



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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June 20, 2008

Vegetables

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

Cucumbers

Continue to scout all fields for cucumber beetles and aphids. Fresh market cucumbers are susceptible to bacterial wilt, so treatments should be applied before beetles feed extensively on cotyledons and first true leaves. Although pickling cucumbers have a tolerance to wilt, a treatment may still be needed for machine-harvested pickling cucumbers when 5% of plants are infested with beetles and/or plants are showing fresh feeding injury. With the warm weather this past week, we are starting to see an increase in aphid activity. A treatment should be applied for aphids if 10 to 20 percent of the plants are infested with aphids with 5 or more aphids per leaf.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. The treatment threshold for aphids is 20% infested plants with at least 5 aphids per leaf. Be sure to also watch for beneficials. With recent hot weather, be sure to watch for an increase in spider mite activity. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Acramite (one application only), Agri-Mek, bifenthrin, Danitol, and Oberon are labeled on melons for mite control. Zeal was also labeled this year for spider mite control on melons but it

can not be applied by air (one application only). Also, it is considered ovicidal/larvacidal but will not control adult populations (<http://www.cdms.net/LDat/ld7DK010.pdf>). Be sure to check all labels for rates, precautions and restrictions, especially as they apply to pollinators.

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 7-10 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/latest/blt.html>). You should also continue to check fields for aphids. A treatment may be needed prior to fruit set if you find 1-2 aphids per leaf for at least 2 consecutive weeks and beneficial activity is low.

Potatoes

Continue to scout fields for Colorado potato beetle (CPB), corn borers (ECB) and leafhoppers. Low levels of the first aphids have also been found.

Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. Both insects can be found in seedling stage fields. As a general guideline, the thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. If both insects are present, the threshold for each

should be reduced by $\frac{1}{3}$. As a general guideline, once corn borer catches reach 2 per night, fresh market and processing snap beans in the bud to pin stages should be sprayed for corn borer. Sprays will be needed at the bud and pin stages on processing beans. Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7-10 day schedule should be maintained for corn borer control. Since trap catches can change quickly, be sure to check our website for the most recent trap catches and information on how to make a treatment decision in processing snap beans using trap catches

(<http://ag.udel.edu/extension/IPM/traps/latestblt.html> and <http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>).

Sweet Corn

Continue to sample seedling stage fields for cutworms and flea beetles. You should also sample all fields from the whorl through pre-tassel stage for corn borers and corn earworms. Both species can be found feeding in whorls and tassels of sweet corn. A treatment should be applied if 15% of the plants are infested with larvae. We are starting to see a slight decline in trap catches at some locations however a tight spray schedule is still needed on fresh market silking sweet corn. 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 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).

Squash Bugs in Pumpkins – Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

Many of the pumpkin fields in the Delmarva area I have visited in the last two weeks were just coming up or had 2-5 leaves on them. I was surprised to see several squash bugs on these small plants. I also found many egg masses (Fig. 1) on the underside of leaves, usually in the crotch of two veins. In some fields with plastic the squash bugs were feeding below the plastic mulch causing the plants to wilt (Figs. 2 and 3) and eventually die. Normally there are only a few fields that will have squash bugs this early, but just about all of the fields I looked at had enough squash bugs to justify treatment. Growers need to watch for squash bugs on their early pumpkin plants, especially down in the plastic hole. A spray may be needed if the plants are stressed (like they were last week from the intense heat) and there are 2 bugs or 1 egg mass per plant.



Figure 1. Squash bug adult and egg mass

One interesting aspect of these fields with squash bugs is that all the fields that had not been sprayed had many *Trichopoda pennipes* Tachinid fly parasitoids (Fig. 4) in them. These medium sized, orange bellied, black winged flies will lay white eggs on the underside or “shoulder” of squash bugs (Fig. 5). The eggs will hatch on the side attached to the insect and the maggot will enter the bug and feed inside, eventually killing the pest. While useful under

moderate to low infestation levels of squash bugs, these parasitoids will not keep a large population of squash bugs below thresholds.



Figure 2. One pumpkin plant (top) wilting due to squash bug feeding



Figure 3. Squash bugs at the base of wilted pumpkin plant under plastic mulch



Fig. 4 *Trichopoda pennipes* adult

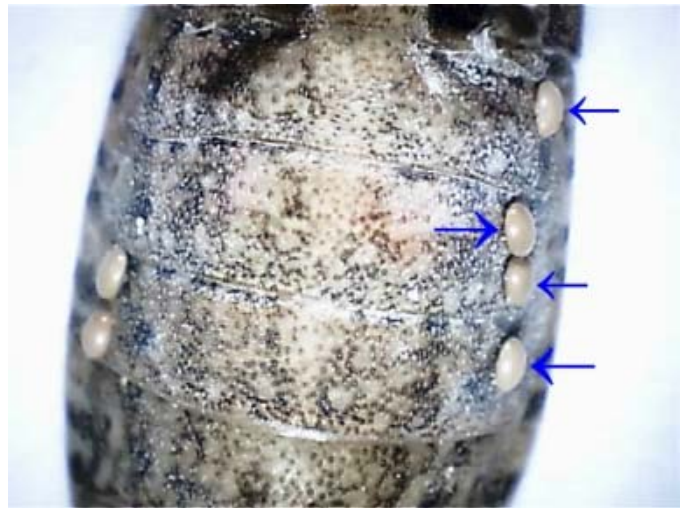


Fig. 5 *T. pennipes* eggs on squash bug

Western Flower Thrips on Our Doorstep -
Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

I have been working with researchers from Virginia Tech on thrips identification in their crops. They had a severe problem with thrips, especially Western flower thrips (WFT) *Frankliniella occidentalis*, last summer in tomato and cotton. This year they wanted to see if they were getting early (April and May) populations of Western flower thrips in their fields. Sure enough, the samples I saw from tomatoes, cotton and some winter annual weeds all had 20-50% of their thrips population as Western flower thrips. Southern parts of Maryland and the southernmost part of Delaware will probably see these Western flower thrips populations move into the area in late June and early July. This is another good reason NOT to apply any pesticides to tomato unless absolutely needed, especially early in the season. My research has shown that Western flower thrips are consistently worse on farms in our area that use pesticides on a weekly basis, whether their use is warranted or not. WFT are worse because they are usually resistant to many of the pesticides we commonly use and the frequent sprays greatly reduce natural enemies of WFT. Save your chemical sprays for later in the season when worms, thrips, mites and stink bugs may become major problems.

Potato Disease Advisory #10 - June 19, 2008 - *Bob Mulrooney, Extension Plant Pathologist;*
bobmul@udel.edu

Disease Severity Value (DSV) Accumulation as of June 18, 2008 is as follows:

Location: Broad Acres, Zimmerman Farm, Rt. 9, Kent County

Greenrow: April 27

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P days*
5/30-6/1	3	35	10-day interval	252
6/2-6/4	1	36	10-day interval	279
6/4-6/5	4	40	5-days	279
6/5-6/6	2	42	5-days	288
6/6-6/7	1	43	5-day	298
6/7-6/11	0	43	10-day interval	321
6/12-6/15	1	44	10-day interval	350
6/15-6/18	0	44	10-day interval	376

* P days- We use the predictive model WISDOM to determine the first fungicide application for prevention of early blight as well. The model predicts the first seasonal rise in the number of spores of the early blight fungus based on the accumulation of 300 physiological days (a type of degree-day unit, referred to as P-days) from green row. To date, 350 P-days have accumulated at the site. The 300 P-day threshold has been exceeded so fungicides for early blight should now be applied if not already done.

If pink rot or leak is a concern and no pink rot fungicide was applied at planting consider applying one of the following when potatoes are nickel-sized and repeating 14 days later. Apply in as much water as possible (20-30 gal/A): Mefanoxam/chlorothalonil (Ridomil/Bravo or Flouranil) 2 lb/A, or Ridomil Gold/MZ 2.5 lb/A, or Ridomil Gold/Copper 2 lb/A. If Platinum/ Ridomil Gold was applied at planting the label allows one foliar application of one of those products at tuber initiation if conditions warrant.

Early Blight and Black Dot

Many fields are flowering or have flowered and this is a good time to consider switching to an application or two of Gem, Headline, Quadris, or Evito (no black dot label) for early blight susceptible varieties. This can also be helpful for late season varieties, including russets, if stress makes plants susceptible to black dot later. Make one or two applications at the end of flowering and repeat 14 days later. Apply mancozeb or chlorothalonil 7-days later between the two applications.

For specific fungicide recommendations, see the 2008 Delaware Commercial Vegetable Production Recommendations Book.

Reflex Can Carryover to Lima Beans - *Mark VanGessel, Extension Weed Specialist;* mjv@udel.edu

planted lima beans 4 weeks later. We observed both a growth reduction and stand loss with Reflex at 1.5 pts/A. Field cultivation did not improve crop safety.

There has been some interest in double cropping lima beans behind snap beans treated with Reflex. We have greenhouse and field data to show this is not a good idea. We treated soil with Reflex at 1.5 pts/A and higher rates, and

Vegetable Double Cropping - Gordon Johnson,
Extension Ag Agent, Kent Co.; gcjohn@udel.edu

Double cropping season is here and many vegetables will be planted as a second crop behind barley, wheat, peas, early sweet corn, early snap beans, other spring vegetables, and even strawberries. The following are some considerations when double cropping vegetables.

- Crop residue management is critical in order to get a good seed bed for the double crop vegetable. Make efforts to spread and incorporate residue evenly. Heavy areas of incorporated straw or vine will lead to crop variability. Incorporation of high carbon materials such as small grain straw can lead to temporary nitrogen deficiencies. Therefore, extra nitrogen fertilizer will be needed to speed decomposition of these materials (green materials such as pea vines will not cause this problem and will rapidly decompose). It is advised to allow some time (minimum 5-7 days) for residue decomposition before planting the next crop. Allelopathic responses (toxic reactions) in the double crop planting have been found in certain cases when planting has occurred immediately after incorporation of residues.
- Pay close attention to herbicide plant back restrictions. Low rates (0.5-0.75 lbs) of atrazine are often used in sweet corn and this normally does not affect subsequent plantings. However, higher rates can damage the double crop planting. Mesotrione (Callisto), which is used in sweet corn, has significant replant restrictions to many vegetables as does Impact, a related herbicide. Command, Reflex, and Pursuit are examples of other common herbicides with significant plant back restrictions. Check the Delaware Commercial Vegetable Production Recommendation book and the specific herbicide labels for appropriate waiting periods and crop rotational restrictions.
- Some pest problems can be an issue in double crop plantings. Once a crop is harvested, some insects will be seeking a new food source and the newly emerging double crop planting can be at risk. Insects and mites may also move from field margins into the double crop planting.

Grasshoppers and two-spotted spider mites would be examples.

- Herbicide programs should be designed to deal with any regrowth issues from the previous crop. Examples would be effectively killing plasticulture strawberries so that vine crops can be double cropped on the beds or dealing with spring brassica crops that went to seed as volunteer weeds.

Agronomic Crops

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

Alfalfa

Continue to sample for potato leafhoppers on a weekly basis. We continue to see an increase in populations - both the adult and nymph stage. As indicated before, the nymphs can cause damage very quickly so sample fields on a weekly basis for both stages. Once plants are yellow, yield loss has already occurred. The treatment thresholds are 20 per 100 sweeps on alfalfa 3 inches or less in height, 50 per 100 sweeps in 4-6 inch tall alfalfa and 100 per 100 sweeps in 7-11 inch tall alfalfa.

Field Corn

Last year we received reports of fields with stinkbug damage to developing ears. In years past, most of the damage we encountered in field corn occurred in the seedling to whorl stage, resulting in stunted and distorted plants. We have started surveying field corn for brown stink bugs and so far populations are sporadic. We did see higher numbers in some wheat fields this spring and there is some evidence from the South that brown stinkbug damage is most severe in corn fields next to wheat fields - that is stinkbugs are moving from wheat to corn. However, we have little experience and data from our area. Reports from Georgia indicate they are seeing higher than normal stinkbug populations this spring. David Buntin, Grain Crop Entomologist from the University of Georgia, provided the following information in his June 2008 newsletter on stinkbug damage in field

corn, thresholds and timing of applications in Georgia:

“Stink bugs are back. After low levels the last two years, spring rains have increased bug populations especially brown stink bugs. Corn is most susceptible to stink bug injury during ear formation before tasseling. Bugs will feed through the sheath, causing a dead spot on the ear. As the ear expands it becomes distorted and curves, usually outward. Feeding during silking and pollen shed also will kill kernels on the ear. Once the ear has elongated, stink bug feeding during the blister and milk stages blasts individual kernels, usually causing them to abort.

Recent cage studies at Tifton have found no significant affect on corn grain production at infestation of 1 brown stink bug per plant. The old threshold (5% infested plants) that is in the Handbook is too low. I suggest using a 25% infested plants (1 bug per 4 plants) as a threshold during ear elongation to pollen shed and 50% infested plants (1 bug per 2 plants) during the later part of pollen shed and blister/milk stage. Bug is defined as adults and/or large nymphs. Initially stink bugs tend to be more prevalent on the field edge, so only a perimeter spray may be needed.” Here is the link to his newsletter

<http://www.caes.uga.edu/commodities/fieldcrops/gagrains/newsletter.html>.

Be sure to note that a most of products listed in his newsletter are not labeled in our area on corn (i.e. Declare, Methyl Parathion, Capture, Brigade, Karate are not labeled in Delaware) so be sure to check all labels for use rates and restrictions. Others can not be used during pollen shed if bees are foraging in the area (Pennncap-M).

Soybeans

Be sure to sample fields in the seedling stage for bean leaf beetles, grasshoppers and thrips. We are also seeing an increase in green cloverworm activity, so be sure to scout soybeans for all of these defoliators.

We continue to receive reports of no-till fields that need to be replanted due to slug damage. Unfortunately, this is not unusual due to the fact

that soybeans were at a very susceptible stage when slugs are able to do the most damage - i.e. plants were behind in growth and slugs are larger. In addition, the mild winter resulted in an increase in the number of slugs, especially adult stage. Although we had a few hot days last week, spring conditions have been very favorable for slugs (i.e. prolonged periods of favorable temperatures of 63 to 68°F combined with evenly distributed rainfall, maintaining the soil moisture at 75% saturation). As a reminder, tillage will be needed when replanting to allow plants to grow ahead of the damage. The slugs will be less active under hot , dry conditions; however, they will still be present in fields all season and if conditions become cooler and wet again soon after replanting they can still cause damage.

Continue to watch carefully for spider mites. Early detection and control is needed to achieve spider mite suppression. In addition to dimethoate and Lorsban, we now have Hero labeled on soybeans. The bifenthrin component in this mix is the material that will provide spider mite suppression. However, to be effective it should be applied before mites explode. Please refer to the label for use rates and restrictions - you will need the high rate for spider mite control. It should also be noted that the label states do not make applications less than 30 days apart (<http://www.cdms.net/LDat/ld80Q005.pdf>).

Test or Scout for Soybean Cyst Nematode -
Bob Mulrooney, Extension Plant Pathologist;
bobmul@udel.edu

Soybean cyst nematode can be seen on plants that are 32-35 days from planting. The recent dry weather can accentuate the damage from SCN. Look for areas in the field which are yellow and/or stunted. The small yellow or white cysts can be seen easily at this time if you have a 10X hand lens and carefully dig up the plants and do not pull them from the soil. Soil sampling is also encouraged if you do not find the cysts or to confirm their presence if you are not sure. Soil sample bags are available from the county Extension offices. Remember, if soybeans are

being planted after barley and wheat it still is not too late to soil test for SCN, especially if you are not planting a resistant variety.



Small white female SCN and a large nitrogen fixing nodule for comparison. (SON)

Soybean Rust Update - *Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu*

The national picture has not changed since last week. It is dry in Georgia and most of northern Florida, so conditions have not been favorable for spread north yet. On the local scene, all of our sentinel plants have been planted. Some were delayed due to the wet weather but the plantings were made in a timely manner for our region. Plots are located in Sussex County at the Research and Education Center near Georgetown, west of Seaford and near Selbyville. Kent County plots are located near Frederica and Smyrna; New Castle plots are near Summit and at the University Farm in Newark. These will be checked weekly once they begin to flower and every two weeks until then. Two maturity groups are present a Group III and a late Group VII which should stay green until frost.

Field Pansy in Soybeans - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

With the cooler temperatures, a number of winter annual weeds are still “hanging around”. One that I have been questioned about is field

pansy (or Johnny jump-up). We have tried a number of products to improve control of field pansy, but have not had any success. We have tried Basagran, Reflex, Classic, Pursuit, and others with no additional control over glyphosate alone. Glyphosate may not kill the field pansy, but it will cause some suppression and slow it down. Given that it is so late in June, it will be hard to justify treating a field if field pansy is the only species present since it will soon die (senesce).

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

Making Grain Sales in a Weather Market

It is becoming more apparent as time passes that 2008 U.S. row crop production will be adversely impacted by the weather and related problems stemming from crop diseases and insects this growing season. The extent of that impact is not known at this point in time. Couple that with high energy prices and the looming energy crisis and it becomes a guessing game as to how high corn and soybean prices could go. Dec '08 corn futures closed at \$7.80; Nov '08 soybean futures at \$15.43; July '08 SRW (soft red winter) wheat at \$9.04; Dec '08 SRW wheat at \$9.45 per bushel; July '08 crude oil at \$137.35 per barrel; and the U.S. dollar index at 73.915 in yesterday's trading.

USDA's Actual Plantings Report is due out at the end of the month to be followed by the U.S. and World Supply and Demand reports to be released in early July. Both of those reports will be important in terms of getting a handle on potential '08 U.S. production. Of equal importance, if not more so, commodity traders will be watching the actions of the U.S. Congress (House and Senate) in terms of dealing with the energy crisis at hand. Oil prices are impacting the prices of everything that we consume. Businesses are finding it extremely difficult to make ends meet and consumers are now feeling the pinch. A comprehensive energy policy is needed to help alleviate the problem. In the event that the U.S. Congress takes action that will increase the supply of energy, then oil futures prices will come down. That in turn is

likely to have a negative impact on corn and soybean prices.

Marketing Strategy

One of the best tools (if not the best) for making grain and oilseed sales decisions in a weather market is the use of Agricultural Options on Futures, specifically, the put option. Options are also a proven sales method in extremely volatile markets. A recent case in point is to consider what happened to hedgers in the wheat market this past winter and early spring that were holding short positions in the futures market. Many farmers and commercial hedgers alike could not keep pace with margin calls that at times exceeded the hedge price. Individual farmers lost thousands of dollars. Commercial hedgers lost millions. Just think what would have happened if those positions had been taken in the options market instead? Those hedge sales could have turned a profit rather than a loss. Grain farmers have four primary reasons for considering the use of put options this summer: (1) local grain elevators have restricted the amount that they are willing to book with individual farmers via forward contracts; (2) the high risk of enormous margin calls makes hedging in futures a risky alternative; (3) put options offer an opportunity to establish minimum prices on that portion of the crop not covered by crop insurance; and (4) put options give grain and oilseed farmers the opportunity to make sales at high prices for a known cost up front while locking in a Minimum Sales Price, thereby providing downside price risk protection. Further, in the event of a production shortfall, delivery of the bushels contracted is not required. For further information regarding the use of put options see [“How to Reduce Price Risk through Options”](#), an online PowerPoint presentation, or contact Carl L. German, Extension Crops Marketing Specialist.

Announcements

DSU Smyrna Outreach and Research Center Open House

Thursday, July 10, 2008 6:00 p.m.
DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd., Smyrna, DE

Come see our research and demonstration projects for 2008! We have pole lima beans, ethnic vegetables, a high tunnel, small fruits and many more.

Light refreshments served.

Please call (302) 857-6462 to register.

This workshop is part of the 2008 Small/ Beginning Farm Workshop Series held by Delaware State University. For complete information on the workshops planned, see the brochure at <http://www.rec.udel.edu/update08/announcements/sma1lfarmbrochure2008.pdf>

Warm Season Grass Pasture Walk

Monday, July 7, 2008 7:00 – 8:30 p.m.
Morris' Choice Bison Ranch

Have you ever been curious about how warm season grasses can improve the grazing efficiency of your pastures? Then mark your calendar for the Warm Season Grass Pasture Walk at Morris' Choice Bison Ranch!

Representatives from the Baltimore County Cooperative Extension Service and the Baltimore County Soil Conservation District will lead the pasture walk and be available to answer questions.

Contact the Baltimore County Cooperative Extension Service at (410) 666-1022 or the Baltimore County Soil Conservation District at (410) 666-1188 ext. 3 for more information.

For Current Agricultural Information from
the UD Kent Co. Extension Office Visit
www.kentagextension.blogspot.com

Recent Topics:

Lodging in Wheat
Dairy – Heat Stress and Dry Cows
Poultry – Running Fans at Night in Hot Weather
Evaluating Soybean Stands
Soybean Rust and Soybean Aphid PIPE Websites
Nutrient Removal in Wheat Straw
Calcium Disorders in Vegetable Crops
Strawberry Renovation
Nitrogen Losses in Flooded and Leached Field Corn
Leaf Distortion in Soybeans
Mesotrione Carryover to Soybeans
Corn and Soybean Prices at Record Highs, Wheat
Prices Rebounding
Soybean Insects to Watch For
Vegetable Insects to Watch For

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of June 12 to June 18, 2008

Readings Taken from Midnight to Midnight

Rainfall:

0.05 inch: June 14
0.03 inch: June 15
0.23 inch: June 16
0.04 inch: June 17
0.11 inch: June 18

Air Temperature:

Highs ranged from 90°F on June 14 to 78°F on
June 18.

Lows ranged from 67°F on June 14 and June 15
to 53°F on June 18.

Soil Temperature:

80°F average.

(Soil temperature taken at a 2" depth, under sod)

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

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