



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 15, Issue 6

May 4, 2007

## Vegetables

**Vegetable Crop Insects** - *Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)*

### Asparagus

Begin scouting fields for asparagus beetle adults, especially on field edges. As a general guideline, a treatment is recommended if 2% of the spears are infested with eggs. Since adults will also feed on the spears, a treatment is recommended if 5% of the plants are infested with adults. In past years, Sevin, Lannate, or permethrin have provided control.

### Cabbage

Begin scouting fields for imported cabbage worm and diamondback larvae. As temperatures increase, we could see an increase in moth egg laying activity. As a general guideline, a treatment is recommended if you find 5% of the plants infested with larvae. If both insect species are present, Avaunt, the Bt insecticides, Proclaim, Rimon or Spintor have provided control.

### Melons

As soon as plants are set in the field, you should begin scouting for cucumber beetles, aphids and spider mites. Often aphids are the first pest found in early planted fields so sample for aphids as well as beneficial insects since they can help to crash aphid populations. As a general guideline, a treatment should be applied for aphids when 20 percent of the plants are

infested, with at least 5 aphids per leaf. Foliar treatments labeled for melon aphid control on melons include Fulfill, Lannate and Thionex. These materials should be applied before aphid populations explode. The Fulfill label states that the addition of a penetrating type spray adjuvant is recommended to provide optimum coverage and penetration. Admire, Platinum and Venom are also labeled at planting for aphid control.

### Peas

The earliest planted fields should be sampled for aphids. On small plants, you should sample for aphids by counting the number of aphids on 10 plants in 10 locations throughout a field. On larger plants, take 10 sweeps in 10 locations. As a general guideline, a treatment is recommended if you find 5-10 aphids per plant or 50 or more aphids per sweep. Be sure to check labels for application restrictions during bloom.

### Potatoes

Begin sampling the earliest planted and emerged fields for Colorado potato beetle adults, especially if an at-planting material was not used. A treatment should not be needed for adults until you find 25 beetles per 50 plants and defoliation has reached the 10% level.

### Sweet Corn

Be sure to scout emerged fields for cutworms and flea beetles. As a general guideline, treatments should be applied for cutworms if you find 3% cut plants or 10% leaf feeding. In

order to get an accurate estimate of flea beetle populations, fields should be scouted midday when beetles are active. A treatment will be needed if 5% of the plants are infested with beetles.

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**Watermelon Seedling Diseases in the Greenhouse** - *Kate Everts; Vegetable Pathologist, University of Delaware and University of Maryland; [keverts@umd.edu](mailto:keverts@umd.edu)*

The fungal diseases **gummy stem blight**, **Alternaria leaf blight**, and **anthracnose** can be introduced into the greenhouse on watermelon seed. To minimize the occurrence of these diseases, the greenhouse should be disinfected before planting (benches, walls, walkways, etc.). The seed source should have tested negative for the pathogen with a minimum assay number of 1,000 seeds. Use clean transplant trays, disinfect trays if they will be reused, and new soil. Destroy any volunteer seedlings and keep the area in and around the greenhouse weed free. Avoid overhead watering if at all possible, or water in the middle of the day so that the plants dry thoroughly before evening. Keep relative humidity as low as possible through proper watering and good air circulation in the greenhouse.

As the seedlings develop, inspect them carefully. Infected seedlings will have small brown lesions on the leaves and water-soaked lesions on the stem. Diseases that are transmitted on seed often are randomly located throughout the greenhouse. Initial infections will occur as 'foci' or clusters of diseased plants.



Gummy stem blight infected transplants occur as clusters in an area around the initial infected seedling (foci).

If the seedlings appear diseased, destroy the flats where any seedlings show symptoms. Remove adjoining flats to a separate area for observation. Monitor these seedlings daily and destroy those that develop symptoms. Do not ship any trays containing plants with disease symptoms. After symptomatic and adjoining trays are discarded, spray remaining trays with a labeled fungicide and continue until plants are shipped.

**Bacterial fruit blotch (BFB)** of watermelon is caused by a bacterium that also may be seedborne. Initial symptoms of BFB are water-soaked areas on the lower surface of the cotyledons. Lesions turn necrotic often with yellow halos, which are frequently delimited by veins, and subsequently the seedlings collapse and die.



Small inconspicuous lesion of bacterial fruit blotch.

**Angular leaf spot**, which also is a bacterial disease, occurred in Delmarva's greenhouses several years ago. Symptoms are small dark brown irregular lesions on cotyledons or leaves. ALB is favored by cool wet weather. Usually conditions after transplanting to the field do not favor ALB disease development.

**Fusarium wilt** also can be seedborne. Although I have not seen Fusarium wilt infected transplants in local commercial greenhouses, it has occurred in other states. Symptoms are wilted seedlings that may remain green or be chlorotic. No lesions are observed along the stem or petiole but the vascular system is discolored and tan, pink or brown. This disease is of special concern because new strains or races can be introduced into an area on seedlings grown from infested seed.

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**ALS-Resistant Common Ragweed** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

Last year I reported about a biotype of common ragweed that was resistant to ALS-inhibiting herbicides AND PPO-inhibiting herbicides (Groups 2 and 14). This biotype developed in soybean fields treated with FirstRate, Pursuit, Valor, Reflex, and Cobra over a period of years. Now another field with ALS-resistant common ragweed (Group 2) has been identified. This second location is also in Sussex County, about 10 miles away from the first site. This second location had been in vegetable production and used products such as Pursuit, Raptor, and Sandea. The second location does not appear to be resistant to Reflex.

Common ragweed control with Pursuit or Raptor is poor to fair, but Sandea is very good in controlling common ragweed. If you have situations where any of these herbicides failed to control common ragweed, but other weeds were killed, be suspicious of resistance. Consider an alternative method of control (mechanical or herbicides other than Group 2). Feel free to contact me to help confirm the presence of resistant weed biotypes (302/856-7303 x 510).

Furthermore, ALS-resistant pigweed appears to be spreading. Pursuit, Raptor, and Sandea are very effective in controlling smooth and redroot pigweed. Again, if all other species are controlled except pigweed, consider an alternative method of controlling the pigweed.

Pigweed and common ragweed seeds remain viable for a long time in the soil. Three to five years of weed control is not adequate to eradicate herbicide-resistant weed seeds from the soil seedbank. Once the resistant biotype develops in a field, it is a situation that will not go away.



**Postemergence Grass Control Without the Need for Crop Oil Concentrate** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

Valent has come out with Select Max for controlling grasses postemergence without the need to use crop oil concentrate. Select Max is labeled for use with a non-ionic surfactant (80/20) instead of crop oil concentrate. Select Max is formulated as a 1 EC, whereas the Select is a 2 EC; so the use rate of Select Max is higher than for Select. Select Max is labeled for many vegetables and fruit grown in our region, but it is not labeled for all vegetables (notably peas, snap beans, and lima beans). So be sure to check the label.

## Agronomic Crops

**Agronomic Crop Insects** - Joanne Whalen, *Extension IPM Specialist*; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

### Alfalfa

Since economic levels of alfalfa weevil continue to be found in many fields throughout the state, be sure to sample all fields for larvae. If alfalfa is in the full-bud stage and economic levels are present, early harvest is an alternative to spraying. However, if harvest is not possible within 3 days and populations are increasing, use a short residual insecticide. If economic levels were present before cutting, be sure to check re-growth for larvae and feeding damage within a week of cutting. In recent years, cool conditions after first harvest have not produced enough "stubble heat" to control populations with early cutting. In some cases, damage to re-growth can be significant. A stubble treatment will be needed if you find 2 or more larvae per stem and the population levels remain steady.

### Field Corn

Be sure to sample all fields for cutworm activity as soon as they emerge. Although pheromone trap catches were low due to the cool spring temperatures, there will still be fields with economic infestation levels, especially if conditions exist that favor cutworm outbreaks (i.e. late planting, presence of broadleaf weed

growth before planting, poorly drained field conditions and reduced tillage) Be sure to sample all fields from emergence through the 5-leaf stage even if a seed applied treatment or other at-planting treatment was used. As a general guideline, a treatment should be considered in 1-2 leaf stage corn if you find 3% cut plants or 10% leaf feeding.

We are starting to get reports of bird damage in the earliest planted fields. Be sure that you do not confuse cutworm and bird damage. You can distinguish bird damage from cutworm damage by the pattern in the field. Generally longer strips of damaged plants, plants pulled out of the ground, and/or plants cut high that are compressed at the base of the stems, all indicate bird damage. Although birds can cut plants off at the soil surface, they tend to pull plants out of the ground. In addition, if you look closely you will see "bird prints" near the missing plants or holes where birds have pulled plants out of the ground.

#### Small Grains

Since barley has headed out, be sure to begin sampling fields for sawfly and armyworm larvae. We have received reports of the first larvae being found in small grains in Sussex County. Once grain heads have emerged, you should begin sampling small grains for sawfly and armyworm larvae. Remember, armyworm larvae are nocturnal so look for larvae at the base of the plants during the day. As a general guideline, a treatment should be considered if you find one armyworm per foot of row for barley and 1-2 per foot of row for wheat. Since sawflies feed on the plants during the day, small sawfly larvae can often be detected early using a sweep net. *However, there is no threshold for sweep net samples.* Once sawfly larvae are detected, sample for larvae in 5 foot of row innerspace in 5-10 locations in a field to make a treatment decision. You will need to shake the plants to dislodge sawfly larvae that feed on the plants during the day. As a guideline, a treatment should be applied when you find 2 larvae per 5 foot of row innerspace or 0.4 larvae per foot of row. If armyworms and sawflies are present in the same field, the threshold for each should be reduced by one-half.

**Agronomic Crop Diseases** – Bob Mulrooney;  
Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

#### Soybean Rust Update

Soybean rust was detected in a kudzu patch just north of Tampa in Pasco County, Florida. Fortunately, very dry conditions and a forecast of continued dry weather for Florida should limit development and spread of the disease. Soybean rust can no longer be found in many of the previously-infected kudzu patches in Florida, Georgia or Alabama. Scouting efforts have intensified in the south as soybean sentinel plots continue to be planted and monitored. Kudzu patches are also being scouted from Texas to South Carolina. The continued dry weather down South and reduced kudzu infection at the present time is resulting in unfavorable conditions for infection and spread of the disease.

#### Wheat

Continue to scout for leaf rust and powdery mildew. The critical time for making a spray decision is from flag leaf emergence through heading. There is powdery mildew in some scattered areas on the lowest leaves and it does not appear to be moving higher at the present time. If no powdery mildew or leaf rust is present, waiting until flowering and assessing the disease situation and the weather forecast might be worthwhile. At that time a strobilurin fungicide such as Quadris or Headline or a combo product such as Quilt or Stratego could be applied for glume blotch and the other Septoria diseases as well as tan spot if wet weather should set in after flowering. This late application will also produce clean, bright straw and protect against sooty molds should the heading period be rainy and harvest is delayed. Those are big ifs but something to consider. Remember that scab in wheat depends on wet weather during the flowering and none of the currently labeled fungicides provide control of this disease. With the arrival of warmer temperatures both Septoria leaf diseases can appear as well as tan spot especially if the weather turns wet as well.

#### Soybean Cyst Nematode

It is still not too late to check for soybean cyst nematode especially if susceptible soybeans are

going to be planted. Soil test bags with the submission form can be purchased at the Extension offices. If you have a fax machine and need results quickly, test results can be sent via FAX if you provide the number on the Nematode Assay Information Sheet. This information sheet can be found on the web at the Plant Clinic Website

<http://ag.udel.edu/extension/pdc/index.htm> .

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**Grain Marketing Highlights** - *Carl German, Extension Crops Marketing Specialist;*  
[clgerman@udel.edu](mailto:clgerman@udel.edu)

### USDA Crop Progress Report

Planted corn acreage in the U.S. took a big jump last week but remains well off the five-year average. U.S. corn planting was reported at 23 percent complete as of April 29, far short of the five-year average of 42 percent for that date. Planting progress almost doubled from the previous week, despite rainy conditions in much of the Corn Belt. Illinois, normally the 2nd largest corn producing state in the nation, managed to jump from 13 percent a week ago to 36 percent complete during the past week. Providing weather conditions improve, an extremely fast planting pace is possible. A local grain merchant summed things up very well yesterday stating "the commodity markets are likely to be a roller coaster until acreage planted becomes known." In any case we are now entering into a production year that is likely to cast high volatility into the commodities markets, resulting in large price swings. Currently, new crop commodity prices are \$3.90 Dec '07 corn; \$7.84 Nov '07 soybeans; and \$4.98 July '07 wheat. New crop corn and soybean futures prices are up 24 cents per bushel each from this time last week. The new crop SRW wheat futures price is down 18 cents per bushel from last week. New crop corn and soybeans remain in the bidding war that began in late fall of '06.

### Healthy Wheat Found in Kansas

By now everyone has heard about the 'Easter freeze' and its potential negative impact to Hard Winter Wheat. The 2007 Kansas Hard Winter Wheat Tour is now underway, scheduled to wrap

up this afternoon. Preliminary reports are better than expected concerning potential wheat yields. Traders will be assessing the wheat tour's report to be issued this afternoon. Wheat prices, currently in a technical downtrend, will resume that trend if the tour report confirms that not much wheat was lost due to the freeze.

### Market Strategy

Some farmers were recently thinking that they did not get as much \$4.00 corn sold as they'd like to before the corn market took its recent plunge. The opportunity to possibly get some more \$4.00 new crop corn priced is currently knocking on the door. Price volatility in the corn, soybean, and wheat pits is running high. It will be necessary to consider taking new sales via the forward cash contract or the purchase of a put option.

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

## General

**Christmas Tree Growers' Alert** - *Bob Mulrooney; Extension Plant Pathologist;*  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

Rhabdocline needlecast was seen in New Castle County this week in a planting of Douglas fir Christmas trees. This is an important disease to know and control if you grow Douglas fir. Only Douglas fir is susceptible to this needlecast. Badly infected trees will lose a considerable number of one and two year old needles, which renders the plants unsaleable come Nov. and Dec. The plant tissue covering the spore bearing structures is just splitting and the buds are emerging in this area, so the timing is right for a treatment in the next few days. Now would be a good time to scout plantings for symptoms and treat if the disease is seen. Bravo Weather Stik or other labeled formulation of Bravo or Daconil (chlorothalonil) is the least expensive and effective if applied at the proper time.

### Cultural Control

- Control vegetation around base of trees to increase air circulation and reduce moisture conditions necessary for infection.
- Plant healthy stock.
- Identify disease early to minimize losses.
- Shear trees in healthy plantations first to avoid contamination of these plantations by workers' clothing and equipment.
- Sterilize tools by dipping in denatured alcohol for 3 minutes after shearing infected plantations.

### Chemical Control

Trees should be sprayed with chlorothalonil (Bravo or Daconil 2787). Foliage should be completely covered. Three fungicide applications are generally recommended. The first should be made when at least 50% of the buds have broken and the new growth is 1/2 inch long. Make two more applications at two to three week intervals after the first.



Douglas fir needles infected with Rhabdocline



Rhabdocline needlecast showing the splitting of the covering over the spore producing structures prior to spore release.

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### Federal Child Labor Laws and Your Business - Ron Jester; Extension Safety Specialist (retired); [rcjester@udel.edu](mailto:rcjester@udel.edu)

You might ask, "What does child labor have to do with my business"?

The National Institute for Occupational Safety and Health (NIOSH) distributed a timely Alert titled "Preventing Deaths and Injuries of Adolescent Workers" that should be reviewed by all employers. It is especially pertinent to farm employers who routinely hire young workers to assist with the added workload in the spring and summer months. The report addressed concern over the disproportionately high number of injuries and deaths to adolescent workers. They estimate that approximately 70 adolescents die from injuries at work and nearly 200,000 suffer work-related injuries each year.

The sad commentary is that agriculture accounted for 2 out of every 3 deaths. The retail industry came in second followed by construction and the service industries. The activities accounting for most of the adolescent deaths included motor vehicles, tractors and other heavy equipment, electrical hazards, working at jobs with a high risk of homicide and fall hazards. The fact that many of these workers were performing hazardous work prohibited under the Federal Child Labor Laws raises some serious concerns.

Agriculture and other employers need to be aware of the work restrictions for adolescent workers and also remember that training is essential. According to the NIOSH study, more than 50% of the young workers reported they had not received any training. The Federal Child Labor Laws prohibit children under 16 years of age from performing certain hazardous farm jobs without training. These provisions do not apply to youth working on the farms of their parents or guardians, but nevertheless the training is still essential.

Some of the hazardous jobs not open to youth include: operating a tractor over 20-hp; operating or assisting with the operation of certain pieces of farm machinery;

operating or assisting with trenchers, fork lifts, chain saws, or other types of machines, and working in airtight or confined space facilities i.e. grain bins or silos. Other jobs excluded include working at high elevations, handling hazardous materials, working in pens with breeding stock, working in logging operations, transporting passengers in buses, tractors, trucks and autos or riding on a tractor as a passenger or helper.

In certain operations, 14 and 15 year old farm workers can receive exemptions if they have completed formal training in these areas. These training programs are offered by land grant universities through 4-H and by the respective Department of Education in each state through the Vocational Agriculture Programs. These programs teach students about normal working hazards involved with tractor and farm machinery. Written and operational examinations test their knowledge and safe operation of machinery.

Violations of Federal Child Labor Laws are too common and have been associated with serious injury and deaths. Research on work-related deaths of adolescents has found that in recent years as high as 86% of deaths of adolescents have been associated with prohibited activities.

Although work does provide many benefits for the development of adolescents and may be financially necessary, the potential for serious injury and death must be recognized and addressed. The disproportionate number of adolescents killed and seriously injured at work each year cannot be tolerated. Employers and parents of adolescents, school counselors, teachers and young workers must be aware of the risks, the law and injury prevention techniques. Educating our youth and employers to recognize the hazards and take steps to reduce risks is the key.

## Announcements

### Strawberry Twilight Meeting

Thursday May 24, 2007 6:00-8:00 p.m.  
Wye Research and Education Center

#### HEAR:

- Dr. Anne DeMarsay, UM plant pathologist will discuss current disease control strategies and products.
- Dr. Harry Swartz, UM small fruit breeder will discuss current work.
- Mr. Michael Embrey, UM-WREC apiary specialist, will discuss pollinator concerns
- Mr Michael Newell, UM- WREC, will discuss fall production research and field plasticulture variety trials.

#### SEE:

- 19 varieties on plastic from California, Florida and USDA breeding programs as part of several research trials
- High tunnel fall production system using bag culture and 5 varieties.
- Living samples of strawberry insects and diseases if available. (Participants are asked to bring in samples.)

Light refreshments after the meeting

No pre-registration necessary

Questions? contact Mike Newell 410-827-7388 or email [mnewell@umd.edu](mailto:mnewell@umd.edu)



# Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of April 26 to May 2, 2007

Readings Taken from Midnight to Midnight

## Rainfall:

0.01 inch: April 26

0.30 inch: April 27

0.10 inch: April 28

## Air Temperature:

Highs Ranged from 85 on April 30 to 57°F on April 26.

Lows Ranged from 57°F on April 28 to 47°F on April 26.

## Soil Temperature:

63°F average.

(Soil temperature taken at a 2" depth, under sod)

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

*Weekly Crop Update is compiled and edited by  
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