



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*

Cabbage

Economic levels of diamondback and imported cabbage worm larvae continue to be found. A treatment should be applied when 5% of the plants are infested and before larvae move to the hearts of the plants.

Cucumbers

All fields should be scouted for cucumber beetles and aphids. Fresh market cucumbers are susceptible to bacterial wilt, so 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. A treatment should be applied for aphids if 10 to 20% of the plants are infested with aphids with 5 or more aphids per leaf.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. The treatment threshold for aphids is 20% infested plants with at least 5 aphids per leaf. Be sure to also watch for beneficials. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. We have seen an increase in cucumber beetle activity, especially in cantaloupe fields.

Since beetles can continue to re-infest fields as well as hide under the plastic, multiple applications are often needed. Foliar products labeled for cucumber beetle control on melons include Assail, a number of pyrethroids, Lannate, Sevin and Thionex. Be sure to check all labels for rates, precautions and restrictions, especially as they apply to pollinators.

Peppers

Continue to sample for thrips. We are hearing reports of an increase in thrips activity in crops grown in southern states. You should also continue to sample for corn borers and watch carefully for egg masses. Before fruit is present these young corn borer larvae can infest stems and petioles. Be sure to also 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/latestblt.html>).

Potatoes

Fields should be scouted for Colorado potato beetle (CPB), corn borers (ECB) and leafhoppers. Adult CPB as well as the first small larvae can now be found. A treatment should be considered for adults when you find 25 beetles per 50 plants and defoliation has reached the 10% level. Once larvae are detected, the threshold is 4 small larvae per plant or 1.5 large larvae per plant. As a general guideline, controls should be applied for leafhoppers if you find ½ to one adult per sweep and/or one nymph per every 10 leaves.

Snap Beans

Continue to sample all seedling stage fields for leafhopper and thrips activity. The thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. If both insects are present, the threshold for each should be reduced by $\frac{1}{3}$. In addition, we are starting to see an increase in bean leaf beetle activity. Damage appears as circular holes in leaves and significant defoliation can quickly occur. As a general guideline, a treatment should be considered if defoliation exceeds 20% prebloom. 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. 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 (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>).

Sweet Corn

Continue to sample seedling stage fields for cutworms and flea beetles. You should also sample all whorl stage corn for corn borers. A treatment should be applied if 15% of the plants are infested. The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check trap catches since the spray schedules can quickly change. You can call the Crop Pest Hotline for the most recent trap catches (in state: 1-800-345-7544; out of state: 302-831-8851) or check our website at <http://ag.udel.edu/extension/IPM/traps/latestblt.html>.

Tough Year for Early Peas—Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

Pea harvest has begun on early plantings on Delmarva. Many early planted pea fields have reduced yield potential due to stand issues, drowned out areas, root rot in wet and compacted areas, and general poor rooting due to compacted soils. March and early April was a tough period for planting peas. It started with as much as a foot of snow the first week — delaying early plantings. While rainfall totals the rest of

March were moderate, the first three weeks of April were wetter, with heavy rain during the middle of the month. May has seen significant periods of rainfall with a week of wet weather to begin the month and heavy rainfall on the 25th and 26th (some areas received as much as 4 inches). Over this period, temperatures were cool most of the time.

As growers well know, peas do not perform well in soils that are worked when they are too wet or when they receive heavy rainfall after planting. Compaction and crusting over will lead to poor emergence and reduced growth. Root rot is can be a major issue. According to the Crop Profile for Peas in Delaware:

“Aphanomyces root rot, or common root rot, is one of the most destructive diseases of peas. It occurs in most pea producing regions of the U.S., including the Mid-Atlantic. In the Northeast, average annual yield loss to this disease is about 10%, though losses in individual fields may be up to 100%. Wet soil conditions and poor drainage are associated with higher rates of infection. The disease is most damaging in years when a cool, wet spring is followed by an early, warm summer with low rainfall.”

Aphanomyces root rot is caused by the fungal pathogen *Aphanomyces euteiches*, although other soil-borne organisms contribute to the disease complex. Oospores can remain dormant in the soil for years. When conditions are favorable, the spores germinate and pass through several life stages before developing into hyphae that can grow through host plant tissue. Infection can occur at all temperatures favorable for pea development. Once pea roots are infected, the mycelium of the fungus begins to decay the root tissue. As roots decay, the oospores return to the soil to serve as inoculum in years to come. Characteristic symptoms of Aphanomyces root rot include water-soaking, softening, and slight discoloration of the taproot and lower stems of infected plants. The outer root tissue of infected plants can be easily sloughed off. Symptoms develop faster at warmer temperatures.

“Attempts to control this disease through the development of resistant host plant strains have

not been successful. Crop rotation is an extremely important practice, but because oospores can survive in the soil for years, even the recommended rotations of 4 to 5 years may not be sufficient in all cases. Other host plants such as beans, alfalfa, and spinach must be avoided in the rotation. Many leguminous weeds can also serve as host plants and should be controlled. The best management strategy includes using long rotations, planting in fields with well-drained soils, avoiding soil compaction with heavy farm machinery, and avoiding planting in moderately to highly infested fields.”

Poor pea performance due to compaction in field. Note yellowing in wheel tracks.



Stunted areas due to root rot problems in peas.



Drowned out areas are all too common this year in pea fields.



Pea root rot.



Late Blight Advisory

Location: Shadybrook Farms, Little Creek, DE (Kent County)

Greenrow: May 1

Date	DSV	Total DSV	Accumulated P-days*	Spray Recommendation
5/3-5/6		41		
5/7	2	43		
5/8	1	44		
5/9-5/13	0	44		10-day spray interval
5/14	1	45		10-day spray interval
5/15	3	48		10-day spray interval
5/16	2	50		7-day spray interval
5/16-5/25	0	50		7-day spray interval
5/26	3	53		10-day spray interval
5/27	3	56	217	7-day spray interval

*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 **217 P-days** have accumulated at the site. Once 300 P-days have accumulated, the first fungicide for early blight control should be applied. This usually occurs when rows are touching.

Maintain the recommended spray interval. At 300 P-days, sprays will be need to control early blight. Growers who do not want to rely only on the DSV calculations for scheduling fungicide applications should apply at least 1-2 sprays of mancozeb (Dithane, Manzate, Pencozeb, Manex II) or Bravo (chlorothalonil) before plants canopy down the row. At this point weekly fungicide applications would be suggested.

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

Agronomic Crops

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

Alfalfa

Potato leafhoppers are now present in fields so be sure to sample on a weekly basis after the first cutting. 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.

Field Corn

As small grain dries down, be sure to watch for armyworms moving out of small grain and into adjacent corn fields. You should also scout corn for armyworms in fields that were planted into a small grain cover. Remember, worms must be less than 1 inch long to achieve effective control. The treatment threshold for armyworms in corn is 25% infested plants with larvae less than one-inch long. Large larvae feeding deep in the whorls will be difficult to control.

Small Grains

As small grains dry down, be sure to watch for head clipping from armyworm and sawfly. In fields that did not receive an insecticide spray,

we have started to find an occasional field with economic levels of armyworms, as well as old head clipping from grass sawfly larvae. On barley, significant head clipping from armyworms can quickly occur. As a general guideline, the threshold for armyworms in barley is one per foot of row and for wheat 1 to 2 per foot of row. As a guideline, a treatment should be applied for sawflies when you find 2 larvae per 5 foot of row innerspace or 0.4 larvae per foot of row. However, remember if the number of clipped heads is twice the worm count for sawflies then it is generally too late to treat for them.

We also can find an occasional wheat field with economic levels of cereal leaf beetle, especially later maturing fields. Research from North Carolina and Virginia indicates that the greatest amount of damage occurs between flowering and the soft dough stage of plant development. Before making an application of an insecticide, be sure to check all labels for the number of days between last application and harvest.

Soybeans

Continue to sample for slugs, bean leaf beetles and grasshoppers. As a general guideline, the treatment threshold for grasshoppers is 1 per sweep and 30% defoliation. Sprays may be needed sooner if stand loss is occurring. Early detection and control of small grasshoppers is necessary to achieve control. We have started to see an increase in bean leaf beetle (BLB) activity in the earliest planted and emerged fields. A new fact sheet from Ohio provides good information on bean leaf beetle biology as well as provides pictures of adult beetles and leaf damage (<http://ohioline.osu.edu/ent-fact/pdf/0023.pdf>).

PSNT, Yellow Corn, and Sidedressing-

Gordon Johnson, Extension Ag Agent, Kent Co.;
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Corn sidedressing has begun throughout Delaware. One important tool for nitrogen management in corn is the pre-sidedress nitrogen test (PSNT). The PSNT is based on the concept that amounts of plant-available N for the growing season can be predicted by taking

samples from the surface foot of soil when corn plants are 6-12 inches tall. The timing of sampling is important because it allows you to detect any unexpected losses early in the growing season. It is also important because you are sampling just before the corn begins rapid uptake of N.

Fields that have had applications of animal manures or organic wastes and received less than 50 lbs of N as a starter and/or preplant are good candidates for the PSNT. On irrigated fields where farmers have the option of adding N later in the growing season, other methods, such as use of the leaf chlorophyll meter (LCM) may be more appropriate. Fields where more than 50 lbs of N has been applied preplant and/or as starter or fields receiving no manure are not appropriate for the PSNT.

Sample collection and handling are extremely important. Multiple cores, 15-30 per sample, should be collected to a depth of 12 inches to represent a uniform area of a field (in terms of soil type, management, etc.) no larger than about 20 acres. Be careful not to sample bands of previously applied fertilizer or injected manures! The cores should be mixed and quickly air-dried by spreading them on paper in a warm area. Samples may also be refrigerated until it is possible to dry them.

The PSNT level will provide an estimate of the likelihood of seeing a response to additional nitrogen fertilizer. Fields with PSNT values 21 ppm or higher are unlikely to benefit from additional nitrogen fertilizer, and the higher the value the less likely the need for supplemental nitrogen. The problem arises when PSNT values are less than 21 ppm. PSNT values below this level may or may not respond to additional nitrogen fertilizer, but the stock recommendation would be that they do require more nitrogen. There can be sites that have a low PSNT value but show no response to nitrogen fertilization. Bottomline: if the PSNT values are above 21 ppm, adequate nitrogen should be available for this year's corn crop. If it is less than 15 ppm, the normal nitrogen rate should be applied. Between 15 and 21 ppm, other factors should be considered before reduction of the normal nitrogen rate.

In Delaware, Conservation Districts in Kent and Sussex Counties offer PSNT testing free of charge and will take the samples. A number of different laboratories, including many private laboratories and the University of Delaware Soil Testing Laboratory, can analyze these samples and provide guidelines for interpreting the results.

Many corn fields are showing patches of yellow plants. This is most likely due to a temporary nitrogen deficiency. On sandy soils, heavy rains may have leached nitrate deeper than the depth of the corn roots. On wet soil areas, nitrogen losses due to denitrification may have occurred. In compacted soils with broadcast N but no starter N, roots may not have expanded sufficiently to pick up enough nitrogen.

The key in all cases is to sidedress as soon as possible with additional N. Nitrogen rates may need to be increased from what was originally planned in areas with heavy leaching or denitrification. One common question is whether or not knifing nitrogen is better than dribbling nitrogen. When using nitrogen solutions (such as 30% UAN), there are slight increases in efficiency by knifing the N into the root zone and limiting volatilization losses of ammonia from surface applied urea. This loss of ammonia from urea in dribbled on UAN nitrogen is generally minimal because there is limited contact with the urease enzyme on the soil surface. One additional advantage of knifing in nitrogen is that it can open up compacted soils and improve aeration to a limited degree. Knifing is required when using anhydrous ammonia and the slot needs to be closed to avoid ammonia loss to the air.

Information used in this article came in part from Dr. Dave Hansen, Extension Nutrient Management Specialist, UD; the University of Maryland; and the Ohio State University.

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

Time is Running Out

U.S. farmers now have 82% of the '09 corn crop planted, 4% behind last year and 11% behind the five-year average. Major problems persist in

Illinois, Indiana, and North Dakota where wet conditions and more rain received recently has further delayed planting. A recent industry estimate suggests that 12 million acres of the 85 million acres USDA projected for '09 corn plantings remained unseeded as of May 24. Depending upon geographic location, the '09 corn crop will need to be planted no later than June 10.

The commodities market has been contemplating a 1 to 3 million acre shift from corn to soybeans. The actual size of an acreage shift remains to be seen, however, it now appears that an acreage shift will occur and is likely to be much larger than previously anticipated. Bear in mind that trader's would need to see a larger acreage shift than the 1 to 3 million already anticipated before we'd expect to see much reflection in new crop corn and soybean prices.

U.S. soybean plantings, at 48% are also well behind the average of 65%. In follow-up to last week's mention of spring wheat crop planting delays, spring wheat was 79% planted compared to the 5-year average of 95% for the week ending May 24. This further suggests that additional soybean acres could also come from other places besides corn.

Market Strategy

The cut-off date for Corn Belt farmers to opt for prevented planting insurance on corn was May 25. Although some producers in extremely wet areas may have opted for the prevented planting option, most are likely to opt for planting soybeans. The new crop Nov '09 soybean futures contract closed at \$10.50 per bushel on Wednesday, May 27. Every 1 million acres of soybeans planted could result in a 40 million bushel (+ or -) production increase for U.S. soybeans. A few million acre increase would not likely have a significant impact on the new crop soybean price due to the reduction that is forecast for the Southern Hemisphere crop and the ferocious appetite that China has for U.S. soybeans. A larger acreage shift would likely be good news for new crop corn and bad news for new crop soybean prices. It is likely to be advisable to advance new crop corn and soybean sales for '09 delivery ahead of learning the

actual U.S. acreage count. Actual planted acres won't be reported until the end of June. Depending upon location, new crop corn and soybean basis bids are currently even to 45 under, respectively. At-the-money put option premiums are currently bidding at 52'7 for corn (\$4.50 strike price) and 108'2 for soybeans (\$10.40 strike price).

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

Announcements

Come. Play. Experience. A Day on the Farm

Saturday, May 30, 2009 10:00 a.m. – 4:00 p.m.
Woodside Farm Creamery, Hockessin, DE
(Corner of Little Baltimore and North Star Rd.)

Free Admission!

Enjoy...

- More than 40 entertaining & educational exhibits
 - Interactive Agricultural Demonstrations
 - A LIVE Honey Bee Colony
 - Hayrides
 - Woodland Walks
 - "Guiding Paws" Dog Show
- & Much More!

Bring your family and friends but, please, no pets.

Join Delaware Cooperative Extension in supporting the Food Bank of Delaware. Bring nonperishable food to our Day on the Farm Food Drive – and help feed Delawareans in need.

For more information contact New Castle County Cooperative Extension at (302) 831-2506 or visit www.woodsidefarmcreamery.com.

Agronomic Crops Twilight Tailgate Session

Wednesday, June 10, 2009 6:00 p.m.
UD Cooperative Extension Research and
Demonstration Area
(³/₄ mile east of Armstrong Corner, on Marl Pit Rd. –
Road 429, Middletown)

Join your fellow producers and the UD Extension team for an overview of UD's Weed Science Program—Fall Soybean Herbicide Applications research trial; updates on the latest disease and insect outbreaks and a grain market update. We will wrap things up with the traditional ice cream treat!

Bring a tailgate or a lawn chair.

We will apply for DE Pesticide and Nutrient Management re-certification credits and Certified Crop Advisor credits.

This meeting is free and everyone interested in attending is welcome. Please register by June 5. 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.

See you there!

Anna Stoops, New Castle County Agricultural Extension Agent

Attention Produce Growers!! On Farm Delaware Food Safety Training – Level I Certification

Tuesday, June 30, 2009 9:00 a.m. – 4:00 p.m.
Filasky's Produce, Inc.
1343 Bunker Hill Road, Middletown, DE

Recent food safety concerns emphasize the need for fresh produce growers to reduce potential exposure of fruits and vegetables to organisms that cause food-borne illness, as well as other contaminants. Keeping produce safe should be a priority for Delaware produce growers, packers and shippers. Attend this training and you will receive Level 1 Delaware Voluntary Produce Food Safety Certification.

Lunch will be provided.

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.

Co-sponsored in part by Northeast Center for Risk Management Education.

See you there! — Anna Stoops, New Castle County Agricultural Extension Agent

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of May 21 to May 27, 2009

Readings Taken from Midnight to Midnight

Rainfall:

1.44: May 25

0.68 inch: May 26

Air Temperature:

Highs ranged from 84°F on May 23 to 69°F on May 26.

Lows ranged from 69°F on May 25 to 42°F on May 21.

Additional Delaware weather data is available at
http://www.deos.udel.edu/agirrigation_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. For subscription information, contact her at emmalea@udel.edu or (302) 856-2585 x 587.

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