



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 16, Issue 20

August 1, 2008

Vegetables

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

Cabbage

As soon as plants are set in the field, be sure to sample for cabbage looper and diamondback larvae. We can find small larvae and a treatment will be needed before larvae move into the hearts of the plants. If both species are present, Avaunt, a Bt, Proclaim, Rimon, Radiant or Spintor have provided control in the past. If cabbage looper is the predominant species, a pyrethroid, Intrepid, or Confirm will also provide control.

Lima Beans

Continue to scout for spider mites, stink bugs and lygus bugs. Early detection and treatment will be needed to achieve spider mite control. In addition, multiple sprays may be needed for mites, especially if populations are high at treatment time and/or numerous eggs are present. Be sure to sample for corn earworm larvae as soon as pin pods are present. A treatment will be needed if you find one corn earworm larvae per 6 ft-of-row.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. We are starting to see an increase in aphid populations. Treatments should be applied before populations explode and leaf curling occurs.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. We are starting to see an increase in moth populations and egg masses can be found on pepper leaves. Depending on local corn borer trap catches, sprays should be applied on a 7 to 10-day schedule once pepper fruit is $\frac{1}{4}$ - $\frac{1}{2}$ inch in diameter. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851) or visiting our website at (<http://ag.udel.edu/extension/IPM/traps/latest/blt.html>). You will also need to consider a treatment for pepper maggot. Be sure to watch carefully for beet armyworm larvae since they can quickly defoliate plants. In addition to beet armyworm feeding on leaves you should also watch for an increase in aphid populations. We are starting to find aphid populations increasing and they can explode quickly, especially where beneficial insect activity is low. As a general guideline, treatment may be needed if you find one or more aphids per leaf and beneficial activity is low.

Snap Beans

As corn borer and corn earworm populations start to increase, you will need to consider treatments for both insect pests. Sprays are needed at the bud and pin stages on processing beans for corn borer control. As earworm trap catches increase, an earworm spray may also be needed at the pin stage. You will need to check our website for the most recent trap catches to help decide on the spray interval between the pin stage and harvest for processing snap beans

(<http://ag.udel.edu/extension/IPM/traps/latestblt.html>) and (<http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>). Once pins are present on fresh market snap beans, a 7 to 10-day schedule should be maintained for corn borer and corn earworm control.

Sweet Corn

You should also sample all fields from the whorl through pre-tassel stage for corn borers, corn earworms and fall armyworm. A treatment should be considered when 12-15% of the plants are infested. Since fall armyworm feeds deep in the whorls, sprays should be directed into the

whorls and multiple applications are often needed to achieve control. 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 for silk spray schedules 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).

Potato Disease Advisory #22 - July 31, 2008 - *Bob Mulrooney, Extension Plant Pathologist;* bobmul@udel.edu

Disease Severity Value (DSV) Accumulation as of July 30, 2008 is as follows:

Location: Broad Acres, Zimmerman Farm, Rt. 9, Kent County

Greenrow: April 27

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P days*
7/9-7/10	2	53	7-day interval	544
7/10-7/13	0	53	10-day interval	566
7/13-7/14	1	54	10-day interval	575
7/14-7/16	0	54	10-day interval	589
7/16-7/20	0	54	10-day interval	608
7/20-7/23	0	54	10-day interval	622
7/24-7/25	2	56	10-day interval	631
7/25-7/26	0	56	10-day interval	646
7/26-7/28	4	60	7- day interval	662
7/28-7/30	0	60	10-day interval	675

* **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, **675 P-days** have accumulated at the site.

Maintain fungicide applications for plants that are still green.

For specific fungicide recommendations, see the 2008 Delaware Commercial Vegetable Production Recommendations Book.

This report concludes the regular Potato Disease Advisory for the 2008 season. If you have any suggestions for improving this newsletter, please contact Bob Mulrooney at bobmul@udel.edu or 302-831-4865.

Downy Mildew on Cucumbers - Bob Mulrooney, *Extension Plant Pathologist*; bobmul@udel.edu

Weather conditions continue to be favorable for downy mildew on cucurbits and especially cucumber. Maintain preventative fungicide programs to protect cucumber at this time.

Agronomic Crops

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

Forage Grass

Baythroid XL recently received an expanded label for forage grass. The following is the link to the new label

(<http://www.cdms.net/LDat/ld7JO034.pdf>).

Soybeans

We continue to see high levels of bean leaf beetles, especially on the western half of the state from Greenwood through Middletown. Remember, at this time you will need to consider a treatment for defoliation as well as consider their ability to feed on the pods. At the pod fill stage, the defoliation threshold drops to 10-15% defoliation. This insect can also feed on pods. Bean leaf beetles can clip pods or plant diseases may enter the pod through their feeding sites. This can result in seeds that appear shrunken, discolored, and moldy resulting in a reduction in seed quality. Although we have not established thresholds for pod feeding in our area, the following link provides information that is used in the Midwest

(<http://www.ipm.iastate.edu/ipm/icm/2000/8-21-2000/1blroof.html>). They have also included some new information in a recent newsletter that may better address the pod feeding aspect. It should be noted that we may be ahead of them in emergence of second generation since we have been seeing newly emerged soft gray beetles

(<http://www.extension.iastate.edu/CropNews/2008/Issues/20080728.htm>). Also, we do not have any data on bean leaf beetle control in our area. When possible, a material with residual control should be used. However, the presence of other

pests, especially mites, will impact your selection of a control material.

You should also scout for stinkbugs and pod worms as we enter the pod set and pod fill stages. In VA, Ames Herbert reported last week that they are expecting the major corn earworm moth flight to begin a little earlier than normal based on what they are seeing in their corn survey, which is still in progress. We continue to have high corn earworm trap catches in some locations; however, only time will tell if this will translate into a major podworm outbreak in soybeans. Although we are finding low levels of corn earworm in full season soybeans, this is not unusual for this time of year and only scouting on a routine basis will tell you if you have an economic problem. As trap catches increase, open canopy blooming fields will be attractive to egg laying moths. A treatment should be considered if you find 3 podworms per 25 sweeps in narrow fields and 5 podworms per 25 sweeps in wide row fields (20 inches or greater).

Downy Mildew on Soybeans - Bob Mulrooney, *Extension Plant Pathologist*; bobmul@udel.edu

Downy mildew is showing up in Delaware soybean fields with the increased humidity and shower activity. Downy mildew is a common disease of soybean that occurs wherever soybean is grown. Fortunately, however, it rarely affects soybean productivity in Delaware. The downy mildew fungus, *Peronospora manshurica*, is biotrophic, which means it can only grow in association with the soybean plant. Because of this very close relationship with the soybean plant, it is capable of rapid genetic change in response to genetic changes in soybean. Thirty-three races are described for *P. manshurica* and the number of described races will likely increase as research continues.

Downy mildew appears on the upper surface of young leaves as pale green to light yellow spots which enlarge into pale to bright yellow spots. The spots look slightly gray and fuzzy when viewed from below, especially during periods of high relative humidity. (See the following photos) Younger leaves are more susceptible to downy mildew than older leaves. Occasionally

when conditions are very favorable for disease and the variety is susceptible seed infection can occur which produces a dull white crusty coating of spores on the seed. Fungicide control is rarely needed.



Downy mildew on soybean (upper surface)



Downy mildew (lower surface)

Soybean Rust Update - *Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu*

On July 28, soybean rust was confirmed in soybean production fields in Cameron County, Texas. On July 25, soybean rust was detected on leaves collected from a soybean sentinel plot in Baldwin County, Alabama. This is the first report of rust on soybeans in Alabama this year. The disease was observed on kudzu in Mobile County earlier this year.

Rust is developing more slowly this year than last which is good news for soybean growers. The risk of rust reaching us is low at this time, but the situation could change. Disease development in the South has been slow so far. This delay may mean that if soybean rust does eventually make it north it will be too late to affect yields as we have seen in the past. Our six sentinel plots are being checked weekly now since all but one plot have reached at least R1 (flowering).

Preliminary Results from Small Grain Trials

- *Bob Uniatowski, Associate Scientist; bobuni@udel.edu*

Preliminary results from the 2008 Delaware Small Grain Trials are available online at http://www.udel.edu/varietytrials/small_grains/index.html. Trials were conducted in Georgetown, Selbyville and Middletown.

Key Rulings Have Positive Price Impacts on Commodity Markets

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

Two political issues impacting grain and oilseed markets received rulings this week. First, USDA reached a decision not to allow farmers early release from Conservation Reserve Program contracts. This decision was weighted heavily by a recent federal judge's ruling in Seattle issuing a permanent injunction against USDA's critical-feed use program releasing acreage from CRP for haying and grazing. Second, the U.S. House of Representatives defeated a bill yesterday that was designed to prevent excessive speculation in

commodity futures trading. Both rulings can be viewed as bullish.

The U.S. needs to bring into production an additional 5 to 7 million acres in the '09/'10 marketing year. A key component of whether the CRP ruling is good or not will be whether the August 12th supply/demand report projects adequate supply to forge ahead into the 2009 crop year. If not, the CRP ruling is likely to be contested, eventually, requiring an act of Congress.

The defeat of the anti-speculation act comes at a time when more needs to be known in order to make a definitive ruling. What is the driving force behind high oil, corn, soybean, and wheat prices? To what extent, if any, are the high prices to be attributed to speculation within the various commodity markets? Commodity trading is a complex business. Increases in speculative trading create opportunities to sell at higher prices than they otherwise would have been. Most 'free market' commodity traders and analysts argue that the markets do not need government intervention. Nevertheless, the issue of commodity speculation is likely to come up again.

Perhaps the best way to solve high oil and other commodity prices (other than high prices cure high prices) is for Congress to act upon a viable energy policy aimed at increasing U.S. energy production and supply. During a recent phone conversation an informed individual stated, "In France, where 70% of their energy needs are generated by nuclear power, the spent rods are processed thereby eliminating the waste." One has to wonder why that point of information is not a known fact in this country. Or stated another way - to what degree is that point of information known in this country? If we can solve the nuclear waste problem then will that be enough to squelch concerns about building additional nuclear power plants?

Market Strategy

USDA will release the next supply/demand report for U.S./World Grains & Oilseeds on August 12th. Of interest will be projected stock situations for corn, soybeans, and wheat that will shed light on how many acres the U.S. will

need to plant in the 2009 crop year? Currently, Dec '08 corn futures are trading at \$6.13 per bushel; Nov '08 soybean futures at \$14.05 per bushel; and Dec '08 SRW wheat futures are at \$8.12 per bushel. For technical assistance on making grain marketing decisions contact Carl L. German, Extension Crops Marketing Specialist.

General

Reducing Seed Production in Pastures and Non-Cropped Areas - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

Many annual and some perennial weeds are beginning to flower now, particularly those that emerged early in the summer. Removing the flowering portions of the plant or seed heads now will prevent most of these plants from producing mature seed. If these plants are mowed off, they are likely to regrow and eventually produce seed, but the quantity of seed produced will be dramatically reduced. Many of these fields will need at least one additional mowing to prevent seed production. However, delaying a mowing for a few weeks will allow a greater proportion of the developing seeds to mature and contribute to the seedbank.

Fruit

Late Summer Matted Row Strawberry Maintenance - *Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu*

There are many small commercial plantings of matted-row strawberries in Delaware such as Earliglow and Allstar. Daughter plants that root from runners coming from mother plants will produce the bulk of the berries in matted row systems in both new and renovated plantings. It is therefore critical to encourage the development of new daughter plants of sufficient size to produce high yields for harvest next spring. A critical period for matted row strawberries is between August and October. It is in this period when the flower buds for next year's berries are initiated. Any stress that limits

the initiation of flower buds will lead to fewer berries next year. Irrigation during hot and dry periods this summer and fall is the key to next year's production. Keep strawberries growing and healthy by providing at least 1.5 inches of water through combined rainfall and irrigation each week (2 inches may be required when temperatures are in the nineties). Another critical cultural practice is controlling weed escapes by hand hoeing/pulling in the rows to limit competition. It is also important to keep runners out of row middles with cultivation. Matted row strawberries are edge bearers. That means that most of the berries will be produced on the edge of rows so it is important to keep rows narrow (about 12" is ideal) using cultivators, disc coulters, rotary tillers, or other mechanical devices.

Fumigation Alternatives in Plasticulture Strawberries - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

Each year there is more acreage of annual plasticulture system strawberries planted in Delaware. New plantings will go in again this September. One critical practice is fumigation. I recently came across a very good article on fumigation alternatives in strawberries with the loss of methyl bromide looming. The information is from the North Carolina Pest News:

Choosing Alternatives to Methyl Bromide for Strawberries

From: Rob Welker, Department of Plant Pathology, Katie Jennings, Department of Horticultural Science, and Frank Louws, Department of Plant Pathology in the June 27, 2008 edition of the North Carolina Pest News http://ipm.ncsu.edu/current_ipm/08PestNews/08News12/pestnews.html#title3.

After many years of discussing the end of methyl bromide, we are nearing the actual end of methyl bromide for use in crops. Shortages will occur, and cost is going to be a factor as demand

for the limited supply drives up the price. *If you have not tried alternative fumigants on your farm, this is the time to seriously think about why you fumigate and switch a portion of your production to an alternative.* The opportunity to test an alternative on a portion of your crop on your farm before being forced to use something is running out.

If you use a good crop rotation, or are moving onto new production land, then the need to fumigate is minimal. It might not even be needed at all. For many growers, though, rotations are not practical, and the same crop has been on the same fields for years, making fumigation the answer to reduce pathogens and weeds.

How can you make a good decision about what to use? Think about why you fumigate on your farm. What are the soil issues that make fumigation desirable? If you are unsure of your problems and have been fumigating simply because it is part of the plasticulture system, then try leaving some of your production unfumigated and see what the results are. You might be surprised. For most cases, however, we have seen approximately 20 percent reduction in yield when strawberries have not been fumigated. So what should you use? Rate your production field for the four problems in the chart below using a 0 to 5 scale, where 0 is not a problem at all, and 5 is a problem that will cause significant yield loss if not controlled. If you marked 3 or higher for a problem, then it should be treated with fumigation; 2 or lower can be managed in a different manner.

	No Problem to Huge Problem					
Fungal Disease ¹	0	1	2	3	4	5
Nematodes	0	1	2	3	4	5
Annual and Biennial Weeds	0	1	2	3	4	5
Perennial Nutsedge (yellow and purple)	0	1	2	3	4	5

¹ e.g., Black Root Rot Complex; Phytophthora crown rot

What is currently labeled for use that might be used for your pest problems? Use the chart below to find a product or combination of products that treats the problems rated at 3 or higher.

Fumigants	Fungal Disease	Nematodes	Annual/biennial weeds ¹	Perennial Nutsedge
Chloropicrin	E	N	N	N
Metam Sodium ² (MS)	F to G	P to F	G to E	F
Chloropicrin + MS	E	P to F	G to E	G to E or F-G ⁵
Telone C-35	E	E	P to F	P
Telone C-35 + VIF ³	E	E	G to E	P to F
PicClor 60	E	E	P to F	P
PicClor 60 + VIF	E	E	G to E	P to F
MIDAS + VIF	E	E	G to E	G to E
Paladin ⁴ + VIF	E	E	G to E	G to E
Herbicides⁶				
Goal herbicide (under plastic)			G to E	N
Stinger herbicide (very specific weed spectrum)			G to E	N
Chateau herbicide (under plastic)			G to E	N

¹ Limited data is available on control of annual and biennial weeds by these fumigants.

² Vapam, Sectagon or other registered formulations.

³ VIF refers to Virtually Impenetrable Film which allows lower fumigant application rates but at the same time has improved efficacy of fumigants.

⁴ Paladin is a new fumigant currently being used under an experimental use permit in North Carolina, Georgia and Florida and could potentially be available soon on the open market.

⁵ When applied in the spring control is Good to Excellent, however when applied in the fall control is reduced because the fumigant gasses off due to the warm soils.

⁶ See respective labels to determine the specific weeds each herbicide controls.

Key:

E = excellent control, 90% or better

G = good control, 80% to 90%

F = fair control, 50% to 80%

P = poor control, 25% to 50%

N = no control, less than 25%

Announcements

Niche Market Opportunities

Thursday, August 14, 2008 6:00 p.m.
DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd., Smyrna, DE

Learn about specialty crops to meet the needs of diverse populations in the Mid-Atlantic region.

Light refreshments served.

Please call (302) 857-6462 to register.

This workshop is part of the 2008 Small/ Beginning Farm Workshop Series held by Delaware State University. For complete information on the workshops planned, see the brochure at <http://www.rec.udel.edu/update08/announcements/sma1lfarmbrochure2008.pdf>

For Current Agricultural Information from the UD Kent Co. Extension Office Visit www.kentagextension.blogspot.com

Recent Topics:

Make Sure Strawberries are Well Irrigated
Small Grain Variety Trial Results are Now Available Online
Expect a Buggy August
Potential for a Better than Average Corn Crop – Pictures
Saving Small Grain Seed
Tips to Reduce Heat Effects in Dairy Herds
Double Cropped Soybeans Behind Barley Growth Stage Pictures
Poor Pollination in Corn
Small Flock Poultry Seminar
How Good is Your Corn Pollination and Kernel Set?
Poultry - Feed Pellet Breakage Leads to Reduced Weight Gain
Classic Nitrogen Deficiency in Corn
Stinkbug on Corn Ear Pictures
Kernel Abortion in Corn
Effects of Recent Rains on Field Crops
More Pictures from the Delaware State Fair

UD Watermelon Twilight Meeting

Wednesday, August 13, 2008 6:30 p.m.
Carvel Research and Education Center
16483 County Seat Hwy, Georgetown, DE

Watermelon Disease Control

Kate Everts – See Fusarium wilt control trials and learn about results from recent fungicide trials for gummy stem blight. Discuss Pristine resistance as it relates to the Delmarva.

Watermelon Weed Control

Mark VanGessel – See experiments on general weed control, experimental fumigant for under plastic mulch and recovery and response of watermelons to herbicide drift.

Watermelon Insect Update

Joanne Whalen

2008 Watermelon Variety Trial

Emmalea Ernest - See and sample varieties from the trial.

Meet at the picnic grove near the farm shop to board the wagon and begin the tour at 6:30 p.m. Stay to enjoy dessert and taste some of the varieties from the variety trial afterwards.

Please pre-register on or before August 11, 2008 by contacting Karen Adams at adams@udel.edu or (302) 856-2585 x 540.

Small Flock Poultry Seminar

Saturday, August 16, 2008 9:00 a.m. - noon
University of Delaware Webb Livestock Farm
South Chapel Street, Newark, DE

Want to learn more about starting up a small poultry flock or get information on health and maintenance of your current small flock? Then come to our Small Flock Poultry Seminar. We'll have experts from the University of Delaware, Delaware State University and University of Maryland Cooperative Extension on hand to provide information and answers to your questions, plus local feed and supply stores to provide information on product availability.

This meeting is free and everyone interested in attending is welcome. To register, request more information or if you require special needs assistance

for this meeting, please call our office in advance at (302) 831-2506.

Please register by August 12, by calling (302) 831-2506.

See you there!

Anna Stoops, New Castle County

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 24 to July 30, 2008

Readings Taken from Midnight to Midnight

Rainfall:

0.74 inch: July 24

Air Temperature:

Highs ranged from 91°F on July 30 to 82°F on July 24.

Lows ranged from 74°F on July 30 to 60°F on July 26.

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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