WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 20, Issue 4 **April 13, 2012**

Vegetable Crops

Some Transplant Problems Not Caused by Pests or Diseases

–Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

Each year there are some problems that arise with vegetable transplants. Often they are disease or insect related (damping off, thrips, viruses, bacterial diseases, etc). See past WCU articles for specifics on greenhouse pest issues on transplants. However, often transplant problems are not pest related, but are due to other causes.

Poor growth, yellow plants, or stunted plants are often due to issues with the greenhouse media. Greenhouse media manufacturers have good quality control measures in place but things can go wrong on occasion – inadequate mixing, critical components missing or in the wrong proportions (i.e. wetting agents, fertilizers, lime), or defective, poor quality components. Media can also be affected by poor storage and handling. Most commonly this occurs when it is stored outside and bales or bags get wet. In addition, media has a certain shelf life – old media often dries out and is hard to get rewetted.

When growers start filling trays, any media that does not handle well should be viewed as suspect and should not be used. Contact your supplier and have them inspect and run tests on the suspect media. Avoid using overly dry or caked media, media that is hard to loosen, media with a bad smell, water logged media or media that is hard to wet.

Most media (but not all) will come with a starter lime and fertilizer charge. The fertilizer is designed to give about 4 week of nutrients. If the fertilizer is missing or improperly mixed or in the wrong proportion, seeds will germinate but seedlings will not grow much and will remain stunted. In this case, liquid fertilizer applications will need to start early.

Peat based media are acidic in nature and we generally can grow at lower pHs than soil. Plants will perform well from 5.4 to 6.4. Lime is added to peat based media and reacts over time after first wetting so pH will rise over time. Above 6.4 we often see iron deficiencies in transplants. This also occurs if irrigation water is alkaline (has high carbonates) causing pH to rise too high over time.

In high pH situations, to get transplant growth back to normal, use an acidifying fertilizer (high ammonium content) for liquid feeds. Use of iron products, such as chelated iron, as a foliar application on transplants can help them to green up prior to the pH drop with the acid fertilizer. In severe cases with very high media pH, use of iron sulfate solutions may be needed to more rapidly drop the pH. Acid additions to greenhouse irrigation water may also be considered for where water is alkaline.

If lime is missing or inadequate, and pH is below 5.2, plants may have magnesium deficiencies or may have iron or manganese toxicities. This also

occurs in media that has been saturated for long periods of time. To correct this situation apply a liquid lime solution to the media and water it in well.

A good publication on media pH management can be found at: http://www.greenhouse.cornell.edu/crops/factsheets/pHGreenhouseCrops.pdf

Media that does not wet properly may not have enough wetting agent or the wetting agent may have deteriorated. They will be difficult to water and will not hold water well thus stressing plants. Application of additional greenhouse grade wetting agent may be needed.

If the fertilizer charge is too high, or if too high of concentration of liquid fertilizer feed is used, or if incorporated slow release fertilizer "dumps" nutrients, high salt concentrations can build up and stunt or damage plants. Leaf edge burn, "plant burn", or plant desiccation will be the symptoms. Test the media for electrical conductivity (EC) to see if salt levels are high. The acceptable EC will depend on the type of test used (saturated paste, pour through, 1:1, 1:2) so the interpretation from the lab will be important. If salts are high, then leaching the media with water will be required.

Poor transplant growth or transplant injury can also be caused by:

- Heater exhaust in the house caused by cracked heat exchanger, inadequate venting, use of non-vented heaters

- Phytotoxicity from applied pesticides

- Use of paints, solvents, wood treatments, or other volatiles inside the greenhouse

- Use of herbicides in the greenhouse or near greenhouse vents

- Low temperatures due to inadequate heater capacity or heater malfunction or excessively high temperatures due to inadequate exhaust fan capacity or fan malfunction

Construction and Management Considerations Important For High Tunnel Success

– *Gordon Johnson, Extension Vegetable & Fruit Specialist;* gcjohn@udel.edu

There have been many high tunnels that have gone up recently on vegetable farms, partly due to available cost share programs.

High tunnels require proper set up and then daily management for crops to perform well in them.

Considerations include:

Site selection: A tunnel site should have good soil, flat but with drainage away from the interior (for rainwater off of the cover), with no shading from trees. Protection from heavy winds can be valuable but ventilation (air cross flow when side curtains are open) should not be significantly impeded.

Soil management: Because it is a small area to be used intensively and is usually set in place and not moved, consideration should be given to improving soils and correcting soil problems prior to erecting the tunnel such as adding compost to increase organic matter and improve soil health.

Cover selection and cover management: Single or multiyear covers, thickness, single or double sheets, tightness, and strapping for minizing wind effects are all considerations. Shade covers for summer production should also be considered.

Side curtain design and operation: This is one of the most critical parts of the high tunnel. Side curtains should be designed for ease of opening and closing and the ability to partially open. They will be opened and closed daily or even several times a day so ease of operation is critical.

End walls and door design and management: If compact tractors are to be used to establish beds than end doors must be designed to allow access. End doors are also a part of the ventilation and should be designed as such for easy opening and closing and partial opening and closing

Ventilation management: Ventilation management is a critical part of high tunnels. Venting is necessary to manage temperatures and allow for removal of excess heat, reduction of humidity in houses, and for wind movement for crops like tomatoes that require wind for pollen movement and fruit set. Side curtains and end walls need to be opened at the correct times and closed prior to temperature drops to accumulate heat for the night. Prevailing winds need to be considered.

Heat accumulation and managing for freezes: This includes decisions on when to keep houses tight and accumulate the maximum heat during the day, when to close curtains, the use of row covers in the tunnel for freeze protection the use of heat sinks to store and release heat, and other heat accumulation and freeze protection techniques. This needs to be tailored to the specific crops being grown

Beds and walkways: Bed formation, bed management, and walkway management should all be set up to maximize root performance, minimize compaction and facilitate maintenance and harvest. Use of permanent beds or box beds, raised beds, flat ground production all are options. One key is to maintain the same walkway areas each year to limit compaction to dedicated areas.

Mulching, ground cover, and weed management: Choice of plastic mulch, landscape fabric, or natural mulches will affect earliness and weed control.

Irrigation choice and management: Drip irrigation, microsprinklers, and hand watering are all options. The key is to take advantage of the ability to control water without the effects of heavy rainfall. This should be tailored for the different crops – drip irrigation for tomatoes, microsprinklers for greens beds, and hand watering for baby greens for example.

Disease management: While most foliar diseases are reduced in high tunnels, there can be a build-up of soilborne diseases if rotations are limited.

Insect and mite management: Tunnels often see an increase in mite problems and different insect profiles than outdoor production.

Crop choice, rotation and seasonality: Almost anything can be grown in a tunnel, including vegetables, cut flowers, small fruits, and even dwarf tree fruits. The key is to match your production and markets with what is most profitable for the limited tunnel area. What will make the most money per square foot per month? Also consider rotations to avoid disease buildup.

Preventing Spread of Bacterial Fruit Blotch in Watermelon Transplants

– *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland*; keverts@umd.edu

Now that transplant production is in full swing, it is timely to review what we do and don't know, about bacterial fruit blotch (BFB) of watermelon. BFB of watermelon is caused by the bacterium *Acidovorax avenae* subsp. *citrulli*. Warm, humid conditions in greenhouse transplant houses are highly favorable for the spread of disease and the development of BFB symptoms. Although the disease spreads quickly in the transplant houses, it often is not noticeable in the field until shortly before harvest. There, BFB is damaging because it causes large olive green to brown water-soaked lesions on fruit, making them unmarketable.

Symptoms of BFB on seedlings are water-soaked areas of the lower surface of the cotyledons and inconspicuous lesions on leaves. In the image below, the leaves were incubated and the lesions have progressed along the veins and are obvious. BFB lesions will become necrotic often with yellow halos. Lesions are frequently delimited by veins. Infected seedlings collapse and die. The pathogen also causes disease on muskmelon or cantaloupe, honeydew, and on squash and pumpkin.

There are many steps that can lower the risk of development and spread of BFB on watermelon in the transplant house. All seed in a commercial greenhouse should have been tested and found to have "no evidence" of the pathogen. Don't

grow experimental lots that were not tested in a commercial house. Remember too, that testing, and "no evidence" does not guarantee that BFB will not develop, it is one of many steps to reduce the risk of disease. Inspect seedlings beginning at cotyledon expansion and at frequent intervals afterward. If BFB is suspected, send plants to the University of Maryland or University of Delaware diagnostic lab, or the Lower Eastern Shore Research and Education Center, for identification. Destroy all trays with symptomatic plants and those within a five foot radius. Remove adjoining trays to a separate – isolated - area for observation. Monitor these isolated seedlings daily and destroy trays where symptoms develop. All plants in the greenhouse should be sprayed with copper such as Kocide or Nordox. The applications should continue until the plants are shipped or transplanted to the field.

All the greenhouse surfaces should be sterilized prior to the production cycle. A solution of one part of bleach to nine parts of water, or Greenshield or Physan can be used on implements or benches. Don't reuse trays.

Additional good practices for greenhouse transplant producers are:

- Workers should wash their hands and use a shoe bath when entering the greenhouse to work.

- Minimize the number of people that enter the greenhouse.

- Eliminate all weeds in and around the house.

- Maintain low humidity in the greenhouse.

- Water plants at their base and avoid splash between plants.

- Keep greenhouse flaps closed if it is windy.

- Segregate seedlots and separate them from each other with a vertical plastic sheet to avoid spread by splash or in aerosols.

Bacterial fruit blotch symptoms after incubation. Note the range of symptoms from small lesions on the true leaves to advanced lesions on the cotyledons.

Agronomic Crops

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

Alfalfa

Continue to scout fields for both alfalfa weevil and pea aphids. Under the current dry weather conditions, you may need to reduce the following thresholds for each insect pest, especially when both insects are present in a field. As a general guideline, you should consider a treatment in alfalfa less than 10 inches tall if you find 40-50 aphids per stem. The treatment threshold for alfalfa 10 inches or taller in height is 75-100 per stem. Although beneficial insects can help to crash aphid populations, the cooler temperatures have slowed their activity. As a general rule, you need one beneficial insect per every 50-100 aphids to help crash populations. For alfalfa weevil, the following thresholds, based on the height of the alfalfa, should be used as a guideline when making a treatment decision: up to 11 inches tall - 0.7 per stem; 12 inches tall - 1.0 per stem; 13 to 15 inches tall - 1.5 per stem; 16 inches tall - 2.0 per stem; and 17 to 18 inches tall - 2.5 per stem.

Field Corn

As soon plants emerge, be sure to check all fields for cutworm feeding, even if an at-planting insecticide or a Bt corn was used for cutworm control. In Delaware, a number of

cutworm species may be present at planting, including claybacked cutworm, dingy cutworm and black cutworm. The dingy and claybacked species overwinter as half-grown larvae in the soil so they can get a "jump" on black cutworms in terms of feeding damage. In Delaware, black cutworm populations result from local populations overwintering as a pupae or mature larvae as well as moths migrating to the area typically in early March. Factors that favor black cutworm outbreaks include late planting, heavy infestations of winter annual weeds before tillage and planting, reduced tillage, and corn grown after soybean. Fields with a combination of these factors are more attractive to black cutworm moths and are likely candidates for egg laying. Young larvae will feed on plants, resulting in small, irregular shaped holes. They generally begin cutting plants at the fourth instar. Regardless of species, as a general guideline, a treatment should considered in 1-2 leaf stage corn if you can find plants with 10% leaf feeding (please follow this link for a picture of leaf feeding -- http://bulletin.ipm.illinois.edu/article.php?id=1134) or 3% cut plants.

Small Grains

Aphids and cereal leaf beetles can still be found in fields throughout the state. As indicated last week, be sure to watch for aphids moving into grain heads. The most significant damage occurs when large numbers of aphids feed on the grain head causing shriveled or blasted heads. During heading, check 50 to 100 heads throughout a field. At grain head emergence, a treatment may be necessary once populations exceed 20-25 per head. With the current dry weather conditions, you may want to reduce this threshold by one third to one-half. In general, cereal leaf beetle populations remain low throughout the state, with a few fields having hot spots of economic levels.

Once grain heads have emerged, you should also begin sampling small grains for grass sawfly and armyworm larvae. Although we see economic damage from local overwintering armyworm populations, we often see significant outbreaks in years when high levels of moths coming from the south migrate to our area. You can look at the following link from Kentucky that compares their moth flights this year to 2006 & 2008 – which they consider outbreak years. (http://www.uky.edu/Ag/IPMPrinceton/counts/taw/tawgraph.htm). Their first catches of the season where earlier and higher; however, only time will tell if this trend will continue. They are also showing up in wheat fields earlier in the south, so be sure you scout field as soon as heads emerge.

Remember, armyworm larvae are nocturnal so look for larvae at the base of the plants during the day. As a general guideline, a treatment should be considered if you find one armyworm per foot of row for barley and 1-2 per foot of row for wheat. Although armyworms initially feed in the lower canopy on the leaves, under drought conditions we could see them quickly moving up the plant and more quickly clipping the stem just below the heads. Heavy defoliation of the flag leaf can also result in economic loss. In addition, significant stem/head clipping can occur in barley in a short period of time.

As of early this week, we have not found any sawfly larvae in our limited surveys. Since sawflies feed on the plants during the day, small sawfly larvae can often be detected early using a sweep net. *However, there is no threshold for sweep net samples.* Once sawfly larvae are detected, sample for larvae in 5 foot of row inner space in 5-10 locations in a field to make a treatment decision. You will need to shake the plants to dislodge sawfly larvae that feed on the plants during the day. As a guideline, a treatment should be applied when you find 2 larvae per 5 foot of row inner space or 0.4 larvae per foot of row.

If armyworms and sawflies are present in the same field, the threshold for each should be reduced by one-half. The higher rates of labeled insecticides are needed for grass sawfly control. (http://ag.udel.edu/extension/IPM/ExtensionFactSheets/SawflyandArmywormIPM-6.pdf)

Timothy

Cereal rust mites remain active in fields that have not been treated, so if you have not checked fields for this pest, be sure to sample all fields. Symptoms can appear as retarded growth, leaf curling, stunting, and plant discoloration. Injured plants appear to be

drought stressed even when adequate moisture is available for plant growth. There are no established economic thresholds for the pest; however, treatment is recommended in fields with a previous history of cereal rust mites and/or when 25% of the plant tillers exhibit curled tips of the new leaf blades within several weeks following green-up. The use of a 20x-magnifying lens is often necessary to find mites on leaves. The only effective and labeled material on timothy is Sevin XLR Plus. Be sure to read the label for information on the number of applications per season as well as the days to harvest. For effective rust mite control, the use of the higher labeled rate and at least 25 gal/acre of carrier to get good coverage of leaf surfaces generally results in better control.

Dry Spring and Small Grain Irrigation - *Richard Taylor, Extension Agronomist;* rtaylor@udel.edu

Available soil moisture is becoming a critical issue in small grain fields across the entire state. For producers fortunate enough to have the means to irrigate small grain fields, now is the time to replenish the top and subsoil moisture supply, especially for winter wheat. Barley is much further along developmentally (most has already headed out) and matures earlier in the year than does winter wheat. Although I might hesitate to spend the money to irrigate barley that is already past flowering, I would not hesitate to irrigate wheat, which, for the most part, has not reached the heading stage as yet. In some irrigation work we did on wheat a number of years ago, we found that irrigation after head emergence tended to decrease yield potential, although only by a small amount and this decrease may have been related to disease pressure encouraged by higher humidity conditions created when irrigating. My preference for small grain irrigation is to apply enough water before heading to build the topsoil and subsoil moisture levels back to near field capacity. This should provide the water the crop needs to mature since wheat and barley are excellent at using available soil moisture.

As a side benefit, irrigation can help with emergence in the crop following the small grain crop. Without adequate early irrigation, it can prove difficult to rewet the soil, and especially recharge the deeper layers of soil, with enough moisture to adequately support the second crop if the dry weather continues.

Small Grain Disease Update - *Bob Mulrooney, Extension Plant Pathologist*; bobmul@udel.edu

The dry weather and low humidity has been very unfavorable for diseases at the present time. There are still some fields of barley with powdery mildew and leaf rust. If they needed treatments they should have been treated by now. Wheat is looking a bit better in that powdery mildew levels are low and except for some barley yellow dwarf mosaic virus in some areas the crop looks good. Rainfall is desperately needed. The risk for Fusarium head blight or scab is low at the present time. To keep track of the threat of scab be sure to check the website http://www.wheatscab.psu.edu/.

Update on Acetochlor Restrictions – *Mark VanGessel, Extension Weed Specialist*; mjv@udel.edu

Last week I wrote about the acetochlor restrictions. I was not aware that these restrictions had been modified and only pertain to applications within 50 feet of a well. The following **restrictions do not apply for areas more than 50 feet from a well**.

Within 50 feet of a well, do not apply acetochlor if the groundwater depth is within 30 feet of the surface **and** you have sands with less than 3% organic matter, loamy sands with less than 2% organic matter, or sandy loam with less than 1% organic matter.

Sorry about any confusion.

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

USDA's April 10 Supply Demand Report Highlights

U.S. corn stocks were unchanged while U.S. soybean and wheat stocks were reduced from last month's estimates. World corn, soybean and wheat stocks were also reduced.

US Supply/Demand Summary

	Million Bushels								
	Corn			Soybeans			Wheat		
Crop Year	10-11	11-12	11-12	10-11	11-12	11-12	10-11	11-12	11-12
Report Date	04/10	03/09	04/10	04/10	03/09	04/10	04/10	03/09	04/10
Carryin	1,708	1,128	1,128	151	215	215	976	862	862
Production	12,447	12,358	12,358	3,329	3,056	3,056	2,207	1,999	1,999
Imports	28	20	20	14	15	15	97	120	120
Total Supply	14,182	13,506	13,506	3,495	3,286	3,286	3,279	2,982	2,982
Feed	4,793	4,600	4,600				132	145	180
Crush/Mill*	1,377	1,375	1,375	1,648	1,615	1,630	926	930	930
Ethanol Prod.	5,021	5,000	5,000						
Seed/Other	30	30	30	130	121	116	71	82	79
Exports	1,835	1,700	1,700	1,501	1,275	1,290	1,289	1,000	1,000
Total Use	13,055	12,705	12,705	3,280	3,011	3,036	2,417	2,157	2,189
Carryout	1,128	801	801	215	275	250	862	825	793
Stocks/Use Rate	8.6%	6.3%	6.3%	6.6%	9.1%	8.2%	35.7%	38.2%	36.2%
Avg Price	$5.18	$6.20	$6.20	$11.30	$12.00	$12.25	$5.70	$7.30	$7.30

*Excludes corn for ethanol

World Supply/Demand Summary

	Million Metric Tons								
	Corn			Soybeans			Wheat		
Crop Year	10-11	11-12	11-12	10-11	11-12	11-12	10-11	11-12	11-12
Report Date	04/10	03/09	04/10	04/10	03/09	04/10	04/10	03/09	04/10
Carryin	144.11	129.07	125.02	59.99	68.76	69.12	202.5	199.49	198.72
Production	828.97	864.96	864.97	264.22	245.07	240.15	651.05	694.02	694.32
Total Supply	973.08	994.03	989.99	324.21	313.83	309.27	853.55	893.51	893.04
Feed	499.48	512.23	509.03				115.86	131.06	137.89
Crush				220.63	224.81	223.3			
Other	348.58	357.26	358.26	30.56	30.09	29.9	538.98	552.87	548.87
Total Use	848.06	869.49	867.29	251.19	254.9	253.2	654.84	683.93	686.76
End Carryout	125.02	124.53	122.71	69.12	57.3	55.52	198.72	209.58	206.27
Stocks/Use Rate	14.7%	14.3%	14.1%	27.5%	22.5%	21.9%	30.3%	30.6%	30.0%

U.S. Highlights

• U.S. corn supply and demand projections for the '11/'12 marketing year were unchanged from last month leaving ending stocks at 801 million bushels and the stocks-to-use ratio at 6.3%.

• Ending stocks estimates for U.S. soybeans were reduced by 25 million bushels due to a 15 million bushel increase in use for crushing, a 15 million bushel increase in projected exports, a 1 million bushel decrease in seed use, and a 4 million bushel decrease in the residual use category.

• The projected increase in domestic soybean demand resulted in the stocks-to-use ratio for U.S. soybeans to be lowered from 9.1 % last month to 8.2 % in April.

• U.S. wheat ending stocks were reduced 32 million bushels due to a 3 million bushel decrease in seed use, and a 35 million bushel increase in the demand for feed use resulting in the stocks-to-use ratio being lowered from 38.2 % to 36.2 %.

World Highlights

• World corn ending stocks were reduced 1.8 MMT from last month's estimate due to a revision in China's feed demand for the '10/'11 marketing year.

• World soybean ending stocks were reduced from 57.30 to 55.52 MMT resulting in a world stocks-to-use ratio of 21.9 %.

• World wheat ending stocks were reduced to 206.27 MMT from last month's estimate of 209.58 MMT resulting in the stocks-to-use ratio being lowered to 30.0 % as compared to 30.6 % a month ago.

• Combined Brazilian and Argentine soybean production was reduced 4 MMT from last month, now projected at a combined total of 111 MMT.

• Combined Brazilian and Argentine corn production was reduced by .5 MMT from last month's USDA projection now estimated at 83.5 MMT.

Market Strategy

Although this report can be viewed as overall price positive, most of the revisions did not amount to much and to some degree fell short of expectations. U.S. corn planting is now officially underway.

As of Sunday, April 8 USDA's weekly crop progress report estimated U.S. corn planting to be seven percent complete, compared to three percent last week and the five year average of 2 percent. Trader reaction to the report suggests that outside market forces are weighing more heavily on today's trade than the report. In day trade, Dec '12 corn futures closed at $5.44 (down 6 cents per bushel); Nov '12 soybeans at $13.67 (down 15); and July '12 SRW wheat at $6.33 per bushel (down 15 on the day). The Dow is currently down 200 points. Old crop corn futures are inverted from the May to the July contract. These markets are likely to remain volatile in the near term. Trader attention will continue to focus on planting progress and new crop development. More information concerning crop development will be needed before advancing new crop sales.

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

Announcements

Season Extension Workshop & Tour

Friday, April 20, 2012 1:00-4:00 p.m.
Delaware State University
Outreach & Research Center
Smyrna-Leipsic Road, Smyrna, DE

This workshop for farmers and Ag service providers is presented by DSU Cooperative Extension.

Speakers

Penn State University Professor of Vegetable Crops, Bill Lamont, is a renowned expert in plasticulture and high tunnels. He will teach participants how to prepare their tunnels for the growing season including choosing the right locations, soil preparations, and even trellising options.

DSU's Dr. Rose Ogutu will share her experience of last season's high tunnel vegetable production, including growing organically and extending the season.

DSU's Mike Wasylkowski will show off some of his successes using various season extension technologies including transplants, row covers, and more.

Topics Include:
- Soil Preparations
- High Tunnel Options
- Tunnel Tomatoes
- Trellising Choices
- Greens and Other Veggies
- Vegetable Transplants
- Long-Storage Products
- Staggered Plantings
- Farmer Perspective

Participants can make hands-on comparisons of materials and techniques while touring the farm!

To register for the free workshop or for more information, call Jason Challandes at 302-388-2241 or by emailing jchallandes@desu.edu.

RSVP by Friday April 13, 2012

2012 Wye REC Strawberry Twilight

Wednesday, May 9, 2012 6:00-8:00 p.m.
Wye Research and Education Center
Farm Operations Complex, 211 Farm Lane,
Queenstown, MD.
(Directional signs will be posted.)

You'll hear University of Maryland and USDA small fruit experts discuss the current season's challenges and the impact that the new fruit pest may have on the industry.

You'll see: USDA Moveable High Tunnel plots with plasticulture strawberry production; University of MD Strawberry High Tunnel plots with table top production demonstration and bio-fumigation trial; and Outdoor Plasticulture Fertility Trial plots with Chandler strawberries.

Refreshments will be served.

The meeting will be held rain or shine. Pre-registration is not necessary. For additional program information, contact Mike Newell, mnewell@umd.edu, (410) 827-7388. If you need special assistance to attend this program, please contact Debby Dant ddant@umd.edu, (410) 827-8056, no later than May 2, 2012.

Commercial Vegetable Production Recommendation Books Available

The 2012 Commercial Vegetable Production Recommendations are available online at http://ag.udel.edu/extension/vegprogram/publications.htm#vegrecs.

Printed copies of the books are available at all three of the county Extension offices courtesy of the Fruit & Vegetable Growers Association of Delaware. Books may be purchased for $10 for FVGAD members and $20 for non-members.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of April 5 to April 11, 2012

Readings Taken from Midnight to Midnight

Rainfall:

0.01 inch: April 9
0.01 inch: April 10

Air Temperature:

Highs ranged from 69°F on April 8 to 52°F on April 11.

Lows ranged from 48°F on April 9 to 29°F on April 8.

Soil Temperature:

54.1°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

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