WEEKLY CROP UPDATE
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Crop Insurance, Rain, and Drought -*Ed Kee, Extension Vegetable Crops Specialist;* kee@udel.edu

Rain on Wednesday, July 24 and Thursday, July 25 has helped soybeans, lima beans, other vegetables and maybe even some late field corn. However, seven weeks of no rain in much of southern Delaware has drastically hurt much of the corn. It is questionable whether some fields of corn will even be harvested.

Jackie King, of The King Crop Insurance Agency writes, "Farmers that carry crop insurance must contact their crop insurance agent in the event of damage or loss to the insured crop as soon as they are aware of such damage. For the 2002 drought situation, farmers must contact the agent for appraisals prior to the crop being destroyed, put to another use (for example: chopped for silage) or abandoned by the farmer. Notice of loss for harvested acres must be given to the crop insurance agent when harvest begins per insured crop and completion of harvest per insured crop. The best policy to follow is to stay in contact with your crop insurance agent concerning your farming operation. With this type of year, communication is very important between the agents and the insured farmers.

Vegetables

Lima Bean Update -*Ed Kee, Extension Vegetable Crops Specialist;* kee@udel.edu

Dry weather has hurt stands on lima beans planted in late June and July. Some fields have skips where dry conditions prohibited germination to the extent of causing as much as 1/3 reduction in total stand. Early planted beans coming into blossom have also been hurt by dry weather and the heat. Irrigated fields have fared better through this stress.

Broadleaf weed breakthroughs are evident in some fields. Basagran at 2 pints will control emerged cocklebur, mustards, jimsonweed, common lambsquarter, and common ragweed. They will suppress some morninglory species if they are small (less than ½ inch). Basagran can be used with oil concentrate, but if temperatures are high, a nonionic surfactant should be used. It is recommended not to spray when temperatures are over 90 degrees. Lima beans can be sprayed when they have a fully expanded first trifoliate leaf and older. It is important to scout the fields before the rows close for serious weed outbreaks when the weeds are small. Basagran applications when the weeds are small will enhance control.

Vegetable Diseases - *Kate Everts, Extension Vegetable Pathologist, University of Delaware and University of Maryland;* everts@udel.edu

MELCAST for Watermelons.

From the University of Maryland and University of Delaware

Latest EFI values from local weather stations

Any questions please call (410) 742-8788

EFI Values (Environmental Favorability Index)

Do not use MELCAST if there is a disease outbreak in your field, it is a **preventative program.**

Location	07/24/02	07/23/02	07/22/02	07/21/02	07/20/02	07/19/02	07/18/02	07/17/02
Bridgeville, DE	2	0	4	4	2	0	0	
Charles Co.	1	0	0	1	0	2	0	
Collins Farms	3	1	3	4	2	2	0	
Galestown, MD	3	1	3	3	3	1	0	
Georgetown, DE	1	0	3	4	2	3	1	1
Glenville, MD	3	0	1	1	6	1	0	
Hebron	3	3	6	4	3	2	1	
Hog Creek Rd.	2	0	2	3	0	0	0	
Salisbury, MD	3	0	3	4	1	3	1	
Vincent Farms	3	1	4	4	4	4	1	
Westminster	3	0	0	0	3	2	0	
White Marsh	3	0	1	1	7	1	0	

The first fungicide spray should be applied when the watermelon vines meet within the row. Additional sprays should be applied using MELCAST. Accumulate EFI (environmental favorability index) values beginning the day after your first fungicide spray. Apply a fungicide spray when 30 EFI values have accumulated by the weather station nearest your fields. Add 2 points for every overhead irrigation. After a fungicide spray, reset your counter to 0 and start over. If a spray has not been applied in 14 days, apply a fungicide and reset the counter to 0 and start over. The first and last day listed above can be partial days so use the larger EFI value of this report and other reports for any specific day.

If, for some reason, a serious disease outbreak occurs in your field, return to a weekly spray schedule.

More detailed information concerning MELCAST and sample data sheets are available on the web at http://www.agnr.umd.edu/users/vegdisease/vegdisease.htm.

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

Potato Disease Advisory

Late blight Advisory

Disease Severity Value (DSV) Accumulations as of July 22, 2002 are as follows:

Location: Joe Jackewicz Farm, Magnolia, DE. Greenrow: April 10, 2002

Remember that 18 DSV's is the threshold to begin a spray program for late blight.

Date	Total DSV	Spray Recommendation
5/1	12	None
5/11	19	5 days, low rate
5/19	23	10 days, low rate
5/22	23	10 days low rate
5/27	27	10 days low rate
5/29	30	7 days, low rate
6/3	33	7 days, mid-rate
6/5	33	10 days, mid-rate
6/9	38	7 days, high-rate
6/13	39	10 days, high-rate
6/16	58	5 day mid- rate
6/19	60	10 day mid-rate
6/23	63	7 day high rate
6/26	64	10 day high rate
6/30	66	10 day high rate
7/9	66	10 day high rate
7/14	67	10 day high rate
7/17	68	10 day high rate
7/22	70	10 day high rate

Late blight has not been a problem here in Delaware for many years and unless you have seed from an unknown source the risk of late blight is very low.

NOTE: For this greenrow date and location we have accumulated 739 P-days as well. P-days are a measure of potato plant growth somewhat similar to growing- degree- days. Continue fungicide sprays for early blight. Late maturing varieties and those running out of nitrogen will benefit from a fungicide application.

Lima beans

It's time to start thinking about **downy mildew** on lima beans. Surveys of infected lima beans with downy mildew in 1999 and 2000 showed that the predominant race of the downy mildew causing fungus, *Phytophthora phaseoli*, is race E. Race D was only found in two fields and represented only 2.3% of the isolates. The disturbing fact is that race F was discovered, and occurred in 2001 as well on Cypress and 184-85. Race F has occurred

on Cypress, 184-85 and C-elite Select in 2000 and 2001. Only five fields with race F have been detected to date. This occurrence is very low, but we have no idea how fast the race situation can change. Growers with the new Cypress, C-Elite Select and 184-85 all resistant to race E should have a low probability of seeing downy mildew. The most vulnerable varieties are those with no resistance to race E including M-15, Eastland, 8-78, and 328. Greenhouse testing last season showed that M-15 and 8-78 are resistant to race F. The speckled lima bean, Jackson Wonder, has no resistance to any race.

The best control for downy mildew is the use of resistant varieties and fungicides. It has been shown that preventative applications of fixed copper work the best to control downy mildew. Plants in the flowering stage of development are the most susceptible and sustain the most damage if the fungus is present and the weather is favorable for infection. Timing of fungicide applications can be aided by the use of the Hyre forecasting system which states that conditions for infection are favorable when fields receive 1.2 inches of rain or irrigation or more within 7 days and the average daily temperature is 78°F or less. What we don't know now with the new races E and F is what the upper temperature limit for infection might be. With the old races a 90°F day would cancel the infection period and you would have to start all over, but the new races can tolerate higher temperatures but we don't know how high. Research work is underway, that will hopefully provide this critical information. Periods of fog or heavy dew can reduce the amount of rainfall necessary for infection to occur. Since weather conditions vary greatly use the above information as a guideline for making fungicide applications. Spray preventativly, and scout often. If disease is found, early detection and fungicide application will reduce infection if the weather conditions are not too favorable for the fungus. Champ DF and Kocide 2000 at 2 lbs/A, and Cuprofix Disperss at 3.0 lb/A are labeled for control. Make several applications 7-10 apart depending on the weather.

Field Crops

Drought Symptoms on Corn and Beans

Richard W. Taylor,Extension Agronomist,
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In the past few weeks, Joanne Whalen has been suggesting that you watch out for spider mites on your soybeans. I was able to take some digital photos this week that give you not only a good view of the typical severe leaf injury seen with spider mites but a field view of how they often work their way into a field from the field borders where grasses, legumes, and weeds can harbor the mites until conditions encourage their populations to explode. Many fields I have passed in the past few days show spider mite symptoms and signs so be sure to scout your fields.

Below in photo one, note the usual semicircular shape of damage as the mites move in from a field edge. Keep in mind that spider mites can also begin in small patches within the field carried there by wind or other means.

Photo 1. Semicircular area of yellowed, stunted plants along field border caused by two-spotted spider mite infestation. (Photo by R. Taylor)

Leaf symptoms are shown in the two photos below. Damage is severe when visible leaf speckling

appears and this will rapidly progress to the point that the most severely affected leaves die and fall off leaving only a few leaves near the plant's terminal growing point. In severe cases, plants will die but at the least canopy closure is either delayed or prevented by the damage and yield potential is reduced.

Photo 2. Severe mottling of the upper soybean leaf from two-spotted spider mites feeding. (Photo by R. Taylor)

Photo 3. A top-view of the leaf mottling or speckling from spider mite damage. With flowering already underway, yields are likely to be severely limited by lack of photosynthetic leaf tissue. (Photo by R. Taylor)

Photo 4. Spider mites cover the underside of a soybean leaf. The large white granules are actually sand grains so you can get a feeling of the small size of the spider mites. (Photo by R. Taylor)

If you're at threshold for spider mites and decide to treat, we often see the best results when soybean plants have begun growth again. The rain received this week although minimal in many locations may have been enough to have the soybeans begin new growth. New growth combined with knocking back the populations with the traditional spider mite control programs may allow the beans to recover although more rain will soon be needed to continue the recovery.

***Dectes* Stem Borer Can Affect Soybean Harvest**

Richard W. Taylor,Extension Agronomist rtaylor@udel.edu *and Joanne Whalen,Extension, IPM Specialist* jwhalen@udel.edu

When an agronomist begins to easily find certain insects in soybeans, it probably means that there are far too many of that insect out in the fields. In this case, I've been finding *Dectes* stem borer adults on soybeans and even baby lima bean plants during the past week. The photo below will allow you to identify the insect more easily.

Photo 1. *Dectes* stem borer on two-spotted spider mite damaged soybean plant. (Photo by R. Taylor)

A few years ago, we conducted a three-year field trial sponsored by the Delaware Soybean Board to determine if there are cultural controls available to lessen the damage from this insect. The adult lays her eggs in soybean petioles over a six to eight week or more period in the July to September period.

This long egg laying interval makes chemical controls very difficult or prohibitively expensive.

When *Dectes* stem borers were present in a field, results of the three-year study showed that the lowest percentage of stem lodging and the highest yield could be expected when soybean cyst nematode (SCN) resistant varieties were planted in 7.5-inch row spacing. Unfortunately, the maturity group data varied each year so maturity group selection was not be useful in managing *Dectes* populations

Results of a separate two-year study suggested that the lowest percentage of stem lodging could be expected when maturity group IV, SCN-resistant varieties are planted. Soybeans planted in 7.5 and 15-inch row spacings had a lower percentage of stem lodging when planted at a higher seeding rate, 2 or 3 seeds per foot of row versus 1 seed per foot of row. This trend did not occur for the 30-inch row spacing and did not apply to any row spacing if SCN-susceptible varieties were used.

But, what can you do this year? Scout your fields to identify as many fields as possible where the adults are laying eggs. Next, as these fields approach maturity, schedule them for early harvest. You should also be scouting soybean fields during soybean dry down after the R8 growth stage for plant lodging. If you see lodging occurring, check the stubble end and see if there is evidence of *Dectes*. Evidence might be finding a frass (larvae droppings) plug in the end or finding a cone-shaped depression on one end and a cone-shaped point on the other (the pointed end reminds me of the shape a beaver might leave behind). If you see evidence of *Dectes* or find the larvae in the stubble (split it open to look for a larva), harvest the field as soon as possible to reduce your losses since we often see an increase in the number of plants that lodge when plants are left in the field well after physiological maturity and drydown.

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

Commodities Trend Higher on Uncertainty in U.S. Crop Development

The overall condition of the nation's corn and soybean crops continued to decline this week in USDA's release of the Weekly Crop Condition Report, taking 7% out of the good/excellent category for both. The rating decline was worse than commodity traders had expected. A spotty rain event this week saw futures retreating, only to come back strong due to concerns that hot and dry weather may pose a serious problem to the remaining 40% of the U.S. corn crop that is now reaching the pollination stage. Technical and fundamental analysts are now calling the price trend higher for corn, soybeans, and wheat.

Crop ratings aren't always right in terms of predicting the outcome of a particular year's crop at a given point in time. Market bears are currently contending that the U.S. soybean crop has a possibility of making trend line yields, providing significant rainfall occurs. However, both corn and soybean ratings in the good/excellent category are the lowest they've been in 10 years. This development is making way for commodity futures to remain volatile, at least until the corn crop finishes pollination and the soybean crop enters the flowering and pod filling stage. This will occur over the next 4 to 5 weeks.

Marketing Strategy

December corn '02 futures are currently trading at $2.59 per bushel, with November soybean futures at $5.44 per bushel. Those that are going to have bushels to market locally are going to want to consider scale up selling in this current market in small increments. Market analysts are beginning to suggest that it is possible for new crop corn to reach $3.00 per bushel and new crop beans to bid $6.00 or better. This market needs the August 8th crop report in order to get a clearer depiction of the size of this year's crop. It is possible that we could see new highs between now and when the August 8th report is issued.

Recent Rains and Spider Mites - *Derby Walker, Jr. Extension Ag Agent, Sussex County* derby@udel.edu and *Ed Kee, Extension Vegetable Crops Specialist;* kee@udel.edu

Two or three days of rainy, cool weather can do a lot to decrease Spider Mite populations. Pathogens that attack the mites are more prevalent under these conditions and help to lower populations. The mites also reproduce slower in cooler temperatures.

With the recent rains, check watermelon and soybean fields to determine populations before spraying for mites. A hand lens is helpful to really identify the level of mite infestation.

Of course, with the rain the plants are more vigorous, which helps them withstand mite pressure. The combination of cooler temperatures, rain, and healthier plants also help control measures more effective if spraying is necessary.

Ag Fact

In 1927 there were 60 tomato canneries in Delaware. A sampling of some Maryland counties and Baltimore reveals there were 30 in Baltimore City, 22 in Caroline County, 44 in Dorchester County, 29 in Somerset County, and 38 in Talbot County. Today there are none in either state.

UPCOMING EVENTS:

Wicomico Farm & Home Show

Winterplace Park
RT 50 & Hobbs Road
Salisbury, MD 21804
August 15-17, 2002

Weather Summary

Week of July 18 to July 25, 2002
Rainfall: July 23rd- .47 inches July 24th- .06 inches
Readings taken for the previous 24 hours at 8 a.m.
Air Temperature:
Highs Ranged from 94°F on July 19 to 78°F on July 24.
Lows Ranged from 74°F on July 18 to 64°F on July 12.
Soil Temperature:
85 °F average for the week.
(Soil temperature taken at a 2 inch depth, under sod)

Web Address for the U of D Research & Education Center:
http://www.rec.udel.edu

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