Vegetables

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

Lima Beans.
As soon as pin pods are present, scout fields for lygus bugs, stinkbugs and corn earworm. Treatment should be considered for lygus and stinkbugs if you find 15 adults and/or nymphs per 50 sweeps. Lannate, Capture or Warrior can be used if both species are present. A higher rate of Capture (4 oz/A), Mustang (4.3 oz/A) or Warrior (3.84 oz) will be needed if stinkbugs are the predominant insect present. A treatment is recommended for earworms if you find one worm per 6 foot of row. Materials labeled for earworm control include Capture, Mustang MAX, Lannate and Warrior.

Melons.
Continue to scout all melons for aphids, cucumber beetles, and spider mites. A treatment will be needed for spider mites if you find 20-30% of the plants infested with 1-2 mites per leaf. The treatment threshold for aphids is 20% of the plants infested with at least 5 aphids per leaf. Fulfill, Lannate and Thiodan are labeled on melons and will provide melon aphid control. A penetrating surfactant (e.g. LI-700 or AD-100) should be used with Fulfill. Cucumber beetle populations have also started to increase and rindworms (larvae of the cucumber beetle) can be found in fields. A cucumber beetle spray should be applied if you find more than 2 beetles per plant or you can find damage to the rind. Dimethoate or a pyrethroid will provide control.

Peppers.
At the present time, all peppers that have fruit ½ inch in size or larger should be sprayed for corn borer, corn earworm and pepper maggot control on a 5-7 day schedule. Remember, Orthene will not provide effective corn earworm control. A pyrethroid will need to be added to the mix for corn earworm control. When beet armyworms are detected, Avaunt, Spintor, Confirm or Intrepid will provide the best beet armyworm control. The pyrethroids and Lannate did not provide effective beet armyworm control in 2002. Depending on the pest complex present, a combination of products may be needed. The following is a report on pepper insect control from Tom Kuhar from VPI regarding corn borer control in peppers:
"Pepper growers should start an ECB preventative spray program when small fruit is present, if they haven't already done so. Orthene 97 (maximum 2 lb ai/season), SpinTor 2SC (max. 29 fl oz/season), and Avaunt 30WDG are all excellent ECB materials for peppers, and as the flights decrease later in the season, the pyrethroids will also provide effective ECB control. Two products, Intrepid and Proclaim, are now labeled on non-cucurbit fruiting vegetables. Intrepid has received a supplemental label on peppers, tomatoes and other fruiting vegetables. Intrepid (methoxyfenozide) is a growth regulator manufactured by Dow, and it has provided excellent ECB control in our past pepper trials at
the higher rates (8-16 fl oz of the 2F formulation). Proclaim is a fermentation product (emamectin benzoate) similar to AgriMek and manufactured by Syngenta. It received a label on non-cucurbit fruiting vegetables recently this summer. We haven't tested Proclaim on peppers; however, at 4.8 oz/acre it provided good fruitworm control in our 2002 fall tomato study.

**Snap Beans.**
All processing snap beans should be sprayed at the bud and pin stages with Orthene. A pyrethroid should be added at the pin sprays for corn earworm control. After the pin spray, sprays will be needed on a 4-5-day schedule until harvest depending on local trap catches. 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/snapbeancbthresh.html). As soon as pin pods are present, fresh market beans should be sprayed on a 5 to 7-day schedule. Lannate, Capture, Mustang or Warrior should be used.

**Sweet Corn.**
Fresh market silking sweet corn should be sprayed on a 3-day schedule throughout the state. Since this can change quickly, be sure to check our website for the most recent trap catches (http://www.udel.edu/IPM/traps/latestblt.html) .

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**UD IPM Black Light and Pheromone Trap Counts**

**Average Number of Moths per Night:**
**August 5 to August 7, 2003**

<table>
<thead>
<tr>
<th>Trap Location</th>
<th>European Corn Borer Black Light</th>
<th>Corn Earworm Black Light</th>
<th>Corn Earworm Pheromone Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kent County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dover</td>
<td>3</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Harrington</td>
<td>11</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Killens Pond</td>
<td>2</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Little Creek</td>
<td>1</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Milford</td>
<td>3</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Rising Sun</td>
<td>1.5</td>
<td>1.5</td>
<td>19</td>
</tr>
<tr>
<td>Wyoming</td>
<td>3</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Sussex County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridgeville</td>
<td>4</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>Concord</td>
<td>1</td>
<td>2.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Georgetown</td>
<td>2.5</td>
<td>3</td>
<td>38</td>
</tr>
<tr>
<td>Greenwood</td>
<td>7.5</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Laurel</td>
<td>3.5</td>
<td>2.5</td>
<td>3</td>
</tr>
<tr>
<td>Seaford</td>
<td>3.5</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

*Numbers can change quickly.* For the most recent trap counts, access the website at (http://www.udel.edu/IPM/traps/latestblt.html) or call 1-800-345-7544 (in-state); 1-302-831-8851 (out-of-state). Counts are updated on Monday and Friday.

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**Lima beans.**
**Downy mildew** was not an issue last season due to the hot, dry season. This year may be a different story depending how well the fungus survived in the soil since 2001. The weather has been wet enough although the temperatures are a little high at this time to favor infection. That can change quickly, so a quick review of this important
disease is important now. Prevention is always the key when it comes to disease control no matter what the crop, so selecting the most resistant cultivars is the first step. Since race E is the most predominant race at the present time, cultivars such as Cypress are a good choice. See the following table for resistant cultivars. Timing of fungicide applications depends on the weather and stage of crop growth. Since the flowers, pins and pods are the most susceptible plant parts, the earliest spray would be applied at full flower if weather conditions are favorable for infection. The Hyre-Cox model for predicting downy mildew states that you need 1.2 inches of rain within 7 days and when the average daily temperature during the period is 78°F or less. If temperatures exceed 90°F during the period you start over and an additional 7-day period with the above weather conditions is necessary to start infection. At the present time we are not sure that this 90 degree maximum is true for race E and F. We suspect that the fungus survives higher temperatures. Experiments are underway to answer this important question. Periods of fog or heavy dew can lower the amount of rainfall necessary for infection to occur. This prediction system is meant to be a guideline and does not eliminate the need for scouting fields for downy mildew or making spray applications based on experience and risks for infection.

Fungicides should be applied preventatively as mentioned before if the weather is favorable beginning at flowering and repeated as needed to protect the pods. Copper hydroxide or fixed coppers such as Champ DP (2.0 lb/A), Kocide 2000 (2.0 lb/A) or Cuprofix Disperss (3.0 lb/A) should be applied every 7 days when weather is favorable. If other fungicide options develop we will get the word out quickly.

### Table 1. Resistance of lima beans to downy mildew caused by Phytophthora phaseoli.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Resistant to Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-15</td>
<td>ABCD F</td>
</tr>
<tr>
<td>Eastland</td>
<td>ABCD</td>
</tr>
<tr>
<td>8-78</td>
<td>ABCD F</td>
</tr>
<tr>
<td>C-exp 122</td>
<td>ABCDE</td>
</tr>
<tr>
<td>184-85</td>
<td>ABC E</td>
</tr>
<tr>
<td>Cypress</td>
<td>ABCDE</td>
</tr>
<tr>
<td>C-elite Select</td>
<td>ABCDE</td>
</tr>
<tr>
<td>Sussex (Fordhook)</td>
<td>ABCD</td>
</tr>
</tbody>
</table>

*Anthracnose* is present in some fields and in most years has never resulted in enough foliage loss to warrant control. With the frequent showers this year, anthracnose control may be warranted if it appears early in crop development, but we have no data to support this. The copper fungicides for downy mildew are labeled as well as Quadris. Quadris was labeled after the recommendations book was published. It has a label for succulent beans including snapbeans and limas. The new label includes anthracnose control, but we have no data from the Mid-Atlantic area on its efficacy for anthracnose control. Since most fungicides need to be applied preventatively to work best, it may be too late to apply fungicides to heavily infected fields and expect good control if this weather pattern holds. It may be useful if disease is light or nearby symptomless fields need to be protected.
Anthracnose on baby lima bean leaf.

Field Crops

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

Soybeans.
We are seeing an increase in green cloverworm populations in the earliest planted fields. The threshold prebloom is 30% defoliation and 15/foot of row. Once fields begin to bloom, the threshold is 15% defoliation and 20 per foot of row. This insect is a defoliator and often confused with loopers, which are difficult to control. Green cloverworm are light green with two white stripes running the length of the body. The number of prolegs near the center of the body can distinguish Cloverworms. Cloverworms have three pairs. Loopers have one or two pairs of prolegs. The pyrethroids and Lorsban will provide good control of cloverworms.

You should also scout the earliest planted field as soon as blossoms are present for corn earworm. We are getting our first reports of corn earworm and occasional beet armyworm from southern Maryland. The following is a report from Ames Herbert from VPI regarding earworm potential in soybeans.

"Each summer in Virginia, a large group of helpers and volunteers cooperate to sample field corn for corn earworm populations. This survey effort tells us how large that pest population is – and what to expect in terms of pest pressure when that generation matures and moths fly to infest new host crops like soybean, cotton, peanuts, tomatoes and others. Over the years, survey results have been very accurate and helpful to growers in planning their pest management programs.

Our annual field corn survey has just been completed and based on the results, we are predicting moderate to high-moderate levels of corn earworm pressure in soybean and other host crops. Overall, infestation levels were considerably lower compared with last year. Corn in the southeastern counties averaged almost 50% infested, compared with 75% last year. This indicates a moderate-to-high level of risk. Infestation levels were lower in all other regions and indicated only moderate risk. The Eastern Shore counties averaged 30% (compared with 48% last year), the mid-eastern counties 30% (compared with 50% last year), the Northern Neck 19% (compared with 45% last year), and the northern counties 25% (compared with 55% last year).

If you only remember one thing from this note, remember that we always hedge our prediction based on the weather conditions in August. That is, the outcome of next corn earworm generation will be heavily influenced by the amount of rainfall fields receive in August. In years with a lot of heavy rains, many of the pupae that are in the soil will drown, moths will not fly well, eggs and small larvae will wash off of plant leaves and stems, and predator populations will thrive – all of which work to reduce pest numbers and could result in lower than predicted levels of pest pressure. If, on the other hand, weather turns dry, survivorship of all pest stages will increase and infestations could even exceed predictions.
The field corn survey also showed that this year’s field corn crop is highly variable in terms of maturity. During the survey, we focus on sampling only those fields where ear silks are dark brown and dry. In some counties, almost half of the fields still had green silks due to late planting. This will result in a long moth flight out of corn-on-time flights out of timely planted corn, and later flights out or later planted corn. This can create a frustrating scenario for growers, as they have to keep up their field scouting efforts for a longer than normal period of time. Some help will be available as we provide weekly moth activity reports through mid September when most crops mature past pest-vulnerable stages.

Grain Marketing Highlights - Carl German, Extension Crops Marketing Specialist; clgerman@udel.edu

Private Forecasters Predict Record U.S. Corn Crop.
Private forecasts from Sparks and FC Stone place estimated 2003 U.S. corn production at 10.57 billion bushels and 10.416 billion bushels, respectively. The private forecasts were released about 5 days ahead of USDA’s August Crop Report to be released on Tuesday, August 12th. U.S. soybean production is also forecast to be near record at 2.999 and 2.954 billion bushels, respectively.

U.S. corn exports were reported around trade expectations at 967,400 tons. New crop corn futures have hit a 4-week high and are currently in a position to garner a further rally, in the near short term, on huge short position squaring.

Export sales of new crop U.S. soybeans were reported at 427,800 tons, viewed slightly bullish and most likely will be bullied by the size of the production forecast in the pending crop report.

Market Strategy.
Corn and soybean futures prices are likely to trade both sides of unchanged until Tuesday’s report is released. If production forecasts hold at or near the industry estimates then we have every reason to believe that Dec. corn is headed for sub $2.00/bushel and Nov. soybeans are headed for sub $5.00/bushel territory. Any move of Dec. corn to $2.25 or better and Nov. soybeans to $5.50/bushel or better should be used to complete pre-harvest sales. Otherwise, we are in a wait and see what happens mode. About the only ‘rallying cry’ left is that of a potential early frost that may reduce yields and production outcomes.

UPCOMING EVENTS:

Farm and Home Field Day
Wednesday, August 13, 2003
8:30 a.m. - 1:30 p.m.
UD Research & Education Center
16684 County Seat Highway (Rt. 9), Georgetown, Delaware

• Safe Kids Day
• Agronomic and Vegetable Field Tours
• Master Gardener Demonstration Garden
• Interactive Exhibits
• 4-H Petting Zoo
• Carriage and Pony Rides
• Lunch - 12 noon
• Poultry Research House Dedication - 1:30 p.m.

Take a day to enjoy summertime in the country at the University of Delaware’s Farm and Home Field Day, Wednesday, August 13. Held from 8:30 a.m. until 1:30 p.m. on the grounds of the Research and Education Center, on 16684 County Seat Highway (U.S. Rt. 9) west of Georgetown,
Weekly Crop Update

this annual event offers many fun-filled, educational activities, tours, interactive exhibits and demonstrations for homeowners and farmers alike.

Field tours by wagon will highlight agronomic and vegetable crops. Farmers can consult with Extension specialists about the latest research and pest control strategies. Visitors to Field Day can drop by the Master Gardener demonstration garden to view the wide array of plantings.

Children, parents, and caregivers will learn about keeping their young children safe during the summer months. This portion of the program will include many interactive exhibits and demonstrations plus costumed characters, children’s aerobics, face painting, finger printing, a petting zoo, and car seat check. Local 4-H clubs will set up a petting zoo and food booths. Consumer, environmental and commodity groups will staff informational booths in the Grove. Carriage and pony rides will round out the morning’s activities.

Farm and Home Field Day is free and open to the public, and plenty of free parking is available. Tickets for a traditional barbecued chicken luncheon at 12 noon can be purchased at the registration table for $6.00.

For more information, call Mark Isaacs at 302-856-1997 or Jay Windsor at 302-856-7303.

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Weather Summary

http://www.rec.udel.edu/TopLevel/Weather.htm

Weeks of August 1 to August 6, 2003

Rainfall:
0.09 inches: August 3
0.01 inches: August 4
1.68 inches: August 5
0.18 inches: August 6

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

Air Temperature:
Highs Ranged from 89°F on August 1 & 2 to 82°F on August 5.
Lows Ranged from 73°F on August 2 & 3 to 64°F on August 5.

Soil Temperature:
77°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
Sussex County Extension Educator - Horticulture

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Wicomico Farm & Home Show

August 14, 15 & 16, 2003
Rt. 50 & Hobbs Road (Winterplace Park)
Salisbury, Maryland 21804
www.wicomicofarmandhomeshow.com

Cruise In, Tractor Show, Maryland AG in the classroom, and Taylor Carnival.

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