Vegetables

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

**Cabbage.**
Economic levels of diamondback moth larvae can now be found feeding in the hearts of cabbage plants. A treatment should be applied if 5% of the plants are infested and larvae are found feeding in the heart of the plants. Spintor, Proclaim or a Bt insecticide will provide control. Be sure to rotate between these 3 classes of insecticides to avoid the development of resistance.

**Potatoes.**
Colorado potato beetle adult populations and egg laying still remain very light. With the current warmer weather, you can expect to see the first egg hatch by next week. No adult treatments will be needed unless you find 25 beetles per 50 plants and 20% leaf defoliation. Spintor or Provado will provide control of CPB adults and larvae. European corn borer moth activity remains below five moths per night throughout the state. Once moth counts reach 10 per night, fields should be scouted for infested terminals and treatments applied when 25% of the terminals are infested. If you are unable to scout for infested terminals, the first corn borer spray should be applied 7 to 10 days after trap catches reach 10 moths per night in your area. Furadan, Ambush, Baythroid, Pounce, Spintor or Monitor will provide corn borer control.

**Seed Corn Maggot.**
Damage from seed corn maggot is starting to show up in peas, especially where a seed treatment or a broadcast application of diazinon was not used at planting. Unfortunately, there are no rescue treatments for seed corn maggot. All crops planted during the month of May (especially if a green cover is plowed down before planting or manure is applied to a field) are susceptible to seed corn maggot problems. Seed treatments containing diazinon or permethrin or a broadcast application of diazinon should be used on all vegetable crops planted in May. Most soil insecticides available for field corn and sweet corn will control moderate seed corn maggot populations. However, if a cover crop is plowed under before planting or if manure was applied to a field, a seed treatment should also be used. A number of soil insecticides need moisture to be activated; therefore, maggots can begin feeding on the seeds before soil insecticides are activated.

**Sweet Corn.**
We are starting to see flea beetle and cutworm leaf feeding activity on the earliest planted corn. The treatment threshold for flea beetles is 5% infested plants and the cutworm threshold is 10% leaf feeding or 3% cut plants. A pyrethroid will provide cost effective control of both insects.
**Vegetable Diseases - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu**

**Cucurbits.**
On cucumbers and cantaloupes to prevent **Pythium damping-off** on seeded crops, apply Ridomil Gold or Ultra Flourish in a 7-inch band over the row at seeding. To prevent **bacterial wilt**, apply insecticides to control the cucumber beetles that vector the bacteria. Plants have to be protected from emergence to flowering.

**Tomatoes.**
Protect young transplants from bacterial diseases by applying mancozeb plus a copper fungicide every 7 days for 2-3 sprays. In areas where **timber rot** caused by *Sclerotinia sclerotiorum* has been a problem, apply Benlate plus a spreader-sticker and repeat in 10 days. Greenhouse conditions this spring could have favored infection during transplant production.

**Cole (crucifers) Crops.**
**Downy mildew** was seen on shepherd’ spurse (*Capsella bursa-pastoris*) last week, which is a weed related to all our cole crops. Be sure to check spring plantings of broccoli, cabbage, collards, kale, and cauliflower for downy mildew. If found apply Aliette or maneb for control. Symptoms on leaves include yellow, angular areas on the upper surface of the leaf and the corresponding lower surface will have small tufts of white delicate fungal growth. As the infection progresses the areas become tan and papery. On cole crops infection becomes systemic and the heads can be infected. On broccoli the heads look fine but brown to black streaks can be seen in the vascular tissue of the main stem and the branches that lead to the florets. The warmer, drier weather will not favor increased infection, if it has occurred.

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

Disease Severity Value (DSV) Accumulations as of May 4, 2000 are as follows:

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<tr>
<td>April 21</td>
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<td>April 27</td>
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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.

**Trap Catches - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu**

If you want information on the most recent blacklight trap catches, you can call the Crop Pest Hotline at 1-800-345-7544 (in-state only) or 302-831-8851 (out of state). Blacklight and pheromone trap catch information is also updated 3 times per week on our website (www.udel.edu/IPM).

1) **Blacklight Traps**: At the present time, corn borer moth catches in blacklight traps range from one to four per night throughout the state. True armyworm catches were below 200 during the month of April except in the Milford area. A cumulative moth catch of 200 or more moths during the month of April indicates the potential for a true armyworm outbreak in small grains.

2) **Pheromone Traps**: As of May 2, 65 degree days have accumulated since peak black cutworm moth catches. You can expect to see cutting activity approximately 300 degree days from peak moth activity. Based on current weather patterns, we should expect to see peak cutting activity by the end of May.
**Field Crops**

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

**Alfalfa.**
Within a week of first cutting, begin to scout fields on a weekly basis for potato leafhopper adults. This insect is migratory and should be found in the state at any time. Since spring planted fields are the most susceptible to attack by migratory adults, these fields should also be scouted on a weekly basis. The predicted warm weather could result in a sudden increase in populations. A treatment will be needed when you find 20 leafhoppers per 100 sweeps on alfalfa 3-inches or less in height. The threshold increases to 50 per 100 sweeps on alfalfa 4-6 inches in height. Ambush, Baythroid, dimethoate, Pounce or Warrior will provide effective control.

**Small Grains.**
Aphids can now be found in the heads of both wheat and barley. With the current warmer weather, beneficial insect activity should increase and help to keep aphids in check. Aphids feeding on grain heads can cause reductions in yield and test weight so sprays should be applied if you find 20 to 25 aphids per head. Cereal leaf beetle larvae can be found at low levels. Reports from Virginia indicate increases in CLB activity. A treatment will be needed if you find 25 eggs and/or small larvae per 100 tillers or 0.5 larvae per stem. **Be sure to closely watch wheat and barley fields for grass sawfly larvae. Although most larvae range in size from ¼ to ½ inch in length, we have seen an increase in population levels since last week.** Populations are highest in areas with a history of problems as well as in weedy fields. In outbreak years, significant populations can also be found in barley so be sure to sample both wheat and barley. Young larvae are easiest to detect using a sweep net. Although sawflies are often first found on field edges, this should be used only for initial detection. Once larvae are detected, 5 to 10 random areas should be checked throughout a field. You will need to shake the plants to dislodge larvae that feed on the plants during the day. **Remember, sawflies can quickly cut heads so treatments should not be delayed if you find 2 larvae per 5 foot of row innerspace (0.4 per foot of row).** We have not found any true armyworm larvae; however, we expect to see small larvae at the base of plants in the next 7 to 10 days.

**Field Corn.**
Watch corn as it emerges for cutworm leaf feeding. We are starting to see plants damaged by variegated and dingy cutworms. Black cutworm damage can appear as pinholes in leaves, often before plant cutting is observed. A treatment is recommended if 10% of the plants exhibit leaf feeding or 3% of the plants are cut in 1-2 leaf stage corn. A pyrethroid will provide effective control. Be sure that you do not confuse slug damage for cutworm damage. Slug damage has been reported in no-till corn, especially where heavy residues are present from last season. Slug damage can look...
similar to cutworm feeding appearing as small holes in leaves, cut plants and/or ragged feeding damage. However, if slugs are causing the damage you will be able to see “slime trails” on the leaves when you hold them up to the light and/or slugs will be present under the plant residue. Rescue treatments of metaldehyde baits or liquid nitrogen sprayed at night on spike to 2-leaf stage corn (20 lbs per acre of 30% N) have provided fair control. Warm, sunny weather often provides the best control since plants can often grow ahead of the damage.

Field Crop Diseases - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Wheat.
Powdery mildew is still the most common disease, but most of mildew is staying on the lower leaves. The recent warmer, drier weather will slow powdery mildew development even more. After checking our variety trials in Georgetown and Middletown on Wednesday, I saw no other foliar fungal diseases. Considering the low price of wheat, foliar fungicide applications to resistant or moderately resistant varieties may not be needed unless the weather changes drastically. Wheat spindle streak mosaic virus symptoms are still present where it has occurred.

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

Low Midwest Subsoil Moisture Remains Key Concern
There hasn't been any significant improvement in low subsoil moisture supply in the Midwest since our last issue and that continues to be the driving force behind the recent rallies in the commodities market. Many grain marketers are asking how high can prices go? The best answer that can be given to that question, at this point in time, is that depends upon how much rain actually occurs in the corn belt. A significant rain event in the corn belt, coupled with the rapid rate of planting progress being made on corn and soybeans could bring commodity prices down hard. By May 10th it is projected that 90% of the U.S corn crop will be in the ground, with soybeans approaching a projected 25% planted. Word from the floor this morning suggests that the high pressure system is moving eastward, which should give the western corn belt some needed rain and the eastern belt some drying out so that crop planting can get started. In addition, the forecast for rain in the corn belt this week has increased the area to be covered from 40 to 60%. Commodity traders will most likely react negatively to this and other factors, such as lagging export sales. Without subsoil moisture replenishing rains in the corn belt it would take nearly an inch of rain per week from the end of May to the end of July to grow a normal U.S. crop. One thing for sure, we will be revisiting the 'weather market' as this growing season progresses. There still does not appear to be any need to get in any hurry to make additional 2000 corn, soybean, or wheat sales. In over night trading (May 3) December corn closed at $2.67 1/2, November beans at $5.82, and July wheat at $2.72 1/2 per bushel.

Considerations for Burndown – Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Burndown on small weeds is often much easier than larger weeds. Due to the early-season moisture and warm weather, no-till fields that have not been burned down yet may need special care. With larger size weeds, your burndown rates may need to be increased, up to an additional pint for Roundup or Touchdown and Gramoxone by half-pint.
Also, if you are going to include a residual herbicide or nitrogen you can reduce the effectiveness of the control. The residual corn herbicides containing atrazine and soybean herbicides for broadleaf weeds are the herbicides of concern. As nitrogen and/or residual herbicide rates increase, increase the rate of Roundup or Touchdown. Suggested rate increases range from 25 to 50% of your use rate if no nitrogen or residual herbicides are used. Use the higher range if using full rates of soil-applied herbicides and nitrogen.

With Gramoxone Extra, adding nitrogen or residual herbicides will increase its effectiveness.

However, do not tankmix burndown herbicides with fertilizers containing phosphorus, potash, sulfur, or zinc. These fertilizers have carriers that can bind with Touchdown, Roundup, or Gramoxone and reduce the herbicide effectiveness.

All of these viruses are passed on through your address book in your e-mail program. They may delete or overwrite files from your computer and they may give the developer access to passwords. Most virus' today on the PC are spread by attachments to e-mail. Be very careful when clicking on an attachment. Most often the file extension to look out for are:

- .exe
- .xls
- .zip
- .doc
- .vbs

The tricky part of the I LOVE YOU virus is that the file extension may be hidden or not displayed on your computer, since most computers are set up not to show the common file extensions.

### Weather Summary

**Week of April 27 to May 3**

**Rainfall:**
None

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

**Air Temperature:**
- Highs Ranged from 74°F on May 3 to 49° F on April 27.
- Lows Ranged from 49°F on May 2 to 37° F on May 1.

**Soil Temperature:**
- 60°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

Reminder for Those Who are Using E-Mail – Tracy Wootten, Extension Associate – Vegetable Crops, wootten@udel.edu

Hopefully you have already heard about the “I LOVE YOU” virus that has spread around the world. I just wanted to remind users to update their virus detection software and to be suspicious of attachments. The I LOVE YOU virus will have I Love You in the subject listing, and will likely come from someone you know. This message will also have an attachment: LOVE-LETTER-FOR-YOU.TXT  **Do not open the attachment!** Delete the e-mail immediately. Over the next few days several copycat variations of the I LOVE YOU virus will appear. Today a virus called JOKES was found. Some of the other recent viruses that are out there and to look out for are:

- Kak.hta  
- kak.worm
- Happy.exe  
- happy99
- Prettypark.exe

Over the next few days several copycat variations of the I LOVE YOU virus will appear. Today a virus called JOKES was found. Some of the other recent viruses that are out there and to look out for are:
Black Cutworm – Pheromone Trap Catches – 2000 Season

Trap Counts Provided by UAP Inc., Seaford, DE
April 23-29, 2000

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- Moth catches of 9-15 moths per 7-day period have been associated with a moderate to high potential for cutworm outbreaks.
- Moth catches of 5 per night for at least 2 consecutive nights have also indicated a high potential for problems.
- You can expect to see cutting activity approx.300 degree-days (base 50) from peak moth activity (9-15 per week or 5 per night for at least 2 consecutive nights).

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