



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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July 23, 2010

Vegetable Crops

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

Lima Beans

Continue to scout for spider mites, stink bugs, lygus bugs and corn earworm. Early detection and treatment will be needed to achieve spider mite control. In addition, multiple sprays may be needed for mites, especially if populations are high at treatment time and/or numerous eggs are present. As soon as pin pods are present, be sure to watch carefully for plant bug and stinkbug adults and nymphs as well as corn earworm larvae. As a general guideline, treatment should be considered for plant bugs and stink bugs if you find 15 adults and/or nymphs per 50 sweeps. A treatment will be needed for corn earworm if you find one corn earworm larvae per 6 ft-of-row.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. We are starting to see an increase in cucumber beetle populations. We continue to find fields with beet armyworms and cabbage loopers feeding on the rinds of watermelons.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should be applied on a 7 day schedule once pepper fruit

is ¼ - ½ inch in diameter. 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>). You will also need to consider a treatment for pepper maggot. Be sure to watch carefully for beet armyworm larvae since they can quickly defoliate plants. In addition to beet armyworm feeding on leaves you should also watch for an increase in aphid populations. We are starting to find aphid populations increasing and they 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

As corn borer and corn earworm populations start to increase, you will need to consider treatments for both insect pests. Sprays are needed at the bud and pin stages on processing beans for corn borer control. As earworm trap catches increase, an earworm spray may also be needed at the pin stage. 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>).

Sweet Corn

Continue to sample all fields from the whorl through pre-tassel stage for corn borers, corn

earworms and fall armyworm. We continue to see an increase in whorl infestations of fall armyworm. A treatment should be considered when 12-15% of the plants are infested. Since fall armyworm feed deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control. The first silk sprays will be needed for corn earworm 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/latest/blt.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).

Unusual Stinkbug Pest Found in Organic Vegetable Fields - Jerry Brust, *IPM Vegetable Specialist, University of Maryland*; jbrust@umd.edu

A few weeks ago some growers contacted me about a very small bug that was all over their organic fields of various vegetables. It took me awhile to find out what it was as it seemed recognizable, but did not fit any real pest I was familiar with. On one farm the nymphs were all over every vegetable and were feeding most heavily on eggplant—actually killed many plants. This small bug was the Twice stabbed stink bug, *Cosmopepla lintneriana* also known as the Wee Harlequin Bug or Two-spotted stink bug (fig. 1). It is a very small (5-7 mm) bug (fig. 2). The body is black with a red band crossing the width of the insect's shoulders (pronotum) and a short red stripe along the midline. These markings are sometimes orange or yellow. The pointed back of the bug (scutellum) has two red spots near the tip of this triangular body part (fig. 1). The tips of the wings are clear or white when overlapped. The nymphs have a remarkably similar color pattern as the adults, but lack wings. It can be found throughout much of North America. It has a very wide host range that includes mostly weed species such as thistles, mints, goldenrods, ragweeds, pigweeds as well

as vegetable crops such as crucifers, brassicas, tomatoes, eggplants etc. The bugs feed by sucking sap from the plant. Females lay eggs in clusters on host plants and guard them. Adults overwinter under leaf litter in the field or woods.

The odd thing was that there were literally hundreds of the nymphs crawling over everything in the one vegetable field. They even appeared under row cover in some areas of the field. The best I can figure is that the adults laid eggs on the weeds next to the tilled part of the field and when this area was tilled later in the season the eggs survived and were able to hatch and the nymphs suddenly appeared out of the ground. Organic controls did a poor job of controlling even the smaller nymphs. This bug has been an occasional nuisance in vegetable fields, why it is so prominent this year is unknown.



Figure 1 Twice stabbed stink bug adult



Figure 2 Twice stabbed stink bug adult on penny

Potato Disease Advisory #17 - July 22, 2010 - Bob Mulrooney, Extension Plant Pathologist;
bobmul@udel.edu

Disease Severity Value (DSV) Accumulation as of July 21, 2010 is as follows:

Location: Art and Keith Wicks Farm, Rt 9, Little Creek, Kent County

Green row: May 6

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P- days*
6/26- 6/27	0	42	10-days	391
6/28 - 6/30	0	42	10-days	408
7/1 - 7/5	0	42	10-days	444
7/6 -7/7	0	42	10-days	449
7/8	1	43	10-days	454
7/9	8	51	7-days	462
7/10	0	51	7-days	471
7/11- 7/12	0	51	7-days	484
7-12 -7/13	3	54	7-days	490
7/13 - 7/14	10	64	7-days	499
7/15 -7/16	1	65	7-days	508
7/17- 7/20	0	65	10-days	526
7/20- 7/21	1	66	10- days	530

Late blight was found in a commercial potato field north of Bridgeton, NJ. Potatoes and tomatoes in the region could be at risk. It is important to keep scouting and maintaining fungicide applications at this time. Potato harvest has begun here in DE and there are still some fields with green tissue that could become infected. The hot weather forecasted for the rest of the week and the weekend will not be favorable for late blight infection and development but be aware of the presence of the disease in the region.

For specific fungicide recommendations, see the [2010 Delaware Commercial Vegetable Production Recommendations Book](#).

Cucurbit Downy Mildew Update - Bob Mulrooney, Extension Plant Pathologist;
bobmul@udel.edu

Continue to scout and spray for downy mildew. The temperatures are higher than ideal but the fungus survives and continues to be a threat. Home vegetable gardens in Sussex County are reporting downy mildew on cucumbers now. Continue to check the ipmPIPE site <http://cdm.ipmpipe.org/>. The forecast was for moderate risk earlier in the week.

Powdery Mildew and Alternaria on Cantaloupe - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Powdery mildew is beginning to get established on cantaloupes now. Include fungicides for powdery in your spray programs. See the article titled '[Powdery Mildew on Cucurbits](#)' in [WCU 18:15](#) for more information.



Powdery mildew on cantaloupe

Alternaria leaf blight is not widely seen anymore because many of our hybrid cultivars have differing levels of resistance and growers keep good spray schedules. I could not help showing you what it looks like if you should run across it and wonder what that leaf spot looks like. It was seen on an old variety 'Hales Best Jumbo'. Control is provided by alternating Bravo (chlorothalonil) or mancozeb with Pristine or alternating Bravo with a tank mix of Bravo plus Quadris, Cabrio or Reason.



Alternaria leaf blight on 'Hales Best Jumbo'

Agronomic Crops

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

Alfalfa

Continue to scout fields on a weekly basis for leafhoppers. It is also time to start watching for defoliators in alfalfa, including grasshoppers, corn earworm, webworms and beet armyworm.

Field Corn

Although we are aware that spider mite populations are heavy in a number of fields, including irrigated fields, we are extremely limited in available control options for our area; the control options available have rotational restrictions and REIs that limit their use in our area; we do not have experience with efficacy of labeled products on field corn in our area; and mites are found on the undersurface of the leaves so contacting them can also be an issue. Information from other areas of the country indicates that they can cause yield loss and controls may be effective if applied before mites move above the ear leaf. However, we do not have experience with controlling mites in field corn and I can not find any good recommendations/studies on mite management in field corn. At this point, maintaining a good irrigation schedule to reduce plant stress will be extremely critical.

I also have some folks asking about Western Bean Cutworm in Delaware. We are running 2 traps (one north and one south) and so far no moths have been detected. If you want more information on this pest, please follow the following link from Ohio:

<http://corn.osu.edu/c.o.r.n.-newsletter#2>

Soybeans

We are starting to see an increase in the levels of bean leaf beetles and green cloverworm (some consultants are reporting a new hatch of small larvae) in full season soybeans. When green cloverworm are small, they produce damage that appears as a "window pane" on the leaves. In double crop soybeans, grasshoppers are the predominant defoliator present at this time. Remember, at the bloom to pod fill stage in full season soybeans, the defoliation threshold drops to 10-15% defoliation. Double crop soybeans can not handle as much defoliation as full season fields at the pre-bloom or pod-fill stages. In addition to defoliation, bean leaf beetles can also feed on pods. Bean leaf beetles can clip pods or plant diseases may enter the pod through their feeding sites. This can result in seeds that appear shrunken, discolored, and moldy resulting in a reduction in seed quality. Although we have not established thresholds for pod feeding in our area, the following link provides information that is used in the Midwest:

<http://www.ipm.iastate.edu/ipm/icm/2000/8-21-2000/iblroof.html>. When possible, a material with residual control should be used for bean leaf beetle control.

Even after the recent rains, economic levels of spider mites continue to be found in both irrigated and dry land fields throughout the state. Heavy rains last week have removed a lot of stress on the plant but you need to make sure that ongoing spider mite problems don't continue to rob yields. It is important to continue to scout the entire field for mites since in many cases we continue to find hot spots throughout fields and edge treatments will not be effective. As a reminder, under heavy mite pressure and extended hot, dry weather, it often takes an extended periods of free moisture on leaves, high humidity during the day and cool evening temperatures to get an increase in the fungal pathogens that can significantly reduce exploded mite populations. Although dimethoate is labeled for mite control in soybeans, growers and consultants are reporting poor control with dimethoate, even in irrigated fields. The bifenthrin products (such as Sniper and Brigade), Hero (a combination of bifenthrin and zeta-cypermethrin) and Lorsban (chlorpyrifos) have provided effective control/suppression. If egg populations are high at the time of application, a second application will mostly likely be needed. Be sure to read the labels for use rates and restrictions - there is a limit on the number of applications as well as the time between applications on all of the materials labeled for spider mite control. Lastly, be sure to consult your crop insurance provider regarding their rulings this year regarding the need to make an attempt to control mites under drought stress conditions.

You should also scout for stinkbugs and pod worms as we enter the pod set and pod fill stages. As corn earworm trap catches increase, open canopy blooming fields will be attractive to egg laying earworm moths. In the past, we have used the treatment threshold of 3 corn earworms per 25 sweeps in narrow fields and 5 corn earworms per 25 sweeps in wide row fields (20 inches or greater). These are static thresholds that were calculated for a 10-year average soybean bushel value of \$6.28. A better approach to determining a threshold is to access

the Corn Earworm Calculator (<http://www.ipm.vt.edu/cew/>) which estimates a threshold based on the actual treatment cost and bushel value you enter.

There have also been reports of economic levels of beet armyworm in soybeans fields in Virginia and consultants are starting to see a few in fields in Delaware. When making a decision for beet armyworm, you will need to look at defoliation. Although they can feed on pods when populations are extremely high, at this point the defoliation threshold should be used to make a treatment decision. If beet armyworm is present in the mix, be sure to select a material that will also provide BAW control. Remember, the pyrethroids have not provided effective BAW control in past years.

Soybean Leafspot Diseases are Showing Up
- Bob Mulrooney, Extension Plant Pathologist;
bobmul@udel.edu

Several leafspots are beginning to appear on susceptible soybean varieties. These include **Septoria leafspot** as well as **downy mildew**. If you have good plant growth and a dense canopy after the recent rains and if the fields are irrigated both diseases could be present. Neither disease is thought to be yield limiting here on Delmarva.



Downy mildew on soybean showing the yellow irregular spots on the upper surface of the leaf



Closeup of lower leaf surface showing the small tufts of tan fungal growth of the downy mildew fungus that could be seen with a 10X hand lens.

Last chance to register for the upcoming Soybean Cyst Nematode Workshop, August 3. There are still spots open if you want to attend. See the announcement at the end of the newsletter.

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

Recent Rally Poses Pricing Opportunities

Renewed noncommercial buying pushed corn contracts to solid gains Wednesday. The corn market remains in its longer-term sideways trend, though support should be solid in today's trading. Additionally, increased risk for crop development has placed some 'weather premium' bidding back into corn contracts. The weekly U.S. crop condition rating for corn declined 1 point from the previous week, now at 72 percent good to excellent.

Noncommercial buying supported soybean contracts, although underlying fundamentals remain bullish in the old-crop market and neutral to bearish in the new-crop, which could provide support near-term. Weekly crop conditions were reported to increase for soybeans by 2 points from the previous week, now rated 67 percent good to excellent.

Noncommercial buying resurfaced in wheat Wednesday with contracts at all three exchanges

posting double-digit gains. However, spreads continue to strengthen with basis levels collapsing, meaning commercial traders feel futures are overpriced.

USDA Export Sales Report 07/22

Pre-report estimates for weekly export sales of soybeans (combined old-crop and new-crop) ranged from 14.7 to 42.3 million bushels. The weekly report showed total export sales of 45.4 million bushels, with old-crop sales of 4.1 million bushels bringing year-to-date sales to 1.48 billion bushels, above USDA's demand projection of 1.46 billion bushels. Total shipments of 10.1 million bushels were below the 12.8 million bushels needed this week. This report should be viewed as bullish.

Pre-report estimates had weekly corn export sales at 29.5 to 47.2 million bushels. The weekly report showed total export sales of 44.1 million bushels, with old-crop sales of 24.2 million bushels bringing year-to-date sales to 1.99 billion bushels, above USDA's demand projection of 1.95 billion bushels. Total shipments of 37.3 million bushels were below the 51.4 million bushels needed this week. This report should be considered neutral to bullish.

Pre-report estimates for wheat exports ranged between 11 to 18.4 million bushels. The weekly report showed total export sales of 14 million bushels, below the 16.1 million bushels needed this week to reach USDA's projected 1 billion bushels. Shipments of 20 million bushels were above the 19.9 million bushels needed this week. This report should be viewed as neutral.

Market Strategy

Reasons given by commodity analysts for recent price strength in commodity prices are many and varied. Nevertheless, the rally is posing some opportunities to either catch up on sales for the current crop year and/or to begin sales for out years - 2011 and 2012. For example, Dec '10 corn futures are currently trading at \$3.93; Dec '11 corn futures at \$4.27; and Dec '12 corn futures at \$4.24 per bushel. Nov '10 soybean futures are trading at \$9.81; Nov '11 at \$9.88; and Nov '12 at \$9.86 per bushel. Dec '10 SRW wheat futures are trading at \$6.28; July '11 at \$6.72; July '12 at \$6.92; with July '13 SRW wheat futures at \$7.18 per bushel.

General

Septoria Leafspot on Sunflower - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Sunflowers are grown both as a crop for oil seed production as well as bird seed. There are many horticultural cultivars as well for flower production. Septoria leafspot as well as Alternaria leafspot are two foliar diseases that are fairly common here in DE. The fungus, *Septoria helianthi*, occurs on plants of any age but symptoms usually begin on the lower leaves after flowering. The spots are water-soaked at first and can be brown to gray, circular or angular. The recent infection I observed produced a narrow yellow border between the infected and healthy tissue. The spots coalesce and produce irregular dead areas on the leaves. Tiny, indistinct, dark brown pycnidia (flask-shaped spore producing structures) form in the spots. The fungus is believed to overwinter in the infected plant residue and spores splash and driven by rain to host tissue. Humid weather and rainfall are ideal for infection and spread. When conditions are humid and moist, leaves will drop from the bottom of the plant to the top until only a few leaves may remain. Fortunately the disease does not do serious damage to the plants. Disease thresholds for commercial production here are unknown. Headline and other fungicides are labeled for disease control on sunflower.



Septoria leafspot on sunflower.

Announcements

Soybean Cyst Nematode Workshop
Tuesday, August 3, 2010 8:30 a.m.- 1:30 p.m.
Delmarva Poultry Industry Building
(former UD office building)
16684 County Seat Hwy.
Georgetown, DE 19947

Soybean cyst nematode (SCN) is a widespread and serious pest of soybeans on Delmarva. First discovered in the fall of 1979 it has been causing increased problems for growers in recent years. This workshop will cover some basics about the biology of SCN and its management and the results of the recent Delaware Soybean Board sponsored survey of SCN in Delaware. The workshop will also include visiting a small research plot to see SCN first hand and discuss symptoms, diagnosing SCN from root samples with a hand lens, and proper soil testing procedures. The workshop is suggested for agricultural professionals on Delmarva who advise soybean growers and growers who want to know more about this important pest.

Pesticide recertification credits and CCA credits in pest management will be offered for attendees.

The cost of the program is \$10 per person with lunch included. The registration deadline is Friday, July 23. A registration form is available here:

<http://www.rec.udel.edu/Extension/Agriculture/SCN.pdf>

Rutgers University Hybrid Hazelnut Field Day

Saturday July 31, 2010 8:30 a.m. – 3:00 p.m.
Rutgers: NJ Agricultural Experiment Station
59 Dudley Rd.
Cook Campus, Multipurpose Room A
New Brunswick, NJ 08901-8520

Join Dr. Tom Molnar and his hazelnut research colleagues to learn about [hybrid hazelnuts](#) and [the Rutgers University hazelnut breeding and research program](#) at the 2010 Rutgers Hazelnut Field Day. The field day will include an overview of hazelnuts at Rutgers and presentations on the Arbor Day Foundations's hazelnut research program and the Hybrid Hazelnut Consortium, the Ferrero Candy Company in Italy, and experiences of local hazelnut growers assisting in research projects. Lunch and an

afternoon tour of the hazelnut research fields are included.

Cost of the field day is \$20. To register and for more information go to:

<http://rutgershazelnutday.eventbrite.com/>

2010 Breakfast Social & Informational Meeting

Wednesday, August 4, 2010 7:00 a.m.
Smyrna Diner
99 South Cory Lane, Smyrna, DE

Join your fellow producers and the UD Extension team to hear about this year's small grain variety trial results, updates on nutrient and pest management, and crop updates. Get your questions answered by asking the experts!

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

We will apply for DE Pesticide and Nutrient Management, and CCA Credits.

Please register by July 28. 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, New Castle County Cooperative

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

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 15 to July 21, 2010

Readings Taken from Midnight to Midnight

Rainfall:

No rainfall recorded

Air Temperature:

Highs ranged from 93°F on July 16 to 88°F on July 15.

Lows ranged from 75°F on July 17 to 71°F on July 15.

Soil Temperature:

88.7°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 Emmalea Ernest, Extension Associate - Vegetable Crops

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