This is the Last Issue of Weekly Crop Update for the 2002 Season - Tracy Wootten, Extension Associate - Vegetable Crops, wootten@udel.edu

I hope that the information that you received this season has been helpful and relevant. This newsletter would not be possible if we did not have the dedication of many people who put the information together for the newsletter each week. As editor, I would like to express my sincere thanks to those individuals that contribute.

Please take a few moments to fill out the enclosed survey and return in the self addressed, stamped envelope. Internet readers, please us the online survey. Your information will be kept confidential. We welcome your comments and suggestions for improvements for Weekly Crop Update.

Best Wishes for a safe and prosperous harvest season. I look forward to interacting with many of you during the winter meetings.

Regards,
Tracy Wootten

Vegetables

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

Fall Planted Vegetables.
You will need to scout all late-planted fields and potentially treat for "worms" until the first killing frost. Earworm moths can be readily found laying eggs in late-planted lima bean and snap bean fields. In addition, economic levels of larvae are still being detected. High levels of beet armyworm and webworms along with a number of other defoliators can easily be found in spinach. Although we generally get away with 2 insecticide applications for worm control in spinach, 3-4 sprays may be needed if temperatures remain moderate. We have seen a few parasitized worms, but not enough to crash populations.

Field Crops

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

Small Grains.
Since there has been a significant amount of barley already planted this season be sure to scout for insects soon after emergence. At plant emergence, be sure to watch for fall armyworm
and true armyworm that can completely destroy fields. Moths are still active and laying eggs. From plant emergence until 60 days after emergence, be sure to also sample small grains for aphids. The earliest planted field will be the most susceptible to attack. Normal summer temperatures with adequate rainfall favor aphid outbreaks; however, dry and warm fall weather conditions could also trigger an outbreak. Although all aphids can transmit barley yellow dwarf virus, you will want to watch carefully for greenbug aphids, which cause direct damage to wheat and barley. This aphid species injects a toxin into plants, resulting in stunting and plant death. Injury appears as yellowish spots or patches on the leaves. In some cases, discolored areas appear reddish or brown. The entire leaf or plant turns yellow as populations increase.

Generally plants are damaged only if significant feeding occurs before tillering. Populations have been higher the last two seasons, so be on the look out for this aphid. They are fairly easy to distinguish from other aphids: a green to yellow green aphid with a dark green stripe down the middle of its back. Gaucho or Cruiser treated seed work very well to control this aphid. If you choose to scout, be sure you plan to begin sampling your fields at emergence. Although we do not have any thresholds developed in our area, thresholds from Arkansas say a treatment will be needed in the fall if you find 10 aphids per foot of row. This aphid is a very difficult one to control. The Warrior label says 3.84 oz/acre are needed and the Mustang label states only aids in control. Remember that these pyrethroids are only labeled on wheat. The other materials labeled on wheat and barley include Lannate, malathion and Penncap. Dimethoate is only labeled on wheat.

**Soybeans.**
I have been in a number of double crop fields this past week where green cloverworm and grasshoppers continue to cause defoliation. In most cases, feeding is found on the top part of the plants. At this time, it appears that green cloverworm populations are starting to decline and in most cases there is enough leaf material to fill the pods present on plants. Once pod-fill is complete, the defoliation threshold increases to 35%.

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

**Commodities Head South on Fund Activity**
New crop '02 corn and soybean futures have taken an unexpected turn to the downside this past week, and there may be no other way to describe the market activity experienced other than 'ugly'. Typically, commodity markets in short crop years have historically paid a premium during the harvest period and worked lower into the storage months, thereby making early harvest sales the most profitable marketing decision that one could make. This year, since the beginning of harvest, we have seen these prices drop dramatically, by at least 30 cents per bushel for Dec. corn and 20 cents per bushel for Nov. soybeans. Dec. corn prices, from an historical perspective, have the opportunity to regain 20 to 30 cents per bushel.

However, this market begs the question, as the '02 wheat market did at harvest, "Does the historical perspective on commodity prices have much meaning this year?" On the agricultural side of the equation, an interesting theory is that U.S. agriculture is in a transition, moving from the old Farm Bill to the new one. Commodity traders are in the process of deciphering the impact that the new Farm Bill will have on farmer's planting decisions. Overall, the U.S. economy and other pending issues involving many nations are also creating much uncertainty and impeding these markets.

**Market Strategy**
The question of whether individual sales should be advanced further during the '02 harvest depends greatly upon the basis level being offered on the individual sale. Strong basis levels should be rewarded with cash sales. To a lesser extent, it
somewhat depends on taking a look at the cost of carry in the market, although this is likely to be viewed as not too reliable at this time. The bottom line is that Dec. '02 corn futures have a chance of improving 20 to 30 cents per bushel. Nov. '02 soybeans have a chance of improving 20 cents per bushel. Harvest yield reports from across the U.S. and the October crop report will determine the extent of any price improvement bid at harvest into corn and soybean prices.

Small Grain Planting Tips - Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu

Although a lot of small grain has already been planted due to the early corn harvest, I thought it still might be useful to review a few tips for improving small grain production and profitability. One general fact to consider is that the dry weather this summer may have increased the risk of herbicide carryover in certain fields. Be sure before planting a small grain crop this fall to evaluate the potential for herbicide carryover. Did you apply a herbicide such as atrazine that has certain rotation restrictions? Was the field irrigated or did it receive the required amount of rainfall early enough to prevent herbicide carryover. Is your planned crop sensitive to the herbicide used last spring or early this summer in the case of double-crop fields?

Tips on barley production:

- In a four year study, yields for barley were maximized by planting during the first ten days of October, declined by 15 percent by mid-Oct., declined another 10 percent by late-Oct., and declined another 30 percent by mid-Nov.
- Barley yields increased minimally after the 2 bu/A seeding rate so seed from 2 to 2.5 bu/A to minimize costs and maximize profits.
- Try to obtain a uniform seeding depth of 1 to 1.5 inches deep.

- Seed treatments can help ensure stands and protect against early season soil-borne fungus diseases and other problems.
- Avoid excessive nitrogen rates on barley since this encourages lodging and interferes with grain fill and reduces grain quality.
- Choose the best cultivar possible by consulting the variety trial information available from the University of Delaware as well as Maryland and Virginia.
- Fall application of about 15 to 20 lbs N/A will help encourage tillering and strong plant development.
- Avoid very early planting and excessive fall nitrogen that can lead to excessive fall foliage growth. Excessive foliage growth is often associated with significant winter burn during cold, open winters.

Tips on wheat production:

- Wheat should be planted as soon after the Hessian Fly-Free date as possible for your area. Wheat planted throughout October does maintain a good yield potential since the yield does not decline nearly as dramatically as for barley.
- Seed wheat at 1.2 to 1.6 million seed per acre (17 to 23 seed per foot of row on 7.5 inch row spacing). Very high seeding rates (>30 seed per foot of row) offer little chance of increased yield potential and will reduce your profitability.
- Apply 20 to 30 lb N/A in the fall to stimulate top growth and tiller development. This will not only protect the soil from erosion, but increase the volume of soil that the root system can draw on for nutrition and water. On sandy soils consider adding ammonium sulfate as a sulfur source since sulfur easily leaches to deeper soil layers.
- Again, use seed treatments, especially fungicides to protect against seed and soil-borne fungi. This will be especially important for cultivars that are not rated highly resistant to powdery mildew and other fungal pathogens, or that are suffering a decline in their resistance due to changes in the fungi’s ability to overcome the plant's defense mechanism.
? Choose the best cultivar for your area. Refer to University and company variety trials for information comparing varieties in a number of locations.

? Plant wheat about 1 to 1.5 inches deep. Avoid shallower planting since seedlings will be vulnerable to soil desiccation and winter heaving.

? Choose a realistic yield goal when setting N rates and avoid excessively high N rates since these often lead to disease and lodging problems and only marginal yield increase, but can significantly reduce your profitability.

? Scout fields for aphids and other potential pests so you’ll have adequate time to consider control measures if they are needed.

Tips on rye production:

? The seeding rate for rye is 90 to 120 lb/A.

? Rye can be planted anytime after the Hessian Fly-free date until quite late in the fall, although the soil protection benefits from rye will be best from an early October planting.

? Seed rye at from 1 to 1.5 inches deep.

? Apply 10 to 20 lbs N/A in the fall to stimulate growth and improve soil protection potential.

? If grown for gain, the lower yield potential of rye allows N rates to be reduced by 30 lbs N/A or more as compared to that for wheat.

Dr. Anderson, Extension Forage Specialist at the University of Nebraska, suggests a means of harvesting the best portions of the corn stalks while leaving some organic residue to be recycled in the soil. He suggests removing the chopper from behind the combine and let all the husks, leaves, escaped grain, and other tailings fall directly behind the combine. Then round bale, square bale, or stack this strip of residue, but leave everything else behind. By gathering the most desirable plant parts from a number of rows (depending on your combine width) and concentrating them into just two rows, a high quality winter feed can be gathered and still allow protection of the soil and organic input into the soil.

Dr. Anderson suggests that these bales may have from 50 to 60 percent digestible nutrients (TDN) and although they would be low in protein, a protein supplement addition would make them quite nutritious for beef cows or dry cows. He states that as much as one to two tons per acre might be available from irrigated corn fields.

Corn growers will have the potential to make a little extra money from their crop while still protecting the soil and providing at least some crop residue for recycling. Livestock producers will be able to obtain extra feed at a cost less than that for hay. Before feeding, the bales should be sampled and tested for protein, energy (TDN), and nitrate levels so that proper rations can be formulated.

My thanks to Dr. Bruce Anderson and his article entitled “Baling cornstalks for cattle while maintaining crop residue” that was in the September 20, 2002, issue of Crop Watch News Service published by the University of Nebraska Institute of Agriculture and Natural Resources Cooperative Extension.

Feed Shortage Potential Offers Opportunities -
Richard W. Taylor, Extension Agronomist,
rtaylor@udel.edu

The drought this year has affected the amount of stored feed available to feed animals. Even though supplies are still available now, there is the possibility that feed shortages will occur next year before pasturage again becomes available. For corn producers, this could offer an opportunity to market more than just their grain. Although as an agronomist, I often feel we do not do enough to return organic matter back to the soil, Dr. Bruce
Minimize Fall Tillage to Conserve Soil Moisture - Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu

Even though many areas of the state have received significant rainfall during the past few weeks, soils in many fields appear to have limited water available in both the top and sub soil fractions. Unless we continue to receive timely rains throughout the fall, it will be beneficial to fall small grains and cover crops to minimize the amount of fall tillage. Minimizing tillage will help conserve the limited amount of crop residue generated during the past drought affected growing season. Except for irrigated fields, crop residue amounts remaining in the field this year are significantly less than those remaining after a more typical growing season. Crop residues not only protect the soil from loss through wind and water erosion, but help increase the amount of rainfall that infiltrates the soil. Tillage operations generally dry the soil with the amount of water loss related to the amount of tillage and the depth of tillage. Tillage also can increase the erosion (wind and rain) potential, crusting potential, and the amount of runoff. Whenever possible in your fall planting operations, consider using either no-till or reduced tillage techniques to conserve soil moisture and improve water infiltration rates.

Timing Irrigation Cutoff for Soybeans - Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu

Many full-season soybean fields are showing the initial yellowing and leaf drop that occurs prior to physiological maturity. Soybeans, depending on plant size and available leaf area, can use up to about 2 acre-inches of water during the interval from the initial onset of leaf yellowing to physiological maturity. Usually, we figure the water holding capacity in the upper 3 feet of soil even for soybeans, but with the drought this year rooting depth is probably less than normal. I would estimate that on sand soil there is about 1 inch of plant available water in the top two feet of soil when the soil is at field capacity. 1.5 available inches on a loamy sand, 2.5 available inches of water on a sandy loam soil, 4 inches on a loam, and almost 6 inches on a silt loam.

With a recent irrigation and with what we expect from tropical storm Isidore, most soybean fields will end this week at or near field capacity. On all but sands and loamy sands if your soybeans have begun to show the leaf yellowing that precedes leaf drop and physiological maturity, you should cease irrigation now since residual soil moisture should be adequate to carry the beans up to maturity. The shorter day lengths, the cooler temperatures, and lack of crop leaf area for transpiration limit the speed at which the soil dries out. Allowing some soil drying by the crop during the later stages of seed fill will assist in crop drydown and harvest activities.

On the sandier soils, you should be able to calculate an estimated time to stop irrigation using the available water and crop water use figures above. Remember that when available water falls below about 50 percent, we would normally recommend application of some water since water stress can begin to impact yields below the 50 percent available figure.

Combine, Harvest Adjustments Can Help Salvage Droughty Yields - Bill Campbell, Extension Agricultural Systems Specialist, University of Nebraska Cooperative Extension

From Crop Watch News Service September 20, 2002 at http://cropwatch.unl.edu

The effects of this summer's drought stress conditions will continue into harvest, drying, and storage. Paying special attention to each of these activities will help reduce further losses in a year when each ear, head, and pod will be important economically.
Yields for dryland crops will be low, making it difficult to keep enough material flowing into the combine to effectively thresh the crop without excessive damage to kernels and beans. Combine adjustment is the key to preventing excessive damage. One possibility is to increase field operating speed. This will only be successful if corresponding adjustments are made to all header controls. Gathering chain, snapping roll, and reel speeds will have to be increased with higher field speeds. Be sure to monitor both the amount and the evenness of material flow through the header to the feeder house. Uneven flows will indicate improper adjustments and can result in increased grain damage or combine plugging. Remember to adjust stripper plate and snapping roll openings on your corn head to compensate for potentially smaller ears and stalks.

Another solution to the decrease in material flowing through the combine is to adjust the cylinder (or rotor) speed and concave clearance. Check your owner's manual to set the machine for expected conditions and make refinements as field conditions change. Remember that the variation in yield and grain moisture content from dry areas of the field to not-so-dry areas (were there any "wet" areas this year?) will be more pronounced this year and you will have to be on your toes when it comes to in-field adjustments.

As if the variations in yield weren't enough to worry about, dry years also tend to cause decreases in test weight and smaller kernels (or beans). Fan speed and sieve openings should be adjusted to compensate for this. Again, start with the owner's manual settings and fine tune as you go. Unfortunately, maturity of different parts of the plants will likely be off schedule this year. Stalks may dry faster or slower than the ears, depending on the variety and severity of stress. This can increase the potential for lodging and pod or ear losses as the fall progresses. This, coupled with a potential increase of stress-induced diseases, may cause producers to consider harvesting at the upper range of moisture content to prevent field losses and storage problems. The decrease in vegetation in the field should speed in-field drying, but could increase shatter losses if over-drying occurs.

Drying grain for storage also will be tricky this year. Those variations in crop moisture content that made combine adjustments necessary will also cause grief when drying and storing the crops. Over-drying, under-drying, and decreases in already low test weights could all contribute to storage problems and crop marketability. Decrease the dryer temperature and consider relying more on combination drying or natural-air drying and aeration to minimize test weight losses and more evenly dry the entire grain mass. Lighter test weights and potentially higher amounts of trash going into bins could make "coring" a necessity to remove fines and foreign matter from the center of all bins, including those with spreaders. Coring also will make crop insurance yield measurement more accurate since it tends to level the surface of the grain in the bin. Remember to take measurements relative to the yield from each field to get a more accurate accounting of drought-related losses.

Finally, this crop is going to require more frequent monitoring to make sure it stays in condition through the storage season. Proper cool-down and possible warm-up (depending on length of summer storage) will be important. Be sure to contact a Cooperative Extension educator if you have questions related to drought-related grain harvest and storage.

**Upcoming Events:**

**Pumpkin Twilight Meeting**  
**October 3, 2002**  
**4:30-7:00 p.m**

University of Maryland’s Wye Research & Education Center, Queenstown, Maryland
Weekly Crop Update

4:30 p.m. Plots available for viewing,
5:30 p.m. Comments from the Pumpkin Team

For More Information: Contact Caragh Fitzgerald at 410-313-2710 or cf80@umail.umd.edu.

Nutrient Management Certification Classes Scheduled:

**Session I: General**
Session I is the first session that you will need to attend if you would like to be certified with the Nutrient Management Program in Delaware. It is a 3-hour session that addresses basic nutrient management issues. You will need to attend this session prior to attending any others. You will need to contact the extension office in the county where you would like to attend the session.

**New Castle**
*December 9, 2002* 9 a.m.-12 noon at the Blackbird Community Center

**December 9, 2002** 6 p.m. – 9 p.m. at the Blackbird Community Center

**Kent**
*December 3, 2002* 9 a.m. – 12 noon at the Messick’s Community Building

**December 3, 2002** 6 p.m. – 9 p.m. at the Messick’s Community Building

**Sussex**
*November 26, 2002* 9 a.m. to 12 noon at the Research and Education Center

**November 26, 2002** 6 p.m. to 9 p.m. at the Research and Education Center

**Session I: Non-Agriculture**
(Lawn Care professionals and employees, Golf-Course personnel)

*January 8, 2003*, 9 a.m. to noon, Kent County Cooperative Extension Office, Rt. 113 South

**Special Session:**
(Consultant module for individuals already certified under another state’s program who would like to be certified in Delaware)

*October 15, 1 to 4 p.m.*, Kent County Cooperative Extension Office, Dover. Contact Jeanie Johnson at 302-856-7303 ext. 305 to sign up.

**Delaware Vegetable Grower’s Meeting**
January 8, 9 & 10.
Harrington Fair Exhibit Hall
Harrington, Delaware

For more information, contact Ed Kee or Tracy Wootten at 302-856-7303.

**Weather Summary**

<table>
<thead>
<tr>
<th>Week of September 20 to September 26, 2002</th>
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<tbody>
<tr>
<td><strong>Rainfall:</strong> 0.46 inches: September 26.</td>
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<tr>
<td>Readings taken for the previous 24 hours at 8 a.m.</td>
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<tr>
<td><strong>Air Temperature:</strong></td>
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<tr>
<td>Highs Ranged from 85°F on September 21 to 73°F on September 25.</td>
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<tr>
<td>Lows Ranged from 65°F on September 21 to 55°F on September 24.</td>
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<tr>
<td><strong>Soil Temperature:</strong></td>
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<tr>
<td>73°F average for the week.</td>
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<tr>
<td>(Soil temperature taken at a 2 inch depth, under sod)</td>
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Web Address for the U of D Research & Education Center: [http://www.rec.udel.edu](http://www.rec.udel.edu)

Compiled and Edited By:
Tracy Wootten
Extension Associate - Vegetable Crops

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