delaware farmers stay informed about risk management and farm safety-net options available to them, in order to keep funds available and cash flow steady.

Two workshops are to be held on September 17, 2012 featuring discussion and instruction on crop insurance, grain marketing, pending ag legislation, and general risk management. Admission is free and each meeting includes complementary risk management related materials and refreshments.

To register for either event **please call 302-424-8340 or 877-673-2767** (registration is not required, but ensures availability of materials for all attendants). Setting aside the time to attend may save you time and money in the future.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of August 2 to August 8, 2012

Readings Taken from Midnight to Midnight

Rainfall:

0.38 inch: August 3

0.01 inch: August 8

Air Temperature:

Highs ranged from 93°F on August 3 to 86°F on August 6 and August 7.

Lows ranged from 75°F on August 5 to 65°F on August 2.

Soil Temperature:

83.2°F average

Additional Delaware weather data is available at
http://www.deos.udel.edu/monthly_retrieval.html
and
<http://www.rec.udel.edu/TopLevel/Weather.htm>

*Weekly Crop Update is compiled and edited by
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