



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetables

Supplemental Label for Zeal - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

It should be noted that the new supplemental label for Zeal for spider mite control on melons *does not include aerial application*. The company is working to get this changed; however, it may not be in time for the first applications on melons or even for this season. We will let you know when/if they get this changed. Please refer to the label for rates and restrictions
(<http://www.cdms.net/LDat/ld7DK010.pdf>)

Strawberry Fruit Rots - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Botrytis (gray mold) and blossom blight can cause serious losses in strawberry plantings if not controlled properly. Development is favored by moderate temperatures (59 to 77°F) with prolonged periods of high relative humidity and surface wetness. Control of gray mold begins with preventative fungicide applications. Apply at 5 to 10 percent bloom and every 10 days until harvest. During periods of excessive moisture, spray intervals of 5 to 7 days may be necessary. Rotate fungicide chemistries to aid fungicide resistance management. See the 2008 *Commercial Vegetable Crops Production*

Recommendations for more info and other strawberry pest control options.

Application #1: captan (M3) at 4 lb 50WP/A plus Topsin M (thiophanate-methyl, 1) at 1 lb 70WP/A or Switch (cyprodinil, 9) at 11-14 oz 62.5WG/A

Application #2: Elevate (fenhexamid, 17 - see restrictions) at 1.1 to 1.5 lb 50WDG/A or Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23 oz 38WG/A

Application #3: captan (M3) at 4 lb 50WP/A plus Topsin M (thiophanate-methyl, 1) at 1 lb 70WP/A or Switch (cyprodinil, 9) at 11 to 14 oz 62.5WG/A

For subsequent applications, alternate:

Captan (M3) at 4 lb 50WP/A, or Captevate (captan + fenhexamid, M3 + 17) at 3.5 to 5.25 lb 68WDG/A, or Switch (cyprodinil, 9) at 11 to 14 oz 62.5WG/A or Pristine (pyraclostrobin + boscalid, 11 + 7) at 18.5 to 23 oz 38WG/A or Thiram (M3) at 4 to 5 lb 65WSP/A

High Tunnel Tomatoes - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

We have more growers that are producing tomatoes in high tunnels. The following are fertilizer recommendations for spring grown high tunnel tomatoes from Penn State University:

Fertility Recommendations - Spring High Tunnel Tomato Crop

Weeks After Transplanting	Fertilizer and Amount Applied per 100 Plants in 50 Gallons of Water
1 and 2	Water only, no fertilizer
3 through 6	3 lbs calcium nitrate
7	6 lbs potassium nitrate
8	6 lbs calcium nitrate + 0.25 lbs chelated iron
9	5 lbs potassium nitrate
10	5 lbs 20-20-20
11	5 lbs calcium nitrate + 0.25 lbs chelated iron
12	5 lbs potassium nitrate
13	5 lbs calcium nitrate
14	4 lbs 20-20-20
15	5 lbs calcium nitrate
16	4 lbs potassium nitrate
17	4 lbs potassium nitrate
18	4 lbs 20-20-20
19	3 lbs calcium nitrate
20	3 lbs potassium nitrate
21	3 lbs potassium nitrate
22	2 lbs 20-20-20
23	2 lbs calcium nitrate
24	2 lbs calcium nitrate

Go to http://hortweb.cas.psu.edu/veg crops/vegetable_gazette/2007/May2007.pdf for more information.

Plasticulture Troubleshooting - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu and Tracy Wootten, Extension Horticulture Agent, Sussex Co.

There is a large acreage of vegetables grown using plasticulture in Delaware. The following are some common problems that we often encounter with vegetables grown on plastic mulch.

Fertilizer Damage

There are several ways that fertilizers can injure plants grown on plastic. The most common problem is salt injury. In bed forming and plastic laying operations, caution must be used when

using banded applications of fertilizers. Fertilizer banding attachments on plastic layers should be set well to the side of where the plant row will be (>6 inches). Bands too close to where plants are set may lead to salt injury. It is better to distribute the fertilizer over the area to be covered and incorporate it 4-6" before bedding and laying plastic. Some growers use dilute fertilizer solutions with the plant water. Care must be taken to keep the salt levels low (less than 1% solution is safe - see the specific label recommendations for the fertilizer product being used). Ammonia volatilization and toxicity can be a problem with use of urea or high ammonium containing nitrogen fertilizers under plastic. At least 50% of the nitrogen source should be in nitrate form.

pH Issues

We often see problems with low pH in plastic beds. In cantaloupes, this has led to manganese toxicity in the past. Make sure that the soil pH is corrected by liming well ahead of laying plastic. Remember that pH will drop some with the use of ammonium nitrogen fertilizer sources under the plastic and soils with a marginal pH (around 5.8 for example) can drop down to levels that will affect plant growth (5.3 or lower).

Transplants With Small Root Balls

A common problem we see is the use of plants with inadequate root balls that are then susceptible to wilting and desiccation with high winds, especially during cold snaps.

Planting Depth

Poor plant performance or plant loss can result from setting plants too deep, especially with smaller plants where the soil covers growing points and from setting plants too shallow where part of the root ball is exposed, causing plant desiccation.

Excessive Transplant Shock

Plant loss often occurs by allowing plants to dry out too much prior to setting (sitting long periods in the wind on wagons for example), by allowing plant trays to heat up too much in the sun, or by planting into black plastic on very hot sunny days.

Heat Necrosis

As black plastic heats up, the temperature right around the plant hole can get so hot that it will kill the plant tissue nearby, right at the soil line, causing the plant to die. This occurs most often where plant stems touch the plastic mulch and with plants that have small stem diameters.

Improper and/or Malfunctioning Drip Irrigation

Vegetables grown on plastic mulch require more attention to providing proper irrigation. Common problems include under-watering (keeping beds too dry), over-watering (leaching out plant nutrients), plugged drip emitters causing dry spots, holes in drip tape causing wet areas at the leak and an under-watered bed beyond the leak, and pressure losses resulting in drip tape not operating properly and giving poor water distribution.

Control of Poast-Tolerant Sweet Corn -

Mark VanGessel, Extension Weed Specialist;
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Rogers/Syngenta Seeds has a few sweet corn hybrids that are bred to resist injury from Poast herbicide. These are designated as "Poast-Tolerant" or "Poast-Protected". Some of these hybrids were planted last year in the region. Controlling volunteers of these hybrids could be an issue in rotation with vegetable crops. Poast is a Group 1 herbicide (ACC-ase inhibiting herbicide) which kills only grasses and is applied postemergence. Other herbicides in this class are Assure II, Fusilade, Targa, Arrow, Select, and Select Max. We have done quite a bit of work with field corn and sweet corn with the Poast-Tolerant trait. While there are a number of Group 1 herbicides, only Poast or Poast Plus is totally safe to use on these hybrids. But, even though the other Group 1 herbicides will injure Poast-Protected sweet corn, most of them will not kill (or control) Poast-Protected sweet corn. Arrow, Select or Select Max (all contain the active ingredient, clethodim) do provide the highest level control of Poast-Protected sweet corn (over 85% control); and are the only choices for consistent control of volunteer plants.

Sweet Corn Response to Callisto, Impact, and Accent - *Mark VanGessel, Extension Weed Specialist;* mjv@udel.edu

We have looked at multiple sweet corn hybrids for tolerance to Accent, Impact, and Callisto as part of a multi-state project. The study was designed to tell us which hybrids were more sensitive to these products. Forty-three hybrids were included in two years of testing, while a total of 157 hybrids were included over the two-year study. Please note that this study was designed to determine relative sweet corn hybrid tolerance to Impact, Callisto or Accent at twice labeled rates. Yield was not recorded in these trials.

The results are available at UD Website
www.rec.udel.edu/weedscience

And the titles of the fact sheets are:

["Sweet Corn Hybrid Tolerance to Callisto and Accent"](#) and ["Sweet Corn Hybrid Tolerance to Impact and Laudis"](#).

Bonus was not in the database, but based on comparative trials, I would rate it as Tolerant for Accent and Intermediate for Callisto, and very good tolerance for Impact.

Reflex Will Severely Injure Lima Beans -

Mark VanGessel, Extension Weed Specialist;
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Reflex has had a section 18, now a full federal label, for use in snap bean. In addition, Prefix (a combination of Reflex and Dual) is labeled in snap bean for applications at planting. However, Reflex is not labeled for lima beans because of crop injury. Reflex applied postemergence to lima bean will severely injure them. Soil-applied applications at rates as low as 4 fl oz/A were causing over 50% injury. So do not think that because lima bean and snap bean are similar, Reflex can be used on both. Reflex can not be used on lima beans, because it will cause severe damage.

Grower's Guide to Understanding the Strobilurin Fungicides (FRAC Code 11) -
Andy Wyenandt, Assistant Extension Specialist in Vegetable Pathology, Rutgers University;
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The strobilurin, or QoI, fungicides (FRAC code 11) are extremely useful in controlling a broad spectrum of common vegetable pathogens. You may know some of the strobilurins as azoxystrobin (Amistar), trifloxystrobin (Flint), pyraclostrobin (Cabrio), or Pristine (pyraclostrobin + boscalid, 11 + 7). All strobilurin fungicides inhibit fungal respiration by binding to the cytochrome b complex III at the QO site in mitochondrial respiration. Simply said, the fungicide works by inhibiting the fungi's ability to undergo normal respiration. The strobilurin chemistries have a very specific target site, or mode-of-action (MOA). Although highly effective, fungicide chemistries like those in FRAC code 11, with a very specific MOA, are susceptible to fungicide resistance development by some fungi. Why is that? In the strobilurins, a single nucleotide polymorphism of the cytochrome b gene leads to an amino acid substitution of glycine with alanine at position 143 of the cytochrome b protein. For us, knowing the specifics on the technical jargon isn't so important, its understanding what is at stake. So, if we hear someone speak about G143A resistance development to the QoI fungicides (where resistance is already known in cucurbit powdery mildew and downy mildew), we know what they are talking about and how important it is! So much so, if cucurbit powdery mildew develops resistance to one strobilurin compound it may develop what is known as cross resistance and become resistant to all chemistries in FRAC code 11, even if only one chemistry has been used!

How do we avoid the chances for fungicide resistance like this to develop? It's simple - don't let the fungus 'figure out' what it is being sprayed with and do this by rotating different fungicide chemistries (i.e. FRAC codes). Proper fungicide rotations are necessary when fungicides with specific MOAs are used in fungicide programs for controlling important diseases. That's why it is important to follow a fungicide label precisely and be certain that

some fungicide chemistries aren't overused. All strobilurin fungicides should be tank mixed with a protectant fungicide, when possible. Remember, tankmixing high-risk fungicides (i.e. FRAC code 11) with low-risk, protectant fungicides (FRAC codes M1-M9) helps reduce (and/or delay) the chances for fungicide resistance development. Never tank mix strobilurins together and never apply any strobilurin fungicide (either the same chemistry or different chemistry) in consecutive applications if stated by the label. Remember, azoxystrobin acts against the fungus the same way as trifloxystrobin does and so on. Even though you are spraying two different fungicides, each has the similar MOA and is acting against the fungus in the same exact way.

Agronomic Crops

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

Alfalfa

With the increase in temperatures, we are starting to see a significant increase in feeding damage from alfalfa weevil. As alfalfa approaches harvest, the decision to cut instead of treat may be considered. However, this option should only be used if you plan to cut shortly after you find an economic threshold level. Cutting should only be considered as a management option if you can cut within 3-5 days of finding an economic level. As you get close to harvest, be sure to check labels carefully for time between application and harvest.

Field Corn

We continue to see a significant increase in black cutworm trap catches, especially in the Delmar, Laurel, Leipsic, Lincoln, Little Creek and Selbyville areas (<http://ag.udel.edu/extension/IPM/traps/current/tbcwtraps.html>). We have also heard reports of cutworms damaging very early emerging corn in Maryland. In most cases, this damage was probably caused by the clay backed cutworm. As indicated in an earlier newsletter, they overwinter as half-grown larvae in the soil so

they can get a "jump" on black cutworms. It is important to scout fields at plant emergence, even if at planting materials were used, in order to catch any potential problems. As a general guideline, a treatment is recommended if you find 10% leaf feeding or 3% cut plants.

Small Grains

Be sure to watch for the movement of aphids into grain heads. In many cases, beneficial activity is still not high enough to take care of populations moving from the lower canopy of the plants into the grain heads. In areas of the state where cereal leaf beetle have historically been heavy, we have seen a significant increase in egg laying activity and the first small larvae can be found. Be sure to check those areas carefully since damage can occur quickly if temperatures remain warm. The treatment threshold is 25 eggs and/or small larvae total per 100 tillers. This threshold is based on the number of eggs and small larvae present, rather than large larvae.

We continue to find low levels of sawfly and armyworms in small grains in Kent and Sussex counties. Once grain heads have emerged, you should 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 1-2 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. As a guideline, a treatment should be applied when 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.

Small Grain Diseases - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Barley

There are low levels of the spot form of net blotch beginning to appear as well as low levels of scald. With most of the barley in head and flowering, it is too late for any fungicide applications. The levels observed so far for these diseases do not appear to be yield limiting.

Wheat

Wheat samples submitted to the Plant Diagnostic Clinic with virus symptoms continue to appear. So far we have had positive diagnoses of **soil borne wheat mosaic virus** and **wheat spindle streak mosaic virus**. These can be very difficult to tell apart without a lab diagnosis. So far barley yellow dwarf mosaic has not been identified. Noting the fields where these viruses occur and planting resistant varieties the next time wheat is planted in those fields will manage the disease. Continue to scout wheat for powdery mildew at this time.



Soil borne wheat mosaic virus

Fusarium Head Blight and Management Options - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

With all the corn that was planted last season much of our wheat crop was planted in corn ground with varying levels of tillage: no-till, minimum-till, and mold board plowed. The one

down side of planting into corn residue if it is exposed on the soil surface is that one of the stalk rot fungi, *Fusarium graminearum*, is also the principal pathogen that causes Fusarium head blight or scab of wheat. Vulnerability of wheat is increased when the fungus is present in the field versus having the fungus blow in from another site.

Fusarium head blight (FHB) or scab of wheat and the accumulation of the mycotoxin deoxynivalenol (DON) in harvested grain, are periodically problems in Delaware. High DON levels will end up in rejection of wheat loads. Fortunately in recent years we have not had a severe outbreak of scab in Delaware.

Strobilurin fungicides (e.g., Quadris, Headline) or fungicide containing a strobilurin (e.g., Quilt, Stratego) are not recommended for scab control because they may result in elevated DON levels compared to untreated wheat. The only class of fungicides that have not had this increase in mycotoxins is the triazole class. The only registered triazoles for wheat and barley in Delaware are Tilt and Proline. There has been a much higher rate of success at suppressing scab with Proline than with Tilt in work conducted by Dr. Arv Grybauskas at the University of Maryland.

Proline Information

The proper use of Proline will help suppress FHB and DON when used with other FHB/DON management tactics. However, Proline is not a "silver bullet" for managing FHB/DON. In other words, do not expect Proline to provide the same level of FHB/DON control as you have come to expect when fungicides are used to control other wheat diseases. The key is to think in terms of disease suppression, not control. Nevertheless, a 40% reduction in FHB and DON can have a significant economic impact locally, state-wide, and regionally if FHB is moderate to severe in 2008. But, be advised that significant losses due to FHB and/or DON can still occur even where Proline is applied if FHB is severe.

For FHB/DON suppression the Proline 480SC label indicates a use rate of 4.3 to 5.7 fl oz/A applied to wheat "within a time period from when at least 75% of the wheat heads on the main stem are fully emerged (~Feekes stage 10.4) to when

50% of the heads on the main stem are in flower (~Feekes stage 10.52)". Applications cannot be made within 30 days of harvest. Although the Proline label allows for some flexibility in terms of timing of application, most of the efficacy data for Proline in suppressing FHB/DON are based on application at early flowering (Feekes stage 10.51).

Excellent fungicide coverage on wheat heads is crucial to achieve the greatest possible FHB/DON suppression. This is no small challenge since most spray systems used in wheat were developed to deliver pesticides to foliage (horizontal structures). In order to maximize coverage on heads (vertical targets), significant changes may need to be made to the sprayer boom system. Also, discipline must be exercised to ensure that proper sprayer pressure and volumes are used. The Proline label gives some suggestions on how to achieve acceptable spray coverage.

Making Appropriate Fungicide Spray Decisions

One desire we all have is for fungicides to be used only when needed. Regular field scouting for foliar fungal diseases has been successfully used by growers for many years to determine if and when to spray fungicides. However, this is not possible with FHB since once symptoms are present it is TOO LATE to spray. Note: Proline is also effective on glume blotch, rusts, and tan spot.

Go to <http://www.cdms.net/> to access the Proline label.

Below are some general guidelines to help you determine if you should spray Proline for FHB/DON suppression.

During period leading up to, during and immediately after head emergence:

- Soil moisture has been good for the past month (relates to spore production, dispersal of *Fusarium graminearum* spores, and crop infection)
- Crop has good yield potential (relates to economics and crop density, which increases canopy humidity and may increase spore

production, facilitate spore dispersal, and encourage crop infection)

- Temperatures 68-86°F (relates to spore production and crop infection)
- Humidity is high (80% day or night) and/or free water (such as dew) is present on the heads during this period (relates to spore production, dispersal, and crop infection)

If most or all of the above conditions exist when the crop is just beginning to flower, consider spraying as soon as possible.

New Web-Based FHB Prediction Tool

In addition to the above general guidelines, an exciting new tool can also be used to help determine the FHB risk and need to spray. This tool is a web-based, disease forecasting model made available by Penn State University, The Ohio State University, Kansas State University, and the U.S. Wheat and Barley Scab Initiative. This forecasting model utilizes real-time weather data from numerous National Weather Service stations within each state. Go to <http://www.wheatcab.psu.edu/> and click on "Risk map tool".

You will be asked if you are growing winter or spring wheat. At this point you will come to a U.S. map and are asked to click on the state of interest. The FHB Risk Management Tool page will have a map that shows where the weather data are being retrieved. To the upper left corner of the page is a calendar section labeled "Assessment Date". This section needs a bit of explaining. You will note right away that the tool will only let you click on the current date and the preceding 7 days. So, if you estimate your crop will begin to flower (the beginning of FHB susceptibility) on May 7, but it is only May 3, the best you will be able to do is to determine if the weather on May 3 (or the previous 7 days) is favorable for FHB. My advice is to begin determining the FHB risk using this model 1-2 weeks out from crop flowering. Keep checking your wheat and keep checking the model every 1-2 days. By the time your crop reaches early flowering, you should have a good feel for the FHB risk in your area. If the forecast model says the FHB risk is high (medium if you are not a risk

taker), and the forecast matches your local weather and crop reality, then you might consider spraying as soon as possible.

Once you actually see it and play around with it, what I have said above will make much more sense. The model does have several practical limitations in predicting final FHB levels; these are clearly discussed within the Prediction Center website. Perhaps the greatest limitation of the model is that it does not account for weather conditions during flowering and grain fill. Specifically, disease-favorable weather occurring during late flowering and grain fill can greatly impact final FHB/DON levels. The bottom line is that final FHB/DON levels may not always be reflected by the model's risk output. The authors of the model discuss this limitation under "Reality Check" in the "Model Details" section of the Prediction Center.

We all hope that FHB is non-existent this spring. However, if this is not the case, wheat producers now have an additional tool to use to minimize FHB and DON development this spring.

Adapted for Delaware from "FUNGICIDAL CONTROL OF FUSARIUM HEAD BLIGHT (HEAD SCAB) AND DEOXYNIVALENOL (DON) IN WHEAT" By Don Hershman in the April 14 issue of the Kentucky Pest News.

http://www.uky.edu/Ag/kpn/kpn_08/pn080414.htm#whefun

If you have read all this you may be wondering what this is all about. In the past we have not had a fungicide for scab control to consider. The added management decision is whether to wait and use a new fungicide at flowering that would give some level of scab suppression and rust and glume blotch control if the weather turns out to be favorable for scab or take your chances that it does not show up and take advantage of the disease protection that the strobilurins or strobilurin/triazole combos provide, when applied at head emergence. Unfortunately we do not have any current data with Proline and its control of other diseases besides scab, since we have not had weather for diseases in the last several years that provided the needed disease control information.

Tips for Successful Soybean Production -
Richard Taylor, Extension Agronomist;
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With the increase in bean prices you might automatically assume that beans will be a profitable enterprise this year, but since most beans are grown dryland you still will be at the mercy of the weather, in particular in need of timely rainfall. However, even if a profitable season might be likely, there are many agronomic practices that can be used to improve the chances of success.

The first one that comes to mind relates to the yield curve as affected by planting date. In an article for the April 2008 issue of *Soy News*, Bob Mulrooney, UD Extension Plant Pathologist, suggested that a seed treatment might be a good idea this year due to the fragility of the seed coats of last year's seed production. In research conducted in Delaware and surrounding states in the past, early planting under cold temperatures did demonstrate the value of seed treatments as well as indicated that the earlier soybeans are planted in May, the higher the ultimate yield potential for full-season soybeans.

For double-cropped beans planting as soon as possible following the removal of the small grain crop is a key to success. In addition, for dryland beans controlling weeds either just prior to planting or as early after emergence as the herbicide label permits is essential to limit water loss and promote early vigorous growth.

Another key to maximizing soybean yields is to know the yield potential for each field you are planting and use this knowledge to decide which fields get planted first. For both full-season and double-crop beans, the fields with the highest yield potential should be planted first using the best adapted variety or varieties available and the best management possible. Next on the list should be the fields that may not produce outstanding yields but still are good fields. Last on your list of fields to plant should be the marginal fields, most drought-prone fields, or any fields with known limitations. If you run out of seed of the best varieties or you won't be able to plant some fields until very late, it should be on these very marginal fields.

Other tips that should be kept in mind include the following:

- Seeding rate trials often point to small increases in yield with higher populations; and although the increase didn't always pay at earlier soybean prices, current conditions suggest increasing your target population to 225,000 seeds per acre.
- For no-till seedings or following small grains where crop residue is a potential problem, boost seeding rates by 10 percent, set the planter to be sure seed is into moist soil or at least into soil, and use row cleaners or sweeps when possible.
- Inoculate your soybeans with one of the new strains of *Bradyrhizobium*.
- Plant a range of maturity group beans so that a short drought at the wrong time does not severely impact your farm yield.
- Observe beans carefully around the V5 to V9 growth stages (about 5 to 9 trifoliolate leaves visible) for symptoms of manganese (Mn) deficiency (interveinal yellowing of the younger leaves) and treat promptly with either chelated Mn or techmangam at about 0.5 lb Mn/A. Manganese is the most common nutrient deficiency found on soybeans in this region. A second application sometimes is required when soybeans reach the bloom stage; scout appropriately.
- If you have the ability to irrigate double-crop beans, apply adequate irrigation to maintain rapid, non-stressed growth right through the seed fill stage.

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

CFTC Forum Produces Mixed Bag
Tuesday's Commodity Futures Trading Commission led forum in Washington, DC may have raised more questions than answers. Having watched a fair portion of the day's proceedings there are several factors that have led to the

current situation in the agricultural futures market's sector. Among those factors, the extent of the impact that billions of new dollars of speculator investment have had on U.S. agricultural futures markets is still under consideration. CFTC is likely to compile a list of suggestions for the trading exchanges to consider enacting as a result of the forum, although there did not appear to be a consensus on which suggestions might be forthcoming. Among other things that might occur, watch for information concerning swap contracts. The Chicago Board of Trade, on Tuesday, requested CFTC approval of swap contracts for corn basis swaps, calendar swaps for corn, wheat, and soybeans to be traded over the counter as a tool to deal with volatile markets.

Volatile Commodity Trading Expected To Continue

The price of crude has surged about \$4.00 per barrel higher than last week's all time high with the April contract going off the board in yesterday's trading slightly over \$118.00 per barrel. Meanwhile the U.S. dollar index is harboring near recently set lows.

Argentine farmers are threatening to strike again due to their government's plan to tax soybean exports on a sliding scale, meaning the tax would increase as soybean prices increase. This development is currently helping U.S. soybean exports and has the potential to help U.S. soybean exports even more. Therefore, this is not the time to advance soybean sales. For the week ending April 17, 2008, U.S. soybean exports are already reported to be ahead of the pace needed to meet USDA projections of 1.075 billion bushels for the '07/'08 marketing year. The weekly export sales report for both corn and wheat were called neutral before the market opening this morning.

Weekly Crop Progress

U.S. corn plantings were reported at only 4 percent for the 18 states that planted 91% of last year's corn acreage, 2 percent more than last week and well behind the five year average. Commodity traders will be watching the weather closely over the weekend.

Currently (4/24/08 ahead of the open), Dec corn is trading at \$6.12 per bushel; Nov soybeans \$12.58; July SRW wheat at \$8.31 per bushel.

For technical assistance on making grain marketing decisions contact Carl L. German, Extension Crops Marketing Specialist.

General

Water is Needed to "Activate" Soil-Applied Herbicides - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

Herbicides applied to the soil surface require rainfall or irrigation to move them into the soil where the plants will absorb them; or need to be mechanically incorporated (field cultivator). 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 of water 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. 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 Steadfast or Option. Spending the money to irrigate and activate the herbicides could save a high herbicide bill later.

Solubility is measured in parts per million (ppm) as how many milliliters of the herbicide will dissolve in 1 liter of water. The less soluble the herbicide, the more moisture (rain or irrigation) needed to incorporate (activate) the herbicide. The relative moisture to activate the herbicide is a guideline for rainfall or irrigation needed within a short time after application to move the herbicide into the root zone. Amount of moisture needed also depends on the soil moisture level at time of application.

Herbicides, Their Solubility, and Relative Moisture Required for Their Activation

Herbicide	Solubility ¹ (ppm)	Relative moisture required to activate ²
Atrazine	33	++++
Callisto	1500	+
Define	56	++++
Dual II Magnum/Cinch	488	++
Harness/Degree	223	+++
Lasso/Micro-Tech	242	+++
Outlook	1174	+
Princep	5	++++
Prowl/other pendimethalin formulations	1	++++
Topnotch	223	+++
Premixes		
Bicep II Magnum/Cinch ATZ	Dual II Magnum (or Cinch), Atrazine	
Bicep Lite II Magnum	Dual II Magnum, Atrazine	
Bullet	Micro-Tech, Atrazine	
Field Master	Harness, Atrazine, Roundup	
Fultime/Keystone	Topnotch, Atrazine	
Guardman Max	Outlook, Atrazine	
Harness Xtra/Degree Xtra	Harness (or Degree), Atrazine	
Lumax/Lexar	Dual II Magnum, Callisto, Atrazine	

¹in unbuffered distilled water

²Relative moisture ranges from little (+) to high amount of moisture (++++). ppm <100= ++++; 100-250= +++; 250-500 ppm= ++; >500= +

NOTE: "++++" does not need 4X the moisture as "+"; it is used to demonstrate herbicides with more +s need more moisture for incorporation (activation).

Why the Fertilizer Price Increases? - Anna Stoops, Extension Ag Agent, New Castle Co.; stoops@udel.edu

We've all heard about it by now - the rise in the cost of fertilizer and how it is impacting everything from the food we eat, to the clothes we wear, to the fuel we put in our equipment and vehicles. But, what is causing fertilizer prices to skyrocket?

The answer in part, is simple economics - supply and demand. According to an article by The Fertilizer Institute (www.tfi.org), global demand for fertilizer has increased anywhere from 14 to 19 percent from 2001 to 2006. Some of this additional demand is coming from developing countries, in particular India, China and Brazil, where people are increasing their food consumption as their incomes increase. The

production of ethanol is also impacting fertilizer demand and price. The U.S. Department of Agriculture predicts that by the year 2011, U.S. ethanol production could reach 11 billion gallons, up from the February 2007 volume of 5.6 billion gallons. Corn production uses 43% of the U.S. nutrient demands and this is placing significant pressures on the economics of not only fertilizer, but the grains that are fed to livestock and what crops farmers decide to plant. Other factors contributing to the rise in fertilizer prices are the declining value of the U.S. dollar, higher transportation costs and the competition of global economies. Read the entire article here:

<http://www.tfi.org/publications/pricespaper.pdf>

Announcements

Agronomic Crops Twilight Tailgate Session

Monday, May 19, 2008 6:00 p.m.

UD Cooperative Extension Research and
Demonstration Area

(3/4-mile east of Armstrong Corner on Marl Pit Rd. –
Rd 429, Middletown)

Bring a tailgate or a lawn chair and join your fellow producers and the UD Extension team for a discussion of this year's demonstration trials and current production issues in small grains, corn, and soybeans. Brief updates will include nutrient management, risk management and grain marketing. We will wrap things up with the traditional ice cream treat!

We will apply for both MD and DE Pesticide and Nutrient Management re-certification credits.

This meeting is free and everyone interested in attending is welcome. To register, for more information or special consideration in accessing this meeting, please call our office in advance, at (302) 831-2506.

See you there!

Anna Stoops, Extension Agent, Agriculture

Mid-Atlantic Berry Guide on Web

The newly revised 2008 Mid-Atlantic Berry Guide is now posted on the web at

<http://pubs.cas.psu.edu/freepubs/MAberryGuide.htm>.

It is in chapter form, which allows computer users with lower connection speeds better access. This is an excellent publication with complete information on strawberries, blueberries, and brambles. Extension offices in all 3 Delaware counties also have hard copies for sale. Cost is \$18.00.

Small and/or Beginning Farm Series Workshop: Irrigation for Your Crops and Water Quality

Thursday, May 15, 2008 6:00 p.m.

DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd, Smyrna, DE

We never know how much rain we will get during the growing season. Learn about effective ways to provide water to your plants and keep your well protected.

Light refreshments served.

Please call (302) 857-6462 to register.

This workshop is part of the 2008 Small/ Beginning Farm Workshop Series held by Delaware State University. For complete information on the workshops planned, see the brochure at

<http://www.rec.udel.edu/update08/announcements/sma1lfarmbrochure2008.pdf>

For Current Agricultural Information from the UD Kent Co. Extension Office Visit www.kentagextension.blogspot.com

Recent Topics:

Farm Safety – How Prepared Are You?

Planters and Stands in Corn and Other Large Seeded Crops

Proline for Fusarium Head Blight Suppression in Wheat

2,4-D an Important Tool for Burndown Programs

Getting High Yields in Full Season Soybeans

Asiatic Garden Beetle Grubs in Corn

Storing Wheat

Soybeans – Can You Reduce Seeding Rates in Soybean?

Kent County Land Use Plan on Hold

Poultry – Understanding Feed Withdrawal

Current Cutworm Situation

Dairy – Managing Dry Cows

Wheat Soil-Borne Mosaic Virus

Growing Well With Pain

June 9, 2008 9:00 a.m.-noon

Richard A. Henson Conference Center
University of Maryland Eastern Shore
Princess Anne, MD

The American Chronic Pain Association and the Delaware-Maryland AgrAbility Project will be presenting a chronic pain seminar entitled "Growing Well with Pain".

Penny Cowan, founder and Executive Director of the American Chronic Pain Association, will lead this workshop aimed at helping agricultural workers, their families, and the health care community to better understand chronic pain and cope with the challenges it presents.

Go to <http://www.rec.udel.edu/Update08/announcements/chronicpainworkshop.pdf> for additional details on the workshop.

Reservations are required and the seminar is free if you register by June 4, 2008. Call Sally VanSchaik to register at 1-877-204-3276.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of April 17 to April 23, 2008

Readings Taken from Midnight to Midnight

Rainfall:

0.04 inch: April 21

Air Temperature:

Highs Ranged from 86°F on April 18 and April 19 to 60°F on April 21.

Lows Ranged from 56°F on April 20 to 30°F on April 17.

Soil Temperature:

60°F average.

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

Additional Delaware weather data is available at <http://www.rec.udel.edu/TopLevel/Weather.htm>

Weekly Crop Update is compiled and edited by Emmalea Ernest, Extension Associate - Vegetable Crops

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