



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 17, Issue 12

June 5, 2009

## Vegetable Crops

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

### Cucumbers

Cucumber beetle activity increased significantly this past week, so be sure to scout for beetles as well as aphids. Fresh market cucumbers are susceptible to bacterial wilt, so treatments should be applied before beetles feed extensively on cotyledons and the 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. A treatment should be applied for aphids if 10-20% 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. Although not wide-spread at this point, we continue to find fields with spider mites at economic levels. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Cucumber beetles increased significantly in cantaloupes and watermelons. Since beetles can continue to re-infest fields as well as hide under the plastic, be sure to check carefully for beetles as well as their feeding damage. Multiple applications are

often needed to achieve effective control. Now that most fields are blooming, it is important to consider pollinators when making an insecticide application. See this publication for information on protecting pollinators: (<http://extension.oregonstate.edu/catalog/pdf/pnw/pnw591.pdf>).

### Peppers

Continue to sample for thrips. We continue to hear reports of high thrips activity on crops in Virginia. You should also continue to sample for corn borers and watch carefully for egg masses. Before fruit is present, these young corn borer larvae can infest stems and petioles. 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 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/latest/blt.html>). You should also watch for an increase in aphid populations. 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. Adult CPB as well as the small and large larvae can now be found. A treatment should be considered for adults when you find 25 beetles per 50 plants and defoliation has reached the

10% level. Once larvae are detected, the threshold is 4 small larvae per plant or 1.5 large larvae per plant. As a general guideline, controls should be applied for leafhoppers if you find ½ to one adult per sweep and/or one nymph per every 10 leaves.

### Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. 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 1/3. In addition, continue to watch for bean leaf beetle. Damage appears as circular holes in leaves and significant defoliation can quickly occur. As a general guideline, a treatment should be considered if defoliation exceeds 20% prebloom. 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 to 10-day schedule should be maintained for corn borer control.

(<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 whorl through pre-tassel stage corn for corn borers and corn earworms. A treatment should be applied if 15% of the plants are infested with larvae. We have also seen an increase in corn earworm catches so be sure to watch carefully for small larvae being found in tassels. 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 for the most recent trap catches (instate: 800-345-7544; out of state: 302-831-8851).

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**Increase in Soil Rots May Be in Store for Area Cucurbits** - *Jerry Brust, IPM Vegetable Specialist, University of Maryland;* [jbrust@umd.edu](mailto:jbrust@umd.edu)

Last week Gordon Johnson wrote an excellent article, "[Tough Year for Early Peas,](#)" about problems with peas due to the wet soil conditions we have had in our area resulting in "soil rots". We have had anywhere from 2-5 inches above average rainfall for the month of May throughout the Delmarva area, which has resulted in the second wettest May over the last 50 years for many areas. Last year we also had a very wet May; it was the third wettest May in many areas of Maryland, which resulted in many more root rot problems in cucurbits, i.e., watermelons, cucumbers, cantaloupes, pumpkins, etc. We can probably count on similar problems this year in the field as the June forecast calls for wetter than normal conditions.

The symptoms in watermelon fields usually begin with leaves flagging on a few plants down a row and then a few days later a total collapse of those same plants. Sometimes the wilting occurs within certain rows while in adjacent rows the watermelon plants look fine (Fig 1a). If wilted plants are dug up you can see reddish-brown discoloration of the crown of the plant (Fig 1b). The roots will be decayed as well. There are several fungi that can cause crown and root rot diseases, including *Fusarium*, *Pythium* and *Phytophthora*. To identify the specific fungi involved, samples should be sent to a diagnostic laboratory for testing. The disease often starts with a few plants in one row then moves down that row. Water, either through irrigation or heavy rains is usually responsible for the movement of the disease down a row. High plant loss can occur in the lower areas of fields where water stands after heavy rains. In the last month we have had several days of heavy rains with water sitting in fields, which will stress young plants and allow root rot diseases to get started.



Fig 1a. Watermelon rows with and without Fusarium crown rot



Fig 1b. Watermelon plant with crown rot

One thing growers can do for root and crown rot diseases is to be sure to not over water the plants or apply excess nitrogen. Rotation helps somewhat, especially for Fusarium wilt, but the root and crown rot pathogens can infect many hosts, making crop rotation less effective in reducing disease. Environmental conditions are probably the most important component for the development of root and crown rot diseases. Well drained fields will have less of a problem than poorly drained fields.

Besides seed treatments containing fungicides which will protect the seed from rots, there is a biological control that can be seed applied

(preferred application method) or drenched onto the transplant that will help protect the plant from soil rots. The product is T-22 a naturally occurring fungus, *Trichoderma harzianum*, strain T-22. *Trichoderma* grows on the surface of roots, where it provides disease control and enhances root growth. Its spores survive in the soil, but the food it exists on is secreted from the root surface. The fungus multiplies on its own, protecting the roots over the growing season. The fungus, however, does not work very well if fields have standing water in them over a period of days, so it is important to keep your fields well drained.

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**Pictures from Suspected Lightning Strike to Cantaloupe Field** - *Emmalea Ernest, Extension Associate - Vegetable Crops; [emmalea@udel.edu](mailto:emmalea@udel.edu)*

Folks at the Carvel Research and Education Center spent a few days this week puzzling over a section of dead plants discovered on Monday in the cantaloupe variety trial. The early theory was that there was some sort of herbicide carryover issue but that didn't make sense with the field history and some of the symptoms/evidence. After ruling out disease, aliens and sabotage we now suspect that the field was struck by lightning in the violent thunderstorm Georgetown got on Sunday morning.

Both cantaloupe plants and yellow nutsedge in the affected area showed symptoms (Figure 1) — making disease an unlikely explanation of the problem. The affected area is circular and approximately 50' in diameter (Figure 2). Plant damage decreases as you move away from the center. At the center of the affected area the plastic mulch was damaged and the drip tape was split for approximately 30 ft (Figure 3). Cantaloupe and nutsedge plants near the center of the affected area were completely dead. Cantaloupe plants that were less affected have necrotic stems and necrotic patches on the leaves (Figures 4 & 5). The roots are partially or totally dead. Nutsedge plants had necrotic leaf tips and roots were partially or totally dead (Figure 6).

The cantaloupe trial will be replanted.



Figure 1. Affected cantaloupe and nutsedge plants.



Figure 4. Cantaloupe plants with varying levels of damage. Plants to the left are from the center of the affected area. The right-most plant is from outside the affected area.



Figure 2. Circular area of damage in the field. Note damaged plastic at the center of the circle and that plant damage decreases toward the perimeter of the circle.



Figure 5. Close up of lightning damage to a cantaloupe plant. Note necrosis from the soil level, up the stems and petioles and out the leaves — presumably the path of the electric current through the plant vascular system.



Figure 3. Split drip tape and damaged plastic (replacement tape is beside the split tape).



Figure 6. Three yellow nutsedge plants from the affected area and one from another part of the field. Note damaged roots and burnt leaf tips on the three plants on the left.

**Potato Disease Advisory #7 - June 4, 2009** - Bob Mulrooney, Extension Plant Pathologist;  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

Disease Severity Value (DSV) Accumulation as of June 4, 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*
5/27	3	56	7- day interval	
5/28	0	56		217
5/29-5/30	2	58	5-day interval	235
5/31	0	58	5-day interval	244
6/1	0	58	5-day interval	251
6/2	1	59	7-day interval	259
6/3	0	59	10-day interval	269

Maintain the recommended spray interval. At 300 P-days fungicide sprays will be needed to control early blight. Growers who do not want to rely only on the DSV calculations for scheduling fungicide applications should apply at least 1-2 sprays of mancozeb (Dithane, Manzate, Pencozeb, Manex II) or Bravo (chlorothalonil) before plants canopy down the row. At this point weekly fungicide applications would be suggested.

\* **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. This should happen by next week. To date, **269 P-days** have accumulated at the site. Once 300 P-days have accumulated, the first fungicide for early blight control should be applied. This usually occurs when rows are touching.

The **Spray Recs** column in the table is also generated by the WISDOM software program. This recommendation combines the DSV accumulation for late blight as well as the P-day accumulations for early blight and computes a spray recommendation. This is presented as a guide only. Spray decisions should be made with local conditions in mind and this information can help to determine if disease conditions are favorable.

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

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) 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.

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

Because of the sudden and destructive nature of cucurbit downy mildew (*Pseudoperonospora cubensis*), growers need to be warned about a potential outbreak of the disease in their area. In addition, fungicide applications are far more effective if they are made before infection starts. The ipmPIPE forecasts give growers a site-specific risk assessment of disease outbreak 48 hours into the future. This forecast is available at <http://cdm.ipmpipe.org>. Downy mildew is active in southern Texas as well as Florida and now has been reported in southern Georgia. It is a bit early for Delmarva but growers and fieldmen should get familiar with the site and some of the new features that have been added this season. Updates will be made in Weekly Crop Update but forecasts are made three times a week on Monday, Wednesday and Friday. Delaware is participating in the sentinel plot system associated with this effort. Plots are located at the REC near Georgetown and on the Experimental Farm here in Newark.



Upper leaf surface of cucumber with downy mildew.

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**Salt Injury from Starter Fertilizer** - Gordon Johnson, Extension Ag Agent, Kent Co.; [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

I recently looked at several snap bean plantings with symptoms of salt injury from starter fertilizer. Leaves had large areas that were dried from the margin inward, other areas were light green and showing signs of desiccation. Symptoms were field wide and did not show up until after the plants had germinated and

emerged. It was likely that fertilizer salts had moved toward the seedlings with water from rain and irrigation in high enough concentration to cause the injury. The grower had changed starter fertilizer to a higher analysis from previous years. Other crops were not affected. Caution should be taken with starter fertilizers, especially in crops that are sensitive to salts, such as beans. Choose low salt index fertilizers and limit the total amount of nitrogen and potassium (a general guideline is no more than 80 lbs total of N + K). Adjust fertilizer applicators to deliver the band no closer than 2" to the seed and 2" deep. If higher amounts of starter are required, move the fertilizer band farther from the seed.

## Agronomic Crops

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

### Alfalfa

Continue to sample for potato leafhoppers on a weekly basis. Although adults are the main life stage present, we will soon see the first nymphs. Although both life stages can damage alfalfa, the nymphs can cause damage very quickly. 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.

### Small Grains

We have received numerous reports and have seen a number of fields this week with high levels of armyworms in both wheat and barley that did not receive an earlier insecticide treatment. In some barley fields, significant head clipping has already occurred. As indicated in past newsletters, damage can quickly occur in barley. *In many cases there is a mixture of worm sizes so the potential for head clipping is high, especially in barley.* Be sure to scout all wheat and barley fields carefully and watch for head clipping. Since we are close to harvest for barley, the only control option at this point is Lannate which has a 7 day pre-harvest interval (PHI) between application and harvest. As a

reminder, Warrior II and generic lambda-cyhalothrins products have a 30 day PHI between application and harvest. Be sure to read the label before applying any insecticide for the rate, days between last application and harvest and other restrictions.

### Soybeans

Continue to sample for bean leaf beetles and grasshoppers. In the earliest planted and emerged fields, we have started to see an increase in activity for both insects. As barley is harvested and soybeans are planted, these fields will be especially susceptible to attack and grasshopper feeding can often cause stand loss. If stand reductions are occurring from plant emergence to the second trifoliolate, a treatment should be applied. Although no precise thresholds are available, a treatment may be needed if you find one grasshopper per sweep and 30% defoliation from plant emergence through the pre-bloom stage. As a general guideline, a treatment may be needed for bean leaf beetle if you observe a 20-25% stand reduction and/or 2 beetles per plant from cotyledon to the second trifoliolate stages. The Iowa State economic threshold for cotyledon stage is four beetles per plant. Once plants reach the V1 and V2 stages, their thresholds increase to 6.2 (V1 stage) and 9.8 (V2 stage) beetles/plant. These treatment thresholds should be reduced if virus is present or you suspected virus the previous season.

With the continued cool, wet weather, we continue to hear reports and have seen no-till soybean fields with significant slug damage. Although tillage will probably help and we have seen where it has at least helped to get soybeans out of the ground and growing this year, it may not be the total answer if populations are high and the weather does not turn around after planting. We have seen significant damage this spring in conventional corn fields where a cover was tilled under and then the field immediately planted. The only labeled, effective option for control is the use of the Deadline M-Ps. Be sure to read the new fact sheet from Ron Hammond from Ohio that provides excellent information on slug biology and management <http://ohioline.osu.edu/ent-fact/pdf/0020.pdf>.

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

### Corn

No need for me to tell you how bad the weather has been so far for corn. Stands are still being reduced by excessively wet soils and the Pythium and Fusarium damping-off that is occurring as a result of the wet soils. Fungicide treated seed, good drainage and some warm temperatures would help considerably in getting the plants out of the ground and growing.

### Wheat

**Fusarium head blight** or scab is being seen in some fields in Kent and Sussex counties. The occurrence and severity so far has been variable but, in general, I think we dodged a bullet this time. Our wheat for the most part was already in flower before the most favorable weather came for scab (Figure 1).



Figure 1. Fusarium head blight or scab.

Take-all was diagnosed this week as well from two fields. Take-all is characterized by patches in the field that can vary in size but the wheat is generally stunted and the heads bleach out prematurely. Infected plants can be easily pulled out of the ground due to the extensive root rot

that occurs. The other symptom is the dark streaking at the base of the stem (lowest node under the leaf sheaths), see Figure 2. Take-all can be controlled by rotating out of wheat for a year. However planting wheat followed by double crop soybeans followed by wheat is not an effective rotation for take-all control. Manganese levels also interact with take-all. Be sure that soil levels of manganese are adequate for the crop and check pH so that the manganese is available. High pH makes manganese unavailable.



Figure 2. Take-all symptoms on the lower nodes. Note lack of roots as well.

**Tan spot** (Figure 3) has been present for almost three weeks in wheat. This foliar disease can look like Septoria (Stagnospora) leaf and glume blotch. It is caused by the fungus *Pyrenophora tritici-repentis*.



Figure 3. Tan spot symptoms on wheat.

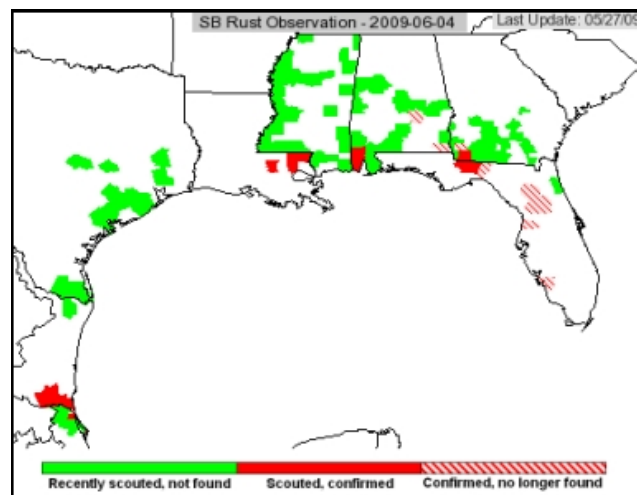
It has been widespread on Delmarva this season because of the amount of rainfall that we have had. It is too late for any control, but this disease is favored by wet, warm weather. Most

of the spots are in the lower canopy and may reach the flag leaf before the plants begin to dry down. Applications of foliar fungicides at heading or earlier have been providing good control of this disease. At present most of the infection is in the lower canopy and the effect on yield should be minimal if the disease does not move up to the flag leaf or the leaf below the flag leaf.

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

On May 27 soybean rust was reported on kudzu in Decatur County, Georgia. On April 24, soybean rust was detected on kudzu in Gadsden and Leon Counties in Florida. The disease had been detected in both counties on kudzu earlier this year but had not been observed since January. Infections are still light, but the Georgia find was the earliest that rust has ever been detected in GA.




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

**Commodities Poised for Summer Rally**  
 Several factors have come to light as possible reasons to expect a summer rally in the commodity markets. Included in these factors are: the CRB Index; the U.S. dollar index; potential performance of the Dow Jones Industrial Average; fund trading; and price



seasonality. The Reuters/Jeffries CRB (Commodities Research Bureau) Index posted a bullish signal for early March 2009 and was followed by a secondary bullish signal in late April. This portends to the idea that the CRB Index should continue its rally over the summer quarter (June, July, August). Included in the mix of commodities the index tracks are corn, wheat, and soybeans.

Additionally, the U.S. dollar index has recently fallen through support near the 80.00 level, with the next level of support at 78.00. The nearby dollar index is currently at 79.57. A weaker dollar is expected to increase export demand for U.S. commodities over time. A weaker dollar is expected to lead to inflationary pressure on commodity prices, yet another reason to suggest a summer rally.

Another factor given for expecting commodities to rally over the summer is the economy. In February, the Dow Jones Industrial Average hit a low of 7,063. Since that time the Dow has rallied a little over 20 percent. The Dow could have further upside limited by inflation concerns. However, by late summer the Dow could move to its technical target of 9,330. An improving Dow generally portends to strength in commodity prices.

Fund trading (non-commercial speculative trading) has been gaining volume in recent weeks for corn, soybeans, and wheat. Non-commercial trading in wheat, for example, has taken wheat futures from a net short to a net long position. This has resulted in a pre-harvest contra-seasonal rally in wheat futures. Commodities can be expected to rally as long as non-commercials keep coming into the markets and adding to their positions.

Delayed row crop planting in the U.S. is expected to extend the seasonal rally for corn, which typically ends the first of June. Weather developments from here on will determine the length of time the rally can be expected to be extended. Soybeans tend to post their seasonal high in mid-July. The tight old crop soybean supply will continue to provide support while the new crop develops. For wheat, the first of June has marked the beginning of a seasonal rally that

could last through March. The rally in wheat is likely to need assistance from a weaker dollar in order to improve exports. It is important to note that the wheat market generally reacts differently to market signals than do the corn and soybean markets. If one were to consider only the increasing forecasts for global wheat supplies and anemic U.S. exports for the current marketing year, then the current rally in wheat futures would not be expected and would not be happening.

### Market Strategy

The outlook for commodity prices over the near term is bright. USDA will release the June Supply/Demand Report on June 10 and updated acreage numbers on June 30. Add to the declining acreage outlook the possibility of lower than expected yields for U.S. corn and reduced output for soybeans in the Southern Hemisphere, and prices have a reason to stay firm and rally.

Good pricing opportunities are currently available for new crop corn, soybeans, and SRW wheat. Seasonally, those opportunities are likely to remain available through mid-July. Weather developments and fund trading will determine the extent of the summer rally. Currently, Dec '09 corn futures are trading at \$4.64; Nov '09 soybean futures at \$10.63; and July '09 SRW wheat futures are \$6.37 per bushel.

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

## Announcements

### Agronomic Crops Twilight Tailgate Session

Wednesday, June 10, 2009 6:00 p.m.

UD Cooperative Extension Research and  
Demonstration Area

(<sup>3</sup>/<sub>4</sub> mile east of Armstrong Corner, on Marl Pit Rd. –  
Road 429, Middletown)

Join your fellow producers and the UD Extension team for an overview of UD's Weed Science Program—Fall Soybean Herbicide Applications research trial; updates on the latest disease and insect outbreaks and a grain

market update. We will wrap things up with the traditional ice cream treat!

Bring a tailgate or a lawn chair.

We will apply for DE Pesticide and Nutrient Management re-certification credits and Certified Crop Advisor credits.

*This meeting is free and everyone interested in attending is welcome. Please register by June 5. 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

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**Attention Produce Growers!!  
On Farm Delaware Food Safety Training –  
Level I Certification**

Tuesday, June 30, 2009 9:00 a.m. – 4:00 p.m.  
Filasky's Produce, Inc.  
1343 Bunker Hill Road, Middletown, DE

Recent food safety concerns emphasize the need for fresh produce growers to reduce potential exposure of fruits and vegetables to organisms that cause food-borne illness, as well as other contaminants. Keeping produce safe should be a priority for Delaware produce growers, packers and shippers. Attend this training and you will receive Level 1 Delaware Voluntary Produce Food Safety Certification.

Lunch will be provided.

*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.*

Co-sponsored in part by Northeast Center for Risk Management Education.

See you there! — Anna Stoops, New Castle County Agricultural Extension Agent

## Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of May 28 to June 3, 2009

Readings Taken from Midnight to Midnight

### Rainfall:

0.09 inch: May 29

0.55 inch: May 31

0.10 inch: June 3

### Air Temperature:

Highs ranged from 88°F on June 2 to 74°F on June 1.

Lows ranged from 64°F on May 29 and June 3 to 50°F on June 1.

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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