**Vegetables**

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

### Potatoes.
Colorado potato beetle adults, egg masses and small larvae can be found in potato fields, especially close to overwintering sites and/or fields that were in potatoes in 1999. The first corn borer egg masses and infested terminals have also been detected. Be sure to check our website (www.udel.edu/IPM) for the most recent moth catches in your area. Although potato aphid populations have increased in the earliest planted fields, lady beetle populations have also increased and appear to be keeping populations under control. Begin to watch for potato leafhopper adults, especially in fields that did not receive Admire at planting. As a general guideline, controls should be applied if you find ½ to one adult per sweep and/or one nymph per every 10 leaves. A pyrethroid or Provado will provide control.

### Peas.
Continue to check peas from the bud stage through harvest for aphids. Populations have increased in fields throughout the state. In some cases, beneficial insect activity has also increased and can reduce populations in a short period of time.

### Snap Beans.
Begin to check your earliest planted fields for thrips and leafhoppers. At this time, populations are very light; however, they could explode quickly if the weather turns hot and dry. The treatment thresholds are 5-6 thrips per leaflet or 5 leafhoppers per sweep. If both insects are present, the best control option would be Lannate or Capture in fresh market beans and Lannate, Capture, or Orthene in processing beans.

### Sweet Corn.
Economic levels of corn borer larvae can be found in the earliest planted sweet corn. A treatment should be applied if 15% of the plants are infested. The best timing for a treatment is just as the tassels are emerging from the whorls. In recent years, the best corn control has been achieved with Ambush, Pounce, Penncap or Warrior. The first corn earworm moths have been caught in both Kent and Sussex counties; however, catches are below one per night.
**Weekly Crop Update**

**Watermelon Plant Problems Don’t Necessarily Begin in the Field** – Derby Walker, Extension Agricultural Agent; derby@udel.edu

Watch transplants carefully after setting them out into the field. In the last two years, we have seen two chemical injury problems that were traced back to when the transplants were in the flats. The pattern in the field, confirmed the problem came from the flats. In one case, the injury problem was almost every other plant where the problem occurred. In another, there would be rows with every plant good or every plant bad depending on which flat the transplants came from. In one case, the flats were kept in a storage building over night that also housed a sprayer with 2,4-d in it. Another problem occurred when a portion of the flats were double treated with an insecticide that burned the leaves.

**Reminder to Check Your Bees** - Derby Walker, Extension Agricultural Agent; derby@udel.edu

Having strong hives of bees have many advantages. A strong hive will be very active on bright sunny days. The warmer the day, the more activity you expect to see. A few strong hives are worth more then several weak hives even though you may have the same number of bees in both situations. The strong hive will have more field bees, ones that gather the nectar and pollen. Strong colonies are full of bees, and will even work in less then ideal bee weather conditions. Growers should have a contract spelling out the number of colonies and the strength of the colonies (number of square inches of brood). The grower also has a responsibility to warn the beekeeper about pesticide applications to prevent bee kills. Hive placement, the pesticide used, time-of-day of the application and how the pesticide is applied can be helpful to reduce pesticide kills. Both beekeepers and growers can benefit from strong hives, while protecting their investments.

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

Disease Severity Value (DSV) Accumulations as of May 17, 2000 are as follows:

*(Remember 18 DSV’s is the threshold to begin a spray program)*

<table>
<thead>
<tr>
<th>Emergence Date</th>
<th>DVS’s May 17</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 14</td>
<td>50</td>
<td>10 day, low rate</td>
</tr>
<tr>
<td>April 21</td>
<td>23</td>
<td>10 day, low rate</td>
</tr>
<tr>
<td>April 22</td>
<td>3</td>
<td>no spray</td>
</tr>
<tr>
<td>April 27</td>
<td>3</td>
<td>no spray</td>
</tr>
</tbody>
</table>

Accumulated no DSV’s since the last report. Potatoes that have emerged after April 22 have not reached the 18 DSV threshold. Fields that reached green row on April 21 and before should continue to be sprayed. Just a reminder it is always better to apply foliar fungicides before rain events that would be favorable for infection, as long as there is time for the spray to dry on the foliage before the rain occurs.

**Field Crops**

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

**Alfalfa.**
The first potato leafhopper adults have been detected in alfalfa. Be sure to check spring planted alfalfa since it will be most susceptible to damage. Within a week of first cutting, all alfalfa should be checked for adults and nymphs. Remember that nymphs can quickly cause damage. They will appear similar to adults; however, instead of flying they will move side ways on the leaves. The following treatment thresholds should be used:
### Plant Height vs. Number Leafhopper per 100 sweeps

<table>
<thead>
<tr>
<th>Plant Height</th>
<th>Number Leafhopper per 100 sweeps</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 inches or less</td>
<td>20</td>
</tr>
<tr>
<td>4 – 6 inches</td>
<td>50</td>
</tr>
<tr>
<td>7-11 inches</td>
<td>100</td>
</tr>
<tr>
<td>≥ 12 inches</td>
<td>150</td>
</tr>
</tbody>
</table>

Ambush, Baythroid, dimethoate, Pounce or Warrior will provide the most effective control.

### Field Corn.
Economic levels of cutworm activity can be found in field corn, especially in no-till fields having significant amounts of chickweed before planting. Watch for leaf feeding and cutting activity as soon as plants emerge from the ground. If leaf-feeding activity is detected, fields should be scouted twice a week to avoid economic losses. A treatment is needed at the 1-2 leaf stage if you find 10% leaf feeding or 3% cut plants. On 3-4 leaf stage corn, the threshold increases to 5% cut plants.

### Small Grains.
Armyworms and sawflies can be found in barley and wheat fields throughout the state. Sawfly activity should peak this week. If threshold levels of sawfly are present – 2 per 5 foot of row innerspace – fields should be treated immediately. Head clipping can be found in most fields where sawflies are present. If you find 2 to 3 times the number of clipped heads compared to the number of sawfly larvae, the damage has already been done and it is too late to treat for sawflies. In most cases, armyworm larvae are ¼ inch or less in length. The treatment threshold for armyworm in barley is one per foot of row and 2 per foot of row in wheat.

### Soybeans.
Seed corn maggot flies continue to lay eggs in full season no-till soybean fields. A seed treatment containing diazinon or permethrin should be used on all May planted no-till soybeans. Small grasshoppers have also been detected in the first planted no-till soybeans. Treatment of non-crop areas may help to prevent whole field infestations at a later date; however, it must be done before grasshoppers move into the main field. As a general guideline, non-crop areas should be treated if you find 20 or more grasshoppers per square yard. While sampling fields for grasshoppers, edge samples should be included in your sampling plan. The entire field should also be checked since adults and nymphs are often found throughout fields. The treatment threshold is 1 per sweep and 30% defoliation. Asana, Sevin or Warrior have provided the most consistent control.

### Stored Grains.
Reldan, one of the few insecticides labeled for stored wheat, barley, oats and grain sorghum, is currently under review. The risk assessment done by EPA indicates that some uses may result in exposures to workers that exceed EPA’s level of risk concern. In order to get an idea of what the real world exposure is to Reldan, EPA is currently conducting a handler’s risk assessment. If you store your wheat or barley and have used or plan to use Reldan, it is important that you provide EPA with information that can protect the use of this product. EPA will accept comments until June 27, 2000. For more information, call Joanne Whalen at 831-1303.

### Field Crop Diseases
- **Bob Mulrooney, Extension Plant Pathologist;** bobmul@udel.edu
  - **Wheat.**
    - **Rust** is continuing to be seen on susceptible cultivars in our variety trial near Georgetown.
    - **Septoria leafspot** often called speckled leaf spot caused by *Septoria tritici* is also present. This Septoria disease does not cause glume blotch. Where Tilt or Quadris have been used little to no Septoria should be seen. Rainfall and leaf wetness will move this disease around.
Grain Marketing Highlights - Carl German, Extension Crops Marketing Specialist; clgerman@udel.edu

The May 12th crop report is likely to send commodity prices temporarily spiraling downward, particularly for corn and soybeans. The reason lies within the projected ending stocks for the new marketing year 2000/2001 as compared to the 1999/2000 crop year. Ending stocks for U.S. corn are projected at 1.984 billion bushels for the new marketing year as compared to carryout stocks of 1.784 billion bushels from the 1999/2000 marketing year. The culprit in this estimate is the increase in the trend line yield for corn now projected at 137 bushels per acre for the new crop, compared to 135.5 used earlier in the season.

For U.S. soybeans, ending stocks for the new marketing year are now projected at 495 million bushels, as compared to carryout stocks of 300 million bushels for the 1999/2000 marketing year. Again the culprit in this estimate is the increase in the trend line yield for soybeans now projected at 40 bushels per acre for the new crop. Although that yield is the same as used in the February estimate, the dilemma stems from the idea that USDA does not believe demand can keep pace with projected production increases. The 1999 U.S. soybean yield was 36.5 bushels per acre.

U.S. wheat estimates present a different scenario in that stock estimates for the 2000/2001 marketing year show a reduction in projected ending stocks of 101 million bushels, now projected at 837 million bushels. The wheat yield used in this estimate was 42.6 bushels per acre, as compared to 42.7 bushels per acre produced last year.

The 2000 U.S. soybean crop is projected to be record high at 2.955 billion bushels. The 2000 U.S. corn crop estimated at 9.740 billion bushels would be the third highest on record. U.S. 2000 wheat production is now forecast at 2.239 billion bushels, 63 million bushels less than last year.

The May crop report will be viewed by commodity traders as bearish until the numbers are discounted into prices. The only exception to that may be wheat, although wheat is likely to feel the pull from corn and soybeans. One way to look at this report, in lieu of the dry conditions that still exist in the corn belt is the following analogy "it's fourth down with 2 yards to go, it's early in the game, we're down by ten, we're on the 50 yard line, we go for it". Better pricing opportunities for advancing 2000 crop sales for corn, soybeans, and wheat are likely to be forthcoming.

Markets Decline on Weather Uncertainties and Profit Taking

This week has seen corrective action taking place in the corn and soybean trading pits in Chicago on news that the grain and soybean markets were overbought. Some analysts point toward the profit taking occurring as nearby futures contracts expire, and yet another theory suggests the markets are reacting to the idea that beneficial rains are due as the next weather front moves across the country. It is a given that the commodity market can go either way this summer. Although bearish traders would like us to believe that moisture conditions are improving in the Midwest, the fact remains that a "drought buster" rain event has yet to occur in the western Corn Belt. Therefore, subsoil moisture levels remain dangerously low in large sections of the Corn Belt, and with the calendar only reading May 16th the 2000 crop has a long way to go before we'll know which direction prices are going to head in. Meanwhile, these markets are going to be extremely volatile. The National Oceanic Atmospheric Administration will release its extended forecast at Noon today, and this report is likely to become the key piece of information impacting commodity trading for the next week or two. Overnight trading closed with Dec corn at $2.55, Nov beans at $5.61, and July wheat at $2.81 per bushel, respectively.
Commodities Headed Higher on Weather Reports

As expected, things are beginning to move fast and furious! Overnight project A trade was up strongly on news that the driest areas of the Midwest, mainly Eastern Nebraska and Western Iowa, were missed by significant rainfall from the recent front moving across the country. Not eluded to in these reports is the fact that portions of Illinois and other states are equally as dry. This means that as long as significant subsoil replenishing rains do not materialize then at least an inch of rain is needed each week to keep the 2000 crop developing on schedule. Currently, rains are occurring in a very spotty fashion and this will lend support to commodity prices.

In lieu of the current situation, it is important to emphasize that we do not want to short this market at current price levels for 2000 corn, soybean, or wheat crop sales. In the case of soybeans and wheat, it is not currently possible to achieve prices above the loan rate. In keeping with our game plan to not make sales below the loan rate level it is easy to make the call to hold off sales for these crops. For corn, we have previously advanced new crop sales on 10 to 30% of new crop production.

Yellow Nutsedge Control - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

This past spring presented good conditions for yellow nutsedge growth. In corn, the best postemergence herbicide is Permit. We have had good control with the 2/3 ounce rate with nutsedge less than 6 inches tall. However, the label only lists suppression at this rate. The 1 to 1-1/3 ounce rate is listed for control on the label for nutsedge up to 12 inches tall. Unlike most ALS-inhibiting herbicides, there are not precautions with soil-insecticides on the Permit label. Use a non-ionic surfactant or crop oil with Permit. Small grains can be planted in the fall after a Permit application.

For soybeans, Dual incorporated prior to planting is the best soil-applied treatment and Frontier will provide some suppression. Postemergence in Roundup Ready soybeans, Roundup or Touchdown alone was as good as tank-mixtures. In conventional soybeans, Basagran will provide some control by burning back the top growth, and higher rates of Classic will provide some suppression.

Supplemental Label for Pinnacle in Field Corn
- Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

The Pinnacle label for field corn has a slight modification. It can now be used on field corn up to 4 collars or 12 inches tall, which ever is reached first. This treatment will control a limited number of species (velvetleaf 2-6”, pigweed 2-12”, lambsquarters 2-4”, and smartweeds 2-6”). This can not be used with corn previously treated with Counter 15G and label states injury may occur when corn was treated with Counter 20 CR and soil organic matter is less than 4%. Injury may also occur if corn was treated with Dyfonate, Lorsban or other organo-phosphate insecticides. No restriction if an “IR” hybrid was used. This is an option for triazine-resistant pigweed and lambsquarters.
Upcoming Events…

Maryland Grape Growers’ Field Day
Saturday, June 24, 2000
9:00 a.m. – 4:00 p.m.
Bill Kirby Vineyard
(near Cordova, Maryland)
For More Information: Contact Ron Price at (410) 643-2617

Pesticide Applicator Training
June 7 & 8, 2000
Kent County Cooperative Extension Office
Day 1 - 8:30 a.m. – 4:30 p.m. Training
Day 2 – 8:30 a.m. – Noon Training
1:00 p.m. – Exam

Weather Summary

<table>
<thead>
<tr>
<th>Week of May 12 to May 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall: None.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Air Temperature:</td>
</tr>
<tr>
<td>Highs Ranged from 90°F on May 13 to 69°F on May 15.</td>
</tr>
<tr>
<td>Lows Ranged from 61°F on May 13 to 41°F on May 16.</td>
</tr>
<tr>
<td>Soil Temperature:</td>
</tr>
<tr>
<td>78°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