



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Soybean Rust Update

Semiole County, Georgia is the first county outside of Florida to report soybean rust in 2005. This is the first report on soybean in 2005. Rust was found on volunteer soybean.

Visit the APHIS Soybean Rust site at <http://www.sbrusa.net/> and view all the activity. Scouting is active across much of the South. I would recommend spending some time on the site becoming familiar with what is present. DDA personnel and I will be inputting Delaware information on detections as well as recommendations once it appears.

As part of the early detection monitoring system established by APHIS, we have planted all six sentinel plots for soybean rust detection in Delaware. Four are located in Sussex county, and one each in Kent and New Castle. Other grower fields throughout the state will be added later. All these plots and fields will be surveyed as part of the APHIS/ Delaware Soybean Board/ Delaware Dept. of Ag/ Cooperative Extension Soybean Rust Survey and Sentinel Plot Program.

Upcoming Rust Meetings

We are planning to have several meetings in late May or early June to help provide information on how to set up ground sprayers for applying fungicides to soybeans to control soybean rust. The targeted audience will be growers and commercial applicators.

We are also planning to have a meeting for scouts, commercial field personnel, and growers specifically emphasizing identification and scouting techniques for the disease. This will be closer to the time when SBR might appear so it will be fresh in everyone's mind.

We will announce these once the dates and places are confirmed.

Correction/Addition

Last week I added the 2ee label to our website (<http://ag.udel.edu/extension/Information/pdc/soybeanrustResources.htm>) for Quadris plus the triazole fungicides. I inadvertently left Larado EW and Larado EC off the list of triazoles that can be combined with Quadris as part of this 2ee label. Laredo is one of the top tier triazoles according to the Brazilian trials for soybean rust control.

Bob Mulrooney

Vegetables

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

Planthouse Treatments with Admire 2F

We have had a number of calls this past week regarding the treatment of transplants with Admire before planting in the field. The most recent Admire label has use rates and directions for planthouse applications for aphid and whitefly control so be sure to check the label for

crops labeled, rates, application directions and restrictions
(<http://www.cdms.net/ldat/ld68H042.pdf>).

Revised 24 C label for Use of Lorsban 4E on Sweet Corn in Delaware Only

The following is the link to the revised label for control of armyworm and corn earworm infesting sweet corn. There are a number of revisions including the fact that it is a restricted use pesticide. Remember, you must have this 24C label in your possession at the time of application.

(<http://www.cdms.net/ldat/ld02A044.pdf>)



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

Potatoes

Starting next month we will begin the Potato Disease Advisory. The critical information in the report is the Late Blight Advisory. Since late blight was present in many seed growing areas last season the risk of late blight increases for Delaware growers. Growers that subscribed last year will continue to receive it and do not have to request again unless they do not want to receive it. It will appear once a week in Weekly Crop Update. Growers and others that subscribe by FAX or email will receive it twice a week usually Monday or Tuesday then Thursday, appearing in WCU on Friday. If you would like a FAX or an email copy, please call 302-831-4865, or email bobmul@udel.edu with your FAX number or email address.

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) at Joe Jackewicz's farm near Magnolia, DE 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, early blight and makes spray recommendations as well.



Downy Mildew on Pickling Cucumbers - *Ed Kee, Extension Vegetable Specialist; kee@udel.edu*

There are reports of downy mildew on cucumbers and other cucurbits in south Florida. The best and most reliable source of information regarding the disease and any potential progress is at the North Carolina State website, conducted by Dr. Gerald Holmes and his colleagues. The downy mildew forecasting website can be reached at www.ces.ncsu.edu/depts/pp/cucurbit/ or simply Google search "cucurbit downy mildew" and it will be the first link. Once on the site, we encourage you to read and become familiar with the whole site, including the sections "Interpreting Threat and Risk" and "The Disease." Traveling spores face many difficulties, and the survival rate is often very low. For example, spores can only survive a few hours of direct sunlight. There are many variables that impact the movement, spread, and establishment of the disease.

For forecasts, click "Current Forecasts" and you will see the latest update. At the bottom of the Current Forecast page, you will notice "Current Sources," which now list Immokalee and Palm Beach County, Florida. If you click on them, you will then see the projected course, which fortunately right now is blowing out in the ocean.

At this time, our general strategy is to watch the forecasts on the website. Confirmation of outbreaks will be posted on the website. If or when the potential for more northern outbreaks seems likely, the website will indicate as such. One line of thinking at this time is to begin spraying if the disease is confirmed in a neighboring state.

Preferred fungicide applications and materials will be posted as the season goes on, with input on what is successful in the southern states. My colleagues in plant pathology will be posting much more information regarding downy mildew. For now, we encourage everyone in the pickle industry to become familiar with the downy mildew forecasting website. Updates will be provided in this and other publications as the season progresses.

Agronomic Crops

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

Field Corn

Black cutworm pheromone traps catches increased significantly during the time period from April 19 - 25 (see trap catch table on the last page or look at our webpage at <http://www.udel.edu/IPM/traps/currentbcwtrap.html>). All fields (even those receiving at planting materials for cutworm control) should be scouted as soon as corn emerges. Look for cut plants as well as early signs of cutworm leaf feeding. Early leaf feeding can appear as small pinholes when larvae are small. This damage can provide an indication of where you will see cut plants in the next week. Treatments will be needed when you find 10 % leaf feeding or 3% cut plants on 1-2 leaf stage corn. On 3-4 leaf stage corn, the treatment threshold is 5% cut plants. Since cutworms are nocturnal, applications applied later in the day or in the evening will provide the best control.

Small Grains

We continue to find cereal leaf beetle eggs in wheat and barley in Sussex and Kent counties. The following information was taken from Dr. Ames Herbert's fact sheet on cereal leaf beetle, which can be found at the following link: <http://www.ext.vt.edu/pubs/entomology/444-350/444-350.html> .

"Scout after peak egg laying and when up to 50% of eggs have hatched. If the population is mainly made up of eggs, then scouting should be at a later date when a minimum of 50% are small larvae. Samples should be taken at a minimum of 10 random sites in the interior of each field (avoid the edges). At each site, 10 tillers (stems) should be examined for eggs and larvae. This will result in 100 tillers (stems) per field being examined. Eggs may be on the leaves near the ground. Record the number of eggs and larvae counted at each sample site and calculate the total number of eggs + larvae found. Alternatively, stems can be examined at random while walking through the major portion of the field; again 100 stems per field should be examined. Because cereal leaf beetle is often

unevenly distributed in the field, it is often necessary to determine if a portion of a field is above threshold. If the random sampling indicates an uneven distribution (lots in some samples but few in others), it may be necessary to subdivide the field into two or more parts and sample each part as an individual field. In instances of very high counts, the sampling can be abbreviated after the samples have exceeded the threshold- for instance, if after examining 30 tillers the scout has found 35 eggs + larvae, which exceeds the threshold for 100 stems. However, if this is done, the scout should realize that the portion of the field not scouted may not have high populations. **Scouting Frequency:** Once egg laying has reached a peak, many fields will need only a single scouting for eggs and larvae. If the proportion of eggs in the sample is 50% or greater, then sample again in 5-7 days. **Economic Threshold:** 25 eggs and/or larvae total per 100 tillers. This threshold is based on the number of eggs and small larvae present, rather than large larvae. Proper use allows fields at risk to be identified and treated in time to prevent significant yield loss."

Now that barley heads have emerged and wheat is not far behind, you should also 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 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. No treatment should be needed until 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.

In addition to cereal leaf beetles, armyworms and grass sawflies, be sure to watch for aphids as grain heads emerge. In many years, the

combination of a lack of moisture in midwinter and a cool, dry spring can result in higher populations. During cool weather, natural enemies will lag behind. A treatment should be considered if you find 20-25 aphids per head and beneficial insect activity is low. Beneficials include lady beetle adults and larvae, syrphid fly larvae, lacewing larvae, damsel bugs, and parasitic wasps. A ratio of one predator to every 50 to 100 aphids may be sufficient to achieve biological control.



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

Bullish Developments May Result in Commodities Retesting March Highs

The commodity markets continue to be driven by the funds (managed hedge funds, index funds, and non-commercial speculative interests). The impact of the fund trading is significant enough to turn the technical indicators for corn, soybeans and wheat for the near term to the upside. This is happening at a time when the fundamentals (supply and demand) do not support the current price levels. Nevertheless, the markets appear poised this week to possibly retest the March highs going into next week's trading.

Corn Analysis

The U.S. corn crop is now 30% (+) planted, about 8 points ahead of the five-year average and 5 points below last year's pace. Corn exports are keeping pace with what's needed to meet current USDA export predictions (1.8 billion bushels for the 04/05 marketing year). New crop corn futures are currently trading at \$2.34 per bushel, about 15 cents below the high established in mid-March. Crop weather in the Corn Belt is mixed, with some areas cold and wet, some areas cold and dry, with a hint of concern regarding potential planting delays.

Soybean Analysis

The U.S. soybean crop is now about 2 to 3% planted. Export shipments are keeping pace with what's needed to meet current USDA export predictions (1.08 billion bushels). New crop

soybean futures are currently trading at \$6.23 per bushel, about 27 cents per bushel below the high established in mid-March. The Southern Hemisphere crop size has eroded by another 1 or 2 million metric tons. With U.S. soybean planting just getting underway, it was announced Wednesday that Asian Soybean Rust was found in a volunteer soybean plant in Seminole County, Georgia.

Wheat Analysis

The U.S. wheat harvest is just around the corner. Export shipments are running below the level needed to hit USDA's 1.05 billion bushel projection. July wheat is currently trading at \$3.29 per bushel, about 46 cents per bushel below the recent high established in mid-March.

Market Strategy

Savvy marketers are most likely sitting at the 50% priced level for new crop corn, soybeans, and wheat. A price rally to the mid-March highs or better should be used to bring new crop sales up to the 50% level. Any pricing opportunity that might occur above the recent highs established in mid-March should be used to advance '05 new crop pricing above the 50% level by using either hedging in the futures market or the purchase of put options. Wednesday's soybean rust news is likely to provide near term support to soybean futures with spill over support garnered for corn and wheat futures.



New Thoughts on Small Grain Irrigation -
Richard Taylor, Extension Agronomist;
rtaylor@udel.edu

Since the last time that I wrote about wheat irrigation, several discussions with other agronomists from the region have revised my thinking on the approach a grower should take when considering small grain irrigation. Our conclusion based on our limited research here in Delaware remains the same; once a small grain crop begins to head irrigation can result in yield reduction even during a significant drought.

The change mentioned above is based on the knowledge that barley usually matures before soil moisture is depleted, that winter wheat

requires or can mature grain with limited soil moisture reserves (as seen from the dryland wheat growing regions), and that irrigation after heading appears to cause yield reductions with greater reductions observed the more times wheat is irrigated. The new approach is that if a grower feels that irrigation will be needed, it should be applied while the wheat is either vegetative or at least before it reaches the boot stage when the flag leaf has emerged from the whorl.

Although we do not have data to indicate if there will be a response to early irrigation or how large the response might be (whether it will be profitable), my current thinking is that if a grower is very concerned with possible drought effects on winter wheat and feels that irrigation will be necessary, the possibility of increased yield from irrigation will be greater if that irrigation water is applied early (before boot stage) and in sufficient quantity to fill both the top soil and sub soil to field capacity. I believe that if wheat enters the flowering, grain set, and grain maturation period with the soil at field capacity, the extensive root system of wheat will be able to obtain enough moisture to complete the crop without running the risk of causing yield reductions with irrigation.

With regard to barley, I still feel that the cost benefit ratio will make irrigation of barley at any time too expensive to justify applying water. Again, if the grower feels he or she must irrigate, the water should be applied before late boot or head emergence and should be applied in enough quantity to bring the field up to field capacity.



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

Fungicide Update for Wheat

The most common foliar disease that we see is powdery mildew. There is some present low in the canopy at the present time. Currently the best fungicides for powdery mildew are those that contain propiconazole (Tilt, PropiMax, Stratego and Quilt). Tilt and PropiMax are solo propiconazole products. Stratego contains 11.4%

propiconazole plus 11.4% trifloxystrobin (Flint). Quilt is a combination product containing 11.7% propiconazole + 7.0% azoxystrobin (Quadris). Both Tilt and Stratego have 24 c registrations that allow application up to full head emergence, Quilt must be applied BEFORE complete flag leaf extension occurs (Feekes' Growth stage 9). This use restriction limits the use of Quilt in our area. Flag leaf or earlier applications have been shown to be economical only when powdery mildew is a problem early or the rare times when epidemics of other foliar diseases "kick in" earlier than normal. Nevertheless, almost all research and experience over the past 20 years indicates that flag leaf applications simply do not provide the late-season disease protection for glume blotch and tan spot when needed.

In Delaware, if fungicides can be delayed as late as possible according to the label, protection of the upper leaves from powdery mildew, Septoria leafspots, tan spot and rust usually occurs. If you are protecting a powdery mildew susceptible variety when there is little powdery mildew present and the weather is favorable for infection, I would recommend using Tilt, PropiMax or Stratego at head emergence. If powdery mildew is not present and/or you have a powdery mildew resistant variety wait until full head emergence (heads emerged but before flowering occurs) and apply Quadris, or Headline if the weather forecast predicts wet conditions late in the season that favor Septoria glume blotch, Septoria leafspots and tan spot. Of course if disease is present in sufficient amounts to warrant sprays, applications need to be made at the appropriate time. An application of Tilt, Quadris, Stratego, or Headline at full head emergence also brightens straw and controls sooty molds on the heads during grain fill and ripening. See following table for fungicide efficacy.

Fungicide Efficacy for Control of Wheat Diseases

The North Central Regional Committee on Management of Small Grain Diseases has developed the following information on fungicide efficacy for control of certain foliar diseases of wheat for use by the grain production industry in the U. S. Efficacy ratings for each fungicide listed in the following table were

determined by field testing the materials over multiple years and locations by the members of the committee. Efficacy is based on proper application timing to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease

in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table.

Efficacy of Fungicides for Wheat Disease Control Based on Appropriate Application Timing

Product	Fungicide(s)	Rate/A	Powdery mildew	Stagonospora leaf/glume blotch	Septoria leaf blotch	Tan spot	Stripe rust	Leaf rust	Head scab
Tilt 3.6 EC	Propiconazole 41.8%	4 fl. oz.	+++*	+++	+++	+++	+++	+++	+
PropiMax 3.6 EC	Propiconazole 41.8%	4 fl. oz.	+++	+++	+++	+++	+++	+++	+
Quadris 2.08 SC	Azoxystrobin 22.9%	6.2 (to 10.8) fl. oz.	+(+)**	+++	+++	++++	++++	++++	
Quilt 200SC	Azoxystrobin 7.0% Propiconazole 11.7%	14 fl. oz.	+++	+++	+++	+++	+++	+++	
Stratego 250 EC	Propiconazole 11.4% Trifloxystrobin 11.4%	10.0 fl. oz.	++	+++	+++	+++	+++	++	
Headline 2.09 EC	Pyraclostrobin 23.6%	6.0 (to 9.0) fl. oz.	++	+++	+++	++++	++++	++++	
Folicur 3.6 EC***	Tebuconazole 38.7%	4.0 fl. oz.	++	+++	+++	+++	++++	++++	++

* the greater the number of + signs the greater the relative efficacy

** (+) indicates greater efficacy at higher application rates.

*** Folicur does not have a federal label, but has Section 18 emergency registration in some states. It is not labeled in DE.

This information is provided only as a guide. It is the responsibility of the pesticide applicator by law to read and follow all current label directions. No endorsement is intended for products listed, nor is criticism meant for products not listed. Members of NCR-184 assume no liability resulting from the use of these products.

General Info

New Weather Station

A new weather station has been set up at the Townsend Farm near Middletown, DE. The weather data collected from this station is available on the Research & Education Center webpage at <http://www.rec.udel.edu/TopLevel/Weather.htm>.



Off-Target Movement of Herbicides is a Concern - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Herbicides are extremely effective products for controlling weeds and unwanted vegetation. When the herbicide lands in an area with desirable plants, they can cause discoloration, abnormal growth, or plant death. Off-target movement can have considerable consequences. Herbicides can move off target by a number of

mechanisms including movement with water (leaching or run-off), physical drift (movement of small droplets by wind), and volatility (movement due to high temperatures and moist conditions causing herbicides to vaporize after they are deposited on leaves or soil). Many newer herbicides are used at rates as low as ounces to the acre which means the small amount of herbicide contained in drift particles can affect sensitive plants. Herbicides such as dicamba (Banvel, Clarity, and Distinct) and 2,4-D are very prone to volatility and caution is needed with using these herbicides. Drift is an important factor as well. Using application equipment and techniques to increase droplet size will reduce the likelihood of drift, but they will not overcome windy conditions. It is important to be aware of wind speed and direction. Most herbicide labels caution of increase risk when winds are in excess of 5 mph and caution not to spray when wind is greater than 10 mph. The two tables below demonstrate the potential for considerable drift with light to moderate winds.

Distance Water Droplets Will Drift While Falling Ten Feet in a 3mph Wind*

Droplet Diameter (microns)	Relative Size	Estimated Particle Drift (feet)
5	fog	3 miles
20	very fine spray	1,100
100	fine spray	44
240	medium spray	28
400	coarse spray	8.5

*Taken from Herbicide Spray Drift, NDSU, A-657, authored by Alan Dexter

Distance Water Droplets Will Drift While Falling Three Feet in a 5 mph Wind**

Droplet Diameter (microns)	Relative Size	Estimated Particle Drift (feet)
40	fog	140
100	misty rain	24
200	drizzle rain	9.5
400	light rain	4.0

**Taken from Avoiding the Potential for Drift, Monsanto Company

Be sure to use good judgment when spraying pesticides.

Black Cutworm Pheromone Trap Catches

April 19 through April 25, 2005

Location	# Moths	Location	# Moths
Bridgeville	38	Lincoln	15
Delmar	50	Little Creek	67
Ellendale	8	Magnolia	16
Felton	13	Milford	13
Frederica	61	Millsboro	5
Georgetown (UD REC)	22	Milton	30
Greenwood	15	Sandtown	8
Harrington	50	Seaford	11
Kenton	3	Selbyville	32
Laurel	91	Smyrna	31
Leipsic	39	Wyoming	15
Lewes	31		

NOTE:

- (1) Moth catches of 9 to 15 moths per 7-day period have been associated with a moderate to high potential for cutworm outbreaks.
- (2) Moth catches of 5 per night for at least 2 consecutive nights have also indicated a high potential for problems.
- (3) You can expect to see cutting activity around 300 degree-days, base of 50 degree F from peak moth activity.

Upcoming Meetings

Spring Crops Twilight Tour

May 25, 2005 6:30 p.m.

Wye Research and Education Center

- Visit the wheat and barley plots to compare plant growth type, maturity and disease resistance.
- Update on current insect, weed and disease pressure, predictions for the near future, and management techniques for integrated pest management.
- Discussion of any current crop management issues
- CCA credits

Refreshments/dessert will be available.

Registration is not required.

Contact: Mark Sultenfuss (410) 827-7388 or
Debby Dant (410) 827-8056

2005 Wye Strawberry Twilight Meeting

May 25, 2005 6:00 - 8:00 p.m.

- 2004-05 research plots
- Effect of Strawberry tip plugging date on Spring yields with and without Fall applied row covers in the field and in a high tunnel.
- Variety trial with Bish, Treasure, Festival and Gem. USDA cooperative research on "conditioned" strawberry plugs for Fall and Spring harvest.
- Greenhouse-gutter production system.
- USDA Fruit Pathologist Bill Turechek will discuss strawberry diseases and current control measures. USDA and University small fruit specialists will also be on hand.

Refreshments/dessert will be available.
Registration is not required.
Contact: Mike Newell (410) 827-7388 or
Debby Dant (410) 827-8056

Virginia Small Grains Association Field Day

May 24, 2005 9:30 a.m.
Farm of Lanier Easley, Pittsylvania County, VA

Field plots will feature ryegrass/weed control strategies, insecticide seed treatments, evaluations of hulless barley and bread wheat seeding rates and management, and variety demos from Southern States, Pioneer, Hubner, Vigoro/Royster Clark, VCIA, U of Maryland, Coker, and USG.

Spring fungicide demonstrations and strips with nitrogen and nitrogen+sulfur as a topdress are planned. Results will be shown as part of the tours. There will also be display/demonstration of the new Greenseeker technology. The Greenseeker applies a variable rate nitrogen application based on the needs of each plant.

The tentative program includes speakers from the Altria/Shared Solutions Program and Don Mennel with Mennel Milling.

Lunch will be served by Bill Ellis BBQ.

Exhibitor and sponsorship opportunities are available.

For further information, please contact:
Ellen Davis, Executive Director of Virginia Small Grains Association, (804) 843-4455
Wade Thomason, Extension Grain Specialist, (540) 231-2988.

Directions:

*From Rt. 57 about 8.5 miles west of Chatham, VA
(Town of Rondo)*

*Turn South on Rt. 750, Strawberry Rd. Go
approximately 1.25 miles*

*Turn Left onto Rt. 833, parking and field plots are on
the right, approximately 0.8 miles from the turn.*

Weather Summary

<http://www.rec.udel.edu/TopLevel/Weather.htm>

Week of April 21 to April 27, 2005

Rainfall:

0.02 inches: April 22
0.16 inches: April 23
0.01 inches: April 24
0.01 inches: April 25
0.11 inches: April 27

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

Air Temperature:

Highs Ranged from 72°F on April 21 to 56°F on April 22 and April 24.

Lows Ranged from 53°F on April 27 to 38°F on April 26.

Soil Temperature:

60°F average.

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

Web Address for the U of D Research & Education Center: <http://www.rec.udel.edu>

Compiled and Edited By:

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