



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

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

Squash Bugs in Cucurbits (including melons)

We are once again starting to see an increase in squash bug populations. The following links from past seasons provide good information on pest identification and management:

<http://mdvegetables.umd.edu/files/Squash%20bugs%20in%20Pumpkins-website.pdf> -Jerry Brust, University of Maryland

http://www.umassvegetable.org/soil_crop_pest_mgt/insect_mgt/squash_bug.html - by Ruth Hazzard ,University of Massachusetts Vegetable IPM Program

Cucumbers

Continue to scout all fields for cucumber beetles and aphids. Since fresh market cucumbers are susceptible to bacterial wilt, treatments should be applied before beetles feed extensively on cotyledons and first true leaves. Although pickling cucumbers have a tolerance to wilt, a treatment may still be needed for machine-harvested pickling cucumbers when 5% of plants are infested with beetles and/or plants are showing fresh feeding injury.

Melons

Economic levels of spider mites are being found and in some cases 2 applications will be needed to control populations. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf.

Acramite, Agri-Mek, bifenthrin, Danitol, Oberon, Portal and Zeal are labeled on melons for mite control. Be sure to check all labels for rates, precautions and restrictions, especially as they apply to pollinators.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should be applied on a 7-10 day schedule once pepper fruit is ¼ - ½ inch in diameter. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (instate: 800-345-7544; out of state: 302-831-8851) or visiting our website at <http://ag.udel.edu/extension/IPM/traps/latestbit.html>. You should also continue to check fields for aphids. A treatment may be needed prior to fruit set, if you find 1-2 aphids per leaf for at least 2 consecutive weeks and beneficial activity is low.

Potatoes

Continue to scout fields for Colorado potato beetle (CPB), corn borers (ECB) and leafhoppers. Low levels of the first aphids have also been found.

Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. Both insects can be found in seedling stage fields. As a general guideline, 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. Sprays will be needed at the bud and pin stages on processing beans. After the pin stage,

sprays are based on trap catches for corn borer. Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7 to 10-day schedule should be maintained for corn borer control. Since trap catches can change quickly, be sure to check our website for the most recent trap catches and information on how to make a treatment decision in processing snap beans using trap catches (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>) and (<http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>).

Sweet Corn

Continue to sample seedling stage fields for cutworms and flea beetles. You should also sample all fields from the whorl through pre-tassel stage for corn borers and corn earworms. Both species can be found feeding in whorls and tassels of sweet corn. A treatment should be applied if 15% of the plants are infested with larvae. The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check both blacklight and pheromone trap catches since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>) and (<http://ag.udel.edu/extension/IPM/thresh/silksp raythresh.html>). You can also call the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851).

Fertigating Drip Irrigated Vegetables -

Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

Fertigation is the term used when soluble fertilizer sources are delivered through the irrigation system to crops. Drip irrigation is an ideal means to fertigate and to deliver mineral nutrients to vegetables during the growing season. Nutrients are carried with the irrigation water right to the root zone where they can be efficiently taken up by vegetable plants.

There are several strategies for fertigating vegetable plants. One strategy is to split

fertigation so that crop nutrient needs, after preplant fertilizers are accounted for, are delivered in 4-5 applications just prior to critical growth stages. For example, for fruiting vegetables, the first fertilizer application through the drip system would be done after planting when plants have become established, the next prior to rapid vegetative growth, the next at flowering or early fruit formation, and the last during fruit expansion. For crops that have long fruiting and harvest periods, an additional application would be made after first harvest to encourage continued production.

Other strategies use weekly applications or applications of fertilizers through the drip system every time the crop is irrigated. In these systems, smaller amounts of fertilizers are applied each time and rates are increased as plants get larger. This requires a somewhat higher level of management.

For general vegetable fertigation through the drip, a 1-1-1 N-P₂O₅-K₂O ratio soluble fertilizer (such as 20-20-20) is recommended. Where phosphorus (P) levels are very high, lower P ratios are appropriate (such as a 21-5-20). In some vegetables, only nitrogen (N) sources will be needed if soil fertility (P and K) are high. Soluble potassium nitrate and calcium nitrate are often used in combination in crops such as tomatoes and plasticulture strawberries to provide N, K (potassium), and Ca (Calcium).

Fully soluble fertilizers must be used for fertigation. Those in dry form must be mixed with water until they fully dissolve to create a concentrated stock solution. Those already in liquid form should be checked to make sure there has been no salting out of nutrients during storage - if salting out has occurred, you will need to make sure the fertilizer re-dissolves by agitation prior to use. It is important to know how much fertilizer is contained in these liquid stock solutions to match to injection rates.

A good quality fertilizer injector matched to the flow rate of your drip system is important to deliver the fertilizer the length of each bed uniformly in the field. Run the drip system to fill the drip tubes and come to steady pressure, start injecting, and then continue injecting using an injection rate that matches the irrigation period. You may then run the irrigation for a

short period after fertigation to flush the lines. It is important not to over-irrigate as nutrients may be moved out of the root zone (especially N). Fertigation rates should be based on a mulched acre - that is only the amount of ground covered by plastic mulch.

For more information on fertigation go to our Commercial Vegetable Production Recommendation guide <http://ag.udel.edu/extension/vegprogram/pdf/CIrrigation.pdf> starting on page C-5.

Cucurbit Downy Mildew Update - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

There have been no more reports of northern movement of downy mildew since last week. There were new reports from Sampson county NC, GA and SC. Be sure to keep current on disease occurrences by visiting <http://cdm.ipmpipe.org/>.

I wanted to clarify my comments that I made last week on the use of Previcur Flex for downy mildew control on cucumbers. It has been one of the cornerstone fungicides for successful downy mildew control. I was not saying not to use it, especially this time of the season. My concern is that under very high disease pressure last fall it did not look as good as in the past. Similar results occurred in VA in the fall as well. Researchers in other parts of the country have not experienced the reduced level of control that we noticed last season. Remember that it should be applied with a protectant and used in a rotation with downy mildew fungicides with a different mode of action such as Ranman or Presidio.

Pepper Anthracnose - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Symptoms of pepper anthracnose on fruit include sunken, circular spots which develop blackish-tan to orange concentric rings as lesions develop. Lesions on stems and leaves appear as grayish-brown spots with dark margins and can easily be overlooked. **Control of anthracnose begins scouting on a regular basis and applying**

preventative fungicides before symptoms appear, especially in fields or areas of the farm where you have had anthracnose problems in the past. Beginning at flowering and as small fruit begin to set, alternate chlorothalonil (M5) at 1.5 pt 6F/A with one of the following FRAC code 11 fungicides: azoxystrobin (Quadris at 6.0 to 15.5 fl oz 2.08F/A) or Cabrio (pyraclostrobin) 20EG. After harvesting, pepper fields should be disced and plowed under thoroughly to bury crop debris.



Anthracnose on bell pepper fruit

Early Blight on Potato and Tomato - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

On both potato and tomato early blight produces large brown areas on the leaf, usually with a concentric ring pattern. On potato early blight usually begins after flowering on susceptible varieties, especially once potatoes or tomatoes begin to senesce. The disease is favored by high humidity and periods of leaf wetness. Optimal temperatures for infection range from 75-80°F.

Control of early blight begins with crop rotation then protectant fungicides, such as chlorothalonil or mancozeb, should be applied every 7 to 10 days, depending on the weather. Once flowering occurs on potato a systemic fungicide is recommended for several sprays, especially if a susceptible variety is grown or early blight is found in the field. Systemic fungicides recommended for early blight control on potato include: Endura, Gem, Headline, Quadris, Reason, Revus Top, and Tanos. As always, follow pesticide labels for rates and usage. Revus Top and Tanos will also offer suppression of late blight. See the Potato

Disease Advisory for P-day accumulations to predict early blight appearance. The same fungicide list applies for tomato, just substitute Cabrio for Headline. Alternate the protectant fungicide with the systemic fungicide combined with a protectant as per label instructions.



Early blight on potato



Early blight on tomato

Potato Disease Advisory #8 - June 17, 2010 - *Bob Mulrooney, Extension Plant Pathologist;*
bobmul@udel.edu

Disease Severity Value (DSV) Accumulation as of June 16, 2010 is as follows:

Location: Art and Keith Wicks Farm, Rt. 9, Little Creek, Kent County

Green row: May 6

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P- days*
5/29-5/30	1	31	10- days	-
5/31	0	31	10-days	199
6/1	1	32	10-days	206
6/2	0	32	10-days	214
6/3-6/5	0	32	10-days	232
6/6-6/8	0	32	10-days	257
6/9-6/10	4	36	7-days	275
6/11-6/12	1	37	7-days	292
6/13-6/14	2	39	7-days	305
6/15-6/16	0	39	7-10 days	325

Maintain the recommended spray interval. At 300 P-days fungicide sprays will be needed to control early blight. At this point weekly fungicide applications would be suggested. There have been no confirmed reports of late blight on potatoes in the region.

* **P days**- We use the predictive model WISDOM to determine the first fungicide application for prevention of **early blight** as well. The model predicts the first seasonal rise in the number of spores of the early blight fungus based on the accumulation of 300 physiological days (a type of degree-day unit, referred to as P-days) from green row. To date, **325 P-days** have accumulated at the site. The first fungicide for early blight control should be applied. This usually occurs when rows are touching.

For specific fungicide recommendations, see the [2010 Delaware Commercial Vegetable Production Recommendations Book](#).

Agronomic Crops

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

Alfalfa

Continue to sample for potato leafhoppers on a weekly basis. We continue to see both the adult and nymph stage. As indicated before, the nymphs can cause damage very quickly so sample fields on a weekly basis for both stages. Once plants are yellow, yield loss has already occurred. The treatment thresholds are 20 per 100 sweeps on alfalfa 3 inches or less in height, 50 per 100 sweeps in 4-6 inch tall alfalfa and 100 per 100 sweeps in 7-11 inch tall alfalfa.

Soybeans

Be sure to sample fields in the seedling stage for bean leaf beetles, grasshoppers and thrips. We are getting reports of an increase in grasshopper activity in no-till soybeans so watch carefully for this insect. Multiple applications may be needed since they can re-infest fields quickly after treatment and nymphs and adults can both be found in fields. In the earliest planted fields, we can also find green cloverworms activity so be sure to scout soybeans for all of these defoliators.

We have started to find low levels of spider mites in the earliest planted no-till soybean fields. As we all know from past experience, early detection and control is needed to achieve spider mite suppression. Dimethoate, Lorsban, Hero (zeta-cypermethrin + bifenthrin) as well as

a number of stand alone bifenthrin products (*not all may be labeled so be sure to check the label*) are available for spider mite control in soybeans. All of these products need to be applied before mites explode. Be sure to read the labels for use rates and restrictions - there is a limit on the number of applications as well as the time between applications on all of the materials labeled for spider mite control.

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

USDA Export Sales Report 06/17

Pre-report estimates for weekly export sales of U.S. soybeans (combined old-crop and new-crop) ranged from 12.9 million bushels 16.5 million bushels. The weekly report showed total export sales of 11.6 million bushels, with old-crop sales of -5 million bushels due to a cancellation by Japan, below the 2.3 million bushels needed this week to stay on pace with USDA's demand projection of 1.455 billion bushels for U.S. exports. Total shipments of 7.8 million bushels were below the 9.7 million bushels needed this week. There are eleven weeks remaining in the '09/'10 marketing year for soybeans. The report is viewed as bearish.

Pre-report estimates had weekly corn export sales at 27.6 million bushels to 39.4 million bushels. The weekly report showed total export sales of 47.9 million bushels, with old-crop sales of 42.9 million bushels, well above the 12.1 million bushels needed this week to stay on pace

with USDA's export demand projection of 1.95 billion bushels. Total shipments of 42.2 million bushels were below the 46.1 million bushels needed this week. With eleven weeks remaining in the '09/'10 marketing year, U.S. corn export shipments are currently 5 percent behind USDA projections. This report is considered bullish.

Pre-report estimates for wheat exports ranged between 7.3 million bushels and 12.9 million bushels. The weekly report showed total export sales of 35.3 million bushels, well above the 14.6 million bushels needed this week to reach USDA's projected 900 million bushels. Shipments of 14.5 million bushels were below the 17.5 million bushels needed this week. This report marks the second week of the '10/'11 marketing year for U.S. wheat exports. This report is considered bullish.

Market Strategy

Outside market forces have been the driver behind improvement seen in commodity prices this week. Dec '10 corn futures closed at \$3.77 per bushel in yesterday's trading, 11 cents higher than last week. New crop Nov '10 soybean futures closed at \$9.24, 33 cents higher than last week, buoyed by old crop prices. New crop SRW wheat closed at \$4.61 per bushel, 30 cents per bushel higher than last week, buoyed by world wheat growing conditions. Nearby old crop July '10 corn futures closed at \$3.56 per bushel, 15 cents per bushel higher than last week. Old crop July '10 soybean futures closed at \$9.57 per bushel, 25 cents per bushel higher than last week. Can this week's rally be sustained? Much of the answer to that question depends on mostly unknown factors. The impact that weather has on growing conditions for U.S. row crops this summer now becomes the primary factor. Thus far, USDA's Weekly Crop Progress reports are not indicating any problems for 2010 U.S. corn and soybean production. For the week ending June 13, 77 percent of the U.S. corn crop and 73 percent of the soybean crop were rated in good to excellent condition. Locally, crop conditions are extremely dry.

Outside market forces were supportive of commodity prices this week. The U.S. dollar index weakened this week, now trading at 85.77 as compared to 87.18 last week. The Dow strengthened from 10,095 last week to 10,342

this morning. The nearby crude price increased from \$74.38 per barrel last week to \$77.20 this morning.

Generally speaking, market rallies should be rewarded with advancing sales and those lagging on making new crop sales would be encouraged to do so. However, considering local dry conditions and current basis levels: new crop corn at 5 under to 10 over; new crop soybeans 30 to 50 under; and new crop SRW wheat at 45 under; it becomes necessary to consider other alternatives for advancing sales. Among them, using put options due to the fact that one does not have to deliver bushels in the event of a production shortfall. Plus, basis will not be assigned to buying the put option until a later date. Basis can be assigned later by using a basis contract or by making the cash sale at harvest. Contracted bushels using put options would not result in having to settle on cash contracts with crop insurance payments. Only the premium cost would need to be covered. For those caught up on new crop sales, now is a good time to think about doing nothing, wait 'n see what happens bearing in mind that the June 30 Planted Acreage report will be issued in just thirteen days. General pre-report expectations are for increased U.S. corn acres and reduced soybean acres from the March 31 Planting Intentions report.

For technical assistance on making grain marketing decisions contact Carl L. German, Extension Crops Marketing Specialist.

Announcements

2010 Weed Science Field Day
Wednesday, June 23, 2010 8:30 a.m.
Carvel Research & Education Center
16483 County Seat Hwy
Georgetown, DE 19947

The day will begin with registration at 8:30 a.m. at the Grove near the farm buildings and new office building on the north side of the road. We will start to view the plots at 9:00 am. Coffee, juices, and donuts will be provided. We will also provide sandwiches for lunch.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of June 10 to June 16, 2010

Readings Taken from Midnight to Midnight

Rainfall:

No rainfall recorded

Air Temperature:

Highs ranged from 92°F on June 13 to 78°F on June 15.

Lows ranged from 74°F on June 13 to 60°F on June 11.

Soil Temperature:

84.6°F average

Additional Delaware weather data is available at http://www.deos.udel.edu/monthly_retrieval.html and <http://www.rec.udel.edu/TopLevel/Weather.htm>

Weekly Crop Update is compiled and edited by Emmalea Ernest, Extension Associate - Vegetable Crops

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