WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 17, Issue 8 **May 8, 2009**

Vegetable Crops

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

Asparagus
Asparagus beetles adults can be found laying eggs on spears. As a general guideline, a treatment is recommended if 2% of the spears are infested with eggs. Since adults also feed on the spears, a treatment is recommended if 5% of the plants are infested with adults.

Cabbage
Continue to scout fields for imported cabbage worm and diamondback larvae. Larvae can be found and sprays will be needed before they move deep into the heads. As a general guideline, a treatment is recommended if you find 5% of the plants infested with larvae.

Melons
Economic levels of aphids can be found in the earliest transplanted fields. When sampling for aphids, be sure to watch for beneficial insects as well, since they can help to crash aphid populations. We have also been asked about ants being found near melon transplants. In many cases, if ants are present you should look carefully on the undersides of leaves for melon aphids. Ants are commonly found associated with melon aphids in fields. They are often present in fields to collect honeydew from the aphids and can even hinder predation by other insects. As a general guideline, a treatment should be applied for aphids when 20% of the plants are infested, with 5 aphids per leaf. Foliar treatments labeled for melon aphid control on melons include Actara, Beleaf, 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 and Platinum are also labeled at–planting for aphid control.

Although we do not consider this typical spider mite weather, we are also starting to find an increase in spider mite populations in melons. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. Acramite, Agri-Mek, bifenthrin, Danitol, Oberon and Zeal are labeled on melons for mite control. *Note* – Zeal can only be applied by ground application.

Peas
Continue to sample fields 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. When sampling dry land peas, you may want to reduce the threshold, especially if they are drought stressed. Be sure to check labels for application restrictions during bloom.

Potatoes
Continue to sample fields for Colorado potato beetle adults, especially if an at-planting material was not used. Low levels of the first

emerged adults can now be found. A treatment should not be needed for adults until you find 25 beetles per 50 plants and defoliation has reached the 10% level. Low levels of corn borer moths have been caught in light traps. A corn borer spray may be needed 3-5 days after an increase in trap catches or when we reach 700-degree days (base 50). If you are scouting for infested terminals, the first treatment should be applied when 10% (fresh market) or 20-25% (processing) of the terminals are infested with small larvae.

Sweet Corn
Continue 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 mid-day when beetles are active. A treatment will be needed if 5% of the plants are infested with beetles.

Potato Late Blight Advisory

– *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

This is the first report for 2009. If you would like a fax or email report please call (302) 831-4865 or email bobmul@udel.edu.

We are using the E-WEATHER SERVICE from SkyBit, Inc. as we have in the past. The service determines specific requested weather parameters (temperature, relative humidity and rainfall) based on calculations of data from the nearest National Weather Service stations. This weather data is used in the WISDOM software program for predicting late blight and making spray recommendations. Our location this year is:

Shadybrook Farms, Little Creek, Kent County.
Greenrow: May 1

Disease severity values have been accumulating very quickly since the beginning of this rainy period. The threat of late blight from seed infection is low to moderate, but there was some in Maine last season. Be vigilant, given this recent weather pattern. The Wisdom program that is used for calculating the disease severity values will not generate values until one week after greenrow. The way DSVs have been accumulating based on the forecasts, when Friday comes we will have accumulated the necessary numbers to initiate the first spray. **The late blight advisory from Skybit has calculated that we have accumulated 21 DSVs to date. My suggestion would be to make a fungicide application when you can get on the field.** This is a little early but the weather warrants an application if you reached greenrow on or about May 1. Apply sprays of mancozeb (Dithane, Manzate, Pencozeb, Manex II, Gavel) or Bravo (chlorothalonil) now, and then again before plants canopy down the row.

Fortunately late blight has not been a problem here in Delaware for many years and unless you have seed from an unknown source the risk of late blight is low. However, the weather has been perfect for it if it is present on seed.

Strawberry Disease Control

– *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

Anthracnose Fruit Rot
Strawberry anthracnose can be extremely destructive during warm, wet weather, causing significant fruit rot. Symptoms of anthracnose include blackish-brown circular spots on maturing green fruit and soft, sunken (flat) circular lesions on ripe fruit. On ripe fruit, lesions can expand rapidly and are often covered with a pinkish-orange spore mass. Spores are spread from infected to healthy fruit with splashing water. Control of anthracnose always begins with a 7 to 10-day preventative spray program initiated no later than 10% bloom and/or prior to disease development.

For control apply the following combinations:
Application #1
captan (M3) at 4.0 lb 50WP/A *plus* Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23.0 oz 38WG/A
Application #2
captan (M3) at 4.0 lb 50WP/A *plus*
Abound (azoxystrobin, 11) at 6.0 to 15.5 fl oz 2.08SC/A
or

Cabrio (pyraclostrobin, 11) at 12.0 to 14.0 oz 20EG/A
Application #3
Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A

For subsequent applications, alternate:
Abound (azoxystrobin, 11) at 6.0 to 15.5 fl oz 2.08SC/A *plus* captan (M3) at 4.0 lb 50WP/A
or
Cabrio (pyraclostrobin, 11) at 12.0 to 14.0 oz 20EG/A *plus* captan (M3) at 4.0 lb 50WP/A
or
Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A

To help manage fungicide resistance development, do not make more than two consecutive applications of either; Pristine (pyraclostrobin + boscalid, 11 + 7), Cabrio (pyraclostrobin, 11) or Abound/Quadris (azoxystrobin, 11) before switching to another fungicide chemistry.

Botrytis (Gray Mold) and Blossom Blight
Botrytis can cause serious losses in strawberry plantings in high tunnels and the field if not controlled properly. Development is favored by moderate temperatures (59-77°F) with prolonged periods of high relative humidity and surface wetness. Control of gray mold begins with preventative fungicide applications. Apply at 5–10% bloom and every 10 days until harvest. During periods of excessive moisture, spray intervals of 5 to 7 days may be necessary. Rotate fungicide chemistries to aid fungicide resistance management.

Application #1
captan (M3) at 4.0 lb 50WP/A *plus* Topsin M (thiophanate-methyl, 1) at 1.0 lb 70WP/A
or
Switch (cyprodinil, 9) at 11.0 to 14.0 oz 62.5WG/A
Application #2
Elevate (fenhexamid, 17 - See restrictions) at 1.1 to 1.5 lb 50WDG/A
or
Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23.0 oz 38WG/A
Application #3
captan (M3) at 4.0 lb 50WP/A plus Topsin M (thiophanate-methyl, 1) at 1.0 lb 70WP
or
Switch (cyprodinil, 9) at 11.0 to 14.0 oz 62.5WG/A

For subsequent applications, alternate any of the following:
- captan (M3) at 4.0 lb 50WP/A
- Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A
- Switch (cyprodinil, 9) at 11.0 to 14.0 oz 62.5WG/A
- Pristine (pyraclostrobin + boscalid, 11 +7) at 18.5 to 23.0 oz 38 WG/A
- Thiram (M3) at 4.0 to 5.0 lb 65WSB/A

Strawberry Leather Rot
For additional information on leather rot see the article titled Controlling Leather Rot of Strawberry in the April 10, 2009 issue of WCU.

In New Plantings:
Aliette (fosetyl-Al, 33) at 2.5 to 5.0 lb 80WDG/A. Begin 14 to 21 days after planting and continue on a 30 to 60 day interval as long as favorable disease conditions occur.
or
Ridomil Gold (mefenoxam, 4) at 1.0 pt 4E/A. Make one application at transplanting plus an additional application at fruit set or 30 days before harvest.

In Established Plantings:
Aliette (fosetyl-Al, 33) at 2.5 to 5.0 lb 80WDG/A
or
Ridomil Gold (mefenoxam, 4) at 1.0 pt 4E/A
Apply in spring before first bloom and repeat once in the fall.

Tomato Bacterial Spot and Speck– *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

Tomato transplants with suspected bacterial spot or speck symptoms can be treated with streptomycin (Agri-Mycin 17, Agri-Strep, 25) at 1 lb/100 gallons, or 1.25 teaspoon per gallon every 4 to 5 days prior to transplanting. Additionally, Kocide 3000 (copper hydroxide, FRAC code M1), the updated formulation from DuPont, has a greenhouse label for speck and spot control in

the greenhouse. Apply 0.5 to 1.5 tablespoons per 1000 sq ft every 5 to 10 days. Remember, phytoxicity is an important issue when applying copper in enclosed structures; see label for cautions, restrictions and liabilities.

After transplanting, apply Actigard at 0.33 oz 50WG/A (see label for use), or fixed copper (M1) at 1 lb a.i./A *plus* a mancozeb (Dithane, Manzate, Penncozeb, M3) at 1.5 lb 75DF or OLF, or ManKocide (M1 + M3) at 2.5 to 5.0 lb 61WP/A on a 7-day schedule.

Downy Mildew and Alternaria of Cole Crops

– *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

Symptoms of downy mildew on cole crops include purple to yellowish-brown spots on upper leaf surfaces. A grayish-white spore mass will develop and cover the underside of leaves under ideal temperatures (night temperatures of 46 - 61°F and day temperatures below 75°F). Downy mildew can kill young plants. Heavily infected leaves may drop providing entry points for bacterial infections (black rot and soft rot).

Symptoms of Alternaria on infected leaves include small, expanding circular lesions with concentric rings that may have a 'shot-hole' appearance as lesions age. Heavily infected seedlings may result in damping-off.

Control of downy mildew and Alternaria begins with preventative fungicide applications. Use one of the following at the first sign of disease and continue every 7 to 10 days: (Please refer to the pesticide table on page F21 of the *2009 Delaware Commercial Vegetable Production Recommendations* to determine which fungicide is labeled for each specific crop.)

- Quadris (azoxystrobin, 11) at 6.0 to 15.5 fl oz 2.08F/A
- chlorothalonil (M5) at 1.5 pt 6F/A or OLF
- Cabrio (pyraclostrobin, 11) at 12.0 to 16.0 oz 20EG/A
- Endura (boscalid, 7) at 6.0 to 9.0 oz 70WG/A
- maneb (M3) at 1.5 to 2.0 lb 75DF/A or OLF
- Ridomil Gold Bravo (mefenoxam + chlorothalonil, 4 + M5) at 1.5 lb 76.5WP/A (14-day schedule)

For Alternaria only, apply:
Switch (cyprodinil, 9) at 11.0 to 14.0 oz 62.5WG/A

For downy mildew only, apply:
Actigard (acibenzolar-S-methyl, P1) at 1.0 oz 50WG/A (Begin applications 7-10 days after thinning and re-apply every 7 days for a total of 4 applications per season.)
or
Aliette (fosetyl Al, 33) at 3.0 to 5.0 lb 80WDG/A (on a 14-day schedule).

For more information please see the *2009 Delaware Commercial Vegetable Production Recommendations*.

Timber Rot, White Mold, or Sclerotinia Rot in High Tunnels

– *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland*; keverts@umd.edu

The fungus *Sclerotinia sclerotiorum* causes disease on hundreds of plant species. Timber rot or Sclerotinia rot is becoming a very serious problem in tomatoes (and other crops) grown in high tunnels. Even when a high tunnel is moved between seasons, the disease can be severe because the fungus overwinters both in and around the tunnels. Usually the **primary** source of inoculum is outside of a high tunnel. In the spring when the soil is moist, the fungal fruiting bodies emerge and spores (ascospores) are released. These ascospores will be released continually throughout the spring and are carried on wind into the doors or raised sides of nearby high tunnels. Ascospores are usually carried or dispersed less than 330 feet. Therefore it is important to use sanitation within 330 feet of a high tunnel. No plants, leaf clippings, potting mix, or soil from the tunnels should be discarded within this area.

The biocontrol Contans has been effective in managing Sclerotinia diseases in the field. Contans, which is a formulation of the fungus *Coniothyrium minitans*, parasitizes the survival structures of *S. sclerotiorum*. If it is sprayed on the area around the high tunnel and watered into the soil, it may help reduce ascospore formation in future years. Because the product is

living, it must be handled carefully prior to use. Contans would be a good choice to try in fields or areas around high tunnels, which are used repeatedly for a susceptible crop. See the Contans label for additional information.

Other products labeled for Sclerotinia timber rot are Endura, which is labeled for field use, and Botran, which is labeled for greenhouse use.

The black sclerotia on the small tomato fruit will overwinter and result in ascospore formation in future years. The fruit should be either buried or discarded more that 330 feet from the high tunnel.

Tomato fruit infected with *Sclerotinia sclerotiorum.*

Weather Conditions and Setting out Transplants

–*Gordon Johnson, Extension Ag Agent, Kent Co.*; gcjohn@udel.edu

This past week has been challenging and growers have been trying to set transplants between the rains. Weather conditions currently are not favorable for the growth of warm season vegetable transplants (watermelons, cantaloupes, tomatoes, peppers, eggplants, cucumbers, squash). We had some unusually warm weather from April 25-28 with average air temperatures in the 70s that allowed early plantings to go in on plastic mulch with promise of good establishment. From April 29 onward, average air temperatures have been mostly in the 50s and we have had rainfall every day from May 1 to May 7. This weather is expected to continue until Sunday. Next week promises some sun but temperatures will still be moderate.

Warm season vegetable transplants vary in their ability to withstand sub-optimal conditions depending on how well they have been hardened off and their inherent ability to withstand stress. Tomatoes, cucumbers, and squash are better able to handle early season stresses than cantaloupes, watermelons, or peppers. When temperatures are cool and soils are wet, growth is minimal in these crops. We often see problems, especially the first few days when sunny weather returns, with plants wilting. This is because root systems have not established or are not functioning well. Root growth is slowed in cold soils and low oxygen in water soaked soils will also limit root growth. Average soil temperatures need to be 65°F or higher under the plastic and average air temperatures should also be above 65°F (ideally above 70°F) for good establishment of these crops. Seed corn maggots and root diseases such as Pythium can further stress transplants and reduce stands.

The following are some considerations when transplanting warm season vegetables under suboptimal conditions:

- Make sure transplants have well developed root systems (transplants easily pull from trays and have full root balls); do not rush transplants into the field.

- Make sure transplants have been hardened off well by exposing them to outside conditions, eliminating fertilizer, and controlling watering well ahead of planting.

- In seedless watermelon systems, time production of pollenizer transplants so that they coincide well with the seedless transplants. Pollenizers are often planted a number of days after seedless because they emerge quicker. However, pollenizer root balls may not be well formed compared to the seedless transplants and they can suffer excessive losses in the field when planted in stressful conditions. The opposite can also be true if pollenizers are ready but the seedless plants do not have good root balls.

• Leggy plants will be a problem in stressful conditions and should not be used if at all possible. Leggy plants are more susceptible to damage in transplanting and wind damage after planting thus subjecting them to additional stress. Unfortunately, cloudy overcast weather often leads to stretch in transplants.

• Transplants should be planted at the proper depth. This is particularly critical for watermelons and cantaloupes. There should be enough soil to cover the root ball of these crops but they should not be planted so deep so that the stem is covered. Deep planting in cold wet soils will result in additional stress on melons. Watermelons and cantaloupes should not be set deeper even if they are leggy.

• Extra care should be taken during transplanting during stressful periods to reduce injury to plants, particularly to root balls. Damage to roots will reduce establishment success especially in melons, cucumbers, and squash. Train planting crews so that they do minimal damage to transplants.

• Target lighter sandy soils that are well drained for planting in cold and wet periods. Leave out fields or sections of fields with low areas or areas that are excessively wet and plant them when more favorable weather conditions return.

• If plants will hold, it is best to wait until more favorable weather returns. Often there is no earliness gained by planting in the stressful period; or gains are negated by stand losses and the need to replant areas.

Farmworkers, H1N1 Flu, Disease Outbreaks and the Vegetable Industry

– *Gordon Johnson, Extension Ag Agent, Kent Co.*; gcjohn@udel.edu

Farmworkers, H1N1 Flu, Disease Outbreaks, and the Vegetable Industry,

The recent flu outbreak that is thought to have originated in Mexico or Southern California has brought to attention the need to educate farm workers about health issues and the need for growers to be aware of how to approach this and similar illness outbreaks in their seasonal labor force.

The Centers for Disease Control and Prevention (CDC) recently issued some guidance on how to deal with the current outbreak. These guidelines are being updated and will be posted at http://www.cdc.gov/h1n1flu/guidance/migrant_farmworkers.htm when completed. However, some of the principles that they put forth in the interim guidance for employers of migrant and seasonal farmworkers for the prevention of the novel H1N1 flu virus would be useful to review. The following are some excerpted recommendations:

Avoid stigmatization – While Mexico may be the origin of the current flu outbreak, it is important to let workers know that the source of any illness is hard to determine and that they are not going to be singled out or segregated just because of where they come from.

Encourage workers to report illness to their employer – "Low-wage farmworkers may be reluctant to forego wages or possibly forfeit their jobs to stay home when they are ill. It is important that employer policies not discourage self-reporting and self-isolation by ill workers. To the extent possible, employers should provide some assurance of wage or job protection for ill workers who are willing to self-isolate or who need to be absent from work to seek medical care."

Exclude ill workers from the workplace – "Workers who have symptoms of a flu-like illness (fever with runny nose, cough or sore throat) should not be allowed to work while they are ill. They should be encouraged to remain at home until they are better or, if necessary, to seek medical care from their health care provider." (This should apply to any illness that has a high potential to be transmitted to other workers.)

Ensure public health messages reach workers – "Employers may be an important conduit for information coming from public health officials. Employers should ensure that all information from public health authorities is passed on to workers." "Health awareness messages should be in languages appropriate to the local migrant worker population."

Ensure a hygienic workplace – "Personal hygiene measures such as frequent hand washing and cough etiquette are important factors in limiting the spread of infection during a pandemic." "Employers should ensure that the workplace has adequate facilities for maintaining personal hygiene, including frequent hand washing."

Ensure adequate housing when housing is provided by the employer – "When worker housing is provided, employers should ensure that housing is not overcrowded and can accommodate the isolation of ill persons and voluntary quarantine of contacts."

Agronomic Crops

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

Alfalfa
If economic levels of alfalfa weevil are present before harvest and you cut instead of spray, be sure to check fields within one week of cutting for damage to the regrowth. If temperatures remain cool after cutting, there is often not 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 weevils per stem and the population levels remain steady. The first potato leafhoppers have also migrated to our area so be sure to sample within a week of first cutting. In addition, new seedings should be watched carefully since leafhoppers can quickly damage these plantings. Once the damage is found, yield loss has already occurred. The treatment thresholds for leafhoppers 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
Be sure to watch for cutworms and slug damage on newly emerged plants. With the continued cool, wet weather, slug eggs as well as newly hatched juvenile slugs can be found under residue in no-till fields. In past years, liquid nitrogen applications have been used to help plants grow ahead of the damage; however, the use of Deadline M-Ps should be considered if the weather remains cool and wet and damage is increasing. A new fact sheet from Ohio State provides good information on slug biology, scouting and management of slugs on field crops http://ohioline.osu.edu/ent-fact/pdf/0020.pdf.

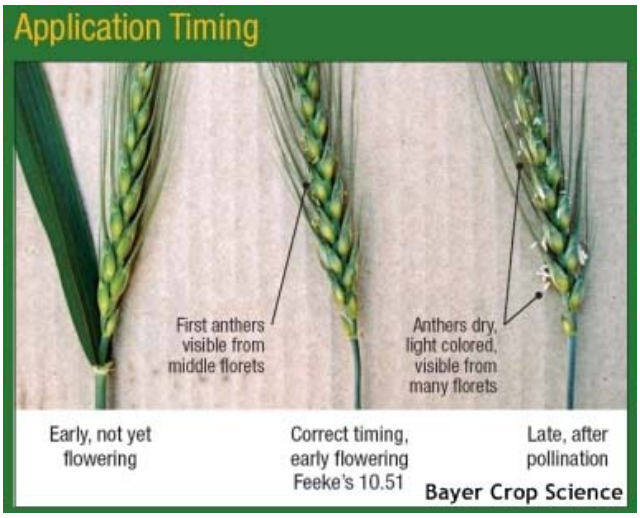
Small Grains
Be sure to watch for the movement of aphids into grain heads. In many cases, beneficial activity is still not high enough to take care of populations moving from the lower canopy of the plants into the grain heads. Wheat and barley should also be sampled for sawfly and armyworm larvae. Armyworm larvae are nocturnal so larvae are generally found at the base of the plants during the day. However, during cool, cloudy weather, you may also see them feeding on the stems 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.

Fusarium Head Blight or Head Scab of Wheat – *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

Wheat in most of Delaware is approaching heading or heads have emerged and could be flowering by the weekend depending on temperature. The risk of head scab or Fusarium head blight has increased with the recent wet weather pattern, which might continue into next week. Growers need to carefully evaluate the need for fungicides that could help suppress development of the disease. In the past we have

not had good fungicide options but now that we have several fungicides with the capability to suppress the disease this option should be considered if the risk is high enough and it is economically sound. If the current conditions persist, large areas of Delaware could be at risk for scab infection. The new risk management tool is located at the Fusarium head blight website http://www.wheatscab.psu.edu. It can be useful once heading begins and the risk of scab increases as flowering approaches. The new version that is running now has the ability to give a 24-72 hour forecast looking at the previous several days as well as the weather forecast for the next several days. Those buttons are at the top left side of the forecast page.

Fungicide applications at heading but before flowering have not been very effective and are not recommended for scab suppression. The final decision to spray must be made as close to flowering as possible.



First choice of products for scab suppression is Prosaro at 6.5 fl oz/A or Proline at 3 oz/A tank mixed with Folicur at 3 oz/A, second choice is Proline at 5.7 oz/A or Caramba at 14 oz/A, third choice is Folicur at 4 oz/A. Note Folicur is the weakest product for scab suppression and at best will only produce a slight reduction in disease. Folicur should only be selected if none of the other recommended products is available. No other products are registered for application at flowering and strobilurin-containing fungicides that are not registered for scab suppression may even increase vomitoxin in the finished grain.

Use only recommended products when the risk warrants their use and apply as close to initial flowering as possible to be effective against scab.

Below are some suggestions that can help to evaluate the risk of disease:

Previous Crop: The fungus that causes head scab survives in the residues of many grass crops. The fungus is also a pathogen of corn and the most severe disease often occurs when wheat is planted in fields with large amounts of corn residue left on the soil surface. Planting wheat into wheat residues also increases the risk of scab, but this residue tends to break down more quickly diminishing the risk of disease relative to corn residue.

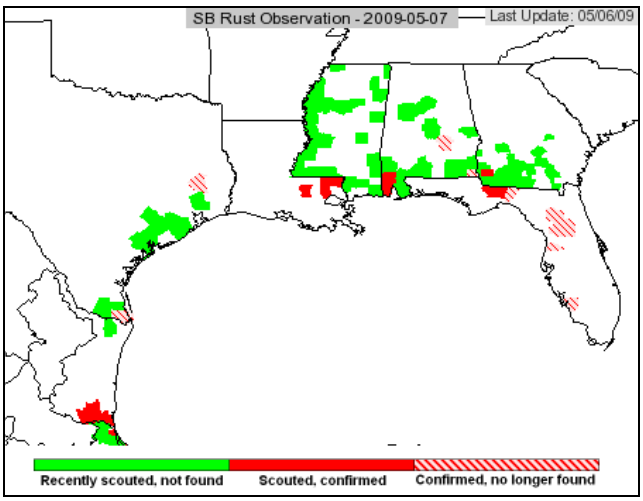
Resistant Varieties: All but a few wheat varieties that we grow are susceptible to head scab and the few that have some resistance do not provide enough resistance to protect the crop from a severe outbreak of the disease.

Weather Conditions: The infection of the wheat takes place at flowering or during the early stages of the grain filling period. This time period clearly influences the amount of disease present. However, the weeks preceding flowering are also important. Frequent rainfall and extended periods of high relative humidity prior to flowering favors the reproduction of the fungus that causes head scab. In fact, some of the worst epidemics of scab occur when conditions are favorable for reproduction of the fungus prior to flowering followed by a few days that are conducive for infection during the flowering or early stages of grain fill.

Soybean Rust Update

– *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

Little has changed since last week. The map below shows the current status of rust in the US and Mexico. There are no reports of soybean rust on soybean, only on kudzu in FL, AL, and LA.



Field Demonstrations for Fall Soybean Herbicide Applications

– *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

UD Weed Science Program established two locations for fall soybean herbicide applications in 2008 (last fall) and you are invited to stop and evaluate them. One location is in New Castle County (just north of Middletown) at the UD Demonstration Site on Marl Pit Road. The second location is in Sussex County near the UD Research and Education Center on Waller Road. This project is funded by the Delaware Soybean Board. Detailed directions to the sites are available here: http://www.rec.udel.edu/Update09/HerbicideDemo.pdf.

Last fall the following treatments were applied to plots 30 feet wide and at least 150 feet long. The treatments were:

Glyphosate + 2,4-D in the fall
Glyphosate + 2,4-D + Canopy EX (2 oz wt/A)
Glyphosate + 2,4-D + Canopy EX (1.35 oz wt/A)
Glyphosate + 2,4-D + Valor XLT (4.5 oz wt/A)
Glyphosate + 2,4-D + Valor XLT (3.0 oz wt/A)

These treatments were chosen based on 3 to 4 years of trials with small plot research. Initial control (burndown control) was excellent for all treatments and differences between treatments are due to residual control of Canopy EX or Valor XLT.

These plots are at a stage that is good to compare the treatments. There are signs describing the treatments and information on timing of application is in the box at the UD signs. Please stop by over the next week to evaluate the plots for yourself. Complete the questionnaire that is located in the boxes as well.

Questions or comments may be directed to Mark VanGessel, UD Extension Weed Science at (302) 856-2585 ext 305

Inconsistent Weed Control With Burndown Herbicides

– *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

I have had a number of phone calls about poor control for spring burndowns. A few things to consider:

1) We have had less than ideal weather for activity (a lot of cool nights and overcast days).

2) Have you used spray volumes that are adequate to get good coverage?

3) Are you using a spray tip to get good/even coverage?

4) Was the right product(s) and rate used?

Often, if we experience only one of these issues then control is acceptable; but when two or more of them occur at the same time, weed control can suffer.

Delayed Soil-Applied Herbicide Application

– *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

With all the rain recently, there is a lot of corn that has been planted, but has not been sprayed yet. First of all, do not panic and try to rush out and spray before the ground has a chance to dry out a little. If it is Roundup Ready or Liberty Link corn, then consider tankmixing your residual herbicide with glyphosate or Ignite. Most residual herbicides can be applied to emerged

corn. However, there are restrictions on how tall the corn can be at time of application (see table below).

With conventional corn, the approach is similar. But you need to be sure you use a product that will control the emerged weeds in your field. Most of the residual products have atrazine in them, but depending on your rate, the atrazine rate may not be high enough. Hornet or Lumax or Lexar all contain active ingredients that will control a range of broadleaf weeds and are good choices to provide control of emerged weeds and provide residual control. For emerged grasses, a product with rimsulfuron or including Impact or Laudis may be needed depending on the grass species present (rimsulfuron is weak on crabgrass and Impact or Laudis are weak on fall panicum). Remember, Dual, Lasso, acetochlor products, or Prowl will not control weeds after they have emerged.

Corn Height Restrictions for Postemergence Herbicide Applications

Herbicide	Maximum Corn Height
Atrazine	12 inches
Callisto	30 inches or 8 leaf
Define	5 collar
Dual II Magnum / Cinch	5 inches
Lasso	5 inches
MicroTech	5 inches
Outlook	12 inches
Princep	do not apply to emerged corn
Python	20 inches or 6 collars
Prowl / Prowl H2O[1]	30" or 8 collar, whichever is more restrictive
Topnotch / Harness / Degree / Breakfree	11 inches
Premixes	
Basis	no later than 2 collars
Bicep II Magnum [2] / Cinch ATZ[2]	5 inches
Bicep Lite II Magnum[2]	5 inches
Bullet[2]	5 inches
Field Master[2]	not labeled for emerged corn
Fultime[2] / Keystone[2] / Breakfree ATZ[2]	11 inches
Guardsman Max[2]	12 inches
Harness Xtra[2] / Degree Xtra[2]	11 inches
Hornet WDG	20 inches
Lexar[2]	12 inches
Lumax[2]	12 inches
Sequence (RR corn only)	30 inches
SureStart	11 inches

[1]Refer to label of other pendimethalin formulations to determine restrictions on corn size
[2]This product contains atrazine. Use of a non-ionic surfactant or crop oil concentrate with atrazine (or its pre-mixed products) will increase weed control, but also increases the likelihood of corn leaf burn.

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

U.S. Corn Crop 33% Planted

Thirty-three percent of the nation's corn crop was planted as of Monday, May 4, ahead of last year's planting pace of 24% and behind the 50% five-year average. Commodity traders will be watching the three "I"s (Iowa, Illinois, and Indiana) being the largest producing states for U.S. corn production. In Iowa 60% of the crop is planted, compared to 47% last year and the five-year average of 53%. Illinois and Indiana both have only 5% of their corn crops in the ground, compared to the five-year average of 66% and 47%, respectively. Both states lag last year's pace of 25% and 32%.

Market Strategy

The soybean market is expected to continue the current push higher perhaps to the $12 mark in the nearby futures contract. Export sales are running at a record pace for the year and the projected carry out for U.S. soybeans is expected to be reduced in the May 12 USDA Supply and Demand estimate. Soybean futures have trended higher since the first of March.

The corn market continues to trade in a sideways trading pattern, in spite of planting delays. Noncommercial trading activity (speculative) may hold the key to the corn market. Last year noncommercial traders were net-long over 250,000 contracts at this point in time. This year they have a net-long position of approximately 49,800 contracts.

Winter wheat continues to trade sideways due to ample world ending stocks and the pending new crop harvest that will occur in about two months. Wet weather could play a factor in the SRW wheat market.

Another round of heavy rains occurring in the eastern Midwest, southeastern Plains, and Delta regions is likely to weigh on commodity trading the rest of this week. Planting progress will become viewed as more critical as each week passes from now until the second week of June. In the near term, barring any surprises from outside forces, we can look for the prospect of higher prices led by the soybean pit. On Wednesday, May 6 new crop Dec '09 corn futures closed at $4.25; Nov '09 soybeans at $9.60; and July '09 SRW wheat at $5.53 per bushel. Nearby old crop May '09 corn futures closed at $3.98; May '09 soybean futures at $11.16; and May '09 SRW wheat at $5.41 per bushel.

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

Announcements

New Castle County Weed ID Workshop

Tuesday, May 12, 2009 5:00-7:00 p.m.
University of Delaware Webb Farm
508 S. Chapel Street, Newark, DE

What is that weed!? Learning to identify weed species can help with controlling the weed, crop production and your bottom line. Learn to identify a number of weed species that are found locally. Experts will be on hand to answer your questions and help with weed management issues.

Please bring a folding chair.

Pesticide (2) and CCA credits will be available.

This meeting is free and everyone interested in attending is welcome. Please call (302) 831-2506 to register by May 8.

Equine Pasture Walk

Tuesday, May 19, 2009 5:00-7:00 p.m.
Two Eagles Farm
1311 McQuail Road
Smyrna, DE

Learn about Natural Resource Conservation Services Cost Share Programs and EQIP Eligibility. See on-farm manure storage facility and storm water management projects. Learn about pasture management and managing the diet to avoid injuries and illness. Experts will be on hand form the University of Delaware and the Natural Resource Conservation Service (NRCS) to answer your questions!

Please bring a folding chair.

Nutrient Management (1.75), Pesticide (1) and CCA credits will be available.

This meeting is free and everyone interested in attending is welcome. Please call (302) 831-2506 to register by May 15.

Wye Strawberry Twilight Meeting

Thursday, May 21 6:00 p.m.
Wye Research and Education Center
Queenstown, MD

Meet at the farm operations complex, 211 Farm Lane - signs will be posted.

Come See:

- High Tunnel Fall/Spring Fruit Production
- Annual Plasticulture System
- 2nd year carry-over plot using bare-rooted dormant plants in a plasticulture system

University and USDA personnel will speak and be on hand to discuss research and cultural aspects of strawberry production.

The meeting will be held rain or shine (bring rain gear).

Registration is not required. For more information contact Mike Newell (410) 827-7388.

For directions go to the Wye Research and Education Center's website at http://www.wrec.umd.edu/.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of April 30 to May 6, 2009

Readings Taken from Midnight to Midnight

Rainfall:

0.20 inch: May 1
0.14 inch: May 2
0.32 inch: May 3
0.66 inch: May 4
0.57 inch: May 5
0.12 inch: May 6

Air Temperature:

Highs ranged from 78°F on May 1 to 55°F on May 4.

Lows ranged from 55°F on May 2 to 48°F on April 30.

Soil Temperature:

77.0°F average

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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