



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 16, Issue 27

September 19, 2008

Last Issue of Weekly Crop Update for 2008

*Emmalea Ernest, Extension Associate -
Vegetable Crops; emmalea@udel.edu*

This is the last issue of Weekly Crop Update for the 2008 season. I hope that this newsletter has been a useful resource to you as you dealt with the challenges of this past growing season. My thanks to the individuals who have contributed articles this year – the WCU would not be possible without them, and to our office staff at the REC, who make sure the WCU gets to our fax and mail subscribers.

As editor of WCU, I appreciate your comments and suggestions for improvement of this publication. You can contact me at the email address above or at (302) 856-7303.

Best wishes for a safe and prosperous fall harvest season. I look forward to seeing many of you at meetings this winter.

Kind regards,

Emmalea



Vegetables

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

Cabbage

Continue to scout all fields for beet armyworm, fall armyworm, diamondback and cabbage looper larvae.

Lima Beans

Continue to scout all fields for lygus bugs, stinkbugs, corn earworm, soybean loopers and beet armyworm. Multiple sprays may be needed for worm control.

Peppers

Be sure to maintain a 7-day spray schedule for corn borer, corn earworm, beet armyworm and fall armyworm control. You should also watch for flares in aphid populations.

Snap Beans

All fresh market and processing snap beans will need to be sprayed from the bud stage through harvest for corn borer and corn earworm control.

Spinach

Continue to sample for webworm and beet armyworm larvae. Controls should be applied when worms are small and before webbing occurs. Generally, at least 2 applications may be needed to achieve control of webworms and beet armyworm.

Sweet Corn

Although corn earworm moth catches have started to decline fresh market, silking sweet corn should be sprayed on a 2 to 3-day schedule for the remainder of the season.

Lima Downy Mildew Alert - *Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu*

Downy mildew has been identified in several fields in Sussex Co. and one in Kent Co. on C-elite and Cypress. Infection severity and occurrence has been low so far. Applications of 2 lbs/A of Ridomil Gold/Copper or Phostrol 2-3 pts/A will provide very good control if applied before infection occurs or when the first infection appears in the field. Be sure to scout all limas from this point on until harvest. See [Downy Mildew on Lima Beans](#) in [WCU 16:23](#) for more information on fungicide options and [Threat of Lima Bean Diseases Increases](#) in [WCU 16:26](#) for photos and information on environmental conditions conducive to the disease.

Nematodes in Vegetables - *Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu*

Fall is the best time to soil sample for nematode pests such as root knot, lesion, and other plant parasitic nematodes. After fall harvest, but before any fall tillage is done take soil cores six inches deep between plants in the row. Samples should be taken in the root zone of the old crop. Twenty cores/sample should be taken from random spots in the field and placed in a plastic bucket, gently mixed, and a pint of soil submitted for analysis. Large fields should be subdivided into blocks of 15- 20 acres each and sampled separately. Nematode test bags and instructions are available for purchase from the county Extension offices. Samples cost \$10.00. Fall sampling for root knot nematodes is strongly recommended for fields that will be planted in cucumbers, watermelons, cantaloupes, lima beans or other high value vegetables where root knot could reduce production. Forms and instructions are also

available on the web at

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

Ending Vegetable and Fruit Notes for the 2008 Season - *Gordon Johnson, Extension Agent, Kent Co.; gcjohn@udel.edu*

Some observations from the 2008 vegetable and fruit season for this last Weekly Crop Update for 2008:

- Strawberry season was extended this year due to the cooler May weather. We did not get our first 90 degree weather until June 7. Both matted row and plasticulture systems got a later start on harvest but were extended into June. The nor'easter in mid-May did affect fruit quality for a week period.
- Asparagus also did well in 2008 with constant, quality harvest with the cooler weather.
- Early peas had very good yields due to the cooler weather. Several days of 90 degree weather the second week in June caused some mid season and later plantings to mature together but, in general, growers were pleased with pea yields.
- Potato growers had the perfect storm of a good growing season and exceptional prices. This was the most profitable season in recent history. The heat in mid-June did reduce tuber bulking and caused premature decline in some early varieties, resulting in a higher percentage of small tubers, but the prices more than compensated. There were more acres of non-irrigated potatoes planted this year and digging was delayed due to dry soil conditions in August.
- Processing sweet corn growers reported excellent yields this year with many fields in the 8 and 9 ton/A range. With normal hot temperatures in July, and a cooler than normal August, June and early July plantings had good growing conditions. With increased prices being paid, processing sweet corn was very profitable this year. 2008 was a good year for fresh market sweet corn as long as there was adequate irrigation. Wholesale prices in July were \$18-25 per crate, August prices ranged from \$10-14 per

crate. Prices in general were higher in 2008 than in 2006 or 2007.

- Pickle growers report having a good year. A larger portion of the acreage is being harvested with self propelled harvesters and significant acreage is being custom harvested. This is a shift away from the farmer-owned tractor mounted harvesters. Downy mildew was a factor again in 2008 and fungicide timing was an issue in some fields.

- Lima beans in 2008 have been a mixed bag. Dryland lima beans suffered greatly with the August drought and many fields have yielded under 1000 lbs/A. Irrigated lima beans are giving excellent yields. August temperatures in 2008 were considerably lower than in 2006 or 2007 leading to improved pod set and pod retention in irrigated fields. White mold is being reported as a current issue due to the good vine growth in irrigated lima beans. Herbicide resistant pigweed has been a major challenge in lima bean fields in 2008 and I have seen more wick bars and wipers being used in fields than in past years.

- Watermelons and cantaloupes suffered a poor start due to the cold May and nor'easter. Harvest was delayed and early yields were reduced in 2008. Dry weather did reduce disease pressure and later plantings have done well. Prices were very good (significantly higher than 2007) and held throughout the season.

- This has been an average pumpkin season. Dryland plantings were hurt by the August drought. Powdery mildew pressure has been heavy in all pumpkins and we are seeing reduced fungicide efficacy in some fields. Viruses are also present at significant levels in many fields.

- Early snap beans had reduced growth due to the cold spring and yields were reduced. Late spring and summer prices were excellent for fresh market. The cooler August helped to improve set in mid-summer plantings. Processing snap bean yields have been variable and improved as the season progressed.

- Squash and other vine crops had significant issues with squash bugs and cucumber beetles. Squash bug numbers were higher than in recent

years and had higher early populations. Fungal wilts were a major problem in a number of plantings, especially summer squash.

- 2008 was an excellent year for peaches. Late freezes were not an issue and dry summer weather reduced disease pressure. Irrigation was necessary to maintain fruit size.

- Grape quality is good in 2008 with the dry weather during the ripening period. There were periods in 2008 where downy mildew and powdery mildew pressure was high.

- We had one of the worst years for fire blight in recent memory with apples and pears. The wet weather in mid-May set up perfect conditions for the disease. Orchards that missed bactericide application timings were hard hit.

- This has been an average year for tomatoes and peppers. Stinkbug pressure was high for a period of time leading to fruit issues in tomatoes. Disease pressure in tomatoes was much reduced due to the dry weather.

- Weather was conducive to good spring cabbage production. Prices were \$14 per crate, well up from the \$8 per crate in 2007.

- Prices are up in general for vegetables in 2008, but so are production, harvest, packing, and shipping costs. Adjustments to processing crop prices paid to growers helped to maintain acreage on Delmarva. Higher field crop prices have helped to take pressure off of shipping markets for fresh market vegetables by reducing vegetable acreage in parts of the country.

- Vegetable crops for fall harvest look good in general. Pumpkins are being shipped. Sweet potatoes are being dug. Cabbage harvest will start soon. Broccoli, cauliflower, greens, and turnips are growing well. Later snap bean and lima bean plantings have good sets. August planted spinach crops have good growth.

Late Season Pests in Pumpkins and High Tunnel Tomatoes - Jerry Brust, *IPM Vegetable Specialist, University of Maryland*, jbrust@umd.edu

It is that time of the year again; as the season winds down some late season pests can come in and ruin what is left of a dwindling crop. In pumpkins it could be “rind worms” which are any number of caterpillar species that will feed on the outside of a pumpkin and scar the surface or penetrate into the rind. Either way it opens the pumpkin up to secondary infection and causes it to rot much sooner than it should. The other big pest is the squash bug, which will concentrate its numbers and feeding on the pumpkin fruit if the foliage goes down and is no longer there (Fig 1). The nymphs and adults can feed heavily enough that they will “deflate” a pumpkin or reduce its vigor (including the stem) by sucking all its juices out. Any of these pests can be easily controlled with an insecticide application like a pyrethroid; the difficulty is making sure to catch the problem before it becomes too late.



Figure 1. Squash bugs feeding heavily on pumpkin fruit because no vines are left in the field

In high tunnels there has been a surge of worms that have suddenly shown up in the past couple of weeks. As corn and natural hosts of the worm pests begin to shut down the moths are attracted to high tunnel plants that are green and still growing. I have seen hornworms, and yellow striped, beet and southern armyworms in

high tunnel tomatoes where they tend to feed on the fruit when they become medium size or larger. Smaller larvae tend to stay on the foliage (Fig 2).



Figure 2. Large worms tend to feed on the fruit while small worms tend to feed on foliage, except for fruit worms, which will feed on the fruit when they are both very small and large larvae. They usually start feeding under the calyx or cap of the tomato as in Fig 3.



Figure 3. Tomato fruit worm feeding under calyx of tomato fruit

Tomato fruit worm, however will attack the fruit when the larvae are very small or large (Fig 3). As with pumpkin pests the tomatoes in high tunnels need to be watched carefully for the next several weeks until we have a frost or two. *Bt* products will work well as long as worms are small and not attacking the fruit, but other chemicals such as pyrethroids or Avaunt or SpinTor or Lannate will be needed if the worms are large or damaging the fruit.

I am conducting a study looking at tomato production inside a high tunnel (HT) compared with tomatoes just outside the high tunnel with the same number of plants and the same variety all planted on the same day in June. The HT tomatoes have been severely attacked by small and large larvae of several worm species with 40% of the tomatoes being damaged. (I am not treating the tomatoes in order to make the comparison.) However, just outside the high tunnel there have been few worms at all and almost no large worms with only about 5% of the tomatoes being damaged. I am not sure why the worms survive better in the high tunnel—temperatures have not been much different between the HT and outside until the last few days. I will be looking at natural enemies (both insects and disease) and the number of eggs laid by the female moths over the next few weeks to see if there are any differences with these factors.

Fall Sanitation in Vegetable Fields - *Bob Mulrooney, Extension Plant Pathologist;* bobmul@udel.edu

In vegetable production it is not a good idea to leave old crop residue in the field any longer than necessary. If the crop is allowed to survive after harvest, fungi that cause many diseases continue to increase on the surviving plants. This allows higher numbers of the fungus to potentially survive until next season. Sanitation (plowing or disking the old crop) will help prevent pathogen carry-over.

Agronomic Crops

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

Soybeans

In general, the decision to treat for corn earworms should have been made by now. If you have not scouted, be sure to check the latest planted fields. We are finally starting to see a decline in trap catches so hopefully we will not see another hatch. Overall, control has been good – especially if treatments were applied to threshold levels of small worms and the correct rate was used. If you sprayed last week for the first time, you will want to re-check fields this week to be sure you do not have another hatch of larvae.

Small Grains

Be sure to sample all fields at emergence for aphids, true armyworm and fall armyworm feeding. In past years, we have seen economic damage from all three insect pests.

When it comes to armyworm, we have seen fields destroyed in past years, especially in no-till situations. In many cases it has been true armyworm, although fall armyworm can also cause damage. Although there is no threshold available, you will need to watch for larvae feeding on small plants. With higher trap catches for true armyworm throughout the summer, you will want to watch fields since damage can occur very quickly.

As you make plans for small grain planting, you should consider the following factors when making a treatment decision for aphids. In general, cooler summer temperatures with adequate rainfall followed by a warm, dry fall are conditions that favor aphid development in small grains, especially in early planted fields. Early fall infestations of the greenbug aphid (which cause direct damage to small grains as well as vector BYDV) are favored by cool, late summer conditions.

The main reason one would consider aphid control in the fall (except for greenbug aphid that causes direct damage) is the potential for Barley Yellow Dwarf Viral (BYDV) transmission. As indicated in past newsletters, the plant pathologists in our area still do not feel that we are seeing a significant increase in the incidence of BYDV. However, in areas where you have seen BYDV in the past, where you are planting early, or you have seen direct damage by greenbug aphids, a seed treatment that control aphids (i.e. Cruiser and Gaucho) would be a good control option. Information from Kentucky indicates that planting date is the most important factor determining the intensity of an aphid infestation. If you have a history of aphids transmitting viruses in the fall and you plan to scout for aphids, data from the South indicates that the most important time for controlling aphids to prevent BYDV is the first 30 days following emergence. The second most important time is the second 30 days following emergence. The following link to a fact sheet from Kentucky provides more information on aphids and BYDV in wheat (<http://www.ca.uky.edu/entomology/entfacts/ef121.asp>).

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

Small Grains

Be sure that you plant wheat varieties with high levels of disease resistance. Select varieties with high levels of resistance to powdery mildew, leaf rust and stripe rust. Seed should be treated with Baytan, Raxil or Dividend to protect plants from loose smut and common bunt. Varieties that are susceptible to powdery mildew should be

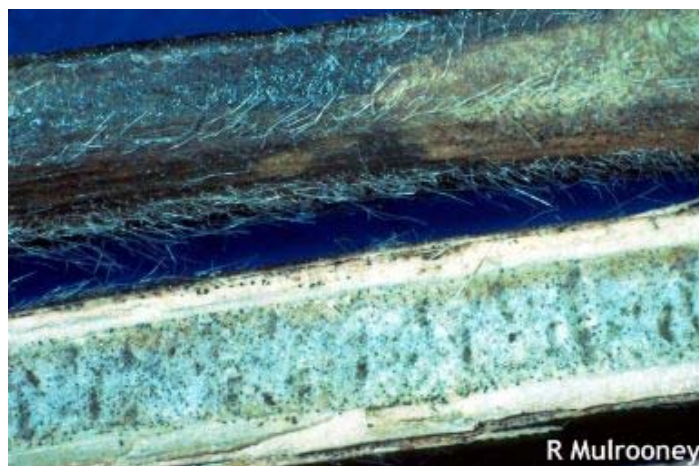
treated with Baytan, Dividend or other seed treatment that will protect them from early infection.

Soybeans

Do not ignore soybean cyst nematode. Soil sampling after harvest before any fall tillage is recommended for fields to be planted next season to soybeans following this year's crop. Do not plant SCN susceptible varieties without soil testing first. Soil sample bags are available from the county Extension offices for \$10/sample bag.

Septoria brown spot and downy mildew are still evident on some late beans. Most levels that I have seen should not limit yield in any way.

Charcoal rot was diagnosed this week on a Group IV soybean in Sussex County. The irregular spots of dead and dying soybeans at first observation looked as if they were maturing due to the drought but upon closer observation of the roots and stems that it was charcoal rot. This soilborn fungus infects soybeans early in the season and if stress conditions persist, infection results in lower stem decay and prematurely dead plants. The spots were not that large and the plants did set some pods but it would have been easy to just think it was the drought. Rotation and planting later maturing varieties in areas where charcoal rot has been a problem in the past is the best control program.



Charcoal rot on split soybean stem. Note the powdered charcoal appearance of the microsclerotia imbedded in the stem tissue and scattered in the pith.

Corn

Corn harvest is underway so be sure to check corn fields for lodging potential by squeezing the lower nodes or pushing on the stalks. A simple way to do this is to walk through the field and, keeping your hands at chest height, push stalks 8-10 inches from vertical. If 10-15% of the stalks lodge, schedule the field for early harvest before a strong wind results in severe lodging.

Fusarium ear rot caused by *Fusarium moniliforme* also known as *Fusarium verticillioides* has been seen this week in several locations. Hybrids that have been holding their ears vertical and have poor ear cover can be more susceptible to ear rots that benefit from moisture trapped in the ears. Ears that have been damaged by insects, particularly corn earworm, can also have more ear rot fungal infections. *Fusarium moniliforme* can produce mycotoxins called fumonisins (see below), but not all isolates of the fungus produce fumonisins. Infected grain should be dried to 15% or below to prevent mold growth in storage.

When evaluating an ear rot problem, remember that certain ear rots are a warning sign to suspect toxins, but ear rots do not always lead to toxin problems. When potentially toxigenic ear rots are noticed in the field, grain can be managed to minimize toxin development. If more than 10 percent of ears have a significant amount of mold (25 percent of the ear or more), these fields should be harvested and the corn dried as soon as possible. The combine will remove some of the moldiest kernels.

The best option for moldy grain is to feed it or sell it instead of storing it. However, it should be tested for toxins before feeding. Testing for mycotoxins can be done before putting the grain in storage. The best sampling method is to take a composite sample of at least 10 pounds from a moving grain stream, or to take multiple probes in a grain cart or truck for a composite 10-pound sample. If toxins are present, it is possible that it can be fed to a less sensitive livestock species, such as beef cattle (depending on the specific toxin and its concentration). A veterinarian or extension specialist can help with these decisions. If the grain is sold, there may be a reduced price due to mold damage.

Cleaning the grain removes fine particles that are usually the moldiest and most susceptible to further mold development. "Good storage conditions (proper temperature and moisture content, aeration, insect control, clean bins) and regular inspection are essential in preventing mold and toxin development in any stored corn." G. Munkvold (Iowa State Univ. Ext.)



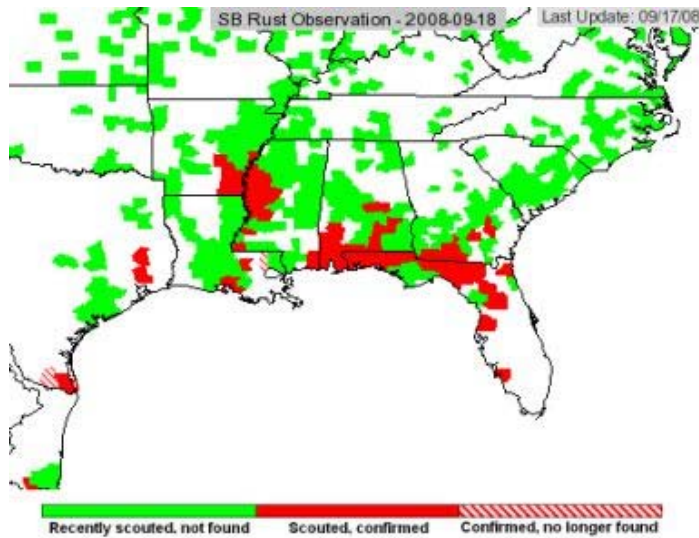
R Mulrooney

Fusarium ear rot caused by *Fusarium moniliforme*

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

Hurricane Ike did not turn out to be a transport event for us. But it did provide more favorable weather for soybean rust in the Gulf Coast states and now it has progressed into AK. On September 17th, soybean rust was reported in Hinds County, Mississippi on soybeans. On September 16th, soybean rust was reported in Jefferson and Lincoln Counties, Arkansas on soybeans; Clarke and Washington Counties, Alabama on kudzu; Jefferson County in Mississippi on soybeans; and in Thomas County, Georgia on kudzu. On September 15th, soybean rust was reported on soybeans in Autauga County, Alabama; and in Bolivar County, Mississippi (previously detected in Bolivar County in January on kudzu but was destroyed). With no more hurricanes or tropical storms in the forecast we may have dodged soybean rust again. We continue to monitor our sentinel plots for soybean rust infections that may have resulted from Hurricane Hanna, but the

probability is very low. If anything changes we will be contacting WCU subscribers by email and the county agents who can distribute the information as best they see fit.



Visit Soybean Variety Plots - *Bob Uniatowski, Associate Scientist*; bobuni@udel.edu

The soybean variety plots are available for viewing in Kent and New Castle Counties. The plots are labeled with variety names.

The Kent County plot is located on the corner of Barrett's Chapel and Buffalo roads.

The New Castle County plot is on Ratledge Road, about one mile down from the 896/301 Highway.

Osprey Winter Wheat - Best Suited for Fall Applications - *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

Osprey is registered for grass weeds in winter wheat, including annual ryegrass and annual blue grass. Osprey also controls a number of broadleaf weeds that are common in our area. Osprey is not labeled for barley. Osprey is used at 4.75 oz wt/A. Application timing is emergence to jointing of wheat or 2 leaf to 2-tiller grasses. Osprey requires a non-ionic surfactant plus nitrogen. Fertilizer nitrogen (28 to 32% N

solutions) should be used at 1 to 2 qt/A. Ammonium sulfate (AMS) can be used at 1.5 to 3 lb/A. Osprey can be applied with methylated seed oil. Osprey should not be applied with crop oils or silicone based surfactants. Osprey is not labeled for use with liquid fertilizer carriers. The label states that liquid fertilizer solutions should be no more than 15% of the spray carrier volume. Nitrogen fertilizer greater than 15% of the spray volume should not be applied within 14 days of the Osprey application, which makes timing of spring applications difficult. As a result, fall applications are more appropriate than spring. Osprey can be tankmixed with a Harmony GT and Harmony Extra (as well as other herbicides), but tankmixtures with Banvel/Clarity or 2,4-D may reduce grass control. The grasses specifically mentioned on the label that are important in our region are annual ryegrass (it will not control volunteer grain rye), annual bluegrass, and roughstalk bluegrass. The label lists brome species as suppression. Broadleaf activity is good on wild radish and wild mustard plus suppression of henbit and common chickweed. UD has tested Osprey for ryegrass the past two to three years with favorable results. Soybeans can be planted 90 days after treatment and refer to the label for other crops.

Be Sure to Use a Burndown with No-Till Small Grains - *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

More and more fields are being planted as no-till small grains. These fields need a non-selective herbicide prior to emergence (either Gramoxone or glyphosate). Too often, these fields look 'clean' at planting time but numerous weeds have emerged and are quite small. These weeds are much easier to control prior to planting than later. Harmony GT or Harmony Extra are not replacements for these non-selective herbicides.

Volunteer Rye Cannot Be Controlled in Small Grains - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

There have been a considerable number of fields with rye-strips planted for vegetables in some areas, and these fields are very convenient to plant small grains in the fall. However, keep in mind that there is no herbicide available to control volunteer rye in wheat or barley. There are a few herbicides that will control or suppress Italian (or annual) ryegrass in these crops, but they will not control grain rye used for wind breaks. Therefore, if the windbreaks were allowed to produce seed this year, you can expect the rye to act as a competitive weed in your small grains. Rye seeds generally germinate the same year they are produced, so it is not a long-term problem. However, it can be an issue if you planted rye strips last fall and then plant small grains this fall.

Fall Herbicide Treatments for Next Year's No-Till - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Fall herbicide treatments have been discussed as options for no-till crops. The idea is to apply an herbicide this fall that will control existing weeds and possibly provide residual weed control so that fields do not have lots of vegetation next spring. Less vegetation in the spring allows the soil to warm up faster and conserve moisture. This practice has worked in many of the Midwest states, but their winters are colder and often with more snow cover. We have looked at various herbicides the past few years for no-till soybeans. Products tested include Valor, Canopy EX, and Express. In our trials the fall treatments were applied with 2,4-D plus Gramoxone or glyphosate. Applications were made in late October to mid-November, after weeds have emerged. Most of the products provided some control when evaluated in March. The remaining weeds were small and less vigorous. However, as the spring progressed Valor and Express became much less effective, as well as allowed for spring germination of many species. Those plants that were present were large by early May. As a result, non-

selective herbicide was needed before soybean planting. However, fall treatments helped to conserve spring moisture and provided for a better soybean stand when rainfall was limited. In 2006 and 2007, Canopy EX applied in the fall with Gramoxone or glyphosate provided excellent weed control up to the time of soybean planting (including horseweed). Canopy EX restricts your rotation to allow only soybeans the following spring.

Fall treatments should be applied while the plants are still actively growing. If you are considering a fall herbicide program, be sure to consider all pros and cons, including resistance management.

Milestone Does Not Have a Fit in Most Pasture Situations - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Milestone (aminopyralid) is a relatively new herbicide for pastures and CRP that provides good to excellent control of many broadleaf weeds (including thistles). It has other positives as well that makes it a very tempting choice for grass pastures. However, the herbicide does not break down in the plants, or in the digestive tract of the animals, nor during the composting process. Therefore, manure from animals fed with treated hay or grazed in the treated pastures, can contain some of the active herbicide. In addition, if this manure is applied to fields or gardens with sensitive plants, they can be severely injured or killed. Broadleaf plants (especially legumes) are most prone to injury.

The following is from the Milestone label:

- *Do not use Milestone-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be applied to areas where commercially grown mushrooms or susceptible broadleaf plants may be grown.*
- *Do not spread manure from animals that have grazed or consumed forage or eaten hay from*

treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.

- *Manure from animals that have grazed forage or eaten hay harvested from Milestone-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.*
- *Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from Milestone-treated areas until an adequately sensitive field bioassay is conducted to determine that the Milestone concentration in the soil is at level that is not injurious to the crop to be planted.*

Milestone is better suited in our region for use with CRP where the grasses are not harvested or grazed. Since manure management is essential to protect sensitive plants, it has no fit in pastures or hay crops in our area.

Fall Weed Control in Pastures and Hay - Quintin Johnson, Extension Associate - Weed Science; quintin@udel.edu

Fall provides an excellent opportunity for perennial weed management with herbicide applications. Most herbicides labeled for use in pasture are translocated, or moved to various parts of the plant. As fall approaches, perennial weeds like curly dock, Canada thistle, horsenettle, pokeweed, and others are beginning to replenish stored carbohydrates in root structures to prepare for over-wintering and new spring growth. Translocated herbicides are able to reach the rooting structures more efficiently during this period, thus providing more effective perennial weed control. However, if weeds are drought-stressed, herbicide translocation may be slower or incomplete, resulting in less effective control. Delay herbicide applications until after you receive adequate rainfall. Fall applications should be made at least 7 to 10 days before a mowing for greatest effectiveness. In well established perennial weed populations, multiple years of good weed control will be needed to reduce significantly the rootstock of perennial weeds.

There are several things that must be considered when choosing an herbicide for pastures or hay fields including: forage species grown; weed species present; risk of herbicide contact with desirable plants through root uptake, drift, or volatility; residues in composted straw or manure; herbicide rotational, over-seeding, grazing, or harvest restrictions; and cost. Consult your local cooperative extension agent or industry representative for help with these considerations, and be sure to follow all precautions and restrictions on herbicide labels.

The "Pasture and Hay Weed Management Guide" for Delaware is available from University of Delaware Cooperative Extension. Contact your local county agent for a printed copy, or access a pdf version on-line at http://www.rec.udel.edu/weed_sci/WeedPublicat.htm.

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

Commodities Rebound on Higher Oil Prices - Weaker Dollar

To say that the past week was on the hectic side for commodity markets would be the understatement of the year. Nevertheless, amidst the liquidity problems the financial district is experiencing, the commodity markets have managed to rebound in Wednesday's day and overnight trade from a major decline experienced on Monday and Tuesday of this week. The U.S. dollar index, that was strengthening through the beginning of the week, has now backed off from recent highs by two points, currently at 78.09. Besides the uncertainty impacting the markets from hurricanes Gustav and Ike, heavy noncommercial liquidation is said to have subsided allowing commercial buying to rally the market. Other uncertainty that will play into trader activity over the near term will be deciphering the actual size of the 2008 U.S. corn and soybean crop, additional financial news stemming from Wall Street, and crude oil prices (currently \$10.00 per barrel higher than the Tuesday's low of \$90.00 per barrel).

The weekly export sales report released this morning was bearish for corn, neutral for soybeans, and bullish for wheat. Corn and soybean sales were behind the amounts needed to keep pace with USDA projections after completing one week of the new marketing year that began September 1. Wheat exports, having completed the 14th week of the marketing year, are currently ahead of the pace needed to meet USDA projections. Commodity traders will be keenly interested in the pace of U.S. export sales in the weeks ahead. The interest lies within keeping tabs on world demand and how well demand keeps pace with projections in light of the extreme volatility from outside sources (currency exchange values, energy prices, etc.).

Marketing Strategy

It is going to take some time before all of the repercussions from the financial crisis and the resulting impacts upon commodity prices are known. It could be that the commodity markets can weather this storm better than the stock market in the near term. The reason being that the Dow could yield a 50%(+) retracement from the 14,190 level before things begin to improve. Currently, Dec '08 corn futures are trading at \$5.44; Nov '08 soybean futures at \$11.38; with Dec '08 SRW wheat futures at \$7.20 per bushel.

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

EDITOR'S NOTE: The Weekly Crop Update is ending for the season but Carl German writes his Grain Marketing Highlights year-round and you can receive them by email. Contact Carl at clgerman@udel.edu to be placed on the distribution list.

Small Grains Crop Insurance Deadline for Delaware is September 30 - Carl German, Extension Crops Marketing Specialist; clgerman@udel.edu

The Raleigh Regional office, USDA Risk Management Agency (RMA), reminds Delaware small grains producers that September 30, 2008 is the final date for those not currently insured to apply for crop insurance on wheat or barley.

Current policyholders likewise have until September 30 to make any changes to their policies. Price elections for 2009 are as follows:

- \$6.50 per bushel for wheat
- \$4.60 per bushel for barley

Wheat insureds may also choose among several plans of coverage, including Crop Revenue Coverage (CRC), Group Risk Plan (GRP), and Group Risk Income Protection (GRIP). CRC offers protection against a decline in market price while GRP and GRIP offer a lowered-cost coverage based on a county-wide average yield. For more information, log onto the RMA Web site at <http://www.rma.usda.gov> or contact a local crop insurance agent as soon as possible. A list of agents is maintained at the local USDA Farm Service Agency office and on the RMA Web site at <http://www3.rma.usda.gov/tools/agents/>.

General

Soil Sampling Tips - Gordon Johnson, Extension Ag Agent, Kent Co.; gcjohn@udel.edu

Fall is the time of year that most soil samples are taken and soil test results are only as good as the sample that was taken. The following are some reminders for taking good soil samples.

- Use a soil coring tool (soil sampling probe). Always use a soil probe designed for soil sampling. Insert the probe into the ground straight (upright and perpendicular to the soil) and not at an angle. Start with clean plastic buckets and clean soil probes (avoid contamination). Thoroughly discard the portion of soil that is not used for the composite sample between each sampling.
- Take soil samples from a uniform depth. Standard soil tests have been calibrated at the depth of the plow layer (6-8 inches), no shallower and no deeper. A 7 inch depth should be targeted. Cores taken from varying depths will give more variable results. Cores that are too shallow will skew results toward higher soil nutrient levels. Too shallow of sampling is often an issue in dry, hard soils. Cores that are too deep will give lower nutrient levels. Avoid

excess surface organic materials in the core. Discard any cores that you cannot take from the proper depth. Discard any cores that appear unusual in any way. If the core cannot be extracted intact, discard it.

- In no-till you should take a standard 7" depth sample. You may also want to take a separate 2" depth sample to check for pH depression on the surface.
- Ideally, a core should be taken no less than one every acre. Ideally, a minimum of 20 cores should be taken and composited for a sample. This will reduce the effects of an errant core (however, more than 30 is generally overkill). When you mix the cores to form the samples, make sure that you have mixed them well before you take the subsample to send to the lab. All clods or core pieces need to be broken up. The most common mistake in soil sampling is not mixing cores adequately.
- Ideally, large fields should be divided up so that a sample represents no more than 20 acre units. So for a 100 acre field, you should have 5 samples, each composited from 20 or more cores. This is especially critical in fields that have high variability. Very uniform fields can be sampled in larger acreage increments (but no more than 40 acres).
- The sampling pattern in a field area being sampled should be representative of the site. You cannot just walk diagonal across a field. Each soil sample should represent only one soil type or soil condition. Different soil types within a field should be sampled separately and areas treated differently should be sampled separately (areas where different crops were planted, areas where different varieties were grown with widely different yields, different planting dates, different fertilization, etc.).
- If fertilizer has been banded in a field, samples should stay off of the band if at all possible. If the band is not known, than plan to take extra cores. This also applies where plastic mulched beds were used for vegetable production.
- Avoid any features in a field that might skew the test results. Examples would be areas where spoil was spread, old roads or fence lines, areas

where buildings stood, wet pockets, or poultry manure stockpile areas. Do not take cores from these areas for the field composite. If you are interested in the fertility of these areas, take separate samples.

- Intensive grid sampling is used for variable rate fertilizer and lime applications. For grid sampling large fields, sample 2.5 acre units with 5 or more cores from each unit forming the sample. For smaller fields that are grid sampled, use 1 acre units.
- Take samples at least once every crop rotation cycle with a minimum of once every 3 years. In a corn-wheat-soybean rotation or corn-soybean rotation, take samples once every 2 years. Consider yearly sampling in rotations that vary considerably, where vegetables are included, or where other high value crops (fruits, nursery, specialty crops, etc) are being grown. Yearly samples are also appropriate for intensively managed cropping systems and high yielding irrigated production. Perennial hay and pasture fields should be sampled at least once every 3 years.
- Target soil sampling at the same time of year each time you take the sample and at the same point of time in the crop rotation (for example, every 2 years after corn and before wheat in a corn-wheat-soybean rotation). Time of year is not as important as being consistent in when you take the sample. Late summer or fall, after crop harvest, is an ideal time to take samples for practical reasons.

Fall Weed Scouting - *Mark VanGessel*,
Extension Weed Specialist; mjv@udel.edu

Fall is an important time to take stock of how effective your weed programs were this year. Success in improving or modifying your weed management program for next season is going to depend on your knowledge of weeds in that field. This fall, when it is fresh in your mind, take note of which weeds were present in the field, how heavy the infestation was, and where those patches were located. Taking notes as you are combining may be the best time to locate these weeds. Also, note size of the weeds. If the

weeds are small and did most of their growing after the crop began to dry down, they will not impact yield and they will not produce many seeds that can plague you next year. These weeds were either suppressed by your herbicide program or emerged after your herbicides had been played out. These weeds are of little consequence. On the other hand, note those weeds that are large and competed with the crop all season.

Here are things to consider if a field was weedy at harvest. First, if a weed was not controlled review the label and extension information to be sure that the weed species is supposed to be controlled by the herbicide(s) you used. If the herbicides you used are not effective then you may need to switch or include another herbicide in your program. Also, with all the lack of rain at times this season, poor herbicide performance from your residual herbicides was probably due to the herbicide not being moved into the soil ("not activated"). Finally, if the weed was supposed to be controlled by your program, and the herbicide was a triazine or an ALS-inhibiting herbicide see your county extension agent to discuss the potential of herbicide-resistant weeds. ALS-inhibiting herbicides include Accent, Steadfast, Exceed, Permit, Sceptor, Pursuit, or Harmony GT etc. Finally, with glyphosate, new reports of glyphosate-resistance have shown up in other areas of the US, but if more than one species was not controlled in your field, it is less likely to be a resistance problem.

If perennials are a problem, scouting gives you a chance to locate the patches and identify areas to spot-spray with a post-harvest treatment. In addition, you can plan for next season to help determine if a spot-treatment is appropriate or if the perennials are wide-spread and you need to treat the entire field.

Fall Control of Perennial Weeds - *Mark VanGessel, Extension Weed Specialist;*
mjv@udel.edu

Fall is the most practical time to treat perennial weeds because it is the time that plants can move the herbicide to the roots where it will do the most good. When considering fall weed

control the emphasis should be on what the patch of weeds will look like next spring or summer not the amount of dead stems this fall. In addition, it is important to consider that a fall application will not eradicate a stand of perennial weeds; rather, the fall application will reduce the stand size or the stand vigor the next year. Fall application of glyphosate is the most flexible treatment for most perennial weeds such as artichoke, bermudagrass, Canada thistle, common milkweed, common pokeweed, dock, hemp dogbane, horsenettle and johnsongrass. Banvel at 2 to 4 pints is also labeled for artichoke, bindweeds, dock, hemp dogbane, horsenettle, milkweeds, pokeweed, or Canada thistle. (Planting small grains must be delayed after Banvel application - 20 days per pint of Banvel applied.)

Fall herbicide applications should be made to actively growing plants. Allow plants to recover after harvest before treating them. Allow 10 days after treatment before disturbing the treated plants. Consider the options of spot treating in a standing crop; keeping the combine header as high as possible so the weeds are quicker to recover; or combining around the weed patches and then spraying those patches immediately after harvesting. Weed species differ in their sensitivity to frost; some are easily killed by frost (i.e. horsenettle) others can withstand relatively heavy frosts. Check the weeds prior to application to be sure they are actively growing.

Announcements

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

Recent Topics:

- Grain Prices Drop, Grain Prices Recover but Not Fully
- Fall P and K Applications
- Some Good Dryland Corn Yields
- Crop Revenue Coverage for Wheat
- Crop Insurance Deadlines for Small Grains
- Women in Dairy Conference in PA
- Crop Insurance Workshops Coming Up

- Poultry – Brooding Management
- Surfactants and Corn Ear Damage
- Soil Sampling Season
- Current Podworm Situation
- USDA Grain Report
- Corn Yields, Corn Moisture, Corn Harvest Losses
- Sweet Potato Harvest, Curing and Storage

URGENT NOTICE

All Delaware farmers should attend a free workshop entitled

Crop Insurance for 2009 Small Grains: How the New Farm Bill Makes Your Decision Critical to Disaster Program Eligibility

The new Farm Bill requires crop insurance on all acres of any insurable crop and/or enrollment in the FSA’s Noninsured Assistance Program (NAP) on all acres of uninsurable crops in order to be eligible for a new “whole farm” disaster program call Supplemental Revenue Assistance Program (SURE). Delaware Producers must apply for crop insurance for their fall seeded wheat and barley Before the Sales Closing Deadline – September 30, 2008 to be eligible for federal disaster aid (SURE) in 2009.

Sponsored by the Delaware Department of Agriculture through a Risk Management Agency grant, this workshop includes a crop insurance update, discussion of wheat market outlook for 2009, and an early overview of emerging Farm Bill programs from FSA personnel.

This workshop is being offered at two different locations. Attend the location and date most convenient for you. Please call the DDA Crop Insurance Info Line, toll free, at 877-673-2767 to pre-register and with any of your crop insurance questions.

Monday, September 22 6:30 – 8:30 p.m.
 The Delaware Agriculture Museum and Village
 866 North DuPont Highway
 Dover, DE 19901

Tuesday, September 23 6:30 – 8:30 p.m.
 Cheer Community Center
 20520 Sand Hill Road
 Georgetown, DE 19947

**Delaware-Maryland AgrAbility Project
 Depression Screening**

Friday, October 10 9:00 a.m. - noon
 University of Delaware
 Carvel Research and Education Center
 16483 County Seat Highway, Georgetown, DE

October 10, 2008 is National Depression Screening Day. The day will be observed by many community organizations, colleges and primary care providers offering free, anonymous mental health screenings in an effort to educate members of the public on the symptoms of depression and warning signs of suicide, and the appropriate actions to take. Mental health professionals will be available to speak with individuals regarding their personal situations at no cost and with no appointment necessary.

As with other illnesses, such as cancer or hypertension, the early detection of mental health disorders greatly increases the chances that an individual will receive the appropriate treatment and experience a better quality of life.

Reaching community members with undetected and untreated mental disorders has never been more important. Studies show that most Americans wait years before they seek treatment for a mental health disorder, and many never seek treatment at all. Don’t let depression rob you of the joy to be found in life. There is help for you if you think you might be one of the thousands who are dealing with depression or anxiety.

The Delaware-Maryland AgrAbility Project will mark the day by conducting a Depression Screening at the Carvel Research and Education Center, in Georgetown. This screening is open to farm families and also to those who live in the surrounding community.

Call Sally Van Schaik at (302) 253-1140 for more information. No appointment is necessary. All screenings are confidential.

Pumpkin Growers Twilight Meeting & Sweet Corn Twilight Meeting

Thursday, September 25 4:30 p.m. - dark
Wye Research and Education Center
211 Farm Lane, Queenstown, MD 21658

Meeting participants will be able to see and taste 7 BT sweet corn varieties from a late planted trial. Dr. Galen Dively, long time IPM specialist, will be here for discussion. Also, see 30 varieties of pumpkins grown in a no-till hairy vetch system. Hear university specialists Kate Everts, Jerry Brust, Bryan Butler and Mike Newell describe current pumpkin trials and grower concerns about pumpkin culture and management.

No registration required, light refreshments will be provided.

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

Pole Lima Bean Twilight Tour & Workshop

Monday, October 6, 2008 5:30 p.m.
DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd, Smyrna, DE

Program

5:30 – 6:00 p.m.

Tours of DSU & UD Pole Bean Plots

6:00 – 6:15 p.m.

Dinner Provided

6:15 – 6:30 p.m.

Welcome & DSU Project Information

John Clendaniel, Delaware State University

6:30 – 6:50 p.m.

Farm Bill Program Opportunities for Landowners

Tim Garrahan, NRCS

6:50 – 7:15 p.m.

Pole Bean Breeding Program Update

Emmalea Ernest, University of Delaware

7:15 – 8:00 p.m.

Which Insects are Attacking Your Beans?

Joanne Whalen, University of Delaware

Please call (302) 857-6462 no later than Wednesday, October 1, 2008 to RSVP.

Beef Pasture Walk

RESCHEDULED

Friday, October 17 3:00 – 6:00 p.m.
Carlton Jones Farm (C and J Farms, Inc.)
3174 Woodland Ferry Rd., Seaford, DE

The cattle on this farm are 100% grass fed; free from hormones, antibiotics, pesticides and chemicals. The Jones direct market the USDA inspected meat produced on this farm.

Learn about pasture management and rotational grazing for beef cattle. Fertility and weed management without pesticides will be discussed. Cooperative Extension specialists from the University of Delaware and the Natural Resource Conservation Service (NRCS) will be available to answer your questions!

This meeting is free and everyone interested in attending is welcome. To register, request more information or if you require special needs assistance for this meeting please call our office in advance at (302) 678-4198.

See you there!

John Timmons

USDA, NRCS, Cropland Agronomist

Small/Beginning Farm Meetings

These workshops are 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/smallfarmbrochure2008.pdf>.

Introduction to Sheep and Goats

Thursday, October 16, 2008 6:00 p.m.
Delaware State University's Hickory Hill Research Farm

Do you want to get started in the sheep and goat business? Come and learn about housing, feeding, and breeding sheep and goats, as well as common diseases.

Light refreshments served.

Please call (302) 857-6462 to register.

Marketing and Value Added Products
Thursday, November 13, 2008 6:00 p.m.
DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd, Smyrna, DE

Opportunities with retail sales with unique and common vegetables and processing to create products for market.

Light refreshments served.

Please call (302) 857-6462 to register.

Year End and Year Ahead
Thursday, December 11, 2008 6:00 p.m.
DSU Smyrna Outreach and Research Center
884 Smyrna-Leipsic Rd, Smyrna, DE

We invite you to be a part of the 2008 review and help us plan for the 2009 Small/Beginning Farm Series.

Light refreshments served.

Please call (302) 857-6462 to register.

Mid-Atlantic Crop Management School
November 18 – 20, 2008
Princess Royale Hotel and Conference Center
Ocean City, MD

About the School

The Mid-Atlantic Crop Management School offers a 2 ½ day format with a variety of breakout sessions. Individuals needing training in soil and water, nutrient management, crop management and pest management can create their own schedule by choosing from 5 program options offered each hour. Emphasis is placed on new and advanced information with group discussion and interaction encouraged.

Who Should Attend

This school is designed for anyone interested in crop management issues, including:

- agronomists
- crop consultants
- extension educators
- farmers and farm managers
- pesticide dealers, distributors, and applicators
- seed and agrichemical company representatives
- soil conservationists
- state department of agriculture personnel

The early registration deadline is October 21, 2008. Go to www.mdcrops.umd.edu for session schedules and registration information.

If you have questions, please contact Greg Binford by phone (302) 831-2146, FAX (302) 831-0605, or e-mail binfordg@udel.edu.

Delaware Agriculture Week

Monday, January 5 – Saturday, January 10, 2009

The University of Delaware Cooperative Extension, Delaware State University Cooperative Extension and the Delaware Department of Agriculture are again cooperating to organize a week of agricultural-related events.

The following General Agenda outlines the various meetings and events that are planned and their approximate times. Most will take place at the Delaware State Fairgrounds. The associated trade show will take place in the Dover Building from Tuesday January 6th to Thursday January 8th.

A complete, detailed program will be available online by November 24th and the completed program will be mailed out in December. Delaware and Maryland Pesticide Recertification credits, Nutrient Management credits and CCA credits will be offered.

Check the website for updates:

<http://www.rec.udel.edu/AgWeek/home.htm>

Ag Week General Agenda

Monday, January 5

Turf Workshop

State Fairgrounds – 1:30 to 4 PM

Fruit Session

State Fairgrounds - 6 to 9 PM

Hay and Pasture Evening Session

State Fairgrounds - 6 to 9 PM

Tuesday, January 6

Vegetable Growers Assn. of Delaware Annual Meeting

State Fairgrounds

- *Food Safety for Delaware Produce Growers, Large and Small - 9 to Noon*
- *Fresh Market/Vine Crops - 1:30 to 4 PM*

Delaware Vegetable Growers Assn. Banquet
Harrington Fire Hall – 6 PM

Hay and Pasture Day-Time Sessions
State Fairgrounds - 9 AM to 4 PM

Grain Marketing Strategies
State Fairgrounds – 9 AM to 4 PM

Equine Pasture Session
State Fairgrounds - 6 to 9 PM

Small Flock Poultry
State Fairgrounds - 6 to 9 PM

Veterinarian Session
State Fairgrounds - 6 to 9 PM

Wednesday, January 7
Vegetable Growers Assn. of Delaware Annual Meeting
State Fairgrounds
Processing Crops Session - 9 AM to 4 PM

Direct Marketing Session
State Fairgrounds – 9 AM to 4 PM

Energy Efficiency Session
State Fairgrounds – 1:30 to 4 PM

Poultry Nutrient Management
Carvel REC, Georgetown – 9 AM to Noon

Poultry Nutrient Management
State Fairgrounds - 6 to 9 PM

Small Ruminant Session
State Fairgrounds - 6 to 9 PM

Beef Session
State Fairgrounds - 6 to 9 PM

Thursday, January 8
Agronomy/Soybean Sessions
State Fairgrounds - 9 AM to 4 PM

Mid-Atlantic Soybean Association Dinner and Annual Meeting
State Fairgrounds - 6 PM

Energy Efficiency Session
State Fairgrounds – 9 AM - Noon

Greenhouse/High Tunnel Sessions
State Fairgrounds – 9 AM to 4 PM

Pollinators/Pollination Services in the Farm Bill
State Fairgrounds – 1:30 to 4 PM

Small & Beginning Farmers Session
State Fairgrounds – 6 to 9 PM

Equine Nutrient Management Session
State Fairgrounds - 6 to 9 PM

Friday, January 9
Friends of Ag Breakfast
Harrington Fire Hall – 7:15 AM

Youth Program
State Fairgrounds – 9 AM to ?

Saturday, January 10
Delaware Organic Growers Association
Paradee Center, Dover - 9 AM to 4 PM

Delmarva Forestry Seminar

Kent County Crop Masters

Programs will begin again in December and continue through March. Dates, topics and speakers will be posted on <http://www.kentagextension.blogspot.com>.

Some of the topics planned for this year:

- Reducing energy needs, alternative energy sources, and farm produced energy
- Managing water - the most important crop nutrient
- High input costs and decisions 2009
- Advanced forage production
- Meet the pest
- Nutrient management research updates and round table discussion
- Electronic information sources for crop producers
- Cover crops revisited

Contact:
Gordon Johnson, Kent Co. Agriculture Agent
(302) 730-4000 or gcjohn@udel.edu

Food Safety for Produce Growers

Planned food safety educational programs for fresh market produce growers - winter and spring 2009, dates to be announced.

- Know your enemy - produce associated food-borne illnesses question and answer panel
- Good agricultural practices recordkeeping workshop
- Farm tour and audit for good agricultural practices
- Packing house tour and audit for good agricultural practices and good handling practices
- Food safety for small produce growers hands on workshop

We will also offer training in produce safety for any interested farms during the season for your seasonal workers.

Contact:

Gordon Johnson, Kent Co. Agriculture Agent
(302) 730-4000 or gcjohn@udel.edu

Profiting From a Few Acres with Tree Fruits and Nuts

A four-part series planned for winter 2009. Dates to be announced.

- Apples and pears
- Peaches, plums, cherries, and other stone fruit
- Lesser known and alternative tree fruits from figs to pawpaws
- Nut crops

Contact:

Gordon Johnson, Kent Co. Agriculture Agent
(302) 730-4000 or gcjohn@udel.edu

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of September 11 to September 17, 2008

Readings Taken from Midnight to Midnight

Rainfall:

0.02 inch: September 12

0.01 inch: September 13

Air Temperature:

Highs ranged from 91°F on September 14 to 71°F on September 16.

Lows ranged from 72°F on September 14 to 54°F on September 17.

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

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

Cooperative Extension Education in Agriculture and Home Economics, University of Delaware, Delaware State University and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Delaware Cooperative Extension, University of Delaware. It is the policy of the Delaware Cooperative Extension System that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age or national origin.