Vegetables

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

**Corn Earworm and Corn Borer Moth catches.** Trap catches can be found at [http://www.udel.edu/IPM/latestblt.html](http://www.udel.edu/IPM/latestblt.html). You can also call the Crop Pest hotline at 1-800-345-7544 (in-state only) or 302-831-8851. We are starting to see an increase in corn borer and corn earworm trap catches. Our highest trap catches for corn earworm have consistently been in the Milford area.

**Cucumbers and Melons.**
Watch for cucumber beetles starting to increase in both cantaloupes and watermelons. As fruit matures, beetles can be found feeding on the rinds of fruit. Melon aphid populations have also started to increase in watermelon and seedling stage cucumber fields. As temperatures increase, fields should be watched for melon aphid explosions. Be sure to check under leaf surfaces, especially along field edges to detect the first aphids. A treatment will be needed if 20% of the plants are infested with aphids. Lannate will provide melon aphid control. If populations have not exploded, we have also seen good control with Thiodan.

**Peppers.**
At the present time, all peppers that have fruit ½ inch in size or larger should be sprayed on a 7-10 day schedule for corn borer and pepper maggot control. If acephate (Orthene or Address) are used, a 10-day schedule will be adequate. If Lannate, Spintor, or a pyrethroid are used, a 7-day schedule is needed. We have submitted a Section 24 C (Special Local Needs) request to increase the number of applications of Orthene on peppers from 2 applications (at the 1 1/3 lb/acre rate) to 4 applications. This request is still pending but we will keep you posted on the progress.

**Potatoes.**
Continue to sample fields for potato leafhoppers and aphids. Before 2 weeks from harvest, the aphid threshold level is 4 per leaf. Within 2 weeks from harvest, the threshold increases to 10 per leaf. Potato leafhoppers can still cause economic damage, resulting in both reduced yields and size of potatoes. The treatment threshold is 5-10 leafhoppers per 10 sweeps and/or 1 nymph per every 10 leaves. If Admire or Provado were used for first generation CPB control, a pyrethroid or Furadan should be used for leafhopper control at this time.

**Lima Beans and Snap Beans.**
Leafhoppers and thrips remain active in seedling stage snap beans. A treatment is needed if you find 5-6 thrips per leaflet or 5 leafhoppers per sweep. If both insects are present, the threshold of each should be reduced by ½ the level for each insect. In snap beans, Asana, Capture, dimethoate, Lannate or Orthene will provide control of both insects. In lima beans, Capture, dimethoate or
Lannate are labeled and will provide control. If lima bean fields are in bloom, Lannate or Capture should be used. Bean fields should also be sampled for mites showing up throughout fields. Although we are limited in our control options, Kelthane has provided effective control in recent years. If numerous eggs are present at the time of application, 2 applications spaced 5-7 days apart may be needed. Corn borer sprays should be applied on all processing snap beans in the bud and pin stages and on all fresh market snap beans where pin pods are present.

**Sweet Corn.**
All fresh market silking sweet corn should be sprayed on a 3-4 day schedule in Kent County and on a 4 day schedule in Sussex County. Corn earworm populations are starting to increase with heavy pheromone trap catches in the Milford area. Continue to sample for fall armyworm larvae in later planted, whorl stage fields. A treatment will be needed if 15% of the plants are infested. Lannate, Spintor or Warrior will provide control. Remember that insecticides must be washed into the whorls and 2 treatments are generally needed for control.

**Observations on Lima Bean Plantings - Ed Kee, Extension Vegetable Crops Specialist; kee@udel.edu**

Lima bean plantings are nearing completion as we move to mid-July. We have over 100 fields in our "Excellence in Lima Bean Production" survey program and will be collecting information throughout the season.

We have seen some herbicide injury from applications of Dual Magnum and Pursuit in some of the most recent plantings. Primary injury symptoms are the leaf cupping, or "spinach leaf" effect from the Dual. One field did exhibit the internode shortening associated with Pursuit injury. All of the fields received significant rainfall soon after the herbicide applications, putting all of the herbicide into solution. The young plants absorb the material, and because the active ingredients are at higher concentrations due to the rainfall, temporary injury is seen. In most cases, the beans will grow through it quickly. Some fields received 1 pint of Dual Magnum, we should consider reducing that to 3/4 pint/acre.

In general, stands look good and the beans are off to a good start. Scout for leafhoppers to avoid early stunting.

**Late Blight Update - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu**

**Disease Severity Value (DSV) Accumulations as of July 9, 2000 are as follows:**

> **Remember that 18 DSV’s is the threshold to begin a spray program**

<table>
<thead>
<tr>
<th>Emergence Date</th>
<th>DSV’s July 9</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 14</td>
<td>143</td>
<td>10-day, high rate</td>
</tr>
<tr>
<td>April 21</td>
<td>116</td>
<td>10-day, high rate</td>
</tr>
<tr>
<td>April 27</td>
<td>104</td>
<td>10-day, high rate</td>
</tr>
<tr>
<td>May 20</td>
<td>56</td>
<td>10-day, high rate</td>
</tr>
<tr>
<td>May 24</td>
<td>56</td>
<td>10-day, mid rate</td>
</tr>
</tbody>
</table>

**Accumulated 0 DSV’s since the last report.**
Vegetable Diseases - Kate Everts, Extension Vegetable Pathologist, University of Delaware and University of Maryland; everts@udel.edu

Melcast for Watermelons

EFI Values (Environmental Favorability Index)

Do not use MELCAST if there is a disease outbreak in your field, it is a preventative program. Any questions please call Phil Shields at (410) 742-8788 or e-mail: ps136@umail.umd.edu

<table>
<thead>
<tr>
<th>Location</th>
<th>7/5</th>
<th>7/6</th>
<th>7/7</th>
<th>7/8</th>
<th>7/9</th>
<th>7/10</th>
<th>7/11</th>
<th>7/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgeville, DE</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Laurel, DE (Collins Farms)</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>2</td>
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<tr>
<td>Galestown, MD</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
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<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Georgetown, DE</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
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<td>1</td>
</tr>
<tr>
<td>Hebron, MD</td>
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<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Salisbury, MD</td>
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<td>4</td>
<td>2</td>
<td>0</td>
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<td>0</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Vienna, MD</td>
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<td>Laurel, DE (Vincent Farms)</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

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/vegdisease/vegdisease.htm or http://www.udel.edu/IPM/

Field Crops

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

Field Corn.

Corn rootworm adults can now be found feeding in silk stage corn. The decision to treat should be based on the number of beetles per silk as well as how far you are in the pollination period. In recent years, large numbers of beetles feeding on silks before 50% pollination have resulted in yield losses, especially along field edges. Fields edges and interiors should be sampled in order to get an accurate estimate of the population level throughout a field. A treatment is recommended on silking corn if you can find 4-5 beetles per plant and they are clipping silks to less than ½ inch long before 50% pollination. Beetles are most likely to cause a problem in late-planted or late-silking fields or where water stress delays or reduces silking. Silk clipping after pollination causes no problems. If economic levels are present, Sevin or a pyrethroid will provide control.

Soybeans.

Grasshoppers and spider mites can readily be found in many fields throughout the state. Mite infestation levels range from a few patches in a
field to high populations throughout fields. If threshold levels are present – that is 20-30 mites per leaflet and/or 10% of the plants exhibiting mite damage (light stippling not severe damage) over more than one-third of the leaves, a treatment should be applied. If dimethoate has worked in the past, then it will be worth using again this year. When applied by ground, the addition of a material like LI-700 or AD-100 (acidifying/penetrant) has improved control with dimethoate. If you did not get control with dimethoate last year and/or you have already sprayed dimethoate this year and it has not worked, the Section 18 material Danitol, at 11.66 to 16 oz per acre, should be considered. In both ground and aerial application trials in 1999, Danitol provided very good control of spider mites in soybeans. As indicated in previous newsletters, Lorsban and Parathion are also labeled but provide only contact activity. Parathion can only be applied by air and there are number of setback restrictions.

**CROP DIAGNOSTIC FIELD DAY**

Improving Diagnostic Skills - Correcting Soybean Production Problems Through Proper Diagnosis

July 26, 2000
8:00 A.M. - 1:00 P.M.
UNIVERSITY OF DELAWARE
RESEARCH & EDUCATION CENTER
GEORGETOWN, DE

- **WEEDS ◆ INSECTS ◆ NEMATODES◆ FERTILITY ◆ VARIETY ◆ YIELD POTENTIAL**

± Do you feel comfortable diagnosing problems in the field?
± Are you asking the right questions and looking for all the possible causes?
± What should you do after the problem is diagnosed?

University of Delaware extension personnel will provide hands-on training to improve your trouble-shooting skills in soybean production. Participants will be involved with problem solving scenarios in a field setting and will be expected to help recommend corrective and preventative solutions.

Three Certified Crop Advisor Continuing Education Units (CEU) will be earned; 0.5 credit in Nutrient Management; 1 credit in Crop Management; 1.5 credits in Integrated Pest Management. Pesticide recertification credits will be earned.

- Soybean Diagnostic Field Day is open to everyone. **Prior registration is required.**
- Participation is limited to first 60 applicants. Minimum sign-up required is 15 applicants.
- Registration fee is $30.00/person.
- Registration deadline is July 20.
- Checks confirm reservations.
- To be held July 26, 2000.
University of Delaware Research and Education Center.

Registration starts at 7:30 a.m. with coffee and donuts in the grove. Training starts at 8:15 a.m. Program will be finished by 1:00 p.m. **Lunch provided.** Hand lens and sweep nets will be available for use if needed.

**DIRECTIONS:**

Traveling north or south on Route 13 turn onto Route 9 east at Laurel. Traveling north or south on Route 113 turn onto Route 9 west at Georgetown. The Research and Education Center farm is located approximately 6 miles from Route 13 on the left and same distance from Route 113 on the right.

For More Information: Contact Mabel Hough at the University of Delaware Research & Education Center at 302-856-7303 (phone) 302-856-1845 (fax) or hough@udel.edu

**Upcoming Events…**

**Soybean Twilight Field Day**  
**July 26, 2000**  
University of Delaware Research and Education Center

There will be a two-hour wagon tour of the soybean plots starting at 6:00 p.m. The tour will feature many of the Delaware Soybean Board funded projects. We will also review the current pest problems and discuss the potential soybean pest issues.

The program will start at 5:00 p.m. in the grove with a cookout consisting of hamburgers and hot dogs, and then we will board the wagons for the tour. To help us plan the amount of food to buy and how many cooks (agents) will be needed, please call Mabel Hough at 302-856-7303 (phone), 302-856-1845 (fax) or hough@udel.edu by Monday, July 24, if you plan to attend. We look forward to seeing you on the 26th.

**Irrigation Tour**  
Date: August 22, 2000  
More Information To Follow.

<table>
<thead>
<tr>
<th><strong>Weather Summary</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week of July 6 to July 12</strong></td>
</tr>
<tr>
<td><strong>Rainfall:</strong></td>
</tr>
<tr>
<td>0.33 inches: July 10, 2000</td>
</tr>
<tr>
<td><strong>Readings taken for the previous 24 hours at 8 a.m.</strong></td>
</tr>
<tr>
<td><strong>Air Temperature:</strong></td>
</tr>
<tr>
<td>Highs Ranged from 91°F on July 10 to 76°F on July 11.</td>
</tr>
<tr>
<td>Lows Ranged from 69°F on July 10 to 52°F on July 8.</td>
</tr>
<tr>
<td><strong>Soil Temperature:</strong></td>
</tr>
<tr>
<td>81°F average for the week.</td>
</tr>
<tr>
<td>(Soil temperature taken at a 2 inch depth, under sod)</td>
</tr>
</tbody>
</table>

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

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