



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

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

NOTE - Be sure to check BLT catches in your area for corn borer and corn earworm catches - there has been a significant increase in trap catches over the past 10 day period. 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>)

Cabbage

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 corn earworm material (e.g. a pyrethroid). 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/silksp raythresh.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.

Preserving the Late Set on Watermelons - *Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu*

Watermelon maturity and harvest was accelerated this year by the high temperatures in June and July and there may be a shortage of late watermelons. With this in mind, many growers are trying to preserve later sets in early harvested fields to mature at the end of August or in early September. Success will depend on a number of factors.

First and foremost is the health and condition of the vines. Plants need to have an adequate amount of healthy leaf area to support watermelon fruit development. The leaves closest to the developing fruit are the most critical. If these leaves are in good shape, then an aggressive fungicide program is warranted to keep them healthy and provide photosynthates for the late set.

Previous harvest operations will have spread diseases in the field and caused wounds that further accelerated disease development. Older portions of watermelon vines with fungal infections will serve as reservoirs to infect healthy leaves making protection more difficult. Good coverage will be essential. Mix fungicides with some local systemic activity with a protectant fungicide. This time of year you may see the full mix of diseases including gummy stem blight, *Alternaria*, and anthracnose along with the potential for some late season diseases such as downy mildew and/or powdery mildew. The fungicide program that you choose needs to target diseases that are occurring in your field and in neighboring fields, so intensive scouting and correct diagnosis of existing diseases is critical.

In addition, mite, aphid, rindworm, and other insect populations may have built up to high numbers and aggressive control programs will also be needed to protect late sets.

It is also critical to evaluate the condition of the stems. Vines are damaged by trampling during harvest. When a vine is stepped on, it compromises the ability of that stem to carry water and mineral nutrients to leaves and fruits further down the vine. Areas with heavy foot traffic will have a lower percentage of saleable fruits from late sets because of this.

Another critical factor is the presence of any mature watermelons still attached to vines that were not harvested in prior trips across the field (melons were missed, had defects, too small, had damage, etc.). When a mature fruit is kept attached to a vine, it will delay the development of any later sets (due to hormone signals in the plant). Detaching or removing these melons will help later sets progress. A plant will mature 2-3 watermelons in the normal harvest window. To

get a plant to produce more, all old fruits must be removed promptly.

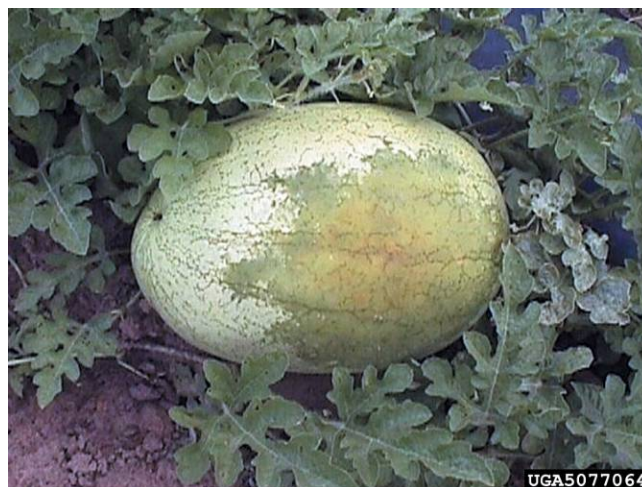
Water is one of the most important factors in maturing late sets. Often, less attention is paid to irrigation during and after harvest operations. Beds are allowed to dry and vines are water stressed. This also shifts the hormone balance in the plant and can impede later sets or cause premature abortion of late sets. It is important to keep fields with later sets well watered and manage to irrigation closely.

Finally, additional fertilizer will be needed to promote the later sets, maintain healthy leaves, and promote fruit development. Nitrogen and potassium are the most critical in this regard. An additional 20-50 lbs of N/acre should be applied through the irrigation. 20-50 additional lbs of potassium per acre can also be of benefit, especially in light, low CEC soils (potassium is important for fruit quality).

Watermelon Fruit Blotch - Nancy Gregory, Plant Diagnostician; ngregory@udel.edu and Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland; keverts@umd.edu

Bacterial fruit blotch on watermelon has shown up in Delaware for the first time this year. This disease is caused by the bacterium *Acidovorax avenae* subsp. *citrulli*, which is most commonly seed-borne. Fruit blotch is favored by warm, humid conditions. The typical symptoms include a dark olive green irregular stain on the fruit. It appears water-soaked, but can be dry. The blotch will spread in size, but usually doesn't extend down into the flesh of the fruit. Older lesions may split open, and then fruit rot can occur from the entry of other bacteria and fungi. Once fruit matures, the waxy rind prevents infection, so infections seen now probably occurred at fruit set or in early fruit development. Fields ready for harvest should be kept dry, and severely affected fruit or those with splits or wounds to the rind should be culled. Contaminated seed or seedlings are the primary cause of infection, but the bacteria can survive on crop debris and weed hosts. On Delmarva, we have observed instances where the pathogen overwintered and survived on

watermelon "volunteer" plants grown in alternate, non-host years. Fields with known infections should be rotated away from cucurbits, plowed, and weeds and volunteer watermelon plants controlled. Greenhouse sanitation and clean seedlings for the next year are important. Copper or Tanos (8.0 - 10.0 oz/A) applied every seven days will suppress disease progress.



Watermelon fruit blotch (Image courtesy of David B. Langston, University of Georgia, Bugwood.org)

Some Ugly Tomato Fields - Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

I have received samples, gotten reports, and have been in some really ugly tomato fields in the past two weeks. The fields consistently have similar appearances where the bottom third or half of the plants have died, dark brown, often dried-up leaves (Fig. 1). There have been various reasons for some of the dead tissue. In one case plants had Pith necrosis that we talked about a few weeks ago, another field had bacterial spot that was not controlled very well, in another situation mites were at a very high density, but in many situations there was no plant pathological or insect related reason for the terrible looking field. No pathogen could be found in the stems or roots of the plants and only incidental pathogens or insects on the leaves. What seemed to be happening was a rapid decline of the plants over the last couple of weeks. It appears that the stress of this

summer is catching up to some fields as they support a heavy fruit load at this time of the season. Additional factors appear to be lower than needed levels of irrigation and possibly the plants are running out of nutrients. It is hard to put a definitive finger on the cause other than the heat and drought seem to be reducing the plants ability to maintain healthy lower foliage. Much of the fruit on many of these plants is still in remarkably good shape although it goes downhill fast (Fig. 2). The bottom leaves on tomato plants are often used to help fill out fruit when times are tough for the plant, so that these leaves become weakened, yellow and very tough and leathery. This situation seems to be occurring here, but at a much accelerated rate of lower foliage decline. In this weather any additional stress on the plant is going to increase the possibility it declines rapidly. I do not have a sure-fire plan to remedy the situation other than to pick off the fruit load as much as is reasonably possible and increase irrigation levels as well as to feed the plants low concentrations of NPK. The plants are probably not going to recover to any great extent until the heat wave ceases, but you can maintain the plants until you harvest the fruit. The most important thing to do if your field looks like Figure 1 is to take plant samples to figure out exactly what you have. Whether it is a plant disease or insect problem or an environmental one, steps can be taken to remedy the situation, but you have to be sure what you are dealing with first.



Figure 1. Tomato field with the bottom half of the plants with dead leaf tissue



Figure 2. Tomato fruit on plants with dead bottom foliage

Agronomic Crops

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

Alfalfa and Grass Hay Crops

Be sure to watch for corn earworm, fall armyworm, beet armyworms as well as other defoliators. The following link provides a list of materials labeled for defoliators in these crops: <http://extension.umd.edu/publications/EB237online/>. *Before treatment, be sure to check all labels for the rate; comments on control under high populations and size of larvae; days to harvest as well as forage/silage restrictions, as well as other use restrictions.* As far as fall armyworm, we have just gotten reports of grass hay fields being damaged by armyworms so fields should be watched closely after cutting for armyworm damage to the re-growth. Larvae must be small at the time of treatment to achieve effective control.

Soybeans

Corn Earworm (CEW) Alert

The potential for corn earworm pressure in soybeans is high statewide. Trap catches remain high throughout the state and moths can be found laying eggs in fields. *With the continued high trap catches throughout the state, be sure to check all fields for earworms.*

Consultants in Delaware as well as on the eastern shore of Maryland are reporting economic levels as well as in some cases extremely high levels of corn earworms in both full season and double crop fields. Remember, corn earworms can feed on the foliage and blossoms as well as the pods. The only way to know if you have an economic level will be to scout. 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. We also know that during the last CEW outbreak year, high levels of earworms completely stripped fields of all the leaves and blossoms. Therefore, it is critical that all fields be scouted for corn earworm. When looking at foliage feeding by corn earworm, you will need to use defoliation 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.

During the past 3 seasons as well as this season, states to our south, including Virginia, have reported control failures with pyrethroids for CEW control in soybeans. Up until 2009, poor control in our area has been the result of treating too late, treating large worms or using too low of a rate. If you use a pyrethroid for earworm control, be sure to use the highest labeled rate. In addition to the pyrethroids, Steward, Lorsban or Larvin could also be considered, especially if armyworms are in the mix. In some fields, fall armyworm and beet armyworm can also be found.

For more information on what is occurring in Virginia, you will want to look at the Virginia Ag Pest Advisory (<http://www.sripmc.org/Virginia/>) which is generally updated by Friday each week.

Grain Marketing Highlights - Carl German, *Extension Crops Marketing Specialist*; clgerman@udel.edu

USDA Cuts Corn Ending Stocks

U.S. farmers are on track to produce record-high corn and soybean crops this fall, USDA forecast in its August crop production report released early Thursday, with 13.365 billion bushels of corn and 3.433 billion bushels of soybeans. Average corn yield is forecast at a record-high 165 bushels per acre, and soybean yield is forecast at 44 bushels per acre, same as last year. Increases in production are offset by increases in demand, leaving ending stocks for corn down from last month and soybean ending stocks unchanged.

On the production side, the numbers should be considered bearish for soybeans and corn, as both came in above the average estimates and are record large. Wheat should be considered neutral as USDA's estimate was slightly below the average pre-report estimate.

The market should find support as demand continues to improve, most notably in wheat, where exports were increased 200 million bushels in response to the Russian drought.

Traders may be looking closely at world wheat supply and demand numbers, following the recent volatility in the wheat markets. USDA cut both world production and ending stocks for 2010/11, and lowered its estimate for Russian wheat production to 45 million metric tons, from 53 MMT in July. Those numbers are within the range of trade expectations.

U.S. CROP PRODUCTION (Million Bushels) 2010-2011

	Aug	Avg	High	Low	July	2009-10
Corn	13,365	13,280	13,524	13,120	13,245	13,110
Soybeans	3,433	3,360	3,432	3,290	3,345	3,359
Grain Sorghum	383	351	357	346	350	383
All Wheat	2,265	2,230	2,250	2,172	2,216	2,216
All Winter	1,523	1,504	1,516	1,466	1,505	1,523
Spring	633	614	632	599	607	584
Durum	109	105	109	101	104	109

U.S. AVERAGE YIELD (Bushels per Acre) 2010-2011

	Aug	Avg	High	Low	July	2009-10
Corn	165.0	164.1	167.4	162.0	163.5	164.7
Soybeans	44.0	43.2	44.0	42.0	42.9	44.0
Grain Sorghum	74.1	67.9	68.2	67.5	67.6	69.4

U.S. ENDING STOCKS (Million Bushels) 2010-2011

	Aug	Avg	High	Low	July
Corn	1,312	1,306	1,535	1,075	1,373
Soybeans	360	350	378	275	360
Grain Sorghum	41	32	36	29	33
Wheat	952	962	1,132	699	1,093

U.S. ENDING STOCKS (Million Bushels) 2009-2010

	Aug	Avg	High	Low	July	2008-09
Corn	1,426	1,470	1,523	1,425	1,478	1,673
Soybeans	160	169	181	153	175	138
Grain Sorghum	28	51	55	46	28	55

WORLD ENDING STOCKS (Million Metric Tons)

	2010-2011		2009-2010	
	Aug	July	Aug	July
Wheat	174.76	187.05	193.97	193.02
Corn	139.20	141.08	139.03	139.59
Soybeans	64.73	67.76	63.52	65.35

WORLD PRODUCTION (Million Metric Tons)

	2010-2011		2009-2010	
	Aug	July	Aug	July
Brazil soybeans	65.0	65.0	69.0	69.0
Argentine soybeans	50.0	50.0	54.5	54.5
Argentine corn	21.0	21.0	22.5	22.5
Brazil corn	51.0	51.0	54.35	53.0
Canada wheat	20.5	20.5	26.5	26.5
Russia wheat	45.0	53.0	61.7	61.7

Source: DTN

Market Strategy

Overall, this report should be considered price positive. In the near term, commodity markets are more likely to react to the effects of outside

market forces. Overnight, those forces were mixed with the dollar higher and energy lower. The Dow, as of this writing, is considerably lower

on the week. General economic conditions in the U.S. and world remain weak.

Commodity prices bid higher in overnight trade, possibly anticipating larger declines in ending stocks numbers for U.S. corn and soybeans than those revealed this morning. Good pricing opportunities remain. Before the open, Dec '10 corn futures are \$4.11; Nov '10 soybean futures are \$10.15; and Dec '10 SRW wheat futures are \$7.25; Dec '11 corn futures are \$4.31; Nov '11 soybean futures are \$10.04; and July SRW wheat futures are \$6.88 per bushel.

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

Announcements

Equine Pasture Walk

Tuesday, August 24, 2010 6:00 - 8:00 pm
UD Webb Farm
508 S. Chapel St., Newark DE

It is the policy of the Delaware Cooperative Extension System that no person shall be subjected to discrimination on the ground so race, color, sex, disability, age or national origin.

Learn about trees and plants that are toxic to horses and weed management options. See a demonstration on how to assess vegetative cover in your pastures and learn what horse owners can do in the fall to prepare for spring. Experts will be on hand from the University of Delaware and the Natural Resource Conservation Service (NRCS) to answer your questions!

NM (.5), Pesticide (1), and CCA (1.5) credits will be available!

This meeting is free and everyone interested in attending is welcome. Please bring with you a folding chair. The event will occur rain or shine. Call to register by August 17.

To register or request more information, or if you require special needs assistance for this meeting, please call our office in advance at (302) 831-1340.

See you there!
Carissa Wickens
Assistant Professor, Equine Extension Specialist,
University of Delaware

Sustainable Vegetable Production Demonstration

Tuesday, August 17, 2010 6:00 - 8:00 pm
University of Delaware College of Ag and Natural Resources Newark Farm
(meet at Townsend Hall Parking Lot)
531 S. College Avenue
Newark, DE 19716

This plot demonstrates sustainable growing techniques. This workshop will highlight sustainable vegetable production practices, mulching techniques and integrated pest management.

This meeting is free and everyone interested in attending is welcome.

Please call to register by August 16. To register, request more information or if you require special needs assistance for this meeting, please call our office in advance at (302) 831-2506.

See you there!
Anna Stoops, NCC Extension, Agricultural Extension Agent

Twilight Tour with Bees

Delaware bees, crop pollination, and conservation

Monday, August 30, 2010 5:30 - 7:30 p.m.
Lister Acres (Hurd Family)
5417 Milford-Harrington Highway
Harrington, DE 19952

- Farm Tour: strawberries, melons, flower buffer strips, Heather Harmon Disque, Gordon Johnson, Emmalea Ernest, Bonnie MacCulloch
- Honey Bees: Dr. Debby Delaney, Bob Mitchell
- Pesticide Safety: Joanne Whalen and Bill Cissel
- Practicality of conservation practices and making changes, Chuck Hurd

RSVP by August 25 to:
Plant Industries
Delaware Department of Ag
Dover, DE 19901
Phone: 302-698-4577
E-mail: geri.mcclimens@state.de.us

Presented by the Delaware Department of Agriculture and University of Delaware

Pole Lima Bean Open House

Tuesday, September 21, 2010 11 a.m. – 2 p.m.

Delaware State University
Outreach and Research Center
Smyrna, DE

- Pole lima bean trial based on planting date on half acre plot
- Ethnic crop plots
- High tunnel season extension
- Organic vegetable production

Lunch will be provided.

RSVP by September 14:

Phone: 302-857-6425

Fax: 302-857-6430

E-mail : jclendaniel@desu.edu

If you have any questions or any special needs, please contact us today.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of August 5 to August 11, 2010

Readings Taken from Midnight to Midnight

Rainfall:

0.36 inch: August 5

0.01 inch: August 9

Air Temperature:

Highs ranged from 96°F on August 10 to 87°F on August 7.

Lows ranged from 74°F on August 11 to 64°F on August 7.

Soil Temperature:

89.4°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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Crops*

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