



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetables

[Vegetable Crop Insects](#) - *Joanne Whalen, Extension IPM Specialist*; jwhalen@udel.edu

Coragen

The new label has been posted to CDMS. Please refer to the link for crops labeled, rates and use restrictions (<http://www.cdms.net/LDat/ld8KF000.pdf>).

Cabbage

Continue to scout for diamondback and imported cabbageworm larvae. Economic levels of diamondback larvae can be found. A treatment should be applied when 5% of the plants are infested and before larvae move to the hearts of the plants.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. Economic levels of aphids can be found, so be sure to check plants as soon as they are set in the field. In general, cucumber beetle levels have been low. However, as temperatures increase be sure to watch carefully for an increase in populations.

Peppers

Fields should be sampled for thrips and corn borers. On young plants, corn borer larvae can bore into the stems and petioles. In areas where peppers are isolated or corn is growing slowly, moths are often attracted to young pepper plants. Therefore, you should watch for corn

borer moths laying eggs in all fields. As a general guideline, treatment may be needed if there is no corn in the area or you are using rye strips as windbreaks. You should also look for egg masses. At this time of year, thrips can damage peppers by vectoring tomato spotted wilt virus and by causing direct plant damage. Although there are no available thresholds, a treatment may be needed if you see populations increasing.

Potatoes

Be sure to watch for an increase in Colorado potato beetle adult activity and egg laying. We have found the first egg masses and larvae will be present as soon as temperatures start to increase. A treatment should be considered for adults when you find 25 beetles per 50 plants and defoliation has reached the 10% level. Once larvae are detected, the threshold is 4 small larvae per plant or 1.5 large larvae per plant. We are starting to see an increase in corn borer activity and the earliest planted fields will be attractive to egg laying moths (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>). A corn borer spray may be needed 3-5 days after an increase in trap catches or when we reach 700-degree days (base 50). If you are scouting for infested terminals, the first treatment should be applied when 10% (fresh market) or 20-25% (processing) of the terminals are infested with small larvae.

Snap Beans

All seedling stage fields should be scouted for leafhopper and thrips activity. The thrips threshold is 5-6 per leaflet and the leafhopper threshold is 5 per sweep. If both insects are

present, the threshold for each should be reduced by $\frac{1}{3}$. Also be sure to watch for damage from bean leaf beetle. Damage appears as circular holes in leaves and in some cases significant defoliation has occurred. As a general guideline, a treatment should be considered if defoliation exceeds 20% prebloom.

Sweet Corn

Continue to sample for cutworms and flea beetles. As a general guideline, treatments should be applied if you find 3% cut plants or 10% leaf feeding. In order to get an accurate estimate of flea beetle populations, fields should be scouted mid-day when beetles are active. A treatment will be needed if 5% of the plants are infested with beetles. Watch for small corn borer larvae in the whorls of the earliest planted fields. A treatment should be applied if 15% of the plants are infested.

Farm Bill Provisions Affecting Vegetable Growers - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

The farm bill was just passed by the US Congress. The bill will likely be vetoed by President Bush but there should be enough votes to override the veto. There are a number of provisions that will affect vegetable and fruit growers. The following is a summary of those provisions from the Senate Agriculture, Nutrition and Forestry Committee.

The Farm Bill as passed:

Expands Technical Assistance for Specialty Crops

This program provides financial assistance to producers and exporters of specialty crops in addressing technical and sanitary and phytosanitary barriers against their products in overseas markets. Funding for the program is increased from the current level of \$2 million annually to \$9 million annually by 2012.

Provides More Fresh Fruits and Vegetables to School Children

The bill includes a tremendous expansion of the Fresh Fruit and Vegetable Program, which provides free fresh fruits and vegetables to low-income children in schools. Over the next ten

years, \$1 billion is invested in this initiative, which will allow it to serve as many as 3 million low-income children.

Supports Marketing Locally Produced Agricultural Products

The aggregation and wholesaling of locally grown food is specified as a priority for the Business and Industry Loan Guarantee Program. Support to marketing locally produced agricultural products is also made an allowable use for the Value Added Product Market Development Grant Program.

Expands the Farm Labor Housing Program

This program, which provides low interest loans or grants for the construction and improvement of housing for farm labor, is expanded to assist housing for low income employees in agricultural processing.

Strengthens Organic Agriculture Research and Extension

The bill provides \$78 million in mandatory funds for the Organic Research and Extension Initiative, which enhances the ability of organic producers and processors to grow and market organic food, feed and fiber.

Boosts Specialty Crop Research

The bill provides \$230 million in mandatory funds for a new grants program, the Specialty Crop Research Initiative, which will help meet the needs of producers and processors of specialty crops involving mechanization, plant breeding, genetics, genomics, pests and diseases and food safety.

Supports Growth of Farmers' Markets

Farmers' markets are a hugely important opportunity for farmers to market and consumers to obtain fresh, local, healthy foods. The bill provides a \$33 million boost in mandatory funding to develop and expand farmers markets across the country.

Expands Organic Transition

Organic agriculture is one of the fastest growing sectors of American agriculture, but many producers face challenges as they try to transition to organic production. To assist these producers, \$22 million in mandatory funding is provided for the next five years - an increase of \$17 million from the last farm bill.

Requires USDA Organic Data Collection
Comprehensive reporting of prices is a critical marketing tool for producers, as well as for USDA in determining appropriate crop insurance policies for commodities, yet this information is significantly lacking in the organic sector. The bill invests \$5 million in an organic data collection initiative to help provide USDA and organic producers with national production and market data.

Expands Specialty Crop Block Grants
The Specialty Crop Block Grant Program provides funds to state departments of agriculture for the purpose of enhancing the competitiveness of United States specialty crops in areas such as marketing, promotion, education, research, trade and nutrition. The farm bill provides a significant investment in this program of \$466 million over the next ten years.

Creates and Funds a New Plant Pest and Disease Initiative
Invasive species - such as the glassy-winged sharpshooter - pose a significant risk to U.S. agriculture. The farm bill provides \$377 million over the next ten years for a new Pest and Disease Program which will provide funding to state departments of agriculture that develop a cooperative agreement with USDA's Animal and Plant Health Inspection Service (APHIS) for the purpose of combating invasive species and other threats to plant health.

White Peas - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

There are a number of fields in the area with white peas due to carryover or residue of Callisto in the tank. Peas are very sensitive to Callisto and, as many are now aware, carryover is a concern. If Lumax, Lexar, Halex, or Callisto has been used this year, be sure the tank is cleaned out well before spraying peas (or any other vegetables) with a postemergence herbicide. Syngenta recommends using ammonia (at 1 gallon per 25 gallons of water) or a commercial tank cleaner. In addition, do not use any of the above products on fields where you are considering growing peas next year.

Herbicides Over the Top of Plasticulture - *Mark VanGessel, Extension Weed Specialist; mjv@udel.edu*

Spraying herbicides in melons grown with black plastic is best done with a hooded sprayer that directs the spray at the row middles and does not spray across the top of the rows of plastic. Spraying herbicides with a broadcast sprayer and allowing the rain to wash the herbicide off the plastic is not very reliable. This requires that the beds are smooth and have a good slope to allow the herbicides to wash off. If the beds are not even or have a depression in the center, there is a chance the herbicide never washes off. Rather, the herbicides concentrate in the center of the bed and when the holes are punched through, the herbicide moves into those holes at a very high concentration. Furthermore, the polyethylene sheets do not provide the binding sites needed to allow paraquat or glyphosate to bind and become inactive. Thus, if paraquat or glyphosate do not get adequate rain to wash off the plastic, they could injure melon seedlings that brush against the plastic. It is best to apply herbicides with a hooded sprayer.

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

Pepper Phytophthora Blight

For control of the crown rot phase of blight: Apply 1 pt Ridomil Gold 4E/A or 1 qt Ultra Flourish 2E/A (mefenoxam, 4). Apply broadcast prior to planting or in a 12 to 16-inch band over the row before or after transplanting. Make two additional post-planting directed applications with 1 pint Ridomil Gold 4E or 1 qt Ultra Flourish 2E per acre to 6 to 10 inches of soil on either side of the plants at 30-day intervals. Use the formula under "Calibration for Changing from Broadcast to Band Application" on page E6 of the 2008 DE Commercial Vegetable Production Recommendations to determine the amount of Ridomil Gold needed per acre when band applications are made. When using polyethylene mulch, apply Ridomil Gold 4E at the above rates and timing by injection through the trickle irrigation system. Dilute Ridomil Gold 4E prior to injecting to prevent damage to injector pump.

Tomato Bacterial Spot and Speck

Both bacterial diseases can cause serious problems in the field if infections begin in the greenhouse prior to transplanting. Symptoms of spot and speck look very similar on infected leaves. Lesions are small, circular, blackish-brown and, with time, develop a halo or yellowing of tissue surrounding the lesion. As lesions develop they can coalesce (join together) and can cause premature death. Since sources for these diseases include seed, weed hosts, volunteer plants and contaminated wood (benches) make sure production or holding areas are disinfested, weed-free and clean prior to introducing transplants. Inspect all seedlings prior to transplanting. Infections can occur on all parts of the tomato plant and can easily be spread during transplant production, by transplanting with contaminated equipment, and by workers' hands. Tomato transplants with

suspected symptoms can be treated with streptomycin (Agri-Mycin 17, Agri-Strep, 25) at 1 lb/100 gallons, or 1.25 teaspoon per gallon every 4 to 5 days prior to transplanting. Additionally, Kocide 3000 (copper hydroxide, FRAC code M1), the updated formulation from Dupont, has a greenhouse label for speck and spot control in the greenhouse. Apply 0.5 to 1.5 tablespoons per 1000 sq ft every 5 to 10 days. Remember, phytotoxicity is an important issue when apply copper in enclosed structures. See label for cautions, restrictions and liabilities. After transplanting, apply Actigard at 0.33 oz 50 WG/A, or fixed copper (M1) at 1 lb a.i./A *plus* a mancozeb (Dithane, Manex II, Manzate, Penncozeb, M3) at 1.5 lb 75DF or OLF/A, or ManKocide (M1 + M3) at 2.5 to 5.0 lb 61WP/A, or Cuprofix MZ (M1 + M3) at 1.75 to 7.25 lb 52.5DF/A on a 7-day schedule. *From Andy Wyenandt, Rutgers University*

Potato Disease Advisory May 15, 2008 - *Bob Mulrooney, Extension Plant Pathologist;*
bobmul@udel.edu

Late Blight Advisory

Disease Severity Value (DSV) Accumulation as of May 15, 2008 is as follows:

Location: Broad Acres, Zimmerman Farm, Rt. 9, Kent County

Greenrow: April 27

Remember that 18 DSVs is the threshold to begin a spray program.

Date	Total DSV	Spray Recommendation
4/27- 5/6	7	None
5/8- 5/10	16	None
5/11- 5/12	21	5-day spray interval
5/12- 5/14	21	5-day spray interval

The rain events of last Friday and this Monday have produced favorable conditions for late blight if present on seed. The DSV threshold of 18 was exceeded and sprays should be initiated. Remember that these values are for potatoes that would have had about 50% emergence and made a row that you can see on or before April 27.

Growers who do not want to rely only on the DSV calculations for scheduling fungicide applications should apply at least 1-2 sprays of mancozeb (Dithane, Manzate, Pencozeb, Manex II) or Bravo (chlorothalonil) before plants canopy down the row. Late blight has not been a problem here in Delaware for many years and unless you have seed from an unknown source the risk of late blight is low.

For specific fungicide recommendations, see the 2008 Delaware Commercial Vegetable Production Recommendations Book.

Agronomic Crops

[Agronomic Crop Insects](#) - Joanne Whalen,
Extension IPM Specialist; jwhalen@udel.edu

Alfalfa

In addition to checking for weevils feeding on re-growth, be sure to check fields for leafhoppers within one week of cutting. You will also need to carefully sample all spring planted fields since they are very susceptible to damage. Once the damage is found, yield loss has already occurred. 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.

Field Corn

Continue to sample all fields for cutworms, slugs and true armyworm. Be sure to sample all fields through the 5-leaf stage for cutworm damage. As a general guideline, a treatment should be considered if you find 3% cut plants or 10% leaf feeding. If cutworms are feeding below the soil surface, it will be important to treat as late in the day as possible, direct sprays to the base of the plants and use at least 30 gallons of water per acre. You should also sample no-till fields for true armyworms, especially where a grass cover or volunteer small grains were burned down at planting. As a general guideline, a treatment may be needed for armyworms if 25% of the plants are infested with larvae less than one inch long. As small grains dry down, you should also watch for armyworms moving from small grains into adjacent corn fields.

Small Grains

Continue to scout fields for armyworms and sawflies, as well as aphids feeding in the heads of small grains. We are starting to see an increase in the number of armyworm larvae found in untreated wheat and barley fields. The following are a few things to remember about the biology of armyworms and the damage they can cause in small grains:

- Young larvae (less than ½ inch long) generally feed on the upper leaf surface.
- Larger larvae can feed heavily on the leaf blades and weeds.

- The last instar (1.5 inches long and greater) will consume 80 percent of all the plant material eaten during their larval development. This stage lasts six to eight days before moving into the soil to pupate.

- Heavy defoliation of the flag level can result in significant economic loss.

- Unlike the sawfly, armyworms generally begin head clipping when all vegetation is consumed and the last succulent part of the plant is the stem just below the grain head. They also can clip the heads of barley faster than wheat.

- Larvae can feed on the kernel tips of wheat, resulting in premature ripening and lower test weight. If fields were sprayed early, be sure to check fields to be sure that you do not miss an infestation.

Soybeans

Throughout the month of May, seed corn maggot will continue to be a potential problem in no-till soybeans as well as conventional soybeans where a cover crop is plowed under before planting or where manure was applied. All of these situations are attractive to egg laying flies. Control options are limited to the commercial applied seed treatments, Cruiser/Cruiser MAXX and Gaucho (for use in commercial seed treaters only) and one hopper box material containing permethrin (<http://www.tracechemicals.com/trace/labels/KernelGuardSupremelabel.pdf>). Labels state early season protection against injury by seed corn maggot.

As the earliest beans emerge, be sure to watch for slugs, bean leaf beetles and grasshoppers. We have seen all three pests feeding on seedling stage beans.

On the earliest emerged fields, be sure to watch for bean leaf beetle adults feeding on the cotyledons and first true leaves. In recent years, bean leaf beetle populations have been heavier in the Mid-Atlantic and we can find damage on the earliest planted beans. Damage appears as scooped out pits on the cotyledons and leaf feeding appears as distinctive, almost circular holes, which are scattered over the leaf. Refer to the following link for pictures of adults and

damage (<http://www.ent.iastate.edu/imagegal/coleoptera/beanlb/>). Even though the feeding by first-generation beetles on soybean leaves has seldom resulted in economic yield losses (except if virus is vectored), fields should be scouted carefully to assess the damage. In the Midwest, this beetle vectors bean pod mottle virus. The presence of bean pod mottle virus was confirmed for the first time in Delaware in 2007 by Bob Mulrooney. The second-generation feeding on pods in late summer could cause significant damage. This generation would also be the generation to vector virus next spring. There are numerous treatment guidelines available. However, as a general guideline, a treatment may be needed if you observe a 20 - 25% stand reduction and/or 2 beetles per plant from cotyledon to the second trifoliolate stages. The Iowa State economic threshold for cotyledon stage is four beetles per plant. Once plants reach the V1 and V2 stages, their thresholds increase to 6.2 (V1 stage) and 9.8 (V2 stage) beetles/plant. These treatment thresholds should be reduced if virus is present or you suspected virus the previous season.

As far as the commercial applied seed treatments (Cruiser and Gaucho), both materials are labeled to provide early protection against injury from bean leaf beetle. However, these seed treatments will not limit later population growth in mid to late summer. For growers who choose to control overwintering bean leaf beetles to limit virus transmission, information from the Midwest indicated that an early season foliar spray after plant emergence, followed by a second spray in July for the first generation beetles might be tried. Because seed treatments will offer control of the overwintered beetles and reduce feeding injury, growers might want to use seed treatments to replace the early season foliar spray. Currently, we do not have all the answers as to whether controlling the overwintered beetles with seed treatments will reduce virus transmission. Data from the Midwest is variable - some say that the use of seed treatments may be one part of an overall effective pest management program, while other data suggests that this approach might not give economic control of the virus. We are again evaluating seed treatments this year in areas of

the state where bean leaf beetle populations were high in 2007 and bean pod mottle virus was found.

Small grasshoppers can be found in full season no-till plantings. In general, the treatment threshold for grasshoppers is 1 per sweep and 30% defoliation. Early detection of small grasshoppers and multiple applications are often needed for grasshopper control.

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

After looking at two of the three wheat variety trial plots, disease levels continue to be low. There is some speckled leaf blotch caused by *Septoria tritici* on lower leaves in both trials in Sussex County. The amount present is low in the canopy and too little to have any affect on plant health at this time. The rain of last Friday may have produced favorable weather for scab if wheat was flowering at that time. The rain forecast for Thursday night and Friday may have little effect on most of the wheat in DE since most has flowered and may not be susceptible. Growers need to remember that the fungicides applied for leaf diseases at heading or earlier will have little or no suppression of scab (head blight). It appears that there is little to no Proline, Caramba, or Folicur available for scab suppression this season.

Soybean Rust Update - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Since the beginning of 2008, soybean rust has been reported on kudzu in one county in Alabama; nine counties in Florida (two of these counties had reports on coral bean and snap bean); three counties in Louisiana; one county in Mississippi, and three counties in Texas. Most infected kudzu in these states has been destroyed. Rust was also reported in four states in Mexico on yam bean and soybean. Soybean sentinel plots have been established throughout the Gulf Coast region, and in many parts of the lower Midwest. Additional rains throughout most of the soybean growing region could favor rust

development especially in locations in the South near sources of infected plants.

Teff Planting Date Approaches - *Richard Taylor, Extension Agronomist; rtaylor@udel.edu*

A number of growers have been asking about when they can plant the new grass hay crop, teff (*Eragrostis tef*). Teff is an annual warm-season grass and therefore similar to the other annual warm-season grasses in the need to hold off planting until the soil temperature at a two or three inch depth remains consistently above 65° F and actually is expected to rise soon into the 70° F range. In Delaware, this generally occurs in the third or fourth week of May. Recent rains and cool weather has dropped soil temperatures. This frequently happens throughout early and mid-May. Planting too early will delay germination and sometimes results in poor weedy stands.

Growers in Delaware and the Eastern Shore of Maryland have found that teff can be planted as late as the third week of June and will still allow growers to obtain several harvests. Keep in mind that once the temperatures begin to fall into the low forties in September or early October, teff growth will slow way down. The crop is quite frost sensitive and will generally be killed by the first frost in the fall.

A seeding rate of 4 to 8 pounds per acre of pelleted seed will be adequate to obtain a good grass stand. You should be sure that the seedbed is weed-free initially since the small seedlings are not very competitive although they become very competitive by four to six weeks post emergence. It is recommended that you apply about 50 to 75 lbs nitrogen (N) per acre at planting to carry the crop through the first harvest. Another application or two of N sometimes is needed to boost second and third harvest yields as well as maintain protein levels in the hay. Do not cut teff too close to the soil surface as it will need 3 to 4 inches of stubble to regenerate the stand.

Another important consideration in planting teff is seeding depth. Teff has a very small seed (1.25 million seeds per pound); and if planted

much more than one quarter of an inch deep, the grass will have difficulty emerging, especially on some of our soils that tend to crust after a pounding rainstorm. In seedings where significant trash (crop residue) has remained on the soil surface, germination occurred best where there was the least residue, indicating the need for good soil to seed contact. Always firm up the seedbed both prior to planting and after the seed has been placed and covered in the seedbed. This will speed up germination and result in a better stand.

Forage analyses of teff hay have been variable, but generally lower than many growers have expected. Growers should keep in mind that teff is a warm-season grass and warm-season grasses, in general, have lower forage quality than the cool-season grasses. To help boost quality, teff should be cut for hay shortly after the seed heads begin to emerge from the boot and before it reaches full heading.

Grain Sorghum Production Practices - *Richard Taylor, Extension Agronomist; rtaylor@udel.edu*

Although few Delaware growers still plant grain sorghum, there are a few growers still growing the crop in dryland situations or around poultry houses, where the shorter sorghum crop allows air movement through the house to keep the birds cooler during hot weather. Grain sorghum is an annual warm-season grass and therefore similar to the other annual warm-season grasses with respect to the need to hold off planting until the soil temperature at a two or three inch depth remains consistently above 65° F and actually is expected to rise soon into the 70° F range. In Delaware, this generally occurs in the third or fourth week of May. Recent rains and cool weather have dropped soil temperatures. This frequently happens throughout early and mid-May. Planting too early will delay germination and often results in poor weedy stands. Sorghum can be planted throughout June, although the yield potential begins to decline rapidly by late June. Although July plantings have occasionally produced excellent yields, this is the exception rather than the

norm, so July planting should be avoided whenever possible.

Planting rate for sorghum varies based on row spacing. For 30-inch row spacing the final population should be between 5 and 6 plants per foot of row, while drilled sorghum should be planted to obtain 2 to 3 plants per foot of row. Adjust your seeding rate based on the germination and seed purity percentages to plant pure live seed per acre. Do not plant using the older suggestions of pounds per acre since grain sorghum seed size has varied from almost 8,000 seed per pound up to 18,000 seed per pound.

For choice of row spacing, research conducted at the University of Delaware Research and Education Center showed that grain yield can be as much as 35 percent greater when grain sorghum is planted on narrow (7 to 10-inch) row spacing as compared with wide (30 to 36 inch) row spacing. The narrower row spacing and density within the row that results as plants per foot of row is adjusted means that each plant is more evenly spaced than on wide rows and these factors result in more efficient use of the available water in the soil profile.

One of the advantages of grain sorghum over corn in dryland situations is the low requirement for fertilizer nitrogen (N). In studies conducted in Delaware and Maryland, it's been found that sorghum will not respond to more than about 70 lbs N/acre, even under irrigation or in years with excellent rainfall. Generally if the crop is following another non-legume crop, 50 to 70 lbs N/acre is all that will be needed for maximum yields. If the crop is planted following a legume cover crop or even a previous soybean crop, application of 25 to 30 lbs N/acre is all that will be needed. Soil test values for phosphorous and potassium should be in the medium to optimum range for best yields.

Triazine Injury on Emerged Corn - *Mark VanGessel, Extension Weed Specialist;*
mjv@udel.edu

I have seen a few fields of corn that are showing triazine-type injury on young seedlings (leaf

burn). In one particular field, it was conventionally tilled, and Lexar plus simazine was applied immediately after planting. This field had one light irrigation after herbicide application (enough to move some of the herbicide into the soil, but much is still very close to the soil surface). The corn was at the one to two leaf stage last Friday and looked fine. Then with the wind and rain last weekend, it appears that many of the seedlings had soil moved into the whorl and leaf axial. It appears some of this soil had enough simazine adsorbed to it and the soil remained moist so the herbicide was released onto the leaf surface. This resulted in the leaves getting a rate of simazine sufficient to cause leaf burn. The corn should recover and look fine in a week or two. Most of the injury is due to shredded leaves and abrasion from blown sand, and the plants look pale due to lack of sunshine. Nevertheless, some fields may have had the right set of circumstances to allow this to happen.

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

Commodity Traders Wait for News

The price of crude oil has continued to creep up, establishing a new high around \$125.69 per barrel this week, and currently at \$124.22 per barrel. The U.S. dollar index appears to be stabilizing. It has not improved above the 73.5 mark. However, the bleeding seems to have alleviated for the moment. A stabilizing dollar and high commodity prices are likely to reduce U.S. exports. USDA indicated as much in their May Supply/Demand estimates. U.S. export projections for the '08/'09 marketing year are projected to decline by 400 million bushels for corn; 40 million bushels for soybeans; and by 205 million bushels for wheat from their '07/'08 marketing year levels.

Corn Analysis

The commodity markets appear to be in a consolidating mode as we wait to see what happens next with crop planting progress and weather developments. As of Monday, May 14th 51% of the nation's corn crop was planted, as compared to 27% the week before, 71% last year

and the 5-year average of 77%. Growing conditions have been less than ideal throughout portions of the Corn Belt and it remains to be seen just how soon the rest of the corn crop can get planted. On Monday, about 11% of this year's corn crop was emerged as compared to 32% last year, and 33% for the 5-year average.

Even though we have seen the corn market in a correction mode this week, the trend in corn is still up. New crop corn futures are trading about 27 cents per bushel off of last week's high, currently at \$6.20 per bushel. The U.S. corn crop will need ideal growing conditions in order to produce trend line yield this year. The reason being that the U.S. will need to carry 800 million to 1 billion bushels to meet pipeline stocks (the minimum requirement to ensure an orderly flow of grains after harvest is complete). USDA projected ending stocks of 763 million bushels for the '08/'09 marketing year in their May S/D estimates. These numbers make it perfectly clear that we have no room for margin of error this growing season.

Soybean Analysis

Rumor has it that the strike by farmers in Argentina that has rallied the new crop Nov '08 soybean futures contract this week may end soon. The new crop soybean futures contract is now within \$1.00 per bushel of its life of contract high, currently trading at \$13.33 per bushel. The rally has presented an opportunity to advance soybean sales up to the 30% level for those that have not done so already.

Wheat Analysis

The soft red winter wheat price is down about 40 cents per bushel this week from a week ago. The May supply and demand report has apparently sent non-commercial traders to the sidelines. U.S. and world wheat supplies are expected to increase as the '08 harvest gets underway. Argentina's '08/'09 wheat planting is expected to fall due to dry weather and disruptions caused by the rift between farmers and the government. Any reduction in production will come out of exports, as their government has limited shipments to ensure domestic supply and low local prices. Argentina typically supplies about 7 to 8% of the world's export needs.

General

Salt Water Inundation, Fresh Water

Flooding - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

Salt Water Inundation

Significant acreage across the state has been damaged by flooding, both with fresh rain water, and with salt water along the coast. In fields along the marsh next to the Delaware Bay, significant acreage was inundated with salt water from the tidal surge over the weekend. The tidal surge also brought large amounts of debris into these fields.

Salt water inundation occurred where fields were flooded with sea water, brackish water, or tidal surge water from the Delaware Bay. Salt contaminated soils will have several effects on crops. The first is osmotic where high salt levels in the soil solution will draw water out of germinating seedlings and the roots of plants, causing desiccation. In less severe cases, elevated salt levels will make it more difficult for plants to take up water, thus increasing water stress and reducing growth. The second concern is the toxic effect of salt water constituents. Excess sodium is toxic to crop plants. In addition, chloride from salt water can be toxic to many crops.

Soils that have had salt water leach into them will have high osmotic conditions (high dissolved solutes) and high levels of sodium. Levels of overall salts, sodium, and chloride will be reduced with leaching from rainfall, but this may take a considerable amount of time, depending on the amount of rainfall, soil type, water table, and the presence or absence of salt water intrusion in the ground water. On a sandy loam soil, salt levels may be reduced to tolerable levels within a year's period of time. On heavier soils and soils with high water tables, it may take several years for salt levels to drop to acceptable levels. In areas where salt water ponded for long periods of time, also expect effects to last for several years. Other problems include salt water mixing with ground water

contaminating shallow wells and tidal overwash into irrigation ponds, contaminating irrigation water sources.

Field crops vary in their sensitivity to high salt and high sodium levels. Soybeans are very sensitive and will not tolerate much salinity. Soybeans will not survive in any fields flooded with tidal surge waters if planted this year. Corn has more tolerance (rated as moderate salt tolerance), but again will likely not grow this year in salt water inundated soils. Sorghum and small grains have higher salt tolerance. These will be future options as salt levels drop (if they fit into your crop rotation). A number of millets also have salt tolerance.

A quick test for soluble salts is the electrical conductivity (EC) of the soil: the higher the conductivity, the higher the salts. Call your county extension office if you want to have your soils tested for EC. For sodium levels, a laboratory soil test will be needed. The Kent County extension office has an electrical conductivity meter equipped with soil probe sensors for direct soil EC measurements if you want to confirm soluble salt levels or monitor salt levels directly in fields during the year.

To reclaim a waterlogged, salt-affected soil, the water tables must be lowered, excess salts must be leached out, and where sodium is very high, it should be replaced with a more desirable cation such as calcium. The following are some strategies to manage salt affected soils:

- Moldboard plowing can help to dilute salts by mixing with the soil. Continued tillage can help keep salt that evaporates at the surface mixed with the soil.
- Irrigation, where available, will help to move salts out of the surface soil so that crops may be established. This requires significant amounts of water being applied over a long period of time so good drainage will be necessary.
- Plant salt tolerant crops once enough leaching from rainfall or irrigation has occurred. Sorghum species, including grain sorghum, sudangrass, sweet sorghum, and sorghum/sudangrass hybrids, have some salt tolerance. Many millets also are salt tolerant with Japanese millet being

a good choice for salt contaminated soils. Small grains have relatively high salt tolerance. There are several perennial species such as coastal panic grass, tall fescue, and bermudagrass that have good salt tolerance. Salt tolerant alfalfa varieties are also commercially available.

- Add low salt containing organic materials to the soil such as leaf compost or yard waste compost (do not use manure, sewage sludge, or mushroom soil based compost).

Sometimes gypsum is recommended to remediate salt affected soils. Application of gypsum may or may not be beneficial. Gypsum (calcium sulfate) is a salt itself, and may actually increase the salt content in the short term. Application of gypsum to high sodium soils will provide calcium to displace the sodium. However, you still need rainfall or irrigation to leach the displaced sodium down and internal drainage to allow downward movement out of the root zone. If either of these conditions is lacking, then gypsum application alone will not help.

Fresh Water Flooding

Other areas throughout the state were flooded for a period of time with fresh water from recent heavy rains and there have been a number of questions on the effect of fresh water flooding on corn.

The extent to which flooding injures corn is determined by several factors including plant stage of development when flooding occurs, the duration of flooding, and air/soil temperatures. Prior to the 6-leaf stage (when the growing point is near or at the soil surface), corn can survive only 2-4 days of flooded conditions. Once corn has reached the silking stage shallow depths of flooding will not cause any noticeable amounts of damage. If temperatures are warm during flooding (greater than 77° F) plants may not survive 24 hours. Cooler temperatures prolong survival. Iowa studies found that flooding when corn is about 6 inches in height for 72, 48, and 24 hours reduced corn yields by 32, 22, and 18%, respectively, at a low N fertilizer level (50 lb N/acre). At a high level of N (350 lb N/acre) these yield reductions ranged from 19 to 14% in one year to less than 5% the following year.

Research indicates that the oxygen concentration approaches zero after 24-hours in a flooded soil. Without oxygen, the plant cannot perform critical life sustaining functions - nutrient and water uptake is impaired, root growth is inhibited, etc. Even if flooding doesn't kill plants outright it may have a long term negative impact on crop performance. If excess moisture in the early vegetative stages retards root development, plants may be subject to greater injury during a dry summer because root systems are not sufficiently developed to access available subsoil water.

If flooding in corn is less than 48 hours, crop injury should be limited. To confirm plant survival, check the color of the growing point (it should be white and cream colored, while a darkening or softening usually precedes plant death) and look for new leaf growth 3 to 5 days after water drains from the field.

Cold, wet weather conditions also favor development of seed rots and seedling blights. Seed treatments are usually effective but can provide protection only so long; if seedling development is slowed or delayed 2-3 weeks, soil-borne pathogens have a much greater opportunity to cause damage. Other disease problems which may become greater risks due to flooding and cool temperatures are corn smut and crazy top. The fungus that causes crazy top depends on saturated soil conditions to infect corn seedlings. There is limited hybrid resistance to these diseases and predicting damage is difficult because disease symptoms do not appear until later in the growing season.

*Information on salt water flooding by Gordon Johnson, Extension Agriculture Agent, UD.
Information on corn flooding from Peter R. Thomison, Extension Agronomist, the Ohio State University*

Announcements

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

Recent Topics:

- Farm Bill Highlights
- More on Salt Damage from Recent Tidal Flooding Along the Delaware Bay
- Salt Water Inundation Along the Coast
- Flooding Effects on Corn
- Weather Woes
- Lodging Lodging Everywhere
- Delayed Corn Planting - What to Expect
- Poultry: Runting/Stunting Syndrome
- Dairy - Body Condition Score for Dry Cows; Dry Cow Facilities
- Watch Out for Armyworm in Small Grains and Other Crops
- Honeybee Swarm Removal

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

Wye Strawberry Twilight

Wednesday, May 21, 2008 6:00 p.m. - dark
Wye Research and Education Center
Queenstown, MD 21658

Speakers include:

Jerry Brust, Entomologist

Anne DaMarsay, Fruit pathologist

Michael Embrey, Apiary specialist

Michael Newell, Program manager and strawberry specialist

People will see:

-High tunnel strawberry production, planted September 2007. Planted varieties include: Carmine, Ventana, Florida Festival, Seascape, Chandler, Albion, and Camarosa.

-Annual field plasticulture variety trial planted with bare-rooted dormant plants in July 2007. Varieties include: Bish, Jewel, Ovation, Allstar, Chandler, Daraselect, Eros, KRS-10, and Seascape.

No preregistration required

Light refreshments served

Directions can be found at www.wrec.umd.edu

For more information contact Mike Newell,
(410) 827-7388 or mnewell@umd.edu

Chronic Pain Workshop

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 Data Now Logged by DEOS

The weather data from the Carvel Research and Education Center is now being logged by Delaware Environmental Observing System (DEOS) and is available online via

http://www.deos.udel.edu/monthly_retrieval.html

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of May 8 to May 14, 2008

Readings Taken from Midnight to Midnight

Rainfall:

0.02 inch: May 8

1.03 inch: May 9

0.09 inch: May 10

0.92 inch: May 11

1.78 inch: May 12

Air Temperature:

Highs ranged from 74°F on May 14 to 57°F on May 12.

Lows ranged from 65°F on May 8 to 43°F on May 11.

Soil Temperature:

63°F average.

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

Additional Delaware weather data is available at http://www.deos.udel.edu/monthly_retrieval.html

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

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