



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Soybean Rust Update

Asian soybean rust development has been very slow so far. There have been no new reports since last week.

A 2ee label for Quadris in combination with a triazole fungicide is posted on the web. This label allows for a reduced rate of Quadris 4 fl oz when combined with other triazole fungicides (Tilt, Propimax, Bumper, Folicur, Domark).
<http://ag.udel.edu/extension/Information/pdc/pdf/Quadris2eerust.pdf>

We are still suggesting that growers consider planting group III or IV soybeans earlier rather than later. Of course that will depend on weather, corn planting and other farming decisions. The idea is to have the crop mature to the point that if rust makes it this far it will be late enough to cause little to no effect on the crop.

Bob Mulrooney

Vegetables

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

Asparagus

With the warmer weather this past week, the first asparagus beetle adults are now active, so

be sure to watch for egg laying as spears emerge. As a general guideline, 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. Sevin, Lannate, and permethrin are labeled on asparagus for asparagus beetle control. Be sure to check the labels for rates, re-entry times and days to harvest after application.



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

Cole crops - Downy Mildew and Alternaria
(By Dr. Andy Weindandt, Rutgers University)
We typically don't experience much damage from downy mildew and Alternaria leaf spot, but a review of both diseases and their control may be helpful. Symptoms of Downy Mildew 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 to 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 F17 of the DE *Commercial Vegetable Production Recommendations* to determine which fungicide is labeled for each specific crop): Amistar (azoxystrobin) at 2.0 to 5.0 oz 80 WDG/A (Alternaria only; labeled for use on leafy greens only), or Bravo, Echo, Equus (chlorothalonil) at 1.5 pt 6F/A or OLF, or maneb at 1.5 to 2 lb 80WP/A or OLF, or Ridomil Gold Bravo (mefenoxam + chlorothalonil) at 1.5 lb 76.5WP/A (14-day schedule), or Switch (cyprodinil) at 11 to 14 oz 62.5WG/A (Alternaria only). For Downy Mildew only, apply Actigard (acibenzolar-S-methyl) at 1 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 AI) at 3 to 5 lb 80WDG/A (on 14-day schedule.)



Vegetable Herbicide Label Updates - Mark VanGessel, *Extension Weed Specialist*; mjv@udel.edu

Sinbar Section 18 Label for Watermelons
EPA granted a section 18 label for Sinbar application to watermelons for use in Delaware. Sinbar use rate under this label is 3 to 4 oz/A, applied preemergence. This is similar to our previous label.

Reflex Section 18 Label for Snap Beans
EPA granted a section 18 label for Reflex use in snap beans for Delaware. Reflex use rate is 1 pt/A, for one application per year. Reflex must be applied at least 30 days prior to harvest.

Agronomic Crops

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

Alfalfa

If you have not checked your fields for alfalfa weevil larvae, it will be important to sample this week. We can find second instar larvae and an

occasional third instar in fields throughout the state. Once third instar larvae are found, the rate of feeding and crop injury significantly increases. The following thresholds can be used as a treatment guideline: up to 11 inches tall - 0.7 per stem; 12 inches tall - 1.0 per stem; 13 - 15 inches tall - 1.5 per stem; 16 inches tall - 2.0 per stem and 17-18 inches tall - 2.5 per stem.

Field Corn

Black cutworm pheromone traps catches are lower this week (0-8/trap/week) (see trap catch table on the last page or look at our webpage at <http://www.udel.edu/IPM/traps/currentbcwtrap.html>.) As soon as corn emerges, watch for cut plants as well as early signs of cutworm leaf feeding which often appear as small pinholes when larvae are small. This damage often provides 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.

As corn emerges, you should also watch for bird damage. You can distinguish bird damage from cutworm damage by the pattern in the field: generally longer strips of damaged plants, plants pulled out of the ground, and/or plants cut high that are compressed at the base of the stems. Although birds can cut plants off at the soil surface, they tend to pull plants out of the ground. In addition, if you look closely you will see "bird prints" near the missing plants or holes where birds have pulled plants out of the ground, so do not confuse it with cutworm damage.

Small Grains

We continue to find cereal leaf beetle eggs in wheat and barley in Sussex and Kent counties. No treatment is needed until you find 25 eggs and/or larvae per 100 tillers and 50% of the eggs have hatched. Once the heads have emerged, you should also begin sampling small grains for sawfly and armyworm larvae. We are starting to see a slight increase in true armyworm blacklight trap catches in a few areas. Catches are online: <http://www.udel.edu/IPM/traps/latestblt.html>. As a general guideline, armyworm outbreaks

have been associated with a cumulative moth catch of 200 moths during the month of April. *However, this is just a guideline so all fields should be scouted as soon as the heads emerge.* 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.



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

Wheat and Barley

The recent dry weather pattern has halted any further disease development. Powdery Mildew tends to dry up on the lower leaves resulting in yellow, limp leaves with faint tan spots with dried up mildew on them.



Soil-Applied Herbicides Need to be Moved into the Soil - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

Herbicides applied to the soil surface require rainfall or irrigation or mechanical incorporation to move them into the soil where the plants will absorb them. The amount of water needed to "activate" these herbicides depends on the water solubility of the herbicide and moisture content of the soil. Most soil-applied herbicides require 0.5 to 0.75 inches to be moved in the soil if the soil is "dry" (less water if the soil is

moist). Princep requires 0.75 to 1.0 inches of water to become "activated". If you have irrigation and your corn herbicides have been applied but you have not received at least 0.5 inches of water, you should consider applying that amount with your system. Mechanical incorporation with a field cultivator, set no more than 3 to 4 inches deep, will physically move the herbicide into the root zone. Field cultivators set any deeper will cause the herbicides to become too diluted. A field cultivator will mix the soil to half the depth it is set (set to 4 inches - soil mixes to 2 inches). This is one situation where spending a little money now could save money later. For instance, if your residual grass herbicide is not moved into the soil and grass control is poor, you are looking at a postemergence application of Option, Steadfast, or Accent-containing pre-mix. And control of crabgrass with postemergence herbicides is only fair. Spending the money to irrigate and activate the herbicides could save a high herbicide bill later.



U.S Corn Planting Progress on Schedule? - *Carl German, Extension Crops Marketing Specialist; clgerman@udel.edu*

Recent lows in commodity prices have held largely due to the rate of planting progress that was reported on Monday, April 18th with 14% of the nation's corn crop planted. Planting progress is in line with the 5-year average and not ahead, as pre-report guesses had indicated. Nevertheless, that was enough to provide some impetus for stabilizing prices this week. Fundamentally, what lies ahead is next week's USDA planting progress report. Anything at 30% or better is likely to be viewed as price negative and less than 30% planted will be viewed as slightly price positive. Presently, there is not enough fundamental certainty in the market to advance or pressure prices. Advancing corn, soybean, and wheat sales is not recommended at this time.



Comparison of Various Glyphosate Formulations - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

There are numerous products containing glyphosate in the marketplace, but there is no consistency in how the companies report what is contained “in the jug.” Glyphosate is an acid, but it is formulated as a salt for packaging and handling. Roundup uses the isopropylamine or potassium salts, whereas Touchdown is formulated as a diammonium or potassium salt. Some companies report their product as acid equivalent (ae) of glyphosate acid, or some report it as active ingredient (ai) of glyphosate plus the salt, and others report both. In order to compare performance of different formulations it is critical to know how the products were formulated. Since the salt does not contribute to weed control and different salts have

different weights, the acid equivalent is a more accurate method of expressing, and comparing, concentrations.

Adjuvant loading refers to the amount of adjuvant already added to the glyphosate product. Fully loaded products contain all the necessary adjuvants. Other products contain only a limited amount of adjuvant (minimal or partial loading) and additional surfactants must be added to the spray tank before application. Refer to product labels for specific recommendations. All glyphosate brands recommend adding ammonium sulfate (AMS) if using hard water as a carrier or under other challenging conditions. If using AMS, always dissolve it in the spray solution before adding glyphosate.

Trade name	Company	lb ae/gal	lb ai/gal	Formulation (salt) of the glyphosate acid	Rate (fl oz) for 0.75 lb ae	Adjuvant load
Glyphomax	Dow	3.0	4.0	IPA	32	partial
Glyphomax Plus	Dow	3.0	4.0	IPA	32	full
Glyphomax XRT	Dow	4.0	5.4	IPA	24	full
Durango	Dow	4.0	5.4	IPA	24	full
Glyphosate Herbicide	DuPont	3.0	4.0	IPA	32	partial
Glyphosate 4	FarmSaver.com	3.0	4.0	IPA	32	partial
Glyphosate Original	Griffin	3.0	4.0	IPA	32	partial
Rattler	Helena	3.0	4.0	IPA	32	partial
Rattler Plus	Helena	3.0	4.0	IPA	32	full
Gly-Flo	Micro Flo	3.0	4.0	IPA	32	partial
Roundup Original	Monsanto	3.0	4.0	IPA	32	partial
Roundup UltraMax	Monsanto	3.75	5.0	IPA	26	full (TranSorb)
Roundup Custom	Monsanto	4.0	5.0	IPA	24	minimal
Roundup Original Max	Monsanto	4.5	5.5	potassium	22	partial
Roundup WeatherMax	Monsanto	4.5	5.5	potassium	22	full (TranSorb II)
Debit TMF	Nufarm	4.0	5.0	IPA	24	minimal
Credit	Nufarm	3.0	4.0	IPA	32	partial
Credit Extra	Nufarm	3.0	4.0	IPA	32	full
Credit Duo Extra	Nufarm	3.0	4.0	IPA + monoammonium	32	full
Touchdown IQ	Syngenta	3.0	3.7	diammonium	32	full (IQ)
Touchdown Total	Syngenta	4.17	5.1	potassium	24	full (IQ)
Mirage		3.0	4.0	IPA	32	partial
Mirage Plus		3.0	4.0	IPA	32	full

Black Cutworm Pheromone Trap Catches

April 12 through April 18, 2005

Location	# Moths	Location	# Moths
Bridgeville	1	Lincoln	0
Delmar	0	Little Creek	8
Ellendale	0	Magnolia	0
Felton	1	Milford	4
Frederica	1	Millsboro	0
Georgetown (UD REC)	0	Milton	0
Greenwood	0	Sandtown	0
Harrington	0	Seaford	2
Kenton	1	Selbyville	2
Laurel	7	Smyrna	6
Leipsic	2	Wyoming	1
Lewes	3		

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

Friends of Agriculture Breakfast "Current Activities in the Delaware Department of Agriculture"

April 29, 2005 7:15 a.m.

Modern Maturity Center, 1121 Forrest Ave., Dover

Delaware Secretary of Agriculture Michael Scuse will give an update on the current activities of the Delaware Department of Agriculture.

Registration is \$10 per person.

Contact Susan Davis (302) 831-6758 shurt@udel.edu

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.

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.

Weather Summary

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

Week of April 14 to April 20, 2005

Rainfall:

None

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

Air Temperature:

Highs Ranged from 87°F on April 20 to 52°F on April 15.

Lows Ranged from 55°F on April 20 to 29°F on April 17.

Soil Temperature:

61°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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