Soybean Rust Update

Conditions are becoming more favorable for rust down south since they received much needed rain. There still is little to no rust activity, which is good for us. That may be changing in the next week, but we will continue to monitor the situation. Growers are advised to continue to check the soybean rust website at http://www.sbrusa.net for updates on the rust situation.

Bob Mulrooney

Vegetables

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

Cabbage
Diamondback and imported cabbageworm larvae can be found in economic levels. A treatment should be applied when 5% of the plants are infested and before larvae move to the hearts of the plants.

Melons
Be sure to watch for melon aphids, cucumber beetles and spider mites as soon as plants are set in the field. Consultants are finding low levels of insect pressure at this time. At this time, aphids found on plants are generally grain aphids coming off the rye strips. However, you will need to watch carefully for increases in melon aphids as well as beneficial insects. In recent years, beneficials have helped to crash early populations. The treatment threshold for aphids is 20 percent infested plants with at least 5 aphids per leaf. Foliar materials labeled on melons for melon aphid control 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. Foliar products labeled for cucumber beetle control on melons include the pyrethroids, Lannate, Sevin and Thionex.

Potatoes
The first Colorado adult beetles can be found in fields where at-planting insecticides were 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. If a neonicotinoid insecticide was used at planting (i.e. Admire, Platinum, Cruiser or Gaucho), you should not apply a foliar neonicotinoid in season (i.e. Actara, Assail, Leverage, or Provado). 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 sample for cutworms and flea beetles. As a general guideline, treatments should be applied 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. In fields where plastic was used as a row cover, begin sampling for European corn borer larvae as soon as the plastic is removed. A treatment should be applied if 15 percent of the plants are infested.

Trap Catches
Due to problems with our web site, trap catches will only be available by calling the Crop Pest Hotline starting May 13. The following numbers should be used: In state: 1-800-345-7544; Out of state: 1-302-831-8851. Hopefully we will have the website working by the end of May.

Bacterial Spot and Speck of Tomato - Andy Wyenandt; Extension Plant Pathologist, Rutgers University

Both bacterial spot and speck can cause serious problems in the field if infections begin in the greenhouse prior to transplanting. Symptoms of spot and speck look very similar on infected leaves. Lesions are small, circular, blackish-brown and, with time, develop a halo, or yellowing of tissue surrounding the lesion. As lesions develop they can coalesce (join together) and can cause premature death. Since sources for these diseases include weed hosts, volunteer plants and contaminated wood (benches or stakes) make sure production or holding areas are disinfested, weed free and clean prior to introducing transplants, and inspect all seedlings prior to holding and transplanting. Infections can occur on all parts of the tomato plant and can easily be spread during transplant trimming with contaminated equipment and by workers’ hands.

Tomato plants with suspected symptoms can be treated with streptomycin (Agri-Mycin 17, Agri-Strep, 25) at 1 lb/100 gallons, or 1.25 teaspoon per gallon on a 4 to 5 day schedule prior to transplanting.

After transplanting apply one of the following treatments on a 7-day schedule:
- Actigard (P) at 0.33 oz/A
- fixed copper (M1) at 1 lb/A + mancozeb (Dithane, Manex II, Manzate, Penncozeb, M3) at 1.5 lb/A
- ManKocide (M1 + M3) at 2.5 to 5.0 lb/A
- Cuprofix MZ (M1 + M3) at 1.75 to 7.25 lb/A

Agronomic Crops

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

Alfalfa
You should begin checking all fields for leafhoppers within one week of cutting. Be sure to sample all spring planted fields since they are very susceptible to damage. Once the damage is found, 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.

Small Grains
Continue to scout fields for cereal leaf beetles, aphids, armyworms and sawflies. We can find aphids as well as small armyworms and sawflies in fields throughout the state. Although cereal leaf beetle populations seem to be lower this year, they can still be found in pockets, especially in fields with a history of problems. If multiple pests are present in barley, your only control option is Lannate. In wheat, your options include Baythroid, Lannate, Mustang MAX, Proaxis or Warrior. If sawfly are present, be sure to use the higher labeled rates.

Soybeans
Although seed corn maggot can be a problem in full season no-till fields, we have limited control options available this season. Although Kernel Guard Supreme and KickStart VP were labeled on soybeans for protection of seeds and seedlings against seed corn maggot, these products are no longer available. The only available materials for protection of planted soybean seeds from seed corn maggot are the commercial applied seed treatments Cruiser and Gaucho.
Agronomic Crop Diseases - Bob Mulrooney; Extension Plant Pathologist; bobmul@udel.edu

Wheat
There is probably the least amount of fungal disease present in wheat that I have ever observed or can remember. The combination of late planting and the dry weather and low humidity have been very unfavorable for wheat diseases so far this spring. This is true throughout the region. The predicted rainfall for May 11 through May 12 or 13 may change things somewhat. Much of the wheat is flowering now and could be susceptible to scab if spores are present for infection. That will be a big “if”. There are no effective fungicides for scab control, and rainy weather at flowering drives this disease. The risk of glume blotch is low as well, since the leaf spots are not present that produce the spores that infect the heads.

Soybean
If the continued dry weather persists into the planting season or soon after, susceptible soybean varieties are at risk to soybean cyst nematode. Under Delaware conditions the worst damage from SCN is seen as stunting (occasionally plant death) and eventually yield loss occurs when we have dry weather early in the season during the vulnerable stages of early root development. Susceptible soybeans, high SCN numbers and dry weather are a combination that can result in serious stunting and yield loss. Early soil sampling for SCN can avoid this loss. It is still not too late to check for soybean cyst nematode. 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 also be found on the web at the Plant Clinic Website http://ag.udel.edu/extension/pdc/index.htm.

Callisto Plus Glyphosate - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

The Callisto label has been modified to allow a tank mixture with glyphosate for postemergence spraying on Roundup Ready corn. This approach will allow for residual weed control after the glyphosate has been applied. The label reads “Callisto may be applied early post-emergence at a rate of 3 oz/A in tank mixture with a solo glyphosate product (such as Touchdown or Roundup brands) that is registered for use over-the-top in glyphosate tolerant field corn. If the glyphosate product has a built-in adjuvant system (i.e. the product label does not recommend additional adjuvant), only spray-grade ammonium sulfate (AMS) at 8.5 lbs/100 gallons should be added to this mixture. If the glyphosate product label calls for an adjuvant in addition to AMS, add a non-ionic surfactant (NIS) and AMS at 8.5 lbs/100 gallons to this spray mixture. Do not add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to these mixtures, or crop injury may occur.”

Burndown Effectiveness is Reduced by Drought - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

I have had a few questions about why some burndown sprays for no-till have not been very effective. Lack of rain is the biggest reason. All postemergence herbicides have wording on the label about reduced control under stress. It is no different for non-selective herbicides. Although most of the weeds are not showing moisture stress, many fields are experiencing moisture deficiency. This will become more of an issue in no-till soybean fields that have not been sprayed yet. Check the labels of the products you are using to see what is recommended. Many products have recommendations for droughty conditions such as increasing herbicide rate, increasing adjuvants, or switching from one to another (using crop oil concentrate rather than non-ionic surfactant), or use of additional surfactants (such as nitrogen). Be sure to check the label for what is allowed.
Understanding Soybean Growth Stages: I.
Emergence - VE Continued

As mentioned last week, I am including a few photos to illustrate the VE stage of growth on soybeans. You may wish to refresh your memory of the definitions covered last week but the first stage observed in the field is called VE or emergence. VE begins when the cotyledons or seed leaves emerge above the soil surface (Photos 1-3 below). The stage continues until VC or cotyledon stage when the unifoliate leaves have unrolled sufficiently that the leaf edges do not touch.

Not all soybeans in a field will reach a given stage at the same time. A field is said to be in a given growth stage when at least 50% of the plants are at or past that stage. For VE, if 50% or more of the plants (expected) in the field have emerged enough so that the large fleshy cotyledon leaves are above the soil surface, that field is considered to be in the VE stage. Also, if less than 50% of the plants have advanced to the next stage (VC) where the unifoliate leaves have unrolled sufficiently that the leaf edges do not touch, the field still is at the VE stage. Once half, or more, of the plants reach the next stage, the field’s growth stage moves up to the next highest stage.

Understanding Soybean Growth Stages: II.
Cotyledon - VC

As mentioned last week, I continue the description of soybean growth stages and illustrate the cotyledon stage with a few photos. You may wish to refresh your memory of the definitions covered last week but the second stage observed in the field is called VC or cotyledon. VC begins when the unifoliate leaves have unrolled sufficiently that the leaf edges do not touch (Photos 1-2). The stage continues until
V1 or the First Node stage when there are fully developed unifoliate leaves at the unifoliate nodes which means that the first trifoliate leaves have unrolled sufficiently that the leaf edges do not touch.

**What Value is there to Understanding Soybean Growth Stages?** - Richard Taylor, Extension Agronomist; rtaylor@udel.edu

The value on most growers’ minds is related to knowing if it is time to spray soybeans with a herbicide or fungicide. However, there are a number of production problems that relate to certain growth stages, and knowing these and the growth stages can be useful when troubleshooting production fields.

From planting to V5 is considered stand establishment. Depending on soil temperature, soil moisture, depth of planting, seedbed condition (conventional versus no-till versus reduced tillage), and seed quality, soybeans generally emerge within 5 to 14 days after planting. If an adequate stand is not obtained by two weeks after planting, the grower or their consultant should determine the possible cause by checking the condition of seeds and seedlings. You should look for patterns in the field as well as symptoms, and always check the roots of seedlings that exhibit poor growth.

If seedlings fail to emerge, a range of factors may be responsible including the following: dry soil or salt damage (seed are intact but not swollen); extreme soil temperatures or low viability (seed are intact but swollen); disease (seed are slimy or decaying); insects (seed tissue is missing). If seeds germinate (a radicle or seed root or hypocotyl is visible) but fail to emerge, problems could include: extreme soil temperatures, planting too deep, or soil crusting (seedlings are intact); disease or herbicide carryover (seedlings are discolored or rotting); and insects (parts missing). If seedlings have emerged but are unhealthy in appearance, the problems can include: disease (lesions on seedling or root); herbicide toxicity or carryover (leaves are growing but tip is malformed); manganese deficiency, soil pH, soil fertility problems (interveinal chlorosis of leaf, small plants, limited root systems); soybean nodulation failure [pale yellow color to leaf and inactive nodules (not present or if present and cut open nodule color is green or white not pink)]; soybean cyst nematodes (SCN) (plants will be reduced in size; may show yellowing or browning of leaf edges; and roots if examined
about 30 to 40 days after planting using a 10X magnifying lens, white or yellow bodied female nematodes (cysts) that are full of eggs can be seen (the SCN females or cysts will look like small Bradyrhizobia nodules (the nitrogen fixing nodules), almost the size of a large grain of sand, and instead of pink if cut open, the female nematodes or cysts will be white to yellow in color and will pop if cut open since they are not solid like a nodule.)

In future articles, I will cover some of the other production problems that are related to growth stage in soybeans.

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

May Supply/Demand Report Highlights
The release of USDA's May crop report comes at a time when commodity trading in Chicago is benefiting from strong moves in energy and metals, keeping the non-commercial traders active in the trading pits. Solid export sales were reported on Thursday morning, along with news that some crushing plants are closing in Brazil due to producers not delivering soybeans. This report presents USDA's initial assessment of U.S. and World crop supply and demand prospects for the '06/'07 marketing year.

Corn Analysis
U.S. corn production is now projected at 10.555 billion bushels. Total U.S. corn use is projected at 11.6 billion bushels, a new record. Domestic use for ethanol production is projected to increase by 34% in the '06/'07 marketing year, at 2.15 billion bushels. U.S. exports are projected to increase by 125 million bushels for the '06/'07 marketing year, and are projected at 2.15 billion bushels. Ending stocks for U.S. corn for the '06/'07 marketing year are projected at 1.141 billion bushels, just about half of the ending stock projection of 2.226 billion bushels for the current marketing year (05/’06). The season average farm price is projected at $2.25 to $2.65 per bushel as compared to the current marketing year's average price of $1.95 to $2.05 per bushel.

World corn ending stocks were reported to be slightly less than last year and are placed at 128.97 million metric tons (mmt).

Soybean Analysis
U.S. oilseed production for '06/'07 is projected at 94.7 million tons, down 2% from '05/'06. U.S. soybean production for the '06/'07 marketing year is projected at 3.08 billion bushels, down 6 million bushels from the '05/'06 marketing year. Total soybean supply for the U.S. is projected to reach a record 3.649 billion bushels, up 9% from '05/'06 due to sharply higher beginning stocks, that have been nearly doubling each marketing year since the '04/'05 marketing year. Increases are projected in U.S. soybean use for the '06/'07 marketing year, with a 30 million bushel increase projected for crushings and a 190 million bushel increase projected for U.S. soybean exports. Nevertheless, ending stocks for U.S. soybeans are projected at 650 million bushels for the new marketing year reflecting an 85 million increase over the '05/'06 marketing year.

The season average farm price is projected at $5.10 to $6.10 per bushel for the '06/'07 marketing year as compared to $5.65 for the current marketing year.

World ending stocks for soybeans now placed at 54.42 mmt are about 9 mmt larger than the previous marketing year.

Wheat Analysis
U.S. wheat production is projected to decrease, with all wheat production forecast at 1.873 billion bushels for the '06/'07 marketing year. Total U.S. wheat supply projected at 2.515 billion bushels is 215 million bushels less than last year. U.S. wheat exports are also projected to decline by 100 million bushels and are now projected at 900 million bushels for the '06/'07 marketing year. The reason given for the decline in exports is the tight U.S. supply situation. U.S. ending stocks projected at 447 million bushels for the '06/'07 marketing year are down 18% from the '05/'06 marketing year, a reduction of 100 million bushels. The season average farm price for the new marketing year is now projected at $3.50 to $4.10 per bushel.
World wheat stocks placed at 142.62 mmt are 7.75 mmt less than the '04/'05 marketing year.

Marketing Strategy
The corn market is expected to blow through resistance based upon the release of this report. Weather developments are going to become an ever increasing factor in the weeks ahead. Opportunities to make additional new crop corn sales should be presented. For soybeans, the fundamental picture is more bearish with stocks projected to be building both domestically and throughout the world. Even so, we might expect for soybeans to follow corn and wheat, thereby presenting some additional new crop pricing opportunities. The wheat market is likely to explode higher, depending upon how much of the wheat outlook was already considered discounted into wheat prices. All in all this should be an exciting week ahead for commodity pricing. We will be using price rallies to consider making additional new crop sales.

Announcements

Strawberry Twilight Meeting
Tuesday May 16, 2006  6:00 – 8:00 p.m.
Wye Research and Education Center
Rain or Shine!

Featured speakers this year are:
Dr. Bill Turechek, USDA Fruit Pathologist
Dr. Jerry Brust, UM Entomologist
Mr. Michael Embrey, UM Apiary Specialist

There will be a tour of high tunnel production and field plots, followed by light refreshments.

For more information contact Michael Newell at (410) 827-7388.

Wye Spring Crops Twilight Tour
Tuesday May 16, 2006  6:30 p.m.
Wye Research and Education Center
Rain or Shine!

This will be an opportunity to observe and discuss some of the research projects involving spring planted crops and small grains at the Wye Research and Education Center.

Some of the current research projects are:
Barley and wheat variety testing – Dr. Jose Costa
Disease resistance screening – Dr. Arv Grybauskas
Foliar fungicides on wheat – Dr. Arv Grybauskas
Hulless barley fertility – Dr. Bob Kratochvil
Wheat seeding rates – Dr. Bob Kratochvil

As always, we hope to be able to address any pest or management topics that are of current concern.

Refreshments provided by the Maryland Crop Improvement Association

For more information contact Mark Sultenfuss at (410) 827-7388 or msulten@umd.edu
Potato Disease Advisory - May 11, 2006, Bob Mulrooney, Extension Plant Pathologist

Late Blight Advisory

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.

Disease Severity Value (DSV) Accumulation as of May 10, 2006 is as follows:
Location: Byfield Farms field east of Magnolia, DE. Greenrow: April 23

Remember that 18 DSV's is the threshold to begin a spray program

<table>
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<th>Date</th>
<th>DSV</th>
<th>Total DSV</th>
<th>Spray Recommendation</th>
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<td>4/30-5/10</td>
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The low humidity and lack of rain have been very unfavorable for potato diseases at the present time. The threat of late blight from seed infection is low, but more of a potential problem than last year. Remember that these values are for potatoes that would have about 50% emergence and made a row that you can see on or before April 23. 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. 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 very low.

Weather Summary

http://www.rec.udel.edu/TopLevel/Weather.htm
Week of May 4 to May 10, 2006
Readings Taken from Midnight to Midnight

Rainfall: 0.19 inch on May 8

Air Temperature:
Highs Ranged from 80°F on May 4, May 5 and May 6 to 60°F on May 8.
Lows Ranged from 60°F on May 6 to 42°F on May 9.

Soil Temperature:
67°F average.
(Soil temperature taken at a 2 inch depth, under sod)

The Weekly Crop Update is available online at http://www.rec.udel.edu/TopLevel/Publicat.htm

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