



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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July 22, 2011

Vegetable Crops

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

Lima Beans

Continue to scout for spider mites, stink bugs, lygus bugs and corn earworm. Early detection and treatment will be needed to achieve spider mite control. In addition, multiple sprays may be needed for mites, especially if populations are high at treatment time and/or numerous eggs are present. As soon as pin pods are present, be sure to watch carefully for plant bug and stinkbug adults and nymphs as well as corn earworm larvae. As a general guideline, treatment should be considered for plant bugs and stink bugs if you find 15 adults and/or nymphs per 50 sweeps. A treatment will be needed for corn earworm if you find one corn earworm larvae per 6 ft-of-row.

Melons

Continue to scout all melons for aphids, cucumber beetles, and spider mites. We continue to find fields with numerous "worm" species feeding on rinds of watermelons including beet armyworms, yellow striped armyworm, variegated cutworms and cabbage loopers.

Peppers

As soon as the first flowers can be found, be sure to consider a corn borer treatment. Depending on local corn borer trap catches, sprays should

be applied on a 7-day schedule once pepper fruit is ¼ - ½ inch in diameter. Be sure to check local moth catches in your area by calling the Crop Pest Hotline (instate: 800-345-7544; out of state: 302-831-8851) or visiting our website at (<http://ag.udel.edu/extension/IPM/traps/latestblt.html>). You will also need to consider a treatment for pepper maggot. Be sure to watch carefully for beet armyworm larvae since they can quickly defoliate plants. In addition to beet armyworm feeding on leaves you should also watch for an increase in aphid populations. We are starting to find aphid populations increasing and they can explode quickly, especially where beneficial insect activity is low. As a general guideline, treatment may be needed if you find one or more aphids per leaf and beneficial activity is low.

Snap Beans

As corn borer and corn earworm populations start to increase, you will need to consider treatments for both insect pests. Sprays are needed at the bud and pin stages on processing beans for corn borer control. As earworm trap catches increase, an earworm spray will also be needed at the pin stage. You will need to check our website for the most recent trap catches to help decide on the spray interval between the pin stage and harvest for processing snap beans (<http://ag.udel.edu/extension/IPM/traps/latestblt.html> and <http://ag.udel.edu/extension/IPM/thresh/snapbeanecbthresh.html>).

Sweet Corn

Continue to sample all fields from the whorl through pre-tassel stage for corn borers, corn earworms and fall armyworm. A treatment should be considered when 12-15% of the plants are infested. Since fall armyworm feed deep in the whorls, sprays should be directed into the whorls and multiple applications are often needed to achieve control. The first silk sprays will be needed for corn earworm as soon as ear shanks are visible. Be sure to check both blacklight and pheromone trap catches for silk spray schedules since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings (<http://ag.udel.edu/extension/IPM/traps/latestblt.html> and <http://ag.udel.edu/extension/IPM/thresh/silksp raythresh.html>). You can also call the Crop Pest Hotline (in state: 800-345-7544; out of state: 302-831-8851).

Sunscald Very Prevalent in Peppers This Year - Jerry Brust, IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

I know this seems very obvious to most growers, as we have sunscald every year in our vegetable plantings. This year just seems to be especially bad as I have gotten several calls from growers about a strange problem in their peppers that looks like sunscald, but couldn't be. The reason given that it could not be sunscald is because the plants have thick foliage and the fruit seem well covered. Sunscald occurs when peppers or other vegetables are exposed to the direct rays of the sun during hot weather; the damaged areas may become papery and bleached or tan colored, and these areas often are covered with a black fungal growth (Photo 1). It is more apparent on plants that have sparse foliage or that have lost a large proportion of leaves to a leaf-defoliating disease. But almost all the farms I visited had plants that looked very good (Photo 2). The problem is that pepper plants often lean to one side or the other because of winds blowing them in certain directions. When this occurs sunscald can be especially prevalent on previously shaded pepper fruit that are suddenly exposed to the sun, even for a short period time. Photo 3 shows one of these leaning pepper

plants and several fruit that were damaged by this sudden exposure resulting in sunscald. The damaged areas are vulnerable to infection by fungi (Black mold), and bacteria, so that at times a pepper fruit will be found that is a soupy, smelly watery mess. Sunscald is most prevalent on green fruit. Staking and tying pepper plants will greatly decrease the leaning plants and greatly decrease sunscald. The pepper plants do not have to be tied often, usually once is all it takes and stakes do not need to be any taller than the pepper plants (so broken tomato stakes work well) (Photo 4). Peppers in a tied vs. non tied section of field had vastly different sunscald problems. The stake and tied section had less than 2% of fruit sunscald damaged; the non-tied section had 17% sunscald damaged fruit for the same variety planted the same day.

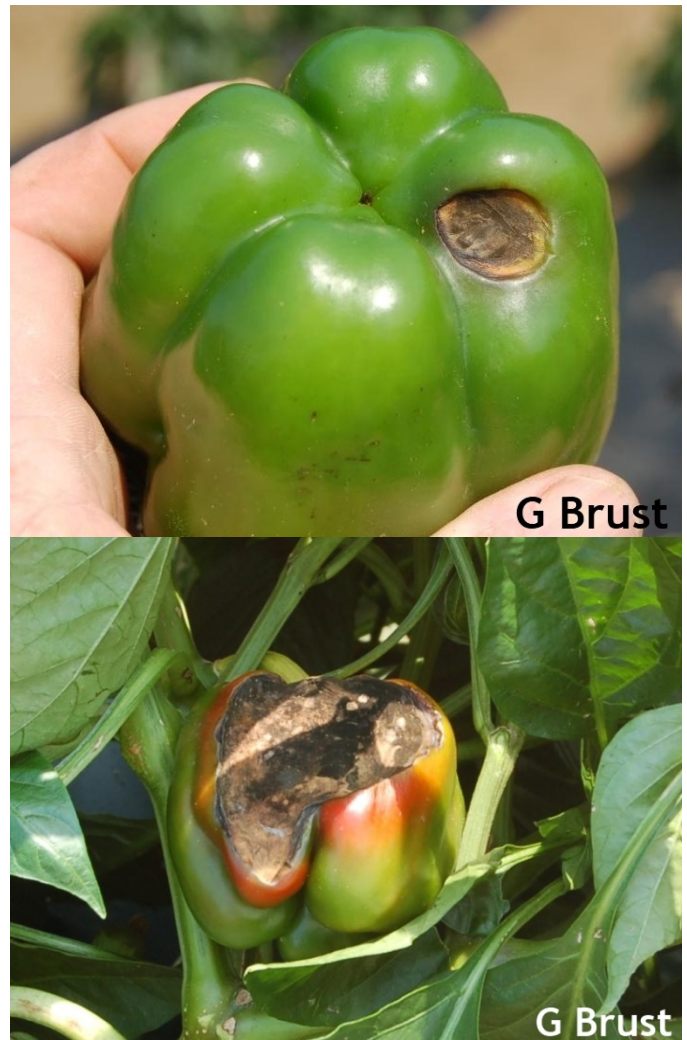


Photo 1. Pepper fruit with small and large areas of sunscald



Photo 2. Pepper plant that appears to have good foliage and fruit cover but still has sunscald fruit



Photo 3. Leaned-over plant exposing covered peppers, resulting in several sunscald fruit



Photo 4. Staked and tied pepper plants, 4-5 plants between stakes, one string

Pod and Seed Disorders in Lima Beans -
Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

This is the time of year that we start to see pod disorders in early planted lima beans. This includes partially filled, misshapen, and yellowing pods and irregular, dimpled, or misshapen seed. These disorders are most commonly related to problems with seed development in the pod, either due to incomplete pollination or direct piercing/sucking insect damage to the seed.

Due to the high heat, we are also seeing high amounts of pod drop. In one early planted field that I looked at last week there was fair pod set. This week, virtually all pods had dropped off of

the plants. These plants are now reflowering and have the potential to produce a later set. This phenomenon also occurred last year where the consistent high heat did not allow for pod set until August, delaying harvest but still allowing for a good yield in earlier planted lima beans. What is not desired is a split set. The occurs

when there is enough heat or drought stress to abort some flowers or pods, but not all of them, and the plant then reflowers in less stressful weather. This causes both mature and immature pods on the plant at the same time, making harvest decisions difficult.

Potato Disease Advisory #18 - July 19, 2011 - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Location: Art and Keith Wicks Farm, Rt 9, Little Creek, Kent County.
Greenrow: May 3

Date	Late Blight		Early Blight	Spray Interval Recommendation
	DSV	Total DSV	Accumulated P-days*	
6/27	1	70	416	10-days
6/28	1	71	424	10-days
6/29	0	71	432	10-days
6/29-7/2	0	71	456	10-days
7/3	1	72	462	10-days
7/4	0	72	468	10-days
7/5	1	73	474	10-days
7/6	0	73	481	10-days
7/7	3	76	486	7-days
7/8	3	79	493	5-days
7/9	0	79	499	5-days
7/10	0	79	506	5-days
7/11-7/14	0	79	530	10-days
7/15-7/18	0	79	558	10-days

Continue to scout fields for symptoms of late blight. Maintain spray programs if plants are still growing.

There have been no further reports of late blight in the region.

For specific fungicide recommendations, see the 2011 Delaware Commercial Vegetable Production Recommendations Book.

Fruit Crops

Spotted Wing Drosophila Confirmed in NJ -
Joanne Whalen, Extension IPM Specialist;
jwhalen@udel.edu

In addition to Virginia, we just received a report today that the first spotted wing drosophila (SWD) were detected in blueberry fields in New Jersey during the week of July 7. Although we have not found any yet in our limited survey

(only one location), it is important that you monitor for this important pest. The following links provide information about identification, monitoring and controls.

<http://www.virginiafruit.ento.vt.edu/SWD.html>

<http://swd.hort.oregonstate.edu/>

<http://www.ipm.msu.edu/swd.htm>

Agronomic Crops

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

Alfalfa

Continue to scout fields on a weekly basis for leafhoppers. It is also time to start watching for defoliators in alfalfa, including grasshoppers, corn earworm, webworms and beet armyworm.

Field Corn

During the last week, I have received numerous questions about native brown stink bugs in field corn. The following is review of what I included in the June 23, 2011 issue regarding stink bugs in field corn:

In recent years, we have seen an increase in primarily brown stinkbug damage to developing corn ears, especially when fields are adjacent to wheat fields. Last year, we also saw damage from brown marmorated stink bug (kernel damage not distorted ears) in areas north of the canal in New Castle County. We are continuing to survey fields to evaluate the extent of the damage from all species this season. The following is a summary of information from the University of Georgia on stink bug damage in corn as well as pictures of damage.

<http://georgiagrainscrops.com/2011/05/25/stink-bug-control-in-ear-stage-corn/>

"Corn is most susceptible to stink bug injury during ear formation before tasseling stage (VT). Bugs will feed through the sheath, causing a dead spot on the ear. As the ear expands it becomes distorted and curves usually outward.

Feeding during silking and pollen shed (R1) also will kill kernels on the ear. Once the ear has elongated, stink bug feeding during the blister and milk stages blasts individual kernels, usually causing them to abort."

Although we have not developed thresholds for our area, the following thresholds are used in Georgia: 25% infested plants (1 bug per 4 plants) as a threshold during ear elongation to pollen shed and 50% infested plants (1 bug per 2 plants) during the later part of pollen shed and

blister/milk stage. We also see that initially stink bugs tend to be more prevalent on the field edge, so only a perimeter spray may be needed.

Just this week, we found our first heavy infestation of brown marmorated stink bugs on the edge of *one* corn field in New Castle County - we have not observed any yet in field corn in Kent and Sussex counties. Heavy populations were found along the field perimeter (200/100 plants) closest to woods. In the field interior, the numbers were low (3 /100 plants). This season, the feasibility of perimeter treatments in corn will be tested at several University of Maryland research farms. Also, graduate students at the Universities of Maryland and Delaware are currently investigating the distribution of BMSB in field and sweet corn fields and their impact on corn grain yield and quality, respectively. Hopefully, this research will help us in the development of sampling and treatment protocols and thresholds specifically for BMSB in corn.

Soybeans

We are starting to see an increase in the levels of bean leaf beetles in full season soybeans. In double crop soybeans, grasshoppers continue to be the predominant defoliator present at this time. Remember, at the bloom to pod fill stage in full season soybeans, the defoliation threshold drops to 10-15% defoliation. Double crop soybeans can not handle as much defoliation as full season fields at the pre-bloom or pod-fill stages. In addition to defoliation, bean leaf beetles can also feed on pods. Bean leaf beetles can clip pods or plant diseases may enter the pod through their feeding sites. This can result in seeds that appear shrunken, discolored, and moldy, causing a reduction in seed quality. Although we have not established thresholds for pod feeding in our area, the following link provides information that is used in the Midwest: (<http://www.ipm.iastate.edu/ipm/icm/2000/8-21-2000/lblroof.html>). When possible, a material with residual control should be used for bean leaf beetle control.

Economic levels of spider mites continue to be found in both irrigated and dry land fields throughout the state. It is important to continue to scout the entire field since hot spots can be found throughout fields and edge treatments

may not be effective. As a reminder, under heavy mite pressure and extended hot, dry weather, it often takes extended periods of free moisture on leaves, high humidity during the day and cool evening temperatures to get an increase in the fungal pathogens that can significantly reduce exploded mite populations. If egg populations are high at the time of application, two applications will mostly likely be needed. Be sure to read the labels for use rates and restrictions - there is a limit on the number of applications as well as the time between applications on all of the materials labeled for spider mite control. Lastly, be sure to consult your crop insurance provider regarding their rulings this year regarding the need to make an attempt to control mites under drought stress conditions.

You should also scout for stink bugs and pods worms as we enter the pod set and pod fill stages.

In New Castle County, we continue to find a few brown marmorated stink bugs (BMSB) in the mix. As a general guideline, current thresholds for stink bugs are set at 1 large nymph/adult (either native brown or native green stink bug) per row foot if using a beat sheet, or, 2.5 per 15 sweeps in narrow-row beans, or 3.5 per 15 sweeps in wide-row beans. We currently do not have any thresholds for BMSB in soybeans.

Since corn earworm trap catches are starting to increase again, open canopy blooming fields will be attractive to egg laying earworm moths. In the past, we have used a static treatment threshold of 3 corn earworms per 25 sweeps in narrow fields and 5 corn earworms per 25 sweeps in wide-row fields (20 inches or greater). These thresholds were calculated for a 10-year average soybean bushel value of \$6.28. A better approach to determining a threshold is to access the Corn Earworm Calculator (<http://www.ipm.vt.edu/cew/>), which estimates a threshold based on the actual treatment cost and bushel value you enter.

Weed Control in Double-Cropped Soybeans

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

Postemergence applications from 14 to 28 days after planting resulted in similar weed control and yield in studies conducted with the Delaware Soybean Board. Check your fields about 14 days after planting because weeds not killed with the burndown treatment will be starting to re-grow. The heat and high temps can reduce herbicide effectiveness. Treating larger weeds under high temperatures often will further reduce effectiveness as well.

Thinking of Renovating or Planting a New Pasture or Hay Field? Part 2: Planning to Planting

- Richard Taylor, *Extension Agronomist*; rtaylor@udel.edu

I wrote about preplanning process two weeks ago ([Thinking of Renovating or Planting a New Pasture or Hay Field? Part 1: The Pre-Planning Process](#)) so now it's on to the planning and planting process. One of the biggest challenges these days, especially if you have a low acreage field, is finding someone with both the right sized equipment to fit the field and a willingness to do the job for you in a timely fashion. Of course even if you're lucky enough to find the equipment and operator, cost is going to be a critical factor when making the decisions of what parts of the plan are actually doable. Another factor that's come up recently is the availability of forage seed. Many of the forage seed producers have eliminated production fields in favor of corn or soybeans which now sell for very alluring prices.

In planning the whole procedure, your time will be a valuable asset. With high prices, limited seed supply, and challenges in finding equipment and help to fertilize, lime, control weeds, and plant seeds, the time you take to shop around should pay big benefits and August is the month to do these chores because planting season is rapidly approaching.

For planting date, forage agronomists often list from mid-August through September as being the time to plant as long as soil moisture is

adequate. Soil moisture for many hay producers and grazers in the state and region really will be at critically low levels for much of August. This can extend late into September due to the drought and hot weather conditions we usually experience during July and August. With all our pre-planning and planning activities, the final decision on when to plant and even whether to plant on time will be determined by the weather conditions during August and September. You may be tempted to plant as soon as the field receives the first rainfall in the planting window but you should keep in mind that if the deeper layers of soil are deficient in moisture the new planting will likely fail if fall turns dry. Use a shovel or your soil probe to test the soil for moisture at the 6 to 12 inch depth. If the field hasn't received enough rainfall to supply this soil depth with at least some water, a new planting will be very much at risk if rain events do not continue from planting until winter dormancy takes hold. Only you know the amount of risk you are willing to take to establish the new seeding this season and none of us know what the future weather will be.

What if enough rain to supply water to the deeper soil layers doesn't fall until very late in September? Certain species, such as low alkaloid reed canary grass, require a specific amount of time between planting and first frost (six weeks minimum for reed canary grass) but almost all species will not only yield less the following year but take a lot more time to reach full establishment if planted late. Again, the hay producer or grazer must evaluate the amount of risk they are willing to take on when deciding to plant after September.

You should maintain frequent contact with your fertilizer/lime dealer, seed dealer, equipment supplier, and others who will be helping you with the process of planting the new pasture or hay field. If you will be using equipment provided through the county conservation districts, be sure to get your name on the list as early as possible since many folks may want to seed about the same time when moisture conditions become favorable.

What's the best means of seeding fields, no-till or conventional tillage (a prepared, weed-free, firm seedbed)? As with any choice, there are

advantages and disadvantages to each method. Both seeding methods allow for weed control activities before seeding but no-till is limited only to herbicide applications. Whenever deciding on an herbicide to use, read the label carefully to be sure there are no rotation restrictions of what can be seeded following the herbicide application or how many days or months must separate the application and seeding activities. Also use the label to determine if a single application will be all that is needed or whether you will need follow-up applications and if you will at what stage of growth must the new seedlings reach before the next application is applied. This latter concern is especially important for perennial and hard to kill weeds such as hemp dogbane, Canada thistle, horsenettle, and others.

No-till drills must be calibrated properly to deliver the correct amount of seed per acre as well as be set to place the seed at the correct seeding depth with adequate soil to seed contact for fast germination and emergence. Never assume that the last person to use the drill set it up properly for your seeding. When you spend a hundred or more dollars per acre just for seed, you need to be sure the seed is being planted as best as possible to ensure a successful establishment. No-till drills also place the seed in rows usually from 7 to 10 inches apart so it often is useful to cover the seeded area in two directions making a cross hatch pattern over the field to help the plants fill in the space quicker. Billion seeders that broadcast seed over a prepared seedbed and then press the seed into the soil have the advantage of achieving canopy closure much sooner than no-till seedings.

Canopy closure is when the new plants get large enough that they are able to shade the underlying soil and therefore reduce the ability of weeds to germinate and establish in the field. Fields seeded with no-till drills can take many years (if ever) to fill in, so that a full canopy exists during normal grazing activity. This is one disadvantage to the no-till drill although it is offset by the soil conservation advantage of no-till when a field has enough slope to allow significant water erosion or enough exposure to allow wind erosion problems if the weather turns dry again.

Which method is best? Since each has both advantages and disadvantages, it will depend on your situation. No-till helps conserve the soil in situations where soil can be lost; it reduces moisture loss since the soil is not disturbed; it doesn't encourage new weed growth since buried weed seeds aren't brought to the surface; it does not introduce oxygen into the soil causing the soil organic matter to be reduced via oxidation; and when done correctly it ensures rapid germination and emergence, since seeds are placed in the soil and soil is firmed around the seeds. From the negative side, no-till does not allow nutrients and lime to be worked into the soil profile; no-till does not help break up compaction issues from previous grazing or haying equipment use; and no-till seedings are often in rows that can be seen for years in some cases.

Conventional tillage does allow nutrients and lime to be incorporated in the soil; it allows tillage during the summer to help with weed control issues; it allows for the summer establishment of annual smother crops for weed control and to introduce organic matter into the soil; it allows you to rip fields to help alleviate compaction issues; and it allows seed to be broadcast to ensure rapid canopy closure. Some of the disadvantages include the loss of soil moisture during the tillage operation as well as the loss of soil organic matter during tillage. The above lists of advantages and disadvantages are not meant to be exhaustive but to point to some of the important factors you should consider when deciding on seeding method.

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

Weekly U.S. Crop Conditions Decline

USDA's weekly crop progress report released on Monday afternoon reflected a decline in U.S. corn and soybean conditions. The decline in condition ratings was not expected for this week's report, which reflected crop conditions for the week ending July 17. However, it would be surprising not to expect a further decline in crop conditions in the report to be released next Monday afternoon. If a decline in crop conditions

materializes in next Monday's report then that may well set the stage for an extended rally. The conditions report will be released on Monday afternoon just ahead of a 'turn-around' Tuesday. The dry conditions across the Corn Belt imply that we should see another leg up based upon the possibility that USDA could reduce their yield estimates in the August supply and demand report.

For more see:

<http://usda.mannlib.cornell.edu/usda/current/CropProg/CropProg-07-18-2011.pdf>

USDA Export Sales Report; Week Ending July 14

Export sales for U.S. soybeans, corn, and wheat were all down from the previous week and the four week average. Pre-report estimates for weekly export sales of soybeans ranged from 14.7 to 20.2 million bushels. The weekly report showed total old-crop and new-crop export sales of 16.3 million bushels, with old-crop sales of 9.4 million bushels bringing the yearly total to 1.545 billion bushels, above USDA's demand projection of 1.52 billion bushels. Total shipments of 5 million bushels were below the 13.8 million bushels needed this week. This report should be considered slightly bearish.

Pre-report estimates had weekly corn export sales at 35.4 to 55.1 million bushels. The weekly report showed total old-crop and new-crop export sales of 34.3 million bushels, with old-crop sales of 16.9 million bushels, above the 6.5 million bushels needed this week to stay on pace with USDA's demand projection of 1.875 billion bushels. Total shipments of 36.4 million bushels were below the 45.3 million bushels needed this week. This report should be considered slightly bearish.

Pre-report estimates for wheat ranged between 11 to 18.4 million bushels. The weekly report showed total export sales of 12.7 million bushels, below the 17.2 million bushels needed this week to stay on pace with USDA's 1.15 billion bushel demand projection. Total shipments of 17.8 million bushels were below the 21.9 million bushels needed this week. This report should be considered bearish.

Market Strategy

Before the open, new crop Dec '11 corn futures

are \$6.77; Nov '11 soybeans \$13.84; with Dec '11 SRW wheat futures at \$7.35 per bushel. It appears to be advisable to place additional sales decisions on hold for new crop corn and soybeans. There is a good possibility that the next leg up in commodity prices could occur in anticipation of reductions being made to 2011 U.S. corn and soybean production.

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

General

Insecticide Label Update: Admire Pro/Provado - *Joanne Whalen, Extension IPM Specialist*; jwhalen@udel.edu

Admire Pro - Bayer CropScience is consolidating the insecticide labels for Provado and Admire-Pro into one. The company is phasing out Provado and will only be offering Admire-Pro in the future. Here is the link to the new Admire Pro label:
<http://www.cdms.net/LDat/ld74S023.pdf>

Herbicide Carryover Concerns from Dry Weather - *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

The lack of rain this summer could impact herbicide carryover in dryland fields. Most herbicides require moisture to degrade in the soil (water needed for both microbial and chemical breakdown). In typical summers we get adequate rainfall for this breakdown to occur. Last summer was dry and we observed herbicide carryover from a summer application in fall planted small grains. Be sure to read the labels of products applied this summer and evaluate the carryover potential.

Announcements

University of Delaware Watermelon Twilight Meeting

Wednesday, August 3, 2011 5:00-7:00 p.m.
UD Carvel Research and Education Center
16483 County Seat Highway
Georgetown, DE

The University of Delaware will be hosting a watermelon twilight meeting and tour on Wednesday, August 3. Featured will be research on pollenizers for seedless production, hollow heart causes and hollow heart reduction, enhanced fruit set, growth regulators for watermelons, bacterial inoculants, bumblebees for watermelon pollination, disease management, insect control, and herbicides for under plastic and row middles. Researchers will be on hand to discuss their work and present current results. There will be a short walking tour.

Light refreshments will be provided

NE SARE Farmer Grant Workshop: Learn how to get problem-solving grants that will benefit the community as a whole

- Have you ever been frustrated by the lack of a solution to a particular problem in farming?
- Have you ever wondered about writing a grant to see if your problem-solving idea really works?
- Does the whole process of writing a grant just seem overly complicated?
- Would you like some guidance through the grant writing process?
- Do you raise animals, crops, grains, cut flowers or perhaps even bees?

This workshop is designed to guide farmers through the individual steps of writing a grant for Northeast SARE (Sustainable Agriculture, Research, and Education). The business of getting grants is competitive and learning the tools that will get you closer to receiving a grant is valuable. By attending this workshop you will learn how to answer the 7 questions required for a SARE Farmer grant.

This series of 7 workshops begins on Saturday, August 13.

All meetings will be held at the UD Paradee Center, 69 Transportation Circle, Dover, DE 19901

Registration deadline is August 5. For more information contact Dr. Brigid McCrea at (302) 857-6424 or bmccrea@desu.edu or go to <http://agdev.anr.udel.edu/weeklycropupdate/wp-content/uploads/2011/07/SAREws.pdf>

Weather Summary	
Carvel Research and Education Center Georgetown, DE	
Week of July 14 to July 20, 2011	
Readings Taken from Midnight to Midnight	
Rainfall:	
0.17 inch: July 19	
Air Temperature:	
Highs ranged from 93°F on July 19 to 80°F on July 14.	
Lows ranged from 73°F on July 19 to 56°F on July 16.	
Soil Temperature:	
82.7°F average	
Additional Delaware weather data is available at http://www.deos.udel.edu/monthly_retrieval.html and http://www.rec.udel.edu/TopLevel/Weather.htm	

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