



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 10, Issue 17

July 19, 2002

## Vegetables

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

### Lima Beans

**With the recent increase in corn earworm catches**, be sure to watch for earworms in fields with pin pods. You should also sample for lygus and stinkbugs. A treatment should be applied if you find one corn earworm per 6 foot of row or 15 tarnished plant bugs and/or stinkbugs per 50 sweeps. Lannate, Mustang or Capture can be used to control all 3 insects on lima beans.

### Melons

Spider mite populations continue to increase in many fields. In our field trials this season, Agri-Mek and Capture have provided 3-4 weeks of control with 2 applications. A few growers have tried dimethoate this season with varying degrees of success. If you have not used dimethoate in a few years and you are having limited success with other products, you may want to consider *one* application of dimethoate. You should not use it more than once, especially if you experienced poor control or resistance in past years. If you have not used it for 3 or more years and you had reduced efficacy when you stopped using it, we often find you can make one application and get good control. However, multiple applications usually result in a quick reversion to resistance and an explosion in populations. The maximum rate for dimethoate 4EC on melons is 1 pt/acre.

### Peppers

At the present time, all peppers that have fruit ½ inch in size or larger should be sprayed on a 7-day schedule for corn borer, corn earworm and pepper maggot control. With the recent increase in corn earworm catches, chemical selection will be important. Remember Orthene or Address will not provide satisfactory earworm control. A pyrethroid or Lannate will be needed for earworm control. Also, a continuous pyrethroid program **should not** be used to avoid aphid explosions.



R. Bessin, Univ. of Kentucky

### Snap Beans

Processing snap beans in all areas of the state should be treated at the bud and pin stages for corn borer control. Orthene or Address should be used at the bud and/or pin stages for corn borer control. Once corn earworm trap catches reach 20 per night in your area, a pyrethroid should be added to the pin spray. After the pin stage, Lannate, Capture or Mustang should be used. After the pin spray, sprays will be needed on a 7-day schedule from the pin spray until harvest

except in the Bridgeville and Laurel areas where sprays are needed on a 5-6 day schedule. Since this can change quickly, be sure to check our website for the most recent trap catches and information on how to use this information to make a treatment decisions in processing snap beans

(<http://www.udel.edu/IPM/traps/latestblt.html> and our link to <http://www.udel.edu/IPM/thresh/snapbeanecbthres.html>). You should treat fresh market snap beans for corn borers on a 7-day schedule from the pin stage until harvest. Lannate, Capture or Mustang should be used.

### Sweet Corn

Fresh market silking sweet corn should be sprayed on a 3-day schedule in all areas of the state. Be sure to also sample late-planted fields for fall armyworm larvae. No controls will be needed until 15% of the plants are infested. Sap beetles are also starting to show up silking sweet corn. Warrior, Penncap-M and diazinon have provided the best control.



### Scorch on Sweet Corn -Ed Kee, Extension Vegetable Crops Specialist; [kee@udel.edu](mailto:kee@udel.edu)

Several fields of processing sweet corn have exhibited small percentages of scorched tissue and tassels. High temperatures (99 degrees and above) can cause scalding of corn leaf tissue. Hybrids differ in their tolerance, and the stage of development of the tassel also influences the plant's reaction to those temperatures. The emerging or recently emerged tassels may appear "blasted or bleached."

Usually, the percentage of affected plants is small and the effect on total yield is negligible.



Scorch on Sweet Corn



**Vegetable Diseases** - Kate Everts, Extension Vegetable Pathologist, University of Delaware and University of Maryland; [everts@udel.edu](mailto:everts@udel.edu)

### Cucurbits

Cucurbit powdery mildew is now present in Delaware and the Eastern Shore of Maryland. Scout your fields of pumpkin, squash or susceptible muskmelon for this disease. When one lesion is found on the underside of 45 old leaves, begin fungicide applications for powdery mildew. You may already be on a schedule for general disease control with broad-spectrum materials such as chlorothalonil (Bravo, Equus or Echo) or maneb and copper. These materials are contact fungicides and will protect against powdery mildew primarily on the upper leaf. Where the threat of powdery mildew is severe, susceptible cultivars are planted, and economics support it, improved control can be achieved by alternation of these contact fungicides with Nova, Flint, Quadris, or Procure (a new product labeled to control powdery mildew at 4 to 8 oz/acre).

**MELCAST for Watermelons.**  
**From the University of Maryland and University of Delaware**  
**Latest EFI values from local weather stations**

Any questions please call (410) 742-8788

EFI Values (Environmental Favorability Index)

Do not use MELCAST if there is a disease outbreak in your field, it is a preventative program.

Location	07/17/02	07/16/02	07/15/02	07/14/02	07/13/02	07/12/02	07/11/02	07/10/02
Bridgeville, DE	0	0	5	5	1	0	0	
Charles Co.	0	0	9	2	0	0	0	
Collins Farms	1	2	4	4	0	0	0	
Galestown, MD	1	3	4	4	0	1	0	
Georgetown, DE	1	3	2	4	0	1	2	2
Glenville, MD	0	0	8	3	0	0	0	
Hebron	1	3	4	3	0	0	0	
Hog Creek Rd.	0	0	9	3	0	0	0	
Salisbury, MD	2	3	4	3	0	1	2	0
Vincent Farms	1	2	5	5	1	0	0	
Westminster	0	0	10	3	0	0	0	
White Marsh	0	0	10	3	0	0	0	

The first fungicide spray should be applied when the watermelon vines meet within the row. Additional sprays should be applied using MELCAST. Accumulate EFI (environmental favorability index) values beginning the day after your first fungicide spray. Apply a fungicide spray when 30 EFI values have accumulated by the weather station nearest your fields. Add 2 points for every overhead irrigation. After a fungicide spray, reset your counter to 0 and start over. If a spray has not been applied in 14 days, apply a fungicide and reset the counter to 0 and start over. The first and last day listed above can be partial days so use the larger EFI value of this report and other reports for any specific day.

If, for some reason, a serious disease outbreak occurs in your field, return to a weekly spray schedule. More detailed information concerning MELCAST and sample data sheets are available on the web at <http://www.agnr.umd.edu/users/veg/disease/veg/disease.htm>.



**Potato Disease Advisory.**

**Late Blight Advisory**

**Disease Severity Value (DSV) Accumulations as of July 18, 2002 are as follows:**

Location: Joe Jackewicz Farm, Magnolia, DE. Greenrow: April 10, 2002

Remember that 18 DSV's is the threshold to begin a spray program for late blight.

Date	Total DSV	Spray Recommendation
5/1	12	None
5/11	19	5 days, low rate
5/19	23	10 days, low rate
5/22	23	10 days low rate
5/27	27	10 days low rate
5/29	30	7 days, low rate
6/3	33	7 days, mid-rate
6/5	33	10 days, mid-rate
6/9	38	7 days, high-rate
6/13	39	10 days, high-rate
6/16	58	5 day mid- rate
6/19	60	10 day mid-rate
6/23	63	7 day high rate
6/26	64	10 day high rate
6/30	66	10 day high rate
7/9	66	10 day high rate
7/14	67	10 day high rate
7/17	68	10 day high rate

Late blight has not been a problem here in Delaware for many years and unless you have seed from an unknown source the risk of late blight is very low.

**NOTE:** For this greenrow date and location we have accumulated 710 P-days as well. P-days are a measure of potato plant growth somewhat similar to growing- degree- days. Continue fungicide sprays for early blight.



## Field Crops

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

### Soybeans

Continue to watch for spider mites, leafhoppers and defoliators in soybeans. If defoliators are present, the treatment threshold is 30% defoliation prebloom and 15% once bloom occurs. If a combination of insects is present, reduce the threshold for each pest by one-third. Spider mites continue to cause economic losses in many fields. Unfortunately, multiple applications may be needed to achieve control. If dimethoate is used, a penetrant should like LI-700 or AD-100 should be used. Lorsban and Parathion have provided control. However, they do not provide any residual control. Also, Parathion can only be applied by air.

You should also begin watching fields carefully for soybean aphids. So far, they have not been detected in Delaware or Maryland. If you have a suspect field, please contact Joanne Whalen at 302-530-8948. Although there are a number of key characters that can be used to identify soybean aphids -- including their bright yellow color, black cornicles ("tailpipes") and clear cauda with four pairs of setae (hairs) -- they are a very small aphid so confirmation will need to be done by an aphid expert. We have 3 aphid taxonomists around the country that agreed to help us identify potential specimens.

In 2001, yield losses from this aphid ranged from 6 to 12 Bu/A in numerous strip trials conducted throughout the Midwest. Timing of the insecticide application will be very critical. Observations from other states suggest that the greatest benefit from an insecticide application will come during or immediately following flowering. The later in the summer the insecticide application is made, the less the benefit from the spray. Spraying late in the season after pods have filled or following dispersal of winged aphids will be too late. As a

general guideline the following information should be used to make a treatment decision if soybean aphids are detected:

- (1) The critical stage for treatment appears to be late vegetative to R2 stage -- best timing is mid-July to early August
- (2) Treatment at flowering would be recommended if aphids are abundant on most plants (200 aphids per plant in 2001 resulted in a yield loss of 6 Bu/A). Current guidelines from the Midwest say treat if you find 25 or more aphids per leaflet.
- (3) Late season treatments have not shown to be beneficial
- (4) The following products are registered and have provided effective control: Asana, Furadan, Lorsban, Mustang, PennCap-M, Pounce and Warrior.

You will also need to start sampling fields as soon as pin pods are present for corn earworm. We often see significant outbreaks during drought conditions so be sure to be on the look out for earworms, especially if corn dries down early. Moth catches have started to increase in most areas of the state. Resident populations in combination with migratory populations in late July to early August could result in podworm outbreaks in soybeans. If the weather remains hot and dry, we will not see the fungal diseases that resulted in crashes in populations similar to last season. The weather in August will have a big impact on whether we have an outbreak or not.



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

### Weather Dominates Commodity Markets

The weather continues to be the major factor impacting commodity prices at the present time, and is expected to do so over the course of the next several weeks. Last week's heat wave took a greater toll on U.S. crops than commodity traders

and analysts were expecting. Corn, soybean, and spring wheat ratings all declined from the week before, according to USDA's Monday (06/15/02) crop progress report. U.S. corn conditions for the U.S. were 49% good/excellent, 4% less than the previous week. Illinois, Ohio, and Texas each reported declines of at least 10% in those categories.

Soybean ratings slipped a couple of points, with half the crop now placed in the good/excellent category.

Spring wheat conditions declined the most, dropping 8% with 39% now reported at good/excellent. Crop conditions overall for spring wheat are half as good as they were a year ago at this time.

The declining ratings have traders now thinking that trend line yields may not be met this year. The market will continue to react in a volatile manner to weather reports and developments for at least the next three weeks, given the developing concerns.

### **Marketing Strategy**

At this stage in the growing season and considering the fact that the '02 U.S. corn and soybean crops have a long way to go before the size of the crop can be confirmed, it is too early to begin new crop soybean sales or to advance sales of new crop corn. Furthermore, a large portion of the corn-belt has not yet entered the pollination stage, which is making the market jittery in terms of hot and dry weather forecasts. Price objectives for advancing new crop corn and beginning new crop soybean sales are now placed at \$2.70 per bushel Dec corn and \$5.80 per bushel Nov soybeans (CBT board prices).



**Control of Horseweed (Marestail)** - Mark VanGessel, Extension Weed Specialist; [mjv@udel.edu](mailto:mjv@udel.edu)

Some fields have been treated with one or more applications of Roundup or Touchdown and the

horseweed plants are still alive. The question is what to do about those weeds now. The answer is nothing. If Roundup or Touchdown has not killed the horseweed, it is probably resistant to glyphosate. It is too late to add another product to control horseweed that is tall or resistant to glyphosate. FirstRate (or Amplify) or Classic will only control small horseweed plants (less than 6 inches). There is a point at which we have to accept that it is too late to do anything about these horseweed plants, and we have reached it.



### **Drought Symptoms on Corn and Beans**

*Richard W. Taylor, Extension Agronomist, [rtaylor@udel.edu](mailto:rtaylor@udel.edu), and Derby Walker, Jr. Extension Ag Agent, Sussex County [derby@udel.edu](mailto:derby@udel.edu)*

At the University of Delaware Research and Education Center in Georgetown, only about 6.4 inches of rain has fallen since last March. In many areas in southern Delaware and elsewhere on Delmarva, soil moisture levels are at or are beyond critical. Many dryland corn and soybean fields are showing severe drought stress symptoms. These symptoms either mimic other problem symptoms or make these other problems even worse.

For corn, drought symptoms consist of firing of the lower leaves and these proceed up the stalk until the whole plant turns chalky brown and dies. The initial symptom of marginal yellowing and burning is very similar to potash (K) deficiency. When the lower leaves begin to die, the symptoms can also be confused with severe nitrogen deficiency that also can show up as dead or dying lower leaves.

On corn, the first major concern (other than if the drought is severe enough to kill the entire plant) is whether the water stress will disrupt the timing of pollen release by the tassels and the emergence of the silks from the ears. Silks are designed as conduits for a pollen grain to germinate and

produce a pollen tube that grows down the silk to a single ovule or egg where pollination occurs. Normally, pollen shed begins a day or two before silk emergence and will last from 5 to 8 days with the heaviest release of pollen occurring on the third day. In most dryland production fields, not all the plants begin to pollinate at the same time so some pollen may be released over almost a two week period although the amount released at both the beginning and end of this period may be too small to pollinate the crop well.

Silks that originate from the base of the ear emerge first and those originating from the tip emerge last so when the crop experiences drought we often see poor tip fill as the result of a failure to be in synchrony. Under optimum conditions all the silks emerge within 3 days but for silks to grow requires plenty of available water that is pumped into the growing and expanding cells to stretch them allowing rapid silk growth. Drought stress limits water availability and thus slows down silk growth since the plant is not able to provide the water needed to “stretch” the cells that comprise a single silk.

A second critical time occurs shortly after pollination. If pollination is successful, the new corn kernel still will be aborted if enough photosynthetic products (sugars) are not readily available. If the crop is under drought stress to the point that the stomates in the leaves are closed to preserve the water balance in the plant, carbon dioxide can not enter the plant and photosynthesis slows or stops preventing kernel set.

For soybeans, we often see a similar situation in that drought symptoms will mimic K deficiency. Drought can also cause K deficiency especially on soils testing marginal in soil available K. Again, the symptom is yellowing and firing of the lower leaves.

Another essential nutrient deficiency that shows up in drought periods is manganese (Mn) deficiency. This will often be a problem on soils where the pH is close to the upper limit for the amount of native Mn in the soil. For Mn, the

symptom of leaf yellowing occurs first on the upper leaves so it should not be confused with drought. Still it can be worsened by drought conditions that limit root growth and available soil moisture levels. The real problem comes in deciding if treatment with a foliar Mn spray will be necessary or not. First, there must be enough leaf area available to intercept enough foliar spray to satisfy the crop’s Mn requirement. Second, there must be enough metabolic activity for the Mn to be taken into the plant and to be incorporated in the enzyme and oxidation-reduction systems of the plant.

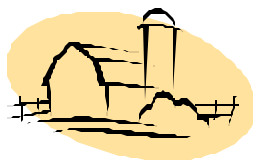
Spider mite infestation is another problem that is impacted by drought. We won’t go into detail on this but keep in mind that the problem often begins along the edges of fields where mite populations have built up on border grass and legume plants. Frequent scouting can often help spot the problem before it becomes too severe. We have seen fields in past drought times that are almost completely defoliated by spider mites.

Lastly, a disease of soybeans that often is referred to as dry-weather wilt or summer wilt shows up during hot, dry weather and when beans are under a lot of stress. This disease is known as charcoal rot because after mid-season you can often see black streaks in the woody tissue of the stem and these streaks are caused by microsclerotia that occur in the pith of the stem. The microsclerotia plug up the vascular tissues and block water flow in the plant. They can be numerous enough to give a grayish black color to the tissues beneath the epidermis and this often resembles a sprinkling of finely powdered charcoal, hence the name. The disease is often worse on the early maturing soybeans (group III’s) and sometimes causes split or twin-stems and a Shepard’s crooking of the terminal when the plant dies.



## Ag Fact

The Economic Research Service of the USDA reports that in 1970 poultry accounted for 21% of total U.S. per capita meat consumption. In 2000, that increased to 37% of total per capita consumption. This increase is explained by American consumer's preference for lower cholesterol and lower saturated animal fats in their foods, as well as price differentials that favor poultry purchases by consumers.



## UPCOMING EVENTS:

### Wicomico Farm & Home Show

Winterplace Park  
RT 50 & Hobbs Road  
Salisbury, MD 21804  
August 15-17, 2002



## Weather Summary

### Week of July 11 to July 18, 2002

**Rainfall:**

July 11 – 0.2 inches

Readings taken for the previous 24 hours at 8 a.m.

**Air Temperature:**

Highs Ranged from 95°F on July 17 to 77°F on July 14.

Lows Ranged from 70°F on July 14 to 51°F on July 12.

**Soil Temperature:**

83°F average for the week.

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

Web Address for the U of D Research & Education Center:  
<http://www.rec.udel.edu>

*Compiled and Edited By:*

*Tracy Wootten  
Extension Associate - Vegetable Crops*

Cooperative Extension Education in Agriculture and Home Economics, University of Delaware, Delaware State University and the United States Department of Agriculture cooperating, Robin Morgan, Dean and Director. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. It is the policy of the Delaware Cooperative Extension System that no person shall be subjected to discrimination on the grounds of race, sex, disability, age or national origin.