



# 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](mailto:jwhalen@udel.edu)*

### Vetica Label

This newly registered insecticide (March 2009) from Nichino America Inc. just received a supplemental label (July 20, 2009) for use on Head and Stem Brassica (Cole) Leafy Vegetables. Please refer to the full federal label and supplemental labels for use directions, rates and restrictions:

<http://www.cdms.net/LabelsMsds/LMDefault.aspx?pd=9462&t>. The supplemental label and the EPA approved container label must be in the possession of the user at the time of application.

### Cabbage

As soon as plants are set in the field, be sure to sample for cabbage looper and diamondback larvae. Egg laying moths can be found laying eggs in fields. Treatment will be needed before larvae move into the hearts of the plants.

### Cucumbers

Cucumber beetle populations have started to increase again in areas with historical problems. Be sure 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% of the plants are infested with aphids with 5 or more aphids per leaf.

### Lima Beans

Continue to scout for spider mites, stinkbugs and lygus bugs. 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. 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.

### Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. High levels of beetles are being found in fields causing damage to the rinds. Unfortunately, multiple applications will be needed to provide a reduction in populations. We are also starting to see an increase in aphid populations. Treatments should be applied before populations explode and leaf curling occurs.

### Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. We are starting to see an increase in moth populations. Depending on local corn borer trap catches, sprays should be applied on a 7 to 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 (instate: 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 still 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>). Once pins are present on fresh market snap beans, a 7 to 10-day schedule should be maintained for corn borer and corn earworm control.

### Sweet Corn

You should also sample all fields from the whorl through pre-tassel stage for corn borers, corn earworms and fall armyworm. A treatment should be considered when 12-15% of the plants are infested. Since fall armyworms 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/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).

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### **Downy Mildew Identified on Lima Beans -** *Bob Mulrooney, Extension Plant Pathologist;* [bobmul@udel.edu](mailto:bobmul@udel.edu)

Downy mildew on lima beans was identified this week on the variety 'Cypress' near Harbeson in Sussex County. This is pretty early, but the increased rainfall and cooler than normal temperatures in this area were favorable for infection. Not all lima bean growing areas have had the same amount of rainfall, but growers and crop consultants need to be scouting for downy mildew. Last season downy mildew appeared very late and infected only a few fields. Race F of *Phytophthora phaseoli* was the only race identified in 2006 and 2008. Preventative applications of 2 lbs fixed copper, 2 lbs. Ridomil Gold/Copper, or 3-4 pts Phostrol have provided control of downy mildew in the past. The newest formulation of fixed copper from DuPont is Kocide 3000 and it performs as well as the other formulations of copper at the rate of 1.3 lbs/A. The best controls continue to be Ridomil/Gold Copper or Phostrol, especially when disease pressure is high. Application at flowering or when pods are first forming is recommended if weather is favorable for disease. If disease is present Ridomil/Gold Copper and Phostrol have shown to provide some curative activity if applied when downy mildew is first seen. Ridomil Gold/Copper has a national label now, so no 24c label is needed. Phostrol has a 24c label which needs to be on hand: <http://www.rec.udel.edu/update09/Phostrol24c.pdf>. Headline from BASF is also labeled for downy mildew now. I have tested it and it has provided good control of downy when applied on a 10-day schedule at 6.0 fl oz/A. It does control the disease as well as Ridomil Gold/Copper or Phostrol preventatively, but the yields have been comparable. It is also labeled for anthracnose which the other products do not control. If soybean rust had become a problem in other legumes it would have been another fungicide in the toolbox for lima beans, since it is also labeled for soybean rust on limas.

## Fungicide Rates and Intervals for Control of Downy Mildew of Baby Lima Beans

Fungicide	Preventative		Curative <sup>1</sup>	
	High Disease <sup>2</sup>	Low Disease <sup>3</sup>	High Disease <sup>2</sup>	Low Disease <sup>3</sup>
Ridomil Gold/ Copper	2 lb 2X 7 to 14-day interval	2 lb 1X	2 lb 2X 7 to 14-day interval	2 lb 1 to 2X 10 to 14-day interval
Phostrol Fungi-Phite	3-4 pt 1 to 2X 7 to 14-day interval	2-4 pt 1 to 2X 7 to 14-day interval	3-4 pt 2X 7-day interval	4 pt 1X or 2-4 pt 2X 7 to 14-day interval
Fixed Copper <sup>4</sup>	2 lb 4X 7-day interval (may not control)	2 lb 2 to 3X 7 to 10-day interval	<b>Not Recommended</b>	

<sup>1</sup>Curative - when disease first seen, very low incidence, less than 1% of pods and/or racemes infected

<sup>2</sup>High Disease - conditions very favorable for infection and spread, i.e. ample rainfall, dews, fog and cool temperatures

<sup>3</sup>Low Disease - conditions less favorable for disease, i.e. low humidity and rainfall and/or temperatures too high (high 80s and above)

<sup>4</sup>Copper fungicides include Champ DF, Kocide 3000, Cuprofix Disperss and other labeled coppers.



Downy mildew caused by *Phytophthora phaseoli*



Downy mildew on raceme and petiole



*Phytophthora capsici* on lima bean pod

*Phytophthora capsici* will infect lima bean pods as well and can look very similar to downy mildew. *P. capsici* or lima bean pod rot is usually found in wet low spots in the field. The fungus growth looks more granulated or "pebbly" than downy mildew, microscopic confirmation is encouraged.

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### Cucurbit Downy Mildew Update - Bob Mulrooney, Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

Downy mildew continues to occur in commercial pickling cucumber fields. It is now widespread in all three counties in home gardens as well as on both slicing and pickling cucumber varieties. So far it has only been found on cucumbers. Conditions continue to be favorable for downy mildew on all our cucurbits. Be sure to be including downy mildew fungicides such as Ranman, Previcur Flex, Tanos and Presidio for downy mildew control. They all need to be tank mixed with a protectant fungicide. Disease pressure is increasing and waiting until the three leaf stage may not provide the control desired if infected plantings are nearby. **Check the website often for the latest forecast at <http://cdm.ipmpipe.org>.**

### Success Growing Annual Plasticulture Strawberries - Gordon Johnson, Extension Ag Agent, Kent Co.; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

More growers in Delaware are growing strawberries using the annual production system on plastic. This system offers the advantage of an earlier and longer harvest season in the spring and potentially higher yields than the matted row system. However, costs are higher and management is more intensive.

While the annual plasticulture system offers several advantages, it is rather unforgiving if one or more critical operations are not performed in a timely manner. The following are some keys to success with the annual strawberry production system:

1. Plan ahead. Locate the source of tips or plug plants well ahead of time, no later than June of the year that you intend to plant.
2. Obtain quality plants from the nursery. Generally growers will either buy plug plants that have already been rooted in cell trays or they will buy tips that they root themselves in plug trays. Plug plants have the highest establishment success rate. Bare root plants may also be available but are much more difficult to manage at planting and as such establishment success rate is lower. Make sure plants are disease free. We have recommended plug plants grown from northern sourced tips (out of Canada primarily).
3. Make sure that the area to be planted is well drained and the ground is available to make beds in August. Soil fumigation is required for best yields and you will need sufficient lead time to allow for the fumigant to dissipate (20 days). Raise high beds, the higher the better, to allow for good drainage. Lay plastic on the high beds making sure there is a firm crowned bed. Work in necessary fertilizer according to recommendations (soil test for P and K recommendations, 60-75 lbs of N per acre) to bed areas prior to bed formation. Devrinol herbicide can be applied to the surface of the bed and between beds. Apply additional herbicides to row middles after laying plastic (Devrinol, Sinbar, Chateau, Dacthal are labeled).

4. Planting date is extremely critical. Target the first week in September with a range from the last week in August to the second week in September. Plantings after the second week in September have lower yield potentials.

5. Plant at the proper depth using a water wheel type transplanter or a dibber by hand for smaller acreage. Plant so that the plug is at the level of the soil or is just covered with a small amount

(1/8") of soil but avoid getting soil into the crown of the plant. Deep planting will result in reduced stands and weak plants due to rotting in the crown area. Shallow planting (where part of the plug is out of the ground) will result in plugs desiccating and reduced stands.

6. Make sure you have ordered floating row covers so that they are available to cover plantings later in the fall.

**Potato Disease Advisory #23 - July 31, 2009** - Bob Mulrooney, Extension Plant Pathologist;  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

Disease Severity Value (DSV) Accumulation as of July 30, 2009 is as follows:

Location: Shadybrook Farms, Little Creek, DE in Kent County

Greenrow: May 1

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P-days
7/1	2	114	10-day interval	519
7/2	1	115	10-day interval	528
7/3-7/5	0	115	10-day interval	555
7/6-7/8	0	115	10-day interval	581
7/9-7/12	0	115	10-day interval	616
7/13-7/15	0	115	10-day interval	641
7/16	0	115	10-day interval	647
7/17-7/18	2	117	10-day interval	662
7/19-7/20	1	118	10-day interval	680
7/21	2	120	7-day interval	690
7/22	0	120	7-day interval	698
7/23	6	126	7-day interval	708
7/24	2	128	7-day interval	716
7/25	0	128	7-day interval	723
7/26	1	129	7-day interval	729
7/27	1	130	7-day interval	737
7/28	2	132	7-day interval	743
7/29	0	132	7-day interval	748
7/30	2	134	7-day interval	755

Current conditions are favorable again for late blight on potato and tomato. The weather of the last few days will continue to provide favorable weather for late blight especially if we continue to have scattered thundershowers and high humidity as predicted.

This will be the last disease advisory of the season. Happy digging.

# Agronomic Crops

**Agronomic Crop Insects** - *Joanne Whalen, Extension IPM Specialist*; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

## Soybeans

Continue to watch for defoliators as well as spider mites in both full season and double crop soybean fields. In full season soybeans in the pod fill stage, the defoliation threshold drops to 10-15% defoliation. Remember, double crop soybeans cannot tolerate as much defoliation since they often do not reach the leaf area index needed for maximum yields. We continue to receive questions about leafhoppers in double crop fields. As a general guideline, a treatment may be needed if you find 4 leafhoppers per sweep. However, this is just a general guideline and the treatment threshold may need to be reduced if damage is present and plant growth is being held back by feeding. Also, there are no established thresholds for the number of leafhoppers per leaflet.

You should also scout for stinkbugs and pod worms as we enter the pod set and pod fill stages. Open canopy blooming soybeans will be attractive to egg laying moths, especially in drought stressed areas where corn will dry down early. Corn earworm trap catches have started to increase; however, only time will tell if this will translate into a major podworm outbreak in soybeans. Although we are finding a few corn earworms in full season soybeans, this is not unusual for this time of year and only scouting on a routine basis will tell you if you have an economic problem. A treatment should be considered if you find 3 podworms per 25 sweeps in narrow row fields and 5 podworms per 25 sweeps in wide row fields (20 inches or greater).

We can now find soybean aphids in fields throughout the state. In general, populations are still low with the highest populations (an average of 40-50 per plant) in a few New Castle County fields. The treatment threshold established in the Midwest is 250 aphids per plant from R-1 (presence of first flowers) through the R-5 stage (seed is  $\frac{1}{8}$  inch long in the pod of one of the four uppermost nodes on the main stem) of soybean development. It may also

be beneficial to spray through R-6 stage (pods containing a green seed that fills the pod cavity at one of the four uppermost nodes on the main stem) – reports vary as to the benefit of spraying once plants reach the R-6, but in some years and some situations there has been an economic return. Spraying after R-6 stage has not been documented to increase yield in the Midwest.

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**Soybean Disease Update** - *Bob Mulrooney, Extension Plant Pathologist*; [bobmul@udel.edu](mailto:bobmul@udel.edu)

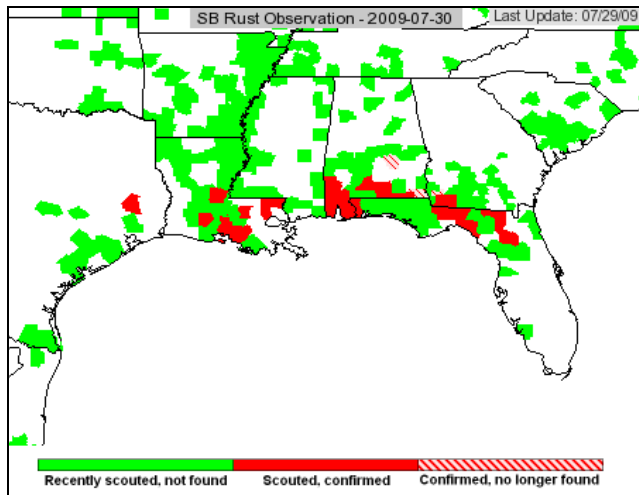
**Septoria brown spot and downy mildew** continue to be the most common diseases seen at the present time. In areas that have had little rainfall and spider mite injury is present be on the lookout for **Alternaria** and **Phyllosticta leafspot** on stressed soybeans. Both fungi are weakly parasitic but infect drought stressed and mite infested soybeans.



Alternaria leafspot on mite infested soybean leaf

## Soybean Rust

On July 28, soybean rust was found in Assumption Parish, Louisiana, in a soybean sentinel plot. Soybean rust scouting continues in the U.S. and Mexico. In 2009, soybean rust has been found in five states and 32 counties in United States, and in two states and five municipalities in Mexico. There is no active soybean rust in Mexico at the present time.



**Grain Marketing Highlights** - *Carl German, Extension Crops Marketing Specialist;* [clgerman@udel.edu](mailto:clgerman@udel.edu)

**Still Some Volatility Left in Commodity Markets**

August 12 will mark the release of USDA's August Supply/Demand report. Considering the variability in '09 U.S. corn and soybean crop development across the country one would have to believe that anything is possible concerning the content of said report. Currently we are looking at a situation where there are no deliveries for August soybeans in the futures market, meaning a trader has to be long in order to place a sell order. The significance of that point is that the soybean market may be poised for taking another leg up before settling back. The bottom line is that ideal weather could take '09 new crop corn and soybean prices to new lows between now into harvest. The 6 to 10-day weather forecast in the Corn Belt has a tinge of higher temperatures (hot weather) as of this morning (7/30). There remains a chance of an early frost occurring in the Corn Belt. Both higher temperatures and/or an early frost could provide one last opportunity to make some additional pre-harvest sales for new crop corn and soybeans.

**USDA Export Sales Report — July 30, 2009**

Pre-report estimates had weekly corn export sales at 27.6 to 47.2 million bushels combined old-crop and new-crop sales. The weekly report showed export sales of 19.1 million bushels in old-crop corn, bringing total sales to 1.847

billion bushels above USDA's projection for 1.8 billion bushels, while new-crop sales were 30.3 million bushels. Total shipments of 58.3 million bushels were above what was needed this week. This report should be viewed as bullish.

Pre-report estimates for soybeans ranged between 14.7 and 23.9 million bushels. The weekly report showed export sales of 9 million bushels in old-crop soybeans, making total sales for the year 1.287 billion bushels, above USDA's revised projection for 1.26 billion bushels. New-crop sales were 26 million bushels. Total shipments of 12.6 million bushels were below what was needed this week. This report should be viewed as neutral to bullish.

Pre-report estimates for wheat exports ranged between 7.3 and 18.4 million bushels. The weekly report showed export sales of 21.1 million bushels, above the 15.9 million bushels needed to stay on pace with USDA's revised projection of 925 million bushels. Shipments of 11.3 million bushels were below what was needed this week. This report should be viewed as neutral.

**Market Strategy**

If corn and soybean prices rebound in the near term then we will likely have an opportunity to get some additional pre-harvest pricing done. It will also present an opportunity to consider placing some price protection on corn and soybeans to be stored. In the event that an early frost does not occur then harvest prices for corn and soybeans are going to turn further downward as the season progresses. Commodity prices could be further impacted by outside market forces as we enter the fall. The Dow is expected by technical analysts to take an October downturn (currently trading at 9,232). Crude oil prices are also expected to slacken considerably from their current levels (now trading nearby at \$64.63/barrel). In yesterday's trading, Dec '09 corn futures closed at \$3.28; Nov '09 soybean futures at \$9.16; and Dec SRW wheat at \$5.39 per bushel. March '10 corn futures closed at \$3.40; Mar '10 soybeans at \$9.21; and Mar '10 SRW wheat at \$5.57 per bushel.

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

## Announcements

### Hay You Farmers!! Breakfast Social and Informational Meeting

Wednesday, August 5, 2009 7:00 a.m.  
Ches Del Diner  
2120 DuPont Parkway, Middletown, DE

We know it's been a wet year... we can't do much about the weather — but we can help you understand how to manage your hay fields and how to keep a bad situation from getting worse.

Join your fellow producers and the UD Extension team to hear about this year's small grain variety trial results and an information segment on making hay. There will be time for questions and answers. Get your questions answered by asking the experts!

We will apply for DE Pesticide and Nutrient Management and CCA credits.

Please pre-register by July 28<sup>th</sup>.

*This meeting is free and everyone interested in attending is welcome. 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 Agricultural Extension Agent

## Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 23 to July 29, 2009

Readings Taken from Midnight to Midnight

### Rainfall:

0.21 inch: July 23  
0.11 inch: July 24  
0.03 inch: July 25  
0.05 inch: July 26  
0.47 inch: July 27  
0.22 inch: July 29

### Air Temperature:

Highs ranged from 90°F on July 26 to 78°F on July 23.

Lows ranged from 74°F on July 29 to 66°F on July 25.

Additional Delaware weather data is available at [http://www.deos.udel.edu/agirrigation\\_retrieval.html](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](mailto:emmalea@udel.edu) or (302) 856-2585 x 587.*

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