



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Soybean Rust Update

There have been no new finds of soybean rust. Intensive scouting for soybean rust infections continues in the southeastern U.S., especially south of a line that stretches from southern South Carolina through central Georgia, Alabama to southeastern Mississippi. Soybean rust model results continue to indicate the potential for infection in this area based on previous favorable weather conditions. The likelihood of infection being found in the field is dependent on the true deposition of spores.

For lima bean and snap bean growers progress is underway at EPA to evaluate section 18 emergency registration petitions for Delaware growers for some of the fungicides that are labeled for soybeans to control rust. Tilt, Propimax, Bumper, Quilt, Folicur, and Orius, are being requested. This was part of a national effort to provide fungicides for a very large crop grouping which includes lima beans, snap beans, dry beans, cowpeas and other leguminous vegetables that are susceptible to soybean rust. Florida and Tennessee officials were the original petitioners and developed a document that the rest of the states can follow to apply for their section 18 labels. **No section 18's for this group have been granted yet for any state.** Currently Quadris, Headline and Bravo are labeled for use on these legumes. Nova is labeled on snap beans but not limas and Headline is not labeled for succulent podded

legumes which include lima beans. We are hopeful that the Headline label will be amended in the near future to include lima beans.

Bob Mulrooney

Vegetables

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

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. Aphid populations have started to increase in a few fields. Economic numbers of spider mites are starting to be found. The threshold for mites is 20-30% infested crowns with 1-2 mites per leaf. If spider mite populations are high at the time of treatment, 2 sprays spaced 5 days apart may be needed. Acramite (only one application per season), Agri-Mek, Capture (bifenthrin), Danitol, Oberon and Kelthane are labeled on melons for mite control.

Peppers

Since the first flowers can be found in the earliest planted fields, be sure to consider a corn borer treatment. In areas where corn borers are being caught in local traps and pepper fruit is ¼ - ½ inch in diameter or larger, fields should be sprayed on a 7-10 day schedule for corn borer control. Be sure to check local moth catches in your area at

<http://www.udel.edu/IPM/traps/latestblt.html>.

You will also need to consider a treatment for pepper maggot. Dimethoate has provided effective control in the past. Continue to check fields for aphids. A treatment may be needed prior to fruit set, if you find 1-2 aphids per leaf for at least 2 consecutive weeks and beneficial activity is low.

Potatoes

Continue to scout fields for Colorado potato beetle (CPB), corn borers (ECB) and leafhoppers. Small and large CPB larvae can now be found in fields. Be sure to sample for leafhopper adults and nymphs. As a general guideline, controls should be applied if you find ½ to one adult per sweep and/or one nymph per every 10 leaves. We have also found the first aphids in potatoes. No controls should be needed until you find 2 aphids per leaf during bloom and 4 aphids per leaf post bloom. If melon aphids are found, the threshold should be reduced by ½.

Snap Beans

Continue to scout all seedling stage fields for leafhopper and thrips activity. Once corn borer catches reach 2 per night, fresh market and processing snap beans in the bud to pin stages should be sprayed for corn borer. Sprays will be needed at the bud and pin stages on processing beans. Acephate can be used at the bud and pin stages on processing beans but remember it has a 14 day wait until harvest. Additional sprays may be needed after the pin spray on processing beans. Since trap catches can change quickly, be sure to check our website for the most recent trap catches and information on how to use this information to make a treatment decision in processing snap beans

<http://www.udel.edu/IPM/traps/latestblt.html> and

<http://www.udel.edu/IPM/thresh/snapbeanecbthresh.html>.

Once pins are present on fresh market snap beans and corn borer trap catches are above 2 per night, a 7-10 day schedule should be maintained for corn borer control. Lannate, Asana, Capture (bifenthrin), Warrior or Mustang are labeled for European corn borer on snap beans and have provided control in the past when timed correctly.

Sweet Corn

The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check trap catches for the current spray schedule since trap catches quickly change. Trap catches are generally updated on Monday and Thursday nights.

<http://www.udel.edu/IPM/traps/latestblt.html> ;
<http://www.udel.edu/IPM/thresh/silkspraythresh.html>



Non-Soybean Legumes and Soybean Rust -

*Kate Everts, Extension Plant Pathologist,
University of Maryland and University of
Delaware; everts@udel.edu*

We currently lack information on the possible impact of soybean rust on non-soybean legumes such as lima bean. A study is underway at the USDA's Foreign Disease-Weed Science Research Unit in Fort Detrick, MD by scientists from the USDA, a private company and state land grant institutions. Their study should help us answer questions on relative susceptibility or resistance of different host species and cultivars. The research group has released photographs of infected hosts. Of particular interest to Delaware growers, are the photographs of symptoms on lima bean and green bean. The photographs show how soybean rust appears to the naked eye and under a hand lens. You can view photographs of the symptoms on lima bean and green bean at www.usda.gov/soybeanrust/identification.shtml. It is interesting to note the large variation in sporulation of the soybean rust fungus on these hosts.

Because we don't know the level of susceptibility of these non-soybean hosts, Bob Mulroony and I are pursuing Section 18 fungicide exemptions for Delaware and Maryland. Should use of these fungicide materials become necessary, we will update you on products, efficacy, and proposed use.



Watermelon Disease Update - *Kate Everts, Extension Plant Pathologist, University of Maryland and University of Delaware; everts@udel.edu*

Early season weather has not favored disease development in watermelons. Prior to today, we have had very few days that favored gummy stem blight, and thankfully, downy mildew has not arrived yet. Continue to scout fields for symptoms of gummy stem blight, downy mildew and other diseases. Because disease pressure is low, this is a good year to become familiar with MELCAST to schedule sprays for gummy stem blight. (It will save sprays and help you identify weather patterns that favor gummy stem blight development.)

Melcast (MELon disease foreCASTer) is a computer program that uses temperature and leaf wetness to calculate how favorable weather conditions are to disease. To use MELCAST, apply a fungicide when the vines meet in the row. Environmental favorability index units (EFI) are then accumulated to a threshold of 30 and a fungicide application is advised. For more information and to see EFI values for your area, go to www.agnr.umd.edu/users/vegddisease/vegddiseases.htm.



Pickle Report from the South - *Ed Kee, Extension Vegetable Specialist; kee@udel.edu*

Sources report that two weeks of wet weather hurt production in the Tri-State corner region of Georgia, Alabama, and Florida. The weather is better now and production is increasing. There have been no signs of downy mildew in this area.

Yields in North Carolina are significantly hurt by dry weather so far. As would be expected, with such dry weather downy mildew has not been a factor.

For the most part, Delmarva fields look good, although the cold spring has slowed growth, it looks like harvest will begin close to July 1 or 2. It will be several days later until harvest reaches full swing.

Pea Harvest in Delaware- *Ed Kee, Extension Vegetable Specialist; kee@udel.edu*

Early pea harvests were good, some fields exceeded two tons. However, later fields were affected by hard, packing rains or the heat of last week. The pack in the area may only be 70% of the goal.

The heat and dry weather seemed to generate an usually high number of short pods, which fall through the harvester screens. This reduces yields, but also causes a higher percentage of trash for the processor.

There are fields that have also been hit hard by Fusarium wilt. This soil-borne fungus disease is a long-time nemesis of pea production in all areas of the United States. The disease causing organism is *Fusarium osyosporum* f. sp. *pisi*. It can survive in soils for longer than ten years. There are at least four races of this disease, and many of our commercial varieties have genetic resistance to Fusarium. However, resistance can be overcome when a large population of the disease is present. Many of our fields have been on a tight rotation - probably too tight. In addition, many of our fields have been planted to peas periodically for over fifty years. A 1968 University of Delaware publication recommends a 3 to 5 year rotation. Control of this disease hinges on at least a 3 year rotation, and longer is preferable.

Agronomic Crops

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

Alfalfa

We can now find both potato leafhopper nymphs and adults in fields. Although both stages can cause damage, once nymphs are detected damage can rapidly occur. 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. If economic levels are present and you are close to cutting, early cutting may be a control option. However, be sure to check

fields within a week of cutting for leafhoppers that can quickly damage small plants.

Soybeans

Small grasshopper nymphs can easily be found in full season no-till fields as well as in recently harvested barley fields. The treatment threshold for grasshoppers is 1 per sweep and 30% defoliation. Multiple applications are often needed for grasshopper control. The first spider mites have been detected; however, populations are still low.



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

Soybeans

Soybean cyst nematode can be seen on plants that are 32-35 days from planting. The dry weather will accentuate the damage from SCN. Look for areas in the field which are yellow and/or stunted. The small yellow or white cysts can be seen easily at this time if you have a 10X hand lens and carefully dig up the plants and not pull them from the soil. Soil sampling is also encouraged if you do not find the cysts or to confirm their presence if you are not sure. Soil sample bags are available from the county Extension offices. Remember, as soybeans are being planted after barley and wheat that it still is not too late to soil test for SCN, especially if you are not planting a resistant variety.

Wheat

I have not seen much take-all this season, but a sample was submitted recently with take-all. Look for the blackened lower stem at the soil line. Remove the leaf sheath at the ground level and the stem is black or has black streaks. Root development is very limited and the plants can be pulled easily from the soil. Plants are usually stunted and many have blank, straw-colored heads when severe. It usually appears in irregular patches in the field or in the headlands. With the amount of rain we received earlier the severe stunting may not occur and can be missed or diagnosed as something else. Rotation away from small grains for a year, possibly two, is usually sufficient to avoid take-all in the future.



Figure 1. Infected stems with sheaths attached. Note black discoloration and lack of roots.



Figure 2. Leaf sheaths removed to show black streaking and discoloration from take-all.



Height Restrictions for Postemergence Corn Herbicides - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Due to the cool spring, corn growth and its ability to shade the ground has been greatly delayed. In some cases, the preemergence herbicides have been applied 8 to 10 weeks ago, but the corn is only 30 inches tall and there is a need for a postemergence spray. I have reprinted the following table, giving height restrictions for postemergence herbicide application.

Broadcast applications refer to an over the top application and directed refers to use of special spray equipment to direct the spray and avoiding the spray coming in contact with the whorl of

the corn. When corn height and collar number are given, base decision on whichever feature is first attained.

Height Restrictions for Postemergence Corn Herbicide Application

Herbicides	Maximum corn size
Accent	broadcast: 6 collars or 20 in. directed: 10 collars or 36 in.
Aim	broadcast: up to 8 collars directed: when necessary
Atrazine	12 inches tall
Banvel Clarity	more than ½ pt/A: broadcast: 5 lvs or 8 in. directed: 36 in. ½ pt/A or less: 36 in.
Basagran	no restrictions listed
Beacon	broadcast: min- 4 in. max- 20 in. or 6 collars directed: pre-tassel
Buctril	pre-tassel
Callisto	30 in. or 8 collars
2,4-D Amine	broadcast: 8 in. directed: pre-tassel
2,4-D Ester	broadcast: 8 in. directed: pre-tassel
Evik	directed only: 12 in., do not apply 3 weeks before tasseling
Harmony GT	1 - 4 collars or 12 in.
Liberty	broadcast: 24 in. or 7 collars directed: 20 - 36 in.
Option	broadcast: 16 in. or V5 directed: 16 - 36 in.
Permit	broadcast: 48 in. directed: when necessary
Resource	broadcast: 2 - 10 collars directed: when necessary; when corn leaves interfere w/ spray
Roundup products	up to 30 in. or 8 collars
Stinger	24 in.
Touchdown	up to 8 collars

Herbicides	Maximum corn size
Premixes	
Basis	2 collars or 6 in.
Basis Gold	5 collars or 12 in.
Celebrity Plus	broadcast: 4 - 24 in.
Distinct	6 oz rate: 4 - 10 in. 4 oz rate: up to 24 in. directed: 4 oz up to 36 in.
Equip	broadcast: 12 in. or 4 collars directed: 12 - 36 in. or 4 - 8 collars
Exceed	broadcast: min- 4 in. max- 20 in. or 6 collars directed: 20 - 30 in.
Field Master	do not apply to emerged corn
Hornet WDG	broadcast: 6 collars directed: 20 - 36 in.
Laddok	12 in.
Liberty ATZ	12 in.
Lightning	broadcast: 12 in. directed: 20 in.
Marksman	broadcast: 5-lf stage or 8 in.
Northstar	broadcast: min- 4 in. max- 20 in. 6 collars directed: 20 - 30 in.
Ready Master ATZ	emergence until 12 in.
Shotgun	broadcast: 8 in. directed: 12 in. or if rate >2 pts
Spirit	broadcast: 20 in. or 6 collars (min of 4 in. tall) directed: 20 - 24 in. (before tassel emergence)
Steadfast	less than 20 in. or 6 collars
Steadfast	up to 12 in. or 6 collars
Yukon	spike through 36 in.



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

Volatile Markets Ahead

The picture hasn't changed much since last week. The National Weather Service 6 to 10 day forecast is calling for only minor chances of precipitation in the drier areas of the Corn Belt. Weekly crop condition ratings are still suggesting that a normal to above trend line yield production potential is in the making for '05 U.S. corn and soybean production, providing needed moisture arrives on time. The funds are still active buyers in the commodities pits. Futures prices for corn, soybeans, and wheat have surged higher due to the *fear* that crop stress is mounting and that a normal to above normal crop won't happen. That 'fear' is the perception that currently exists in the commodities trading pits. The reality of this year's crop production will not be known for some weeks to come. Nov '05 soybean futures closed at \$7.54 per bushel on 6/22; Dec '05 corn at \$2.49 per bushel; and July '05 wheat at \$3.36 per bushel. As long as the weather forecast remains dry, it is very likely that we'll see new crop corn and soybean prices move higher. At this point in time it is possible to see Dec '05 corn futures at \$2.75 per bushel or better; and Nov '05 soybean futures at \$8.00 per bushel.

According to a private source, depending upon the direction the weather takes crop development going into corn pollination "we may see new meaning given to the word 'Volatility'. Volatility is good. It gives grain marketers pricing opportunities that they otherwise would not have had. However, with commodity price volatility running at such high levels the current situation also gives new meaning to the word *timing*. Timing remaining grain sales will be important and extremely difficult.

Market Strategy

Commodity price volatility and timing of grain sales are two very important considerations when advancing corn and soybean sales. When the market is trending higher, as it is now, one is better served to wait until prices rally further before pulling the sales trigger. However, grain marketers must have price objectives in mind for the purpose of pulling the sales trigger.

Otherwise, grain and soybean sales in an up trending market never get made. The current market environment is ripe for advancing sales on the first 50% of intended production in incremental amounts for those with that portion of the crop yet unpriced. For the moment, it is imperative to keep a sharp watch on weather developments, the Asian Rust scouting reports, and the possible formation of double tops in the new crop corn, soybean, and wheat price charts. The double top, if formed in these respective markets, can serve as an indication to get pre-harvest pricing done.

Put options are on the agenda this year for pricing portions of the second half of production, however, the timing is not right at this point. The minimum price achievable for a \$2.50 Dec corn put is not much better than the \$2.18 Delaware marketing loan rate. The Nov soybean \$7.60 strike price put premium is currently 65 cents per bushel. Cash forward pricing remains, for the moment, as the contracting method of choice for booking new crop corn and soybean sales on the first 50% of intended production. Advancing sales on the second half of intended production should be placed on hold at the present time for reasons given above.

First Hand Look

The author will be touring portions of the Corn Belt from Friday, June 24th to Thursday, June 30th getting a first hand look at the '05 corn and soybean crops. Those needing technical assistance on grain marketing decisions during that time period should leave a message at 302-831-1317. Messages will be checked periodically.



Late Blight Advisory (18 DSV's Exceeded)

Disease Severity Value (DSV) Accumulation as of June 22, 2005 is as follows:

Location: Joe Jackewicz Farm, Magnolia, DE. Greenrow: May 4, 2005

Date	Daily DSV	Total DSV	Spray Recommendation
5/4 - 5/18	0	1	none
5/20 - 5/21	6	7	none
5/22	2	9	none
5/24 - 5/26	7	16	none
5/27 - 6/1	0	16	none
6/2	1	17	none
6/2- 6/4	11	28	-
6/4	2	30	5- day
6/5	2	32	5-day
6/6	2	34	5-day
6/8	1	35	5-day
6/9	2	37	5-day
6/10	2	39	5-day
6/11- 6/22	0	39	10-day

Early Blight and Black Dot

The P-day value, which is used to predict early blight and the need for protective fungicides, is now 358. Our threshold for p-day values is 300 (not 500 as stated in some previous reports, sorry for the confusion). With the recent heat we now need to think about early blight control as well. See below.

Many fields are flowering or approaching flowering and this is a good time to consider switching to an application or two of Gem, Headline or Quadris (Amistar) for early blight susceptible varieties. This can also be helpful for late season varieties including russets if stress (heat) makes plants susceptible to black dot. Make one or two applications at the end of flowering and repeat 14 days later. Apply mancozeb or chlorothalonil 7-days later between the two applications.

Andy Wyendandt from Rutgers has seen aerial blackleg in NJ and wrote the following:

Blackleg

The aerial phase of blackleg, also known as aerial stem rot, has shown up over the past week. Blackleg is caused by *Erwinia* spp. which also cause 'soft rots'. The bacteria which lead to the aerial phase of blackleg are soil-borne (originate from old crop debris) and spread by rainfall, overhead irrigation and wind. The aerial phase of blackleg does not originate from decaying seed pieces. The bacterium can enter the plant through wounds created by cultivation or through stems damaged by blowing wind, sand or hail. Dense canopies, warm weather and prolonged periods of leaf wetness favor the spread of aerial blackleg. Fortunately, the disease rarely extends below ground and only causes dieback of stems over time. Symptoms of the aerial phase of blackleg first appear as an irregular, water-soaked 'green' decay on stems that turns light-brown to black over time. Hot, dry weather will cause infected areas to dry out and become brittle. To help suppress aerial blackleg, avoid 'excessive' overhead irrigation if possible. Also, do any cultivating when plants are dry, cultivating in the presence of dew or wet plants may help to spread the bacterium around.

Announcements

Pesticide Safety Training and Testing for Pesticide Applicators Certification

June 28 & 29, 2005
Kent County Extension Office

June 28 is training – 8:30 am – 4:30 pm. Training continues the morning of June 29, from 8:30 am – noon. The exam starts at 1:00 pm on June 29.

Be sure to bring your Workbook! You don't have to register for training, but you must register for the exam. Call DDA (302-698-4500) one week in advance to register for the exam. All the exams are closed book!! Bring your calculator for the calibration questions.

Delaware Organic Food & Farming Association Summer Social

Thursday, June 30, 2005 7:00 p.m.
Richard Swartzentruber Farm, Greenwood, DE

Go on a farm tour of certified organic animal and crop production. See rotational grazing, grass fed cattle, organic dairy, organic poultry, organic field crops, and organic vegetable production. Meet with other organic growers and just enjoy the fellowship.

There will be a brief organizational meeting. Refreshments will be provided. However, you are welcome to bring a snack to share with the group.

All those interested in organic farming are encouraged to attend!

For more information please contact Gordon Johnson at (302) 730-4000 or Richard Swartzentruber, President, DOFFA at (302) 349-5544

Directions:

Take Rt. 13 to Greenwood. At Greenwood, go East on Rt. 36/16 for 0.5 mile to the traffic light. Turn Left on to Shawnee Rd. (Rt. 36) and go 1.25 mile. The Swartzentruber Farm is on the right, 12468 Country Lane.

2005 Delaware Weed Day

Wednesday, June 29, 2005 8:15 a.m.
University of DE Research and Education Center
Route 9, (County Seat Highway), Georgetown, DE

Registration begins at 8:15 a.m. and opening remarks at 8:30 a.m. at the Picnic Grove near the farm buildings on the north side of the road. Coffee, juices, and donuts will be provided.

Weather Summary

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

Week of June 16 to June 22, 2005

Readings Taken from Midnight to Midnight

Rainfall:

0.02 inches: June 16

0.24 inches: June 22

Air Temperature:

Highs Ranged from 88°F on June 16 to 69°F on June 20.

Lows Ranged from 65°F on June 16 to 48°F on June 21.

Soil Temperature:

79°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>

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