Vegetables

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

Peppers.
In areas where corn borer trap catches are above 2 per night and pepper fruit is ½ inch in size or larger, fields should be sprayed on a 7-10 day schedule for corn borer control. If Orthene or Address are used, it will also control pepper maggot. If Lannate, Spintor or a pyrethroid are used, then dimethoate should be added to the mix. Be sure to check the IPM website for the most recent BLT catches in your area (http://www.udel.edu/IPM/traps/latestblt.html).

Potatoes.
We have started to find our first green peach aphids in fields where Admire, Platinum or Tops MZ Gaucho were not used at planting. If a field is greater than two weeks from harvest, the threshold is 4 aphids per leaf. Within 2 weeks of harvest, the treatment threshold increases to 10 aphids per leaf. Actara, Fulfill or Provado will provide control.

Snap Beans.
Once corn borer catches reach 2 per night, fresh market and processing snap beans in the bud to pin stages should be sprayed for corn borer. Orthene or Address should be used at the bud and pin stages on processing beans. Once pins are present on fresh market snap beans and trap catches are above 2 per night, a 7-10 day schedule should be maintained for corn borer. Lannate, Asana, Capture or Mustang are labeled. Orthene has a 14-day wait until harvest.

Sweet Corn.
In most areas of the state, fresh market silking sweet corn should be sprayed on a 5-6 day schedule except in the Harrington and Wyoming areas where sprays are needed on a 3-4 day schedule. Be sure to check the IPM website for the most recent BLT catches in your area (http://www.udel.edu/IPM/traps/latestblt.html).

Hollow Heart of Watermelon - Ed Kee, Extension Vegetable Crops Specialist; kee@udel.edu

The incidence of hollow heart in the crown fruit of commercial seedless watermelon plantings has varied over the years. It can be described as the separation of inner parts of the fruit into distinct segments, leaving hollow areas at harvest maturity. The crown fruit is the first set, and often experiences a rapid growth rate, when the rind is expanding more rapidly than the inner regions of the fruit. Causes for hollow heart may include excess nitrogen, delayed harvest, and perhaps, the tendency of some varieties to exhibit more hollow heart than others. Hot weather during the ripening period of the crown fruit can also accentuate the problem.
Growers are encouraged to manage their nitrogen applications, and not apply any within two weeks of harvest. Nitrogen applications can be made after the first harvest to support later setting fruit. The total amount of nitrogen applied to seedless watermelons does not need to exceed 125 lbs./acre.

**Vegetable Diseases** - Kate Everts, Extension Vegetable Pathologist, University of Delaware and University of Maryland; everts@udel.edu

**Watermelons.**

**From the University of Maryland and University of Delaware**

**Latest EFI values from local weather stations**

Any questions please call (410) 742-8788

**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.

<table>
<thead>
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<th>Location</th>
<th>06/12/02</th>
<th>06/11/02</th>
<th>06/10/02</th>
<th>06/09/02</th>
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<td>0</td>
<td>0</td>
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<td></td>
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</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](http://www.agnr.umd.edu/users/vegdisease/vegdisease.htm)
Supplemental Label Approved for the use of Gavel 75DF Fungicide on Cucurbits and Tomatoes.

The fungicide, Gavel 75DF, produced by DowAgroSciences has recently been approved for use on cucurbits and tomatoes in addition to potatoes. Gavel is a combination of two fungicides, mancozeb and zoximide. Therefore, Gavel provides broad spectrum disease control. One of the attributes of the combination product is the efficacy on diseases caused by species of Phytophthora. Be sure to consult the supplemental labeling on the package for all safety information and use directions. A copy of the Gavel 75DF supplemental label can be obtained in the Acrobat Reader format at the following address:
http://www.rec.udel.edu/Update02/Updatepdf.htm

The following specific use directions apply:

Cucurbits
Gavel 75DF is labeled on all cucurbits for the control of Alternaria leaf spot, Cercospora leaf spot, downy mildew and fruit and stem rot. Apply 1.5 – 2 lb/A beginning when plants are in the 2-leaf-stage and repeat at 7- to 10-day intervals. Note: Some cantaloupe varieties ‘Harvest Queen’, ‘Gold Star’, ‘Super Star’, ‘Sweet and Early’ and ‘Saticoy’ are sensitive to Gavel. Do not make more than 8 applications/A/crop. Do not apply within 5 days of harvest. Notify workers that the area has been treated with a pesticide that is a dermal sensitizer by warning them orally and by posting warning signs at the entrances to the treated areas. The signs must be posted in place for 4 days after the end of the application and must state that the area has been treated with a dermal sensitizer.

Potatoes
Gavel 75DF is labeled on potatoes for the control of late blight and early blight. Apply 1.5 to 2 lb/A beginning at the first sign of the disease or when late blight is reported in the area. Use a 5- to 7-day schedule when late blight is present in the area. Do not make more than 6 applications /A/crop. Do not apply within 14 days of harvest. Note: Posting of fields for 4 days is not required for potatoes!

Tomatoes
Gavel 75DF is labeled on tomatoes for the control of buckeye rot, early blight, gray leaf spot, late blight, leaf mold and Septoria leaf spot. Apply 1.5 to 2 lb/A beginning when transplants are set in the field, and repeat at 7- to 10-day intervals. The addition of Latron surfactants to spray solution will improve performance. Gavel 75DF is also labeled for the control of bacterial spot and speck. Use a full rate of a fixed copper fungicide in tank mix combinations with a full rate of Gavel 75DF. Repeat every 7 days. For all Gavel 75DF uses on tomatoes, do not make more than 8 applications/A/season. Do not apply within 5 days of harvest. Notify workers that the area has been treated with a pesticide that is a dermal sensitizer by warning them orally and by posting warning signs at the entrances to the treated areas. The signs must be posted in place for 4 days after the end of the application and must state that the area has been treated with a dermal sensitizer.
Potato Disease Advisory.

Late Blight Advisory

Disease Severity Value (DSV) Accumulations as of June 12, 2002 are as follows:

Location: Joe Jackewicz Farm, Magnolia, DE. Greenrow: April 10, 2002
Remember that 18 DSV’s is the threshold to begin a spray program for late blight.

<table>
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<tr>
<th>Date</th>
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<th>Spray Recommendation</th>
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<tr>
<td>5/1</td>
<td>12</td>
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<td>5/11</td>
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<td>5 days, low rate</td>
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<td>5/19</td>
<td>23</td>
<td>10 days, low rate</td>
</tr>
<tr>
<td>5/22</td>
<td>23</td>
<td>10 days low rate</td>
</tr>
<tr>
<td>5/27</td>
<td>27</td>
<td>10 days low rate</td>
</tr>
<tr>
<td>5/29</td>
<td>30</td>
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<td>6/5</td>
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<td>6/9</td>
<td>38</td>
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</tr>
<tr>
<td>6/13</td>
<td>39</td>
<td>10 days, high-rate</td>
</tr>
</tbody>
</table>

Potatoes that have reached greenrow (50% emergence) by May 12 have all reached more than 18 DSV’s. Fields that reached greenrow after May 15 have not accumulated 18 DSV’s or 300 P-days yet and would not need to be sprayed. The Wisdom potato software program generates spray recommendations.

Growers should apply at least 1-2 sprays of Dithane or Bravo before plants canopy. Late blight has not been a problem here in Delaware for many years and unless you have seed from an unknown source, the risk of late blight is very low.

**NOTE:** For this greenrow date and location we have accumulated 447 P-days as well. P-days are a measure of potato plant growth somewhat similar to growing-degree-days. When 400 P-days have been exceeded, conditions for early blight infection are more favorable and disease may begin to show up 5-7 days later. Sprays for early blight susceptible varieties should begin if early blight is expected to be a problem.
**Field Crops**

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

**Alfalfa.**
Continue to sample fields for potato leafhopper. We are starting to see an increase in populations, especially nymphs. Remember that nymphs can cause the significant damage and once you see yellowing, yield loss has already occurred. The treatment threshold is 20 per 100 sweeps in alfalfa 3 inches tall or less, 50 per 100 sweeps in 4-6 inch tall alfalfa, and 100 per 100 sweeps in 7-11 inch tall alfalfa and 150 per 100 sweeps if alfalfa is greater than 11 inches tall. Since many fields are close to harvest, early cutting can be used if you plan to cut in 5-7 days. If the harvest is delayed and threshold levels are present, a short residual insecticide should be used. If economic levels are present before harvest and a field is cut instead of sprayed, be sure to check fields within a week of cutting for leafhoppers feeding on the regrowth. Ambush, Baythroid, Lorsban, Mustang, Pounce or Warrior will provide control.

**Field Corn.**
In fields next to recently harvested barley fields, we have seen an increase in cereal leaf beetle adults feeding on corn. In general, controls are rarely needed unless plants are small and drought stressed and threshold levels can be found throughout a field. No treatment is recommended unless you find 10 or more beetles per plants and 50% of the plants are damaged. There have also been reports of small grasshoppers feeding on whorl stage plants. Grasshoppers chew large holes in the centers and on the edges of leaves. In some cases, this damage has been confused with a true bug called the negro bug, which is also present on the plants. These bugs are black, turtle shaped bug, and approximately 1/4 inch long. They look somewhat like beetles, but are more closely related to stink bugs. Although rarely a problem, the negro bug can cause small plants to wilt. A grasshopper treatment should be considered if you find 5-8 grasshoppers per square yard. Asana, Dimethoate, Lorsban, Furadan and Warrior will provide control, but multiple applications may be needed.

**Soybeans.**
Bean leaf beetles and grasshoppers continue to be found in no-till soybeans. A treatment for bean leaf beetle will be needed from plant emergence to the second trifoliate when you find 2 beetles per ft. row and a 25% stand reduction. A pyrethroid or dimethoate will provide effective control. The treatment threshold for grasshoppers is 1 per sweep and 30% defoliation. Asana, Furadan, Lorsban, or Warrior will provide control. You should also watch seedling beans for spider mite activity. Look for the white stippling at the base of the leaves, which indicates the presence of mites. Treatment will be needed when you find 20-30 mites per leaflet or 10% of plants with 1/3 or more leaf area damaged. Dimethoate, Lorsban and Parathion (aerial application only) are the only available options so early detection and control will be critical. If dimethoate is used, the addition of a penetrant like LI-700 or AD 100 has been shown to improve the performance.

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

**USDA's June Report Surprises Commodity Traders**

Although not readily apparent after its release, commodity analysts and traders had to be somewhat surprised by the projections contained in USDA's June 12th Supply and Demand Report. USDA lowered the projected corn crop for this year to 9.65 billion bushels, 285 million bushels less than the previous forecast. Ending stocks for U.S. corn were also lowered by 260 million bushels and are now forecast at 1.301 billion bushels. World ending stocks were also lowered another 11 million metric tons from last month's
report and are now projected at 102.77 million tons vs. 113.7 mmt last month. The 'big surprise' contained in this month's report was the reduction of 1 million acres of planted acreage for corn. The trade had been expecting a reduction of 500,000 acres, which is considered normal.

U.S. soybean production is now projected at 2.850 billion bushels from an estimated 72.2 million acres planted. The planted acreage estimate was increased by 500,000 acres from the May report. Ending stocks for 2002/03 U.S. soybeans were placed at 265 million bushels, a 10 million bushel increase from the previous report. Brazil and Argentina production were left unchanged at 43.5 and 29.5 million metric tons.

The outlook for U.S. wheat prices also took a turn for the better with both production and ending stock estimates lowered for the 2002/03 marketing year. The production estimate was lowered by 63 million bushels to 1.832 billion bushels and the ending stocks estimate was lowered 64 million bushels, now placed at 555 million bushels. Wheat exports for the 2001/02 marketing year just ending were reported to be 7% less than last year.

**FSA Announces 2002 Loan Rates for Delaware**

Loan rates for the 2002 crop year are as follows: Barley $1.49 per bushel, Corn $2.20 per bushel, Oats $1.34 per bushel, Grain Sorghum $3.75 per hundred weight, Soybeans $5.11 per bushel, and Wheat $2.43 per bushel. The loan rates are the same for New Castle, Kent, and Sussex counties. The loan rate for wheat was unexpectedly lowered, which is the case for all states located east of the Mississippi river.

**Marketing Strategy**

Considering the loan rates as compared to current price levels for new crop corn and soybeans, $2.24 for Dec corn and $4.70 for Nov soybeans, no new sales are warranted at this time. In the case of wheat since the loan rate has been lowered from the previous rates for Delaware, either wheat sales and/or basis contracting are warranted at this time. New crop July ‘02 wheat is currently trading at $2.84 per bushel with a basis bid of 20 under in Seaford and 15 over in Southern Pennsylvania. Wheat that must be sold at harvest should be forward contracted at this time.

**Basis Update Now Available**

Historical basis data for corn, soybeans, and wheat are now available on the web. The publication entitled, "The Historical Basis Record for Grain and Soybeans in Delaware; Marketing Years 1996/97 to 2000/01", No. ER02-02, can be obtained at [http://www.udel.edu/FREC/PUBS/](http://www.udel.edu/FREC/PUBS/).

**Some Corn Afflicted with TMDS Syndrome**

*Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu*

This light hearted article is modified from the *Corny News Network* published at the Chat ‘n Chew Café, June 2002 by Dr. R. L. (Bob) Nielsen under the same title. I’ve taken the liberty to change the causal links to fit problems we have in this region rather than the cold, very wet conditions experienced in the Corn Belt. If you’d like to visit the Chat ‘n Chew Café and everyone is welcome to stop by for a cup of java, log on at [www.kingcorn.org](http://www.kingcorn.org)

While driving around the state looking at corn fields or just talking with folks, it is evident that just like in the Corn Belt, some corn fields here are suffering from a malady referred to as **TMDS Syndrome**, or otherwise known as **Too Much Dang Stress**. I suspect several of you might well substitute a stronger expletive for “dang”, but as Bob points out the net result is the same. There are fields that are unevenly stunted, putrid light green, yellow, white, and/or striped with interveinal chlorosis, or areas with severe or moderate stand loss.
The TMDS Syndrome is often most pronounced on sandy knobs or ridges in fields. Field headlands that often suffer from the syndrome certainly show it this year. The common causal link to all cases of TMDS is the occurrence of multiple stresses and their timing with the developmental stage of the crop. As with good comedy, timing is everything, especially when it comes to the effects of severe early season stress on corn.

In the Midwestern Corn Belt, most of the stresses that contributed to TMDS Syndrome were related to wet, cold conditions. In the list below of stresses that you can pick and choose from to customize your own list of yield limiting factors thus far experienced in 2002. I’ll include some of those from the mid-West that might apply if you’ve been one of the luck ones receiving rain (or irrigating aggressively). If you combine these stresses with hybrids with less than excellent hybrid vigor, rates of starter fertilizer below optimum, or dangerously low or high soil pH and the results will be more severe.

? Excessive rainfall that caused excessive leaching of soil nitrate N, magnesium, and other mobile nutrients below the root zone of young corn plants; especially in sandier coarser textured soils and sandy knolls and ridges. (Believe it or not, this has been a problem in some areas this year—especially with starter nitrogen.)

? A number of frost and freeze events that resulted in stand loss or above-ground leaf damage followed by one or more weeks of continued cooler than optimum temperatures that stifled the recovery of the damaged crop. Some fields were hurt more than once.

? Sidewall and other soil compaction problems that restricted the initial development of the seminal and nodal root system.

? Cloddy seedbeds that hindered both germination and early root development of the corn crop.

? Frequent and lengthy periods of cool, cloudy weather that greatly reduced the rates of photosynthesis.
? Prolonged winter and spring drought conditions and spring temperatures unfavorable for mineralization of organic nitrogen amendments.

? Unusual temperature cycles of cold, hot, cold and other unusual weather patterns this spring.

? Unusually extensive areas showing manganese deficiency and sometimes complicated by iron deficiency.

? Cold wet soil conditions shortly after planting followed by excessively dry conditions, especially during nodal root development.

? Insect and other pest problems.

? Herbicide carryover problems.

? Soil acidity and micronutrient interactions causing severe stress on corn.

What management steps can corn growers take in response to these stresses? Unfortunately, as Bob pointed out in his article, most of the damage has already been done. For corn grown under irrigation, spoon feeding nutrients as they’re needed, carefully monitoring soil moisture levels, monitoring pest levels, and following other best management practices will help maintain yield potential. For dryland corn, consistent decent corn growing weather (mid-80’s and sunshine) will likely do wonders towards improving the appearance of the crop. Visual improvements should be rapid once the corn root system develops more extensively and is better able to explore the soil environment for nutrients and moisture.

Photo 3. Field view of corn afflicted with TMDS Syndrome. Severely affected plants in the foreground appear to be going backward (Photo by R. Taylor)

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**Early-Season Competition on Soybeans.**

*Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu*

With the uncertain rainfall patterns we’ve been experiencing this year, the stress risk to dryland Roundup Ready soybeans is great. A number of these fields at the V2 to V5 leaf stage are experiencing significant competition from heavy weed populations. Early-planted full-season beans generally are around 5 inches tall. In a number of fields I’ve seen over the past week, weeds are rapidly outgrowing the beans. Although research studies often show that soybean yields are not affected by early weed competition as long as glyphosate is sprayed within 4 to 6 weeks of planting in years of significant stress conditions, I would err on the side of caution and spray to control weed competition by the 4th week following planting. Control can often be compromised by stress conditions and this will add to the stress on the soybeans. The bottom line is to control weeds early even at the risk of needing a second application.
Ag Fact

The cash receipts paid to Delaware growers for broilers in 2000 was $64 million. The cash income to farmers for vegetable crops was $58 million. Soybeans was $39 million and corn was $35 million.

UPCOMING EVENTS:

A Day On The Farm

3rd Annual New Castle County ‘A Day on the Farm” agriculture in your community

A free behind-the-scenes look at a real working farm

Date: Saturday, June 22
Time: 11 a.m. to 4 p.m.
Location: Ramsey’s Farm

Sponsored and organized by University of Delaware Cooperative Extension, Delaware Farm Bureau, NC Conservation District, and the Ramsey Family.

Premier sponsor: Syngenta Corporation.

For more information and directions, please see page 10.

Weed Science Field Day Cancelled

The Weed Science Field Day scheduled for June 26 at the University of Delaware Research & Education Center in Georgetown, Delaware has been cancelled due to the current threat of Avian Influenza in the Region. Our situation is unique in that the poultry diagnostic laboratory is located at the Research and Education Center, and we routinely receive and necropsy diseased birds. We cannot afford to take any risks that might jeopardize the welfare of the poultry industry.

Weather Summary

Week of June 7 to June 13, 2002

Rainfall:
0.04 inches: June 7, 2002
0.12 inches: June 13, 2002

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

Air Temperature:
Highs Ranged from 91°F on June 12 to 68°F on June 7.
Lows Ranged from 72°F on June 12 to 50°F on June 9.

Soil Temperature:
74°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

We encourage everyone on Delmarva to help protect Delmarva’s $1.4 billion poultry industry.
3rd Annual New Castle County

“A Day on the Farm”
agriculture in your community

Saturday, June 22
11 a.m. to 4 p.m.
Ramsey’s Farm

Exhibits: Learn where your food comes from; how biotechnology aids the farmer and consumer; about crops, bees, cows and sheep; how farmers use satellites and other space-age technology; and much more

Conservation practices, hayrides, Pony rides, Food, soft drinks and farm-fresh ice cream on sale

Directions:
Ramsey’s Farm is located on Ramsey Road in North Wilmington, just a hop, skip & jump from the Concord Mall. Go north on Route 202, at Naaman's Road turn left, onto Rt. 92. Make the first left, still follow-ing Route 92. Approximately 1/2 mile down, make a right at the fork in the road. This is Ramsey Road. Ramsey’s Farm is on the left side of the road about 1/2 mile down. Follow the signs.

For information, call New Castle County Cooperative Extension at 302-831-COOP
For map visit www.ramseysfarm.com

Sponsored and organized by University of Delaware Cooperative Extension, Delaware Farm Bureau, NC Conservation District, and the Ramsey Family.

Premier sponsor: Syngenta Corporation