



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetables

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

Cucumbers.

With the continued hot, dry weather, continue to watch both pickles and slicers for increases in aphid populations. A treatment should be applied for aphids if 10 to 20 percent of the plants are infested with aphids. Actara, Fulfill, Thiodan or Lannate will provide control. Be sure to watch for bees foraging in the area and avoid insecticide applications on blooming crops.

Lima Beans.

Continue to scout fields for lygus bugs and stinkbugs. Treatment should be considered if you find 15 adults and/or nymphs per 50 sweeps. Lannate, Capture or Mustang can be used if both species are present.

Potatoes.

Aphid populations have started to increase in later planted fields. A treatment should be considered if you can find 4 aphids per leaf. Remember, green peach aphids are generally found on the underside of the lowest leaves, so be sure to sample the correct area of the plant. Actara, Fulfill or Provado will provide green peach aphid control. We have had reports of growers describing significant levels of corn borer damage. Upon examination of fields, most of the damage has not been caused by corn borer. Although low levels of

corn borer stem infestations are present, the greatest damage has resulted from bacteria splashing into the leaf petioles ("aerial stem rot"). This often occurs when growing conditions are dry, fields are constantly irrigated and windy conditions persist. No controls are available for this "aerial stem rot".

Melons.

Economic levels of spider mites, thrips and aphids can still be found in melon fields. A treatment will be needed if you find 20-30% of the plants infested with 1-2 mites per leaf. Agri-Mek, Kelthane and Capture have provided effective control this season. Be sure to watch for an increase in aphid populations. A treatment is needed if 20% of the plants are infested with 5 or more aphids per leaf. High numbers of thrips can still be found in later planted melons. No thresholds are available, but a control may be needed if plants are stressed and populations continue to increase. A pyrethroid or dimethoate should help to reduce populations.

Peppers.

Corn borer controls are needed in areas where pepper fruit is 1/2 inch in size or larger. If acephate (Address/Orthene) is not being used, then dimethoate should be added to the mix for pepper maggot control.

Snap Beans.

Fresh market and processing snap beans in the bud to pin stage will need to be sprayed for corn borer control. Seedling beans should still be watched for

thrips and leafhopper activity. If both insects are present, the threshold for each should be reduced by 1/3. The thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. We have started to find defoliators feeding on the pin pods. Even though corn borer counts remain low, a treatment should be applied if defoliators are feeding on pin pods. Lannate, Asana, Capture or Mustang will provide the best control of defoliators.

Sweet Corn.

Fresh market silking sweet corn should be sprayed on a 4-5 day schedule. Be sure to make the first application when ear shanks are first visible. The first fall armyworm has been found in whorl stage corn, so be sure to sample all late planted fields for fall armyworm larvae. No controls will be needed until 15% of the plants are infested.



Diagnosing Nutritional Disorders -Ed Kee, *Extension Vegetable Crops Specialist;* kee@udel.edu

When confronted with diagnosing a possible deficiency in plant nutrients, it is helpful to remember which elements are immobile in the plant and which are mobile. The deficiency

symptoms of immobile elements appear on the young tissue, because they are not easily translocated from older leaves to newer leaves. Iron and manganese are the two elements that will appear as a deficiency on new and recently maturing leaves.

Nitrogen, Phosphorus, Magnesium, and Potassium will exhibit deficiency symptoms on mature leaves, because these elements move readily to active tissue sites such as young leaves. Each element will have specific symptoms, but the location of the symptoms brings into focus the possibilities.

Perhaps the most common deficiency occurs with nitrogen, usually due to leaching or some factor that has limited nitrogen application. It is a general light green or yellow-green chlorosis of the entire leaf tissue beginning on mature leaves, but over extended periods will involve the new growth. Growth is eventually retarded, but is easily corrected with the application of nitrogen. If it has gotten that severe, yield and quality of vegetables will be negatively affected.



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

Ozone and Watermelons.

Current weather conditions have resulted in high ozone levels. Ozone injury, chlorosis and scorching of the upper leaf surfaces, is present in watermelons. Damage is most prevalent in older, crown leaves. Little can be done to protect the current crop. To reduce ozone damage on future crops, plant cultivars that are ozone tolerant such as Millionaire, Millennium, or Tri-X-313. Avoid cultivars that are sensitive to ozone such as Sugar Baby, Crimson Sweet or Fiesta. See the Commercial Vegetable Production Recommendations 2002 for more information on cultivar sensitivity or tolerance.

Fusarium Wilt.

Fusarium wilt in watermelon is present in several fields on Delmarva. Symptoms often appear when the vines produce runners and become more severe as fruit are increasing in size. Symptomatic plants appear water-stressed when soil moisture is adequate. Crown leaves wilt first, followed by runners and eventually

the whole plant. Infected stems may have a red, brown or black gummy exudates and the vascular system of the plant is discolored.

Management of Fusarium wilt has been accomplished in the past through long rotation (5 to 6 years), planting resistant cultivars and fumigation. However, fumigation may fail to control disease because Fusarium can quickly invade fumigated ground. A new aggressive form of the pathogen (*Fusarium oxysporum* f. sp *niveum*, race 2) has been detected in Maryland and Delaware. Race 2 will cause more disease on commercially grown watermelon than other races. For fields with Fusarium wilt problems, rotate out of watermelon for at least 5 years or, if possible, produce watermelons in other fields. Plant cultivars that are resistant or tolerant to *Fusarium oxysporum* f. sp *niveum* race 0 and 1. Dr. Xin Gen Zhou is currently testing several seedless watermelon cultivars to identify tolerance or resistance to *Fusarium oxysporum* f. sp *niveum* race 2.

MELCAST for Watermelons.
From the University of Maryland and University of Delaware
Latest EFI values from local weather stations

Any questions please call (410) 742-8788

EFI Values (Environmental Favorability Index)

Do not use MELCAST if there is a disease outbreak in your field, it is a **preventative program**.

Location	07/03/02	07/02/02	07/01/02	06/30/02	06/29/02	06/28/02	06/27/02	06/26/02
Bridgeville, DE	1	3	1	2	3	4	0	
Charles Co.	1	0	0	0	8	7	3	
Collins Farms	2	1	2	2	3	2	0	
Galestown, MD	2	2	3	3	4	3	0	
Georgetown, DE	1	2	2	2	3	3	0	1
Glenville, MD	0	0	0	2	0	7	0	
Hebron	2	3	2	2	4	3	0	
Hog Creek Rd.	0	0	0	1	2	6	0	
Salisbury, MD	2	2	3	3	4	3	1	0
Vincent Farms	3	3	2	3	4	3	0	
Westminster	0	0	0	3	8	7	2	
White Marsh	0	0	0	2	1	7	0	

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/vegddisease/vegddisease.htm>.

Potato Disease Advisory.

Late blight Advisory

Disease Severity Value (DSV) Accumulations as of June 30, 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.

Date	Total DSV	Spray Recommendation
5/1	12	None
5/11	19	5 days, low rate
5/19	23	10 days, low rate
5/22	23	10 days low rate
5/27	27	10 days low rate
5/29	30	7 days, low rate
6/3	33	7 days, mid-rate
6/5	33	10 days, mid-rate
6/9	38	7 days, high-rate
6/13	39	10 days, high-rate
6/16	58	5 day mid- rate
6/19	60	10 day mid-rate
6/23	63	7 day high rate
6/26	64	10 day high rate
6/30	66	10 day high rate

All potatoes have reached more than 18 DSV's. The Wisdom potato software program generates spray recommendations.

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 590 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. Continue fungicide sprays for early blight.

Late blight has not gone away completely. There was a recent report this week of late blight in Crawford County, PA, just south of Erie, PA. The infected area in the field was destroyed. There was no information on the source of the infection.

Note: This will be the only advisory this week. The potato crop looks great.



Field Crops

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

Alfalfa.

In addition to leafhoppers, be sure to watch for defoliators in alfalfa. A number of defoliators are present in alfalfa including green cloverworms, salt marsh caterpillars and alfalfa caterpillars. If you have reached 1/2 the leafhopper threshold and you are approaching 50% tip damage from defoliators, a treatment should be considered.

Field Corn.

We can now find Japanese beetles and corn rootworm adult beetles feeding on silking corn. The decision to treat should be based on the number of beetles per ear as well as how far you are in the pollination period. As a general rule, a treatment is recommended on silking corn if you can find 4-5 Japanese and/or corn rootworm beetles per plant and they are clipping silks to less than 1/2 inch long before 50% pollination.

Soybeans.

Continue to watch for spider mites, leafhoppers, grasshoppers and defoliators in soybeans. We are starting to see an increase in spider mite and leafhopper populations. A treatment for leafhoppers is not recommended unless you find at least 4 per sweep in drought-stressed beans or 8 leafhoppers per sweep in actively growing soybeans. The treatment threshold for spider mites is 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. Japanese beetle adults and feeding damage has increased in full season soybeans. No controls will be needed pre-bloom unless you find 7 beetles per foot of row and 30% defoliation. If plants are blooming, the threshold decreases to 15 %

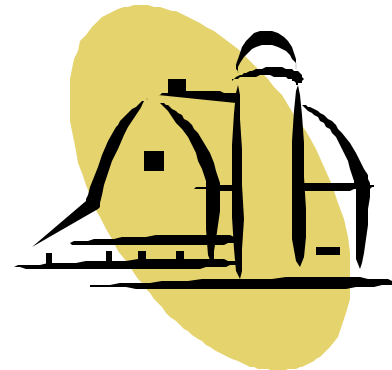
defoliation. If a combination of insects is present, the threshold for each pest should be reduced by one-third.



Yellow Soybeans with Roundup-Ready

Soybeans - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Last year it was not uncommon to see yellowing or even whitening in the growing points of soybeans after spraying glyphosate on Roundup-Ready soybeans. The symptoms may take up to two weeks to develop. Excessive heat and drought conditions seem to increase the severity of the symptoms. This year it seems to be more dramatic and more widespread than in past years. It seems to be the same for all glyphosate formulations. It is worse where there were overlaps or in the turn rows. The beans will grow out of the symptoms. Based on last year's experience, the yellowing does not affect the height of the beans or vigor.



UPCOMING EVENTS:

AGRONOMIC CROPS TWILIGHT SESSION

THURSDAY, JULY 18, 2002
6:00 pm - dusk

Location: Marl Pit Road (Rd. 429, approximately ½ mile east of the intersection with Del. Rt. 71/U.S. Rt. 301 (Armstrong's Corner). Look for the University of Delaware signs on the left.

University of Delaware Cooperative Extension invites you to join your fellow farmers and other members of the agricultural community as our **Extension Specialists lead discussions of this year's field trials and other in-season issues** related to **corn, soybeans, and small grains**. Other topics will include both **grain marketing** and **farm bill highlights**. We expect to have the **2001-2002 wheat and barley variety trial results** for distribution and discussion. There will be time to **discuss your current cropping issues**.



We will wrap-up the evening with an **award presentation** and **ice cream treat!**

CREDIT toward Delaware pesticide license recertification (Ag Plant category) and CCA (Certified Crop Advisor) CEUs will be awarded.

The meeting is free and everyone interested in attending is welcome. For more information or for special consideration in accessing this meeting, please contact us at **831-2506**.
HOPE TO SEE YOU THERE!

Carl P. Davis
Extension Agent, Agriculture

Weather Summary

Week of June 27 to July 2, 2002

Rainfall:

0.28 Inches on June 27th

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

Air Temperature:

Highs Ranged from 94°F on July 2 to 83°F on June 28.

Lows Ranged from 72°F on June 27 to 62°F on June 30 & July 1.

Soil Temperature:

83°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>

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Have a Happy and Safe July 4th !

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