



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Soybean Rust Update

There have been several new detections of Asian soybean rust; the most recent are Dade County, FL on kudzu and Seminole County, GA. The Georgia report was confirmed on volunteer soybeans on the edge of a field that were approaching flowering. This is the first report on soybean for 2005.

We have posted some new section 18 labels for several fungicides registered for use in DE. **Orius** is another tebuconazole product from Makhteshim Agan of North America, Inc. The active ingredient is the same in Folicur from Bayer. **Quilt** has been approved and the label is posted now as well. It is a combination product of Quadris (azoxystrobin) plus Tilt (propiconazole). The rate range on the label is from 14-20 fl. oz/A. You can see the labels on our website:

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

Soybean Rust Fungicides Labeled as of May 3, 2005

It may be worthwhile to list the products that we have so far and their active ingredients so you can follow what fungicide groups they belong to:

- Triazoles (preventative, systemic in the xylem, translaminar, early curative)
 - Myclobutanil
 - *Laredo EC, Laradeo EW*
 - Propiconazole
 - *Bumper, Propimax, Tilt*
 - Tebuconazole
 - *Folicur, Orius*
 - Tetraconazole
 - *Domark*
- Strobilurins (penetrants, local movement-translaminar, preventative)
 - *Headline*
 - *Quadris*
- Protectants (preventative, not mobile in the plant)
 - Chlorothalonil
 - *Bravo, Echo, Equus*
- Combinations
 - *Headline SBR* (Headline + Folicur)
 - *Quilt* (Tilt + Quadris)
 - *Stratego* [Flint (strobilurin) + propiconazole]

Bob Mulrooney

Vegetables

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

Asparagus

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

Cabbage

Continue to sample for imported cabbageworm and diamondback larvae in cabbage. A treatment is recommended if you find 5% of the plants infested. If both insect species are present, Avaunt, the Bt insecticides, Proclaim or Spintor will provide control.

Peas

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

Potatoes

Begin sampling the earliest planted and emerged fields for Colorado potato beetle adults, especially if Admire, Platinum, Cruiser or Tops MZ Gaucho *were not* used at planting. A treatment should not be needed for adults until you find 25 beetles per 50 plants and defoliation has reached the 10% level. If one of the above neonicotinoids was used at planting, you should not apply a foliar neonicotinoid in season (i.e. Actara, Leverage, Provado, and recently labeled Assail). Cerexagri, Inc. announced on May 2, 2005 that Assail Insecticide is now labeled on potatoes. The product has foliar activity on potatoes for aphid, leafhopper, Colorado potato beetle and flea beetle control. Assail® is a

systemic insecticide belonging to the family of neonicotinoids. Its active ingredient is acetamiprid. It is considered to be a reduced risk pesticide by the EPA.

Sweet Corn

The first black cutworm leaf feeding and cut plants have been observed in the earliest planted fields. As a general guideline, treatments should be applied if you find 3% cut plants or 10% leaf feeding.

Agronomic Crops

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

Alfalfa

If economic levels of alfalfa weevil are present in fields and you are close to harvest, early cutting may be the best control option. However, cutting should only be used as a management option if you can cut within 5 days of finding an economic infestation. In addition, if economic levels are present before cutting, be sure to check regrowth for larvae and feeding damage within a week of cutting. In recent years, cool conditions after first harvest have not produced enough "stubble heat" to control populations with early cutting. In some cases, damage to regrowth can be significant. If fields are close to harvest and you spray instead of cut, be sure to use an insecticide and rate with a short residual.

Field Corn

With the continued high black cutworm moth counts, be sure to scout fields from emergence through the 5-leaf stage for cutworm damage, even if an at-planting cutworm treatment was used.

Small Grains

Continue to scout fields for cereal leaf beetles, aphids, armyworms and sawflies. Low levels of small true armyworm larvae have been detected in wheat.



Grain Marketing Highlights - *Carl German, Extension Crops Marketing Specialist;*
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Fundamental Factors Overtake Commodity Price Direction

The '05 cropping season has a long way to go before the U.S. corn and soybean crops are in the bin. Nevertheless, for the moment fundamental factors appear to be taking a firm hold on price direction particularly for corn, with large old crop supplies tending to keep a lid on any price advances. Ending stocks for U.S. corn were projected at 2.215 billion bushels in the April supply and demand report, nearly 2.5 times larger than the carry in from the '03/'04 marketing year. Currently December corn futures are trading at \$2.23 per bushel, down about 11 cents per bushel from this time last week. Since last week prices have also softened in the soybean, and wheat trading pits (about 8 cents per bushel for soybeans and 12 cents per bushel for wheat) now trading at \$6.15 and \$3.17 per bushel, respectively. Planting progress, reported each week, continues to exceed expectations and the weather for crop development is predicted to be warming across the Corn Belt. As a result, planting progress is expected to be further boosted this week with excellent conditions for crop emergence and development.

Market Strategy

Those with 50% initial sales completed should remain on the sidelines, primarily due to the fact that the '05 corn and soybean crops are just now getting into the ground. Those who haven't priced any soybeans are encouraged to consider using potential price rallies as an opportunity to get pre-harvest sales to the 50% level. Seizing upon opportunities to advance corn and wheat sales will depend upon basis level offers, amount previously forward priced, and whether any price rally can be garnered by spill over support from the more volatile soybean market. The next supply and demand report to be issued by USDA is due out on May 12th.



Growth Regulator Use on Small Grains -
Richard Taylor, Extension Agronomist;
rtaylor@udel.edu

Questions have come up in the past week or two concerning the use of Ethephon (Cerone) as a growth regulator to shorten small grains and make the straw stiffer and more resistant to lodging. Since timing an application of this growth regulator during boot and especially late boot stage (Feeke's 10 to 10.1) is often a matter of hours between no yield loss and significant yield loss, we do not routinely recommend its application. However in certain circumstances, the use of ethephon can be a valuable tool in reducing the impact of severe lodging.

Ethephon application may be indicated in fields that have a history of lodging problems, have been heavily fertilized with nitrogen, received heavy applications of manure or have a history of manure application, or appear to be at risk for lodging. In addition, the label for Cerone suggests application only where there is risk of significant loss of recoverable yield due to lodging or loss of grain quality, and/or a significant reduction in harvest efficiency. Other requirements are that the crop be free of stress from disease or insect damage, soil moisture levels are adequate to prevent crop stress after application, temperature fluctuations [below 35° F or above 85° F (90° F if irrigated)] are not expected for 5 days after application, and that application can be made between Feeke's 8 to 10. In studies I've conducted in the past, barley is especially sensitive once the head, or even awns, begin to emerge from the boot.

As with all agrichemicals, be sure to follow all label directions. Since the growth regulator only saves or reduces yield losses and does not increase yield potential, carefully consider all factors before making the decision to apply a growth regulator.



Frost and Freezing Temperatures on Small Grains - *Richard Taylor, Extension Agronomist;* rtaylor@udel.edu

Winter barley, winter oats, and winter wheat respond similarly to cold spring-time temperatures according to Dr. Larry Robertson in Bulletin No. 724 from the University of Idaho ("Spring Freeze Injury to Idaho Cereals"). Low temperatures can impact small grain yields from the boot stage through heading and into early seed filling periods with the degree of injury dependent on not only the absolute temperature but the duration of the frost or freeze as well. For severe injury to occur, the crop must be exposed to a critical temperature for two hours or more and the critical temperature varies depending on growth stage. Freeze injury occurs around 24 to 25° F during boot through flowering but moderate to severe injury from temperatures around freezing down to 25° F can also occur. Susceptibility to freezing temperatures in the spring gradually increases as the plant matures and passes through flowering into soft dough stage. Prolonged exposure to a given temperature can cause much more severe damage than brief exposure to that temperature.

For freeze damage to occur to the growing point from late jointing through boot stage, temperatures need to fall to 24° F and remain there for several hours. Another susceptible period occurs as the head emerges from the boot and anther (pollen) development reaches a critical stage. Very late frosts such as those we have seen this year can cause pollen sterility and severely reduce yields. Our small grains are at susceptible stages in many fields.

What should you be looking for when scouting fields for frost damage? First, damage is not likely to be visible for a number of days following a frost. Wait a week to a week and a half before checking for evidence of damage. Right now you can record which fields are at a susceptible growth stage and were likely exposed to prolonged low temperatures (fields with surrounding trees that reduce air movement

and shade parts of the field from the early morning sun, no-till fields where colder soil temperatures provide less buffer to cold air temperatures, and fields or parts of fields at the bottom of slopes where the coldest air will accumulate).

In 7 to 10 days, sample areas of fields that were likely exposed to frosts. Split the stem and examine the growing point with a hand lens. If the growing point (magnified you'll be able to see what appears to be a miniature seed head) is glossy with a white to light green color and is not limp or flaccid looking, damage likely did not occur. However, if the head appears to be cream or tan in color or is flaccid or limp and smaller than heads from areas of the field that appear not to be injured or are unlikely to have been injured, then the growing point was likely killed by the cold temperatures.

If you find damage, randomly sample your field and determine the percentage of seed heads that are damaged. If twenty percent or less seed heads are damaged, the field should still produce a good yield. The smaller, later tillers from each plant should continue development and help buffer yield losses. Higher percentage of damage will mean greater yield loss. Table 1 below is taken from a Kansas bulletin and describes growth stages, primary symptoms, and possible yield effects.

One last note, in years past, we have noted that even light frosts can cause newly emerging leaves and especially the flag leaf to take on a curly-cue or pig's tail appearance. This damage often doesn't appear immediately after frost. Often growers will not relate this symptom to frost damage. Note that we've not seen a relationship between yield and leaf damage.

For more information, refer back to the April 19, 2002 issue (Vol. 10 No. 4) of WCU and an article entitled "Frost Effects on Winter Wheat". Special thanks to Dr. Juliet Marshall, Idaho State University for a quick response to my inquiry and for providing a copy of Bulletin No. 724.

Table 1. Spring Freeze Injury to Cereals at Various Growth Stages

Growth Stage	Primary Symptoms	Yield Effect
Tillering Feeke's 2-3	Leaf chlorosis; burning of leaf tips; silage odor; blue cast to fields	Slight to moderate
Jointing Feeke's 4-9	Death of growing point; leaf yellowing or burning; lesions, splitting or bending of lower stem; odor	Moderate to severe
Boot Feeke's 10	Floret sterility; head trapped in boot; damage to lower stem; leaf discoloration; odor	Moderate to severe
Heading Feeke's 10.1-10.5	Floret sterility; white heads; damage to lower stem; leaf discoloration	Severe
Flowering Feeke's 10.51	Floret sterility; white awns or white heads; damage to lower stem; leaf discoloration	Severe
Milk Feeke's 10.54-11.1	White awns or white heads; damage to lower stems; leaf discoloration; shrunken, roughened or discolored kernels	Moderate to severe
Dough Feeke's 11.2	Shriveled, discolored kernels; poor germination	Slight to moderate

Source: Paulsen, G. M., E. G. Hayne, and H. D. Wilkins. 1982. Spring freeze injury to Kansas wheat. Kansas State University Cooperative Extension Service C-646. (I modified the Zadoks' scale used in Table 1 to the corresponding Feeke's number.)

Black Cutworm Pheromone Trap Catches

April 26 through May 2, 2005

Location	# Moths	Location	# Moths
Bridgeville	63	Lincoln	34
Delmar	42	Little Creek	127
Ellendale	18	Magnolia	26
Felton	19	Milford	1
Frederica	209	Millsboro	6
Georgetown (UD REC)	68	Milton	58
Greenwood	18	Sandtown	16
Harrington	60	Seaford	16
Kenton	13	Selbyville	72
Laurel	253	Smyrna	40
Leipsic	56	Wyoming	35
Lewes	18		

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

Weather Summary

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

Week of April 28 to May 4, 2005

Rainfall:

0.23 inches: April 30

0.67 inches: May 1

0.10 inches: May 2

0.01 inches: May 3

0.01 inches: May 4

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

Air Temperature:

Highs Ranged from 74°F on April 30 to 57°F on May 4.

Lows Ranged from 53°F on April 30 to 37°F on May 3.

Soil Temperature:

58°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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