



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 – we are starting to see a significant increase in trap catches. Unfortunately, the web page will not be updated until next week but you can get updates this Saturday by calling the Crop Pest Hotline (in state: 800-345-7544; out of state: 302-831-8851).

Cabbage

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

Lima Beans

Continue to scout for stinkbugs, lygus bugs and corn earworm. With the increase in corn earworm moth catches, moths can be readily found laying eggs in fields. 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.

Peppers

At this time of year, corn borer, corn earworm, beet armyworm and fall armyworm are all potential problems in peppers. So be sure to

select the material that will control the complex of insects present in the field. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (instate: 800-345-7544; out of state: 302-831-8851). We are also starting to see aphid and mite populations increasing, especially in fields where pyrethroids have been used on a weekly basis. Treatments for both of these pests will need to be applied before populations explode.

Snap Beans

With the increase in trap catches, you will need to consider a treatment for both corn borer and corn earworm. Sprays are needed at the bud and pin stages on processing beans for corn borer and corn earworm control at this time. As a reminder, if you are using Orthene (acephate) for corn borer control, it will not provide effective corn earworm control in processing snap beans. You will need to combine Orthene with a corn earworm material (e.g. a pyrethroid) or use a material that will control both insect pests. To help decide on the spray interval between the pin stage and harvest for processing snap beans, you will need to call the Crop Pest Hotline Saturday, Aug 21 for the most recent trap catches in your area or check the web site next week for updated catches (<http://ag.udel.edu/extension/IPM/traps/latest/blt.html>) and (<http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>).

Spinach

As the earliest planted spinach emerges from the ground, be sure to watch for webworms and

beet armyworms. Both moths are active at this time and controls need to be applied when worms are small and before they have moved deep into the hearts of the plants. Also, remember that both insects can produce webbing on the plants. Generally, at least 2 applications are needed to achieve control of webworms and beet armyworm.

Sweet Corn

As corn earworm trap catches continue to increase, be sure that a spray is applied as soon as ear shanks are visible on plants. If fall armyworms are present in the whorl, you may need multiple whorl sprays for this insect before the ear shank spray to achieve effective control. Once fields are silking, you will need to check both blacklight and pheromone trap catches for silk spray schedules since the spray schedules can quickly change. Saturday, Aug 21 you can call the Crop Pest Hotline (in state: 800-345-7544; out of state: 302-831-8851) for updated trap catches. At this time of year, you will need to combine a fall armyworm material with a pyrethroid for the first 2-3 silk sprays for fall armyworm control. Be sure to check all labels for days to harvest and maximum amount allowed per acre.

Ripening Disorders in Tomatoes - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

I have seen a considerable amount of tomato blotchy ripening, yellow shoulder, graywall and white tissue in market tomatoes recently. The discolored tissue is often hard even when the rest of the tomato is ripe. These are physiological ripening disorders and not diseases. Symptoms often appear during stress periods or when the environment changes rapidly. The recent hot weather after the previous period of cloudy, rainy weather may have been a contributing factor to the onset of these tomato fruit ripening disorders.

There are several keys to controlling blotchy ripening, yellow shoulder, and other tissue ripening disorders in tomato. First is variety selection. Some tomatoes are more prone to develop yellow shoulders than others, especially

those with dark green shoulders without the uniform ripening gene. Other varieties are prone to excess white tissue development. Review local tomato trial results for ripening disorder ratings. Second is to manage crop canopies – yellow shoulder is more prevalent in open canopies; blotchy ripening is more prevalent in dense canopies. Try to have a canopy that allows for air circulation with adequate fruit cover but without excessive vegetation. Third, and probably the most important, is to manage potassium nutrition. Tomatoes are heavy users of potassium and a shortage of potassium during fruit development and ripening can lead to increased problems with ripening disorders. Tomatoes require close to 200 lbs of K₂O to grow a heavy crop. In our commercial vegetable recommendation guide even at optimum soil levels we recommend 100 lbs of K₂O (300 lbs K₂O in soils with low K₂O levels) for a crop of tomatoes.

To reduce ripening disorders during the growing season, apply additional potassium through the drip system under plastic or as a sidedressing in bare ground production. Foliar applications of potassium can also be of benefit to reduce symptoms but should not take the place of soil applications.

Keep Scouting for Lima Bean Downy Mildew - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Continue to scout fields for downy mildew. The recent hot weather is less favorable but the high humidity and morning fog might counteract the heat and provide conditions for the fungus to survive until the temperatures cool off. Areas that are getting thundershowers should be checked often for downy. See articles in past issues of WCU for pictures and more information ([WCU17:22](#) and [WCU17:20](#)).

Downy Mildew on Cucurbits - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

The weather continues to be very favorable for downy mildew. It is spreading now to hosts other than cucumber. Cantaloupe, watermelon, winter

squash and pumpkin have all been infected in the region. The spots are much smaller on butternut squash and watermelon but still produce the small tuft of fungus growth on the underside of the leaf. **All cucurbit growers need to be including a fungicide specific for downy mildew** in their spray rotation such as Previcur Flex, Ranman, Presidio, or Tanos at this time. Follow the label directions for plant-back restrictions, mixing partners, such as Bravo and mancozeb, and adjuvants. See the [2009 Commercial Vegetable Productions Recommendations](#) for more information. Check the Cucurbit Downy Mildew ipmPIPE web site as well <http://cdm.ipmpipe.org> for more information.



Downy mildew on the upper surface of watermelon leaves. Fungal growth on the underside of the leaves is often sparse.

Phytophthora Blight on Watermelons - *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland; keverts@umd.edu*

In the past three weeks I have received many reports of Phytophthora blight in watermelon fields on Delmarva. This disease appears to be especially common this year on watermelons. We have had a few periods during the summer where we had high volume rain events. The threshold that usually triggers disease development is 2 inches of rain that falls over a short enough period of time to pool in the field. If soil is saturated for 5 to 6 hours, the zoospores are released and a new infection cycle will begin. Optimum temperature for spread is 28C (82°F). There are several reasons that disease might be especially severe this year. In addition to high volume rain events, soil compaction may be greater this year because growers had to work in fields during June when soil remained wet from frequent rains. Soil compaction would slow drainage and increase the length of soil saturation.

Management practices for this disease must begin prior to planting. Remove infected debris from fields, including, where possible, diseased fruit. Cultural practices for management of Phytophthora blight are to improve soil drainage through tillage, use raised beds and reduce soil compaction. Alternate hosts include beans (snap and lima), cucurbits (pumpkin, melons, cucumbers, etc.), eggplants and tomatoes.

Fumigants such as K-pam, Vapam and Telone will reduce plant death, but fumigation should not be used as a stand-alone practice. Fumigants and fungicides, used in an overall disease management program, which includes cultural practices, is the best approach.

The fungicides available for Phytophthora blight control are, at best, suppressants of disease. Forum, Gavel, Tanos, Presidio, Revus and Ranman are labeled. Bob Mulrooney wrote a good overview of treatments in a Weekly Crop Update article a few weeks ago <http://agdev.anr.udel.edu/weeklycropupdate/?p=1209>



Phytophthora fruit rot on watermelon



"Felt-like" sporulation on fruit

Agronomic Crops

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

Field Corn

You may have seen a recent article in the Delmarva Farmer regarding a detection of a new pest of field corn in Pennsylvania, the Western Bean Cutworm. In the article, the field crop entomologist from Penn State talked about this insect and how the first moths were found this year in northern PA. However, as far as I know, they have not found any fields with larval damage. This pest has been increasing in importance in the Corn Belt. We did set out two trapping sites in 2008 and no moths were detected all season. There is a good article, as well as video, in this week's C.O.R.N. Newsletter from Ohio State (<http://corn.osu.edu/#C>) about this pest. Although we do not anticipate finding

this pest in Delaware for a few years, please let us know if you suspect an infestation.

Soybeans

As the potential for late season insect control increases, be sure to check all labels for the days from last application to harvest as well as other restrictions. Be sure to scout carefully for earworms during the next few weeks. Local trap catches, as well as traps to our south, are showing an increase in moth activity.

As of today, we continue to find sporadic numbers of corn earworms in soybean fields; *however, this can quickly change so be sure to scout all fields.* Information from VA and areas to the south indicates that they are starting to spray fields; however, populations vary in the South, based on the degree of drought stress in corn, as well as differences in corn maturity. As we know, when corn dries down, the moths emerging from larvae found in corn fields will lay eggs in soybeans. The only way to know if you have an economic level will be to scout. In the past, we have used the treatment threshold of 3 corn earworms per 25 sweeps in narrow-row fields and 5 corn earworms per 25 sweeps in wide-row fields (20 inches or greater). However, 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.

Green cloverworm are still of concern in double crop soybeans with defoliation exceeding 20% in a number of fields throughout the state. We still have not seen enough diseased larvae to indicate that the population is crashing. Continue to scout for soybeans aphids as well, especially in later planted fields. Remember the threshold is 250 aphids per plant with the populations rising up until the R-5 and in some cases R-6 stage of plant development. You should also watch for beneficial insect activity that can help control populations.

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

Powdery Mildew on Soybeans

We received a report of powdery mildew on soybeans from Sussex County this week. The weather has been very favorable for powdery mildew on many crops, as well as ornamental plants of all kinds. Powdery mildew on soybean is a rare occurrence these days. It is caused by the fungus *Microsphaera difusa* and produces the white talcum-like growth on the leaf surfaces which can infect all the plant parts eventually. Symptoms can vary from one cultivar to another. Rusty spots, chlorosis, green islands, defoliation or combinations of these symptoms may occur. Most cultivars have the dominant gene for resistance to this disease. Fungicides are not recommended for this disease since it is not known to reduce yields.



Powdery mildew on soybeans

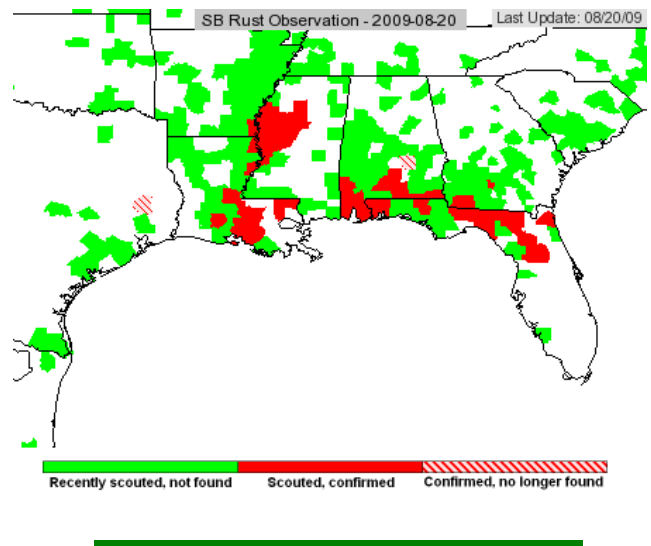
Soybean Rust Report

On August 19, soybean rust was reported on soybeans in Bolivar, Issaquena, Sharkey and Warren Counties in Mississippi. On August 18,

soybean rust was reported in commercial soybean fields in West Baton Rouge, Pointe Coupee and East Carroll Parishes in Louisiana. On August 15, soybean rust was reported in nine new counties in Mississippi, all in commercial soybean fields. The positive counties include Carroll, Grenada, Humphreys, Leflore, Montgomery, Sunflower, Yalobusha, Yazoo and Washington.

In spite of the rash of SBR finds in Mississippi most of these are at low levels and most soybeans are at R5 and later, so the threat from soybean rust for these growers is low. Earlier soybeans at R3/R4 would be at risk in these areas. Rust is heating up a bit in the South and may become more of a threat if spores are spread in the developing cold front that is forecast to bring rain to the region during the next several days. Spore deposition is forecast from the Gulf Coast through Arkansas and spreading as far north as Kentucky.

Soybean sampling for soybean rust continues here in Delaware. The only diseases that we are seeing in the sentinel plots are low levels of Septoria brown spot, downy mildew and Phyllosticta leafspot. Visit <http://sbrusa.net> for more information.



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

Will U.S. Produce Bumper Corn and Soybean Crops?

The Pro Farmer crop tour is taking place this week. Crop scouts will be making their annual U.S. corn and soybean crop production estimates on Friday afternoon after the market closes. A quick review of scout reports thus far on corn yield estimates and soybean pod counts suggests a high degree of variability in crop development and potential yields with the qualifier being the length of the growing season. If Mother Nature allows '09 row crops to mature, then crop production is likely to be record or near record. Since the U.S. is certain to have plenty of corn and soybeans on hand going into harvest there isn't much, if any, reason for commercial users and/or speculators to bid prices higher until more is known concerning actual crop size. My theory concerning the August 12 crop report being more positive than negative held water for about one day of trading before prices turned negative. Outside market forces have also influenced corn and soybean prices to the downside this past week.

The top five U.S. corn production states are Iowa, Illinois, Indiana, Nebraska and Minnesota. Iowa and Nebraska are likely to have better crops than last year. In Illinois, typically the nation's second largest corn producer, crop conditions are highly variable, as is the case in Indiana and probably Minnesota. The question remains: Can the U.S. meet or exceed USDA's August corn and soybean production estimates of 12.761 billion bushels for corn and 3.199 billion bushels for soybeans, 159.5 and 41.7 bushels per acre, respectively? We will have a firmer grip on the answer to that question within the next two to three weeks.

Market Strategy

In the near term we can expect outside market forces (Dow Jones Industrial Average, crude oil prices, dollar) to heavily influence the direction in commodity prices. We might even garner a slight rally due to markets becoming oversold. Dec '09 corn futures are currently trading at \$3.21; Nov '09 soybean futures at \$9.46; and Dec

'09 SRW wheat futures at \$5.01 per bushel, with Dec '09 corn and wheat futures recording new lows this week. Nov '09 soybeans were trading near \$1.00 per bushel lower a month ago. Although export and feed demand for corn and wheat are rather anemic, China is still purchasing U.S. soybeans. In fact the sleeper in these markets may turn out to be drought reduced corn and soybean production in China this year.

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

Announcements

Soil Health and Vegetable Crops Twilight Meeting: Incorporating Soil Health Management into an IPM Program for Vegetables

Thursday, August 27, 2009 5:30 p.m.
Carvel Research and Education Center
16483 County Seat Hwy., Georgetown, DE
(meet at the grove)

All vegetable growers, field personnel, and vegetable crop advisors are invited to attend a twilight meeting dedicated to soil health and vegetable crops. With tighter rotations, soil health is major concern with vegetable production. This twilight meeting will focus on incorporating soil health management into an IPM program for vegetables.

You will see several demonstration plots including:

- Comparisons of compost types and rates in plasticulture vegetable production and effects of compost on soil health.
- Comparisons of several sorghum species as summer green manure crops and biofumigants for impacts on soil health and vegetable crop production.
- Evaluation of mustard family species as cover crops and biofumigants for impacts on soil health.
- Evaluation of multiple plantings of cover crops with biofumigant properties on soil health.

Participants will also do some hands-on soil health assessments.

UD specialists, agents, and associates will be on hand to talk about past and current research in relation to soil health and vegetable crop production as well as best practices to incorporate to maintain soil health on vegetable farms.

Please call (302) 730-4000 to let us know if you will be attending or email gcjohn@udel.edu.

“Raising Farm Profits” Farmer Bus Tour Monday, Aug. 31-Tuesday, Sep. 1, 2009

The goal of this tour is to provide farmers a chance to learn from successful and innovative farming ventures in New Jersey and Pennsylvania. There are many options for farmers to increase their profits and many obstacles to overcome. Hands-on demonstrations and first-hand explanations can help people see the results for themselves. The stops chosen for the tour offer diverse and practical examples of what farmers can do to help their bottom line while using sustainable practices and improving community relations. Major focuses of the tour include direct marketing, value-added products, soil conservation and season extension.

The cost for the tour is \$25 and includes food and lodging.

For additional information call (302) 857-6462 or go to <http://www.rec.udel.edu/update09/bustour.pdf>.

Beekeeping Meeting

Saturday, September 12, 2009 8:30 a.m.-noon
Wye Research and Education Center
Queenstown, MD 21658

Meeting Agenda

8:30-9:00 – Sign-in and coffee

Varroa Mites

Dean Burroughs, Master Beekeeper and Maryland Apiary Inspector

The BARC American Foul Brood Diagnostic Laboratory and Update on the Specifics of

American Foul Brood Disease

Bart Smith, USDA Bee Laboratory in Beltsville

Nosema Diseases (yes, there are two of them!) and What We Can Do to Prevent or Control Them

David Morris, a master beekeeper from the Bowie-Upper Marlboro Beekeepers Association and a past President of the Maryland State Beekeepers Association

Update on Control of Small Hive Beetle

Mike Embrey, University of Maryland Extension Apiculturist

Question and Answer Session

Meeting will end at 12:00

For additional information please contact Mike Embrey at (410) 827-8056 x148 or membrey@umd.edu

Friends of Agriculture Breakfast Series

Modern Maturity Center
1121 Forrest Avenue, Dover, DE

Friday, September 18, 2009 7:15 a.m.

Agriculture: Delaware and Beyond – Considering the Complex Issues Facing our Industry

Dr. Bill McGowan

Agriculture is one of Delaware's leading economic engines and touches every Delawarean and beyond. As we begin our 2009-2010 Ag Breakfast series, it's appropriate that we take time to consider the complex issues facing our industry. Using a discussion format and audience response system, we will identify and discuss several of those issues.

Registration for each breakfast is \$20.

Additional upcoming dates for the 2009–2010

Friends of Agriculture Breakfast Series

Speakers to be Announced

October 16, 2009

November 20, 2009

January – Ag Week

March 19, 2010

To register, please contact Alice Moore at (302) 831-2504 or ammoore@udel.edu. Additional information at: <http://ag.udel.edu/agfriends>.

Equine Pasture Walk

Tuesday, September 29, 2009 5:30-7:30 p.m.
University of Delaware Webb Farm
508 S. Chapel St., Newark, DE

Come and meet University of Delaware's new Equine Extension Specialist, Dr. Carissa Wickens. Learn about rotational grazing and management practices used on-farm at UD. Get help with decisions regarding pasture nutrient needs and the rising cost of fertilizers and amendments. Learn about NRCS programs available to help you and your farming operation.

Experts will be on hand from the University of Delaware and the Natural Resource Conservation Service (NRCS) to answer your questions!

This meeting is free and everyone interested in attending is welcome. Please bring a folding chair.

Nutrient management and CCA credits will be available.

Please preregister by September 25. To register, request more information or if you require special needs assistance for this meeting, please call our office at (302) 831-2506.

See you there!
Anna Stoops, New Castle County Ag. Extension Agent

2009 Mid-Atlantic Grass-Finished Livestock Conference: "Merging the Art and Science of Grass Finishing"

Friday, October 23 and Saturday, October 24
Holiday Inn Conference Center
Staunton, VA

Topics Covered

Forage Systems for Grass Finishing
Alternative Marketing Outlets
Small-Scale Processing Facilities
Healthy Grazing Systems
Supplementation in Pasture Finishing
Factors Affecting Meat Quality
Genetics for Grass Finishing
Meat Cutting and Cooking Demo

Early registration is \$200, and must be postmarked by September 15, 2009.

Brochure and registration information is available here: <http://www.rec.udel.edu/update09/grassfinished.pdf> or contact Margaret Kenny at (434) 292-5331 or makenny@vt.edu.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of August 13 to August 19, 2009

Readings Taken from Midnight to Midnight

Rainfall:

0.14 inch: August 13

0.01 inch: August 18

0.02 inch: August 19

Air Temperature:

Highs ranged from 91°F on August 17 and August 18 to 67°F on August 15.

Lows ranged from 74°F on August 19 to 61°F on August 16.

Additional Delaware weather data is available at http://www.deos.udel.edu/agirrigation_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. For subscription information, contact her at emmalea@udel.edu or (302) 856-2585 x 587.

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