Vegetables

CORN EARWORM MOTH CATCHES AND FIELD POPULATIONS - CATCHES HAVE INCREASED SIGNIFICANTLY DURING THE PAST WEEK AND WE HAVE FOUND THE FIRST CORN EARWORM LARVAE IN SOYBEANS IN ALL 3 COUNTIES. MOTHS CAN BE FOUND LAYING EGGS IN LIMA BEANS, SNAP BEANS, SWEET CORN AND SOYBEAN FIELDS. POPULATIONS COULD REACH ECONOMIC LEVELS BY EARLY NEXT WEEK SO BE SURE TO SCOUT ALL LATE PLANTED VEGETABLE CROPS AS WELL AS SOYBEANS FOR EARWORMS. ALTHOUGH WEATHER FACTORS COULD HELP TO CRASH POPULATIONS, IT IS DIFFICULT TO PREDICT THE AFFECT OF WEATHER. IT HAS BEEN OUR EXPERIENCE THAT YOU NEED TO SEE AT LEAST A WEEK OF COOL, RAINY WEATHER COMBINED WITH WARM, HUMID DAYS TO GET FUNGAL PATHOGENS TO DEVELOP AND SPREAD BETWEEN LARVAE. IN ADDITION, OUR FIELD CORN SURVEY DURING THE LAST WEEK INDICATES THAT THERE ARE MIXED POPULATIONS THROUGHOUT THE STATE. FIELDS IN THE SAME AREA RANGE FROM 4-5% INFESTED EARS TO 60-80% OF THE EARS INFESTED. AS EXPECTED, WE ARE SEEING SOME OF OUR HIGHEST COUNTS IN THE MILFORD, HARRINGTON AND WEST SEAFORD AREAS WHERE TRAP CATCHES HAVE BEEN VERY HIGH FOR OVER ONE MONTH. AS FIELD CORN DRIES DOWN (WE ARE STARTING TO SEE THIS IN SOME SOUTHERN FIELDS), MOTHS WILL MOVE OUT OF CORN INTO SOYBEANS AND LATE PLANTED VEGETABLES. YOU WILL ALSO SEE MOTHS MOVING INTO THIS AREA ON WEATHER FRONTS FROM THE SOUTH.

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

Cucurbits.
Continue to watch for an increase in aphid populations, especially in seedling stage cucumbers and pickles. A treatment should be applied if 20% of the plants are infested and before significant leaf curling occurs. Lannate or Thiodan should be used. Cucumber beetle populations have also increased. In addition to feeding on the foliage, beetles are starting to feed on maturing fruit.

Peppers.
At the present time, all peppers should be sprayed on a 5-7 day schedule for corn borer, pepper maggot control and corn earworm. With the significant increase in corn earworm populations, remember that acephate (Orthene or Address) does not provide effective earworm control.
Lannate or a pyrethroid should be used. We continue to see aphid activity in peppers. Remember a continuous pyrethroid program should not be used to avoid aphid explosions.

**Lima Beans.**
Corn earworm larvae can now be found in fields throughout the state. In addition to earworms, you should also sample for green cloverworm, 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 or Capture can be used to control all 4 insects on lima beans.

**Snap Beans.**
Processing snap beans should be sprayed at the bud stages with acephate for corn borer control and with acephate plus Capture or Asana at the pin stage for corn earworm and corn borer control. With the high corn borer pressure over the last week in the Harrington, Frederica and Rising Sun areas, the bud spray should be applied just prior to bud to avoid larvae from moving into the stems before pins are present. In Kent County, sprays are needed on a 4-day schedule from the pin stage until harvest. In Sussex County, sprays should be applied on a 5-day schedule from the pin stage until harvest. Fresh market snap beans should be sprayed on a 7-day schedule as soon as pin pods are present. In the Harrington, Frederica and Rising Sun areas, sprays should be applied on a 5 day schedule starting at the early bud stage. Trap catches can be found at http://www.udel.edu/IPM/latestblt.html

**Sweet Corn.**
All fresh market silking sweet corn should be sprayed on a 2 day schedule. Earworm populations have increased significantly in most areas throughout the state. The first silk spray is often the most critical. This spray should be applied as soon as ear shanks are visible. At this time, if you are using Lannate for aphid or fall armyworm control, it should only be used in combination with the highest labeled rate of a pyrethroid. Trap catches can be found at http://www.udel.edu/IPM/latestblt.html

**Vegetable Diseases** - Bob Mulrooney, Extension Vegetable Pathologist, University of Delaware; bobmul@udel.edu

**Lima Beans.**
If the current weather pattern continues into the fall, downy mildew could be very common again this season. Downy mildew is favored by cool temperatures (lower than 90°F) and leaf wetness. We have already received a sample of downy mildew from the Newark area on pole lima beans from a home garden. Growers and processors should presume that commonly grown varieties are susceptible to downy mildew. preventative spraying with copper hydroxide (Kocide 2000, or Champ DP) is advised. Tri-basic copper sulfate is ineffective and is not recommended. Hopefully 2ee registration will be granted soon to add downy mildew to the current label. Two pounds of Kocide 2000 or Champ DP are recommended or 2 pts. of Champ Flowable. If the weather is cool and cloudy expect to see some phytotoxicity in the form of black flecking or yellowing of the oldest leaves. Downy mildew infects the flowers, racemes, and pods of lima beans. Weekly spraying should begin at flowering especially if downy mildew is in the area, or wet weather persists during early pod development. None of our fungicides were outstanding in last years’ trials, but the copper hydroxide did protect yields in spite of heavy disease pressure. Plenty of infection plants could be seen in the sprayed plots, but they still yielded respectively well. Hopefully we won’t
have any hurricanes dump 7 inches of water like last year.

**Watermelons.**

Last week *Phytophthora fruit rot* was diagnosed on watermelons. In the early stages it can look like bacterial fruit blotch. The tan colored blotches can appear on any fruit surface and will spot and rot the fruit. There is little visible fungal growth except for a white crusty-looking appearance in the center of the rotted area, which are sporangia (spores). Water management and rotation away from cucurbits will aid control for next year.

**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

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<tr>
<th>Location</th>
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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/

**Crop Profiles Posted for Comments – Susan Whitney, Extension Specialist - Pesticides; swhitney@udel.edu**

The Crop Profile for Sweet Corn in Delaware has been posted on the web at:

http://www..udel.edu/pesticide/sweetcorn.html

USDA and EPA will be using this Crop Profile when making pesticide registration decisions under FQPA. Comments on this document are encouraged. Please send suggestions for revision to swhitney@udel.edu. If you would like a
hardcopy, please contact Whitney at 302-831-8886.

The Crop Profile for green peas in Delaware has been posted on the web at: http://www.udel.edu/pesticide/greenpea.html. USDA and EPA will be using this Crop Profile when making pesticide registration decisions under FQPA. Comments on this document are encouraged. Please send suggestions for revision to swhitney@udel.edu. If you would like a hardcopy, please contact Whitney at 302-831-8886.

Field Crops

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

Soybeans.

Continue to check fields for grasshoppers. Populations are still high in some fields, especially as they approach bloom. Before bloom, the defoliation threshold is 30% but during bloom this threshold drops to 15% defoliation. AS INDICATED ON PAGE 1, YOU NEED TO START SCOUTING FOR CORN EARWORMS NOW. We are currently seeing moths flying and laying eggs in blooming soybean fields. In later planted wheat fields, there is also a potential for defoliation as well as pod feeding so those fields should be checked as well. The treatment threshold is 3 per 25 sweeps in narrow fields and 5 per 25 sweeps in wide row fields. When possible, you should wait until the majority of the larvae are at least 3/8-inch long before treating. However, if populations are heavy or significant defoliation can be found, treatments should be applied as soon as possible. A pyrethroid or Larvin will provide control. Remember, if you are using a pyrethroid, the primary mode of action on large larvae will be ingestion. They will need to feed to cause death so you will not see much activity from the contact action. Once they ingest product, they immediately stop feeding. Therefore, fields should not be evaluated for control until 4 days after application. Small larvae are generally killed by contact as well as ingestion. It is important that you do not look at fields 1-2 days after spraying and assume control failure if large worms are present. This will result in unnecessary re-sprays.

Websites for Weed Identification - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

There are a few websites that are available for weed identification. These sites do not have identification keys, but do have good photos in order to identify them. There are others, but these contain a large number of species from Delaware and the photos are excellent.

Michigan State Univ.: http://www.css.msu.edu/css402/

Rutgers Extension: http://www.rce.rutgers.edu/weeds

Virginia Tech: http://www.ppws.vt.edu/weedindex.htm

Weed Science Society of America: http://ext.agn.uiuc.edu/wssa/index.html

Upcoming Events…

Kent County Soybean Pest Management Workshop & Soybean Research Plot Tour

Date: Wednesday, August 16, 2000
Time: 9:00 a.m. – 1:00 p.m.
Place: Meet at Kyle Webb’s Farm, Buffalo Road, North of Frederica
Directions: On Rt. 113 go to Barratts Chapel, turn west on to Barratts Chapel Road, go 1 mile, turn
right onto Buffalo Road. Kyle Webb’s is the first house on the left.

**Lunch:** Lunch will be provided.

All those interested in learning more about soybean pests and soybean research being conducted by the University of Delaware in Kent County are encouraged to attend the workshop and plot tour on Aug. 16. We will meet at Kyle Webb’s Farm near Frederica where we will be demonstrating how to scout soybeans for pest problems such as podworm. We will move to the UD research plots along Rt. 113/1, where we will see variety tests and other agronomic, insect control and weed control research in soybeans. Lunch will then be provided. **Phone 302-697-4000 to register by Aug. 14.** Anyone interested is welcome to attend. For more information or special need to attend this meeting, contact Gordon Johnson at 302-697-4000.

**Soybean Twilight Field Day**
August 22, 2000
5:00 p.m.
University of Delaware
Research and Education Center

There will be a two-hour wagon tour of the soybean plots. 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 Friday, August 18, if you plan to attend. **We look forward to seeing you on the 22**

**Pesticide Applicator Trainings**
September 5 & 6
December 12 & 13

**Weather Summary**

<table>
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<tr>
<td><strong>Week of August 4 to August 10</strong></td>
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<tr>
<td><strong>Rainfall:</strong></td>
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<tr>
<td>2.13 on August 4</td>
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<tr>
<td>0.03 on August 6</td>
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**Readings taken for the previous 24 hours at 8 a.m.**

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<tr>
<th><strong>Air Temperature:</strong></th>
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<tbody>
<tr>
<td>Highs Ranged from 92°F on August 7 to 79°F on August 6.</td>
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<tr>
<td>Lows Ranged from 75°F on August 7 to 61°F on August 5 &amp; 6.</td>
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<tr>
<th><strong>Soil Temperature:</strong></th>
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<tr>
<td>79°F average for the week.</td>
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<tr>
<td>(Soil temperature taken at a 2 inch depth, under sod)</td>
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Web Address for the U of D Research & Education Center: [http://www.rec.udel.edu](http://www.rec.udel.edu)

**Compiled and Edited By:**

Tracy Wootten
Extension Associate - Vegetable Crops

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