



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 9, Issue 19

August 3, 2001

Vegetables

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

Cabbage.

Diamondback and cabbage looper larvae can both be found in fall cabbage. A treatment is recommended when 5% of the plants are infested with larvae. If both species are present, Avaunt (3.5 oz/acre), a Bt, Proclaim (3 oz/acre), or Spintor (4-5 oz per acre) will provide control. If cabbage looper is the predominant species, a pyrethroid or Confirm (8 oz/acre) will also provide control.

Cucurbits.

Striped cucumber beetle and squash bug populations continue to increase in cucumbers (fresh market and pickling), squash, pumpkins and watermelons. In addition to leaf damage and bacterial wilt transmission in cucumbers, they both can cause damage to the rinds of cucurbit fruit. A treatment should be applied for cucumber beetles if populations are increasing and before rind damage occurs. A treatment should be applied for squash bugs if you find just one egg mass per plant or when nymphs are first detected. Thiodan or a pyrethroid generally provide effective cucumber beetle control; however, multiple applications may be needed. Multiple applications of the highest labeled rate of a

pyrethroid are generally needed for squash bug control.

Lima Beans.

As soon as pin pods are present, you should sample for earworm, lygus and stinkbugs. A treatment should be applied if you find one corn earworm per 6 foot of row or 15 tarnished plant bugs and/or stinkbugs per 50 sweeps. Lannate or Capture can be used to control all 3 insects on lima beans.

Peppers.

At the present time, all peppers that have fruit ½ inch in size or larger should be sprayed on a 7-10 day schedule for corn borer and pepper maggot control. A continuous pyrethroid program should not be used to avoid aphid explosions.

Snap Beans.

All processing snap beans in the bud and pins stages should be treated with Orthene for corn borer control. At the present time, a third treatment with Asana, Capture or Lannate will be needed within a week of harvest. If corn borer catches increase, multiple applications will be needed between the pin spray and harvest. In addition, when corn earworm catches increase to 10 per night, a pyrethroid should be combined with Orthene at the pin spray. As soon as pin pods are present, fresh market snap beans should be sprayed on a 7-day schedule with Lannate or Capture. Be sure to check blacklight trap catches in your area. Trap catches are updated on the IPM

website three times per week at <http://www.udel.edu/IPM/traps/latestblt.html> .

Sweet Corn.

All fresh market silking sweet corn should be sprayed on a 3-day schedule in Kent County and on a 4-day schedule in Sussex County. Watch for aphid populations that are increasing on the tassels and silks. Although this feeding does not cause a direct yield loss, it can result in quality problems. A combination of Lannate *plus* a pyrethroid will help to reduce aphid populations.



Correction to Days to Harvest for Pounce Use on Watermelon From Issue 18

Rind Damage on Watermelons.

Ambush and **Pounce** have **0 days to harvest** with a 24 hour re-entry time, Thiodan is 2 days to harvest and 48 hour re-entry, and Capture has a 3 day restriction with a 24 hour re-entry.

Always read the label before mixing and applying any pesticides. Thank you for catching the error.



Vegetable Diseases - - *Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu*

Lima Bean.

Lima Bean -Downy Mildew Alert.

Downy mildew was reported to be seen in the Milton area where they had 5 inches of rain last weekend. Be on the lookout, where there has been sufficient rainfall to favor downy mildew infection. Remember that prevention is the key to success with fungicides.

Since rainfall amounts can vary widely, fieldmen and growers should be keeping track of rainfall and average daily temperature for their area. Using the Hyre system and weather data from Georgetown, there was an infection period between July 5th and 10th which would predict

downy mildew appearing about 10 days later, which apparently has happened. A second infection period has occurred between July 26 and August 1 indicating that mildew could appear in 7-10 days if the fungus is present. We presume that the fungus is present.

The Hyre system for predicting the occurrence of downy mildew on limas is as follows: when fields receive 1.2 inches or more of rain within 7 days and when the average daily temperature during this period is 78°F conditions are favorable for infection. Periods of fog or heavy dew can lower the amount of rain necessary for infection to occur. It appears from our data that a single day of 90°F does not cancel the prediction as the old predicting system would state. It may take several days above 90°F or a single day of 95°F or above to break the cycle. We do not know the upper temperature limits for the new races E and F.

Preventative applications of fixed copper Kocide 2000 or Champ DP are recommended for fields in flower or in later stages of plant development. The days-to-harvest interval is 0 days.

Important correction.

The rate for fixed copper for downy mildew control in lima beans is incorrect on page 84 in the 2001 Commercial Vegetable Productions Recommendations EB 137. It should read 2.0 lbs of product per acre not 0.66 lb.



Late Blight Update

Disease Severity Value (DSV) Accumulations as of August 1, 2001, are as follows:

*Location: Joe Jackewicz Farm, Magnolia, DE
Remember that 18 DSV's is the threshold to begin a spray program*

Date	Total DSV	Spray Recommendation
5/16	0	
5/17	11	
5/20	29	
5/30	51	5-day, low rate

6/3	57	5-day, low rate
6/5	57	5-day, low rate
6/7	57	7-day, low rate
6/11	59	10-day, mid rate
6/13	60	10-day, mid rate
6/17	76	7-day mid rate
6/20	76	7-day high rate
6/24	88	7-day high rate
6/27	88	7-day high rate
7/1	89	10-day, high rate
7/4	90	10-day, high rate
7/8	92	10-day, high rate
7/11	94	10-day, high rate
7/15	94	10-day, high rate
7/18	99	7-day, high rate
7/22	102	7-day, high rate
7/25	106	10-day, high rate
7/30	116	5-day, mid rate

8/1	117	5-day, mid rate
-----	-----	-----------------

Some low levels of **bacterial soft rot** are present in some fields. As potato vines decline, I am seeing **black dot** caused by the fungus *Colletotrichum*. It produces light- tan cankers at the base of stems and the infected areas are covered with the black fruiting bodies of the fungus, which looks like black dots thus the name. It is unclear if black dot reduces yields in the eastern states, but it is very common here.



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

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**. Any questions, please call David Armentrout at (410) 742-8788 or e-mail: da88@umail.umd.edu

Location	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1
Bridgeville, DE	0	0	6	1	1	6	2	0
Laurel, DE (Collins Farms)	0	0	5	1	2	7	1	1
Galestown, MD	0	0	7	0	1	6	1	0
Georgetown, DE	0	0	6	1	1	5	1	1
Hebron, MD	0	1	5	1	2	7	1	1
Salisbury, MD	0	3	4	0	1	4	2	1
Laurel, DE (Vincent Farms)	0	1	5	0	1	6	1	1

Watermelon Fields should be sprayed with a fungicide when 30 EFI values have been 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 zero. The first and last day above can be partial days so use the larger EFI value of this report and other reports for any specific day

More detailed information concerning MELCAST and sample data sheets are available on the web at <http://www.agnr.umd.edu/users/veg/disease/veg/disease.htm>. ❖



Field Crops

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

Soybeans.

Continue to watch for spider mites and defoliators in soybeans. Economic levels of spider mites continue to be found in full season soybeans. A treatment is needed for spider mites if you can find 20-30 mites per leaflet. Dimethoate plus a penetrant like LI-700, Lorsban and Parathion (aerial application only) are the only labeled products. If defoliators are present, the treatment threshold is 30% defoliation prebloom and 15% once bloom occurs. If a combination of insects is present, the threshold for each pest should be reduced by 1/3. We are also starting to see corn earworm moths flying and laying eggs in blooming soybean fields. Although trap catches have been lower this season, you should begin to scout all fields with pin pods for corn earworm larvae. In later planted soybean fields, there is always a potential for defoliation from earworms as well as pod feeding so those fields should be checked as well. The treatment threshold is 3 per 25 sweeps in narrow fields and 5 per 25 sweeps in wide row fields. When possible, treatment should be delayed until at least 1/3 of the worms are at least 3/8-inch long. A pyrethroid or Larvin will provide control.



Perdue AgriRecycle Poultry Litter Pelletizing Plant Tour – Bud Malone, *Extension Poultry Specialist*, malone@udel.edu

Date: August 8, 2001

Departure Time: 1:30 p.m.

Departure Location: U of D REC Grove.

The University of Delaware, in collaboration with Perdue AgriRecycle, LLC will be offering a tour of the new poultry litter pellet plant in Blades, Delaware, as part of the University of Delaware

Farm & Home Field Day. Visitors will see this state-of-the-art facility and view how this litter pelletizing technology converts poultry litter into pasteurized, all-natural fertilizer pellets. This is an opportunity to see the largest plant of its kind in the world. Please sign-up for the tour at the registration tent at Farm & Home Field Day. A final count of participants is needed by noon on Wednesday, August 8. On the sign-up sheet, please indicate if you will be riding the bus or following the bus in your own vehicle. The bus will be leaving the Research and Education Center Grove area at 1:30 p.m. There is no charge. For more information, contact Bud Malone at 302-856-7303.



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

Weather Continues Dominating Commodity Markets

General Comments

In the two weeks since this column last appeared, not much has changed other than time is marching on in terms of crop development for the 2001 U.S. corn and soybean crops. Commodity traders are keeping a close watch on the weather, with the national corn crop nearing the 85% pollination level and the soybean crop coming into the critical month of August. Nationally, hot and dry conditions combined with spotty rains of variable amounts are making the 2001 crop size for U.S. corn and soybeans difficult to call, as evidenced by the roller coaster effect we've seen in commodity prices over the past few weeks. Word from the Midwest indicates that rain is needed in the Corn Belt within the next few days. Without timely rains, then we are likely to see commodity prices reacting in a positive manner. Commodity traders at the Chicago Board of Trade are currently awaiting the release of the August 10th Crop Report. Commodity prices, although volatile, are not expected to rise or fall much over

the next week due to the fact that commodity traders now need to see the August report.

Weather will continue to dominate the soybean market over the next couple of weeks. U.S. soybeans continue to experience good demand with the demand picture for corn to be improving. One further factor to consider before this year's crop is finished being priced is the potential chance of an early frost, due to the late planting of much of the nation's corn and soybean crops. Presently, it is suggested to hold up on advancing further corn and/or soybean sales. Any favorable basis opportunities should be locked, if available?



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

Many of you have probably heard a radio advertisement by Monsanto that discusses preliminary results of research at Michigan State University. The following is a response written by the weed science extension specialists at Michigan State University:

Glyphosate formulation research at Michigan State University. This (Monsanto's) advertisement is referring to a greenhouse experiment conducted by Dr. Don Penner. This study included three glyphosate formulations: Roundup UltraMax, Touchdown IQ (new in 2001), and Touchdown 5 (discontinued in 2001). The formulations were tested on velvetleaf, prickly sida, large crabgrass and barnyardgrass. The study included a comparison of these three formulations, applied in hard water and distilled water, and also compared weed control with and without ammonium sulfate (AMS). Dr. Penner has conducted this study once and will be repeating it in the greenhouse. All of the glyphosate formulations will be applied in corn and soybean field research this summer as well.

Michigan State University weed scientists do not report preliminary results, or make weed

control recommendations based on preliminary results, in . . . Extension publications.

In other words, this information should not have been used for commercial purposes. The data will be available once the study is completed and conclusions can be made.



UPCOMING MEETINGS:

FARM AND HOME FIELD DAY

Wednesday, August 8th, 2001

**University of Delaware College of Agriculture and
Natural Resources
Cooperative Extension System
Research and Education Center
Georgetown, Delaware**

SCHEDULE OF EVENTS:

Agronomic and Vegetable Field Tours

Wagons will depart from the area located behind the pesticide storage and handling facility from 8:30 a.m. – noon.

◆ **Managing Downy Mildew in Lima Beans**
Lima beans, Delaware's most widely planted vegetable crop at 13,500 acres, are threatened by new races of the fungus disease, downy mildew. Students and faculty in the Department of Plant and Soil Sciences have been investigating control methods through genetic resistance and fungicide programs. Graduate students **Carley Davidson**, and **Jennifer Dominiak**, along with Extension Plant Pathologist, **Bob Mulrooney**, and Associate Professor, **Dr. Tom Evans** will demonstrate and discuss their research findings.

◆ **Glyphosate Resistant Horseweed**
In 2000, more than five fields were identified as having glyphosate-resistant horseweed. Glyphosate is the active ingredient in Roundup, Touchdown and other herbicides commonly used

in Delaware. Research at the University of Delaware to confirm the presence of glyphosate-resistance, how herbicide resistance develops, and ongoing research for management of this resistant biotype will be discussed. **Dr. Mark VanGessel**, Extension Specialist, Weed and Crop Management; **Quintin Johnson**, Extension Associate; **Brian Hearn**, Research Associate; and **Cory Whaley**, Graduate Student.

◆ **Using Starter Fertilizer in Corn**

Delaware farmers often question the value of using starter fertilizer when planting corn. The use of starter fertilizer often results in an early growth response. However, there is uncertainty in the degree of yield response and the associated cost/benefit with starter fertilizer use. This stop will focus on current projects being conducted throughout the state evaluating plant response to starter fertilizer. **Dr. Greg Binford**, Assistant Professor, Soil/Water Quality.

◆ **Delaware Nutrient Management Certification Program**

In June of 1999, the Delaware General Assembly passed House Substitute Bill 1 for House Bill 250 to address nutrient management in Delaware. This law requires most individuals who handle or generate nutrients to become certified. This stop will highlight progress of this certification program and future direction. **Dr. Dave Hansen**, Assistant Professor, Soil/Water Quality.

◆ **Wildlife and Conservation Plant Demonstration Nursery**

In 1992, the University of Delaware Cooperative Extension Service – Renewable Resources Program joined forces with the Delaware Chapter of the Wild Turkey Federation, First State Chapter of Quail Unlimited, Sussex Conservation District and the USDA-Soil Conservation Service to establish a local demonstration site of grasses, forbs, shrubs and trees recommended for wildlife habitat and conservation practices in this part of Delaware. The Demonstration Nursery provides insight into open-drainage ditch bank herbaceous management techniques, water quality

improvement methods, along with erosion control and nutrient management opportunities. This area was chosen because of its similarity to land, throughout lower Delaware, abandoned by landowners due to low crop yield potential or difficulty in farming. The Wildlife & Conservation Plant Demonstration Nursery provides a visual opportunity for interested individuals to view a variety of plant species as to their growth requirements and habitat compared to other similar species within a close proximity of each other. The varieties of plant species established here are recommended for replication in Delaware. Since 1992, this demonstration area has grown and changed due to weather conditions and research requirements. It is accessible to anyone who would like to view specific varieties of plants as a ‘pre-planning’ undertaking. **Dot Donnelly**, Extension Agent, Renewable Resources.

Sick Plant Clinic

Bring your landscape and garden problems in for diagnosis from 8:30 a.m. – noon
(located at the Master Gardener area)

Weed Identification Area

Challenge your skills in identifying common troublesome weeds found in field crops, gardens, and lawns from 8:30 a.m. - noon
(located near the Master Gardener area)

Sussex Master Gardener Demonstrations

Exhibits and seminars open from 8:30 a.m. - 1:30 p.m.



The garden has been expanded again this year and is filled with new plants and new ideas to make your garden and landscape attractive and easy to maintain. The garden continues to evolve and mature, and features the following demonstrations:

Sussex Master Gardener Demonstrations (con't)

- ◆ 30 varieties of caladiums planted in full sun
- ◆ Typical eastern shore home vegetable garden
- ◆ Juniper varieties
- ◆ Ornamental grasses
- ◆ Annuals for landscape and for cutting
- ◆ Perennial border and a shade garden with caladiums, hostas, etc.
- ◆ Vertical hydroponic system
- ◆ Hydroponic float system

4-H Farm Animal Display

Located west of the grove area (near the Lasher Lab) from 9:00 a.m. - 1:00 p.m.



This exhibit will highlight animal care, history, and production related to the following animals: calves, pigs, sheep, goats, ponies, chicks, rabbits, and ducks. Animal owners and 4-Hers will be on hand to answer your questions. Animals will be available for petting. **Mary Argo**, Extension Educator, 4-H.

Sussex County Safe Kids Day Activities

Located in the tent west of the grove from 8:30 a.m. – 12:00 noon



The theme for the 2001 Sussex County Safe Kids Day is “Make It a Safe Kids Summer.” This year’s proclamation will read as follows: “Whereas, our children deserve to grow up in a loving, supportive and safe environment and yet injuries are the leading cause of death for children even surpassing all childhood diseases combined...” This opening paragraph states the problem and Sussex County Safe Kids Day will focus attention on the solutions to prevent childhood injuries. We need to do as much as we

can at home, in schools, day care centers, recreational programs, places of work and in our communities to address this issue. This year’s theme will focus on the top summertime risk areas: motor vehicles, drownings, pedestrian falls, bikes, scooters, and in-line skates.

Participants will learn about childhood injury prevention from dynamic speakers, exhibits, puppet shows, costumed characters and interactive exhibits. This festival of education and entertainment will include the following:

- ◆ Child car seat station
 - ◆ Clowns
 - ◆ Safety exposition
 - ◆ Safety demos
 - ◆ Pony rides
 - ◆ Refreshments
 - ◆ Children’s garden
 - ◆ Singing group
 - ◆ Drama group
 - ◆ Weightlifting demo
 - ◆ Youth speakers
 - ◆ Face painting
 - ◆ Finger printing
 - ◆ Safety robots
 - ◆ Costumed characters
 - ◆ Children’s nutrition
 - ◆ Hoop shoot
 - ◆ Jugglers
 - ◆ Petting zoo
 - ◆ Fire safety house
 - ◆ Kids fire combat challenges
 - ◆ Bicycle helmet-fitting station
- Safety kits for 1st 750 children**

Ron Jester, Extension Safety Specialist

Luncheon Program

12:00 Noon in the grove

A catered luncheon will be followed by a brief program. Tickets will be available for \$6.00 per person at the information table. (Tickets are limited so early purchase is recommended.)

Other Events and Activities

Many agricultural-related demonstrations and exhibits will be on display beginning at 8:30 a.m. The legendary sounds of “Bunky and Dottie” Eye will entertain visitors in the grove area from 10:00 a.m. – 12:00 noon featuring Rock “N” Roll, New Country, Old Country, Pop and Gospel songs – entertainment for all ages. Carriage rides will also be available.

◆ Forestry Management Tour

Immediately following Field Day (approximately 1:30 p.m.), a two-hour forestry management tour will be held. This tour will consist of stops evaluating different woodland management tracts in close proximity of Georgetown. This tour is sponsored by the Delaware Forestry Association. There is no charge.

◆ Perdue AgriRecycle Poultry Litter Pelletizing Plant Tour

The University of Delaware in collaboration with Perdue AgriRecycle, LLC will be offering a tour of the new poultry litter pellet plant in Blades, Delaware. Visitors will see this state-of-the-art facility and view how this litter pelletizing technology converts poultry litter into pasteurized, all-natural fertilizer pellets. This is an opportunity to see the largest plant of its kind in the world. A bus will be leaving the Research and Education Center Grove area at 1:30 p.m. There is no charge.

For more information contact:

Mark Isaacs or Jay Windsor
University of Delaware Research and Education
Center, RD6, Box 48, Georgetown, Delaware
19947
(302) 856-7303 or (302) 856-1997

Crop Diagnostic Field Day

August 15, 2001
8:00 a.m. – 11:30 a.m.
U of D Research & Education Center,
Georgetown, DE

For more information, to register or for directions, contact Lisa Dorey at 302-856-7303 (ph), 302-856-1845 (fax) or dorey@udel.edu.

University of Maryland Wye Field Day
August 16, 2001
U of MD Wye Research and Education Center
Queenstown, MD



Weather Summary

Week of July 26 to August 1, 2001

Rainfall:

July 26: 1.09 inches
July 29: 0.90 inches
July 30: 0.14 inches

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

Air Temperature:

Highs Ranged from 85°F on July 26 to 66°F on July 29.

Lows Ranged from 67°F on July 26 to 56°F on July 28 & August 1.

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

Cooperative Extension Education in Agriculture and Home Economics, University of Delaware, Delaware State University and the United States Department of Agriculture cooperating, John C. Nye, Dean and Director. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. It is the policy of the Delaware Cooperative Extension System that no person shall be subjected to discrimination on the grounds of race, sex, disability, age or national origin.