



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 17, Issue 24

August 28, 2009

## Vegetable Crops

**Vegetable Crop Insects** - *Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)*

### ***Corn Earworm Alert***

The potential for corn earworm pressure in fall vegetable crops is high statewide. Trap catches remain high throughout the state and moths can be found laying eggs in fields, so be sure to scout at least twice a week as well as check local trap catches

<http://ag.udel.edu/extension/IPM/traps/latestblt.html> or call the Crop Pest Hotline (in state: 800-345-7544; out of state: 302-831-8851).

### **Cabbage**

We continue to find economic levels of fall armyworm, cabbage looper, diamondback moth larvae and harlequin bugs. Be sure to apply treatments before larvae move deep into the hearts of plants. Also, be sure to select a material for the pest complex present at treatment time.

### **Lima Beans**

Continue to scout all fields for spider mites, lygus bugs, stinkbugs and corn earworm. The higher labeled rates of insecticides will be needed for stinkbug control. For corn earworm, higher rates will also be needed if population levels are high and worms are large at the time of treatment. As trap catches continue to increase, multiple treatments may be needed for earworm control. At this time of year, we have also found soybean loopers in lima bean fields. If

soybean loopers become a problem again this year, remember that they are a migratory pest, difficult to control and pyrethroid resistance has been documented in states to our south.

Therefore, you will need to consider an application of Lannate LV at the higher rate for soybean looper control. Be sure check the label for rates and days from last application to harvest.

### **Peppers**

In areas where corn borers are being caught in local traps, fields should be sprayed on a 7-day schedule for corn borer control. In areas where corn borer catches are above 10 per night, a 5 to 7-day schedule may be needed. Since trap catches can increase quickly at this time of year, be sure to check local moth catches in your area at

<http://ag.udel.edu/extension/IPM/traps/latestblt.html>. With the high corn earworm pressure, you will also need to watch for corn earworms infesting peppers. Be sure to select a material that will control corn borers and corn earworm as well as beet armyworm if they are present.

### **Snap Beans**

At this time, you will need to consider treatments for both corn borer and corn earworm from the bud stage through harvest on processing snap beans. After the pin sprays, 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>). The highest labeled rates of insecticides will be needed if population pressure is heavy in your area. Remember, Orthene (acephate) will not provide effective earworm control. Be sure to scout fields at least twice a week for corn earworm to be sure that a tighter schedule is not needed between the pin spray and harvest. Once pins are present on fresh market snap beans, a 5 to 7-day schedule should be considered for corn borer and corn earworm control.

### Spinach

Be sure to watch for both webworms and beet armyworm moths as soon as plants emerge. Controls should be applied when worms are small and before they have moved deep into the hearts of the plants or produced webbing. Remember that both insects can produce webbing on the plants. Generally, at least 2 applications may be needed to achieve control of webworms and beet armyworm.

### Sweet Corn

With the high corn earworm catches throughout the state, all fresh market silking sweet corn should be sprayed on a 2-day schedule. 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 for current trap catches (in state: 800-345-7544; out of state: 302-831-8851). In addition, you will need to combine a fall armyworm material with a pyrethroid for at least the first 2-3 silk sprays for fall armyworm control. Be sure to check all labels for days to harvest and maximum amount allowed per acre.

---

### Late Summer and Fall Cover Crops for Vegetable Ground - Gordon Johnson, Extension Ag Agent, Kent Co.; [gcjohn@udel.edu](mailto:gjohn@udel.edu)

Vegetable growers should make plans to put in late summer or fall cover crops after summer vegetables are harvested. Cover crops help to maintain organic matter, recycle nutrients, reduce compaction, and maintain overall soil

health. These benefits far outweigh the cost of establishing the cover crops.

*The following are some cover crops to consider:*

### Winter Annual Legumes

These cover crops will produce significant biomass (organic matter) and, at the same time, provide nitrogen for the following crop through biological nitrogen fixation: hairy vetch, crimson clover, field peas (winter peas). Hairy vetch makes an excellent mulch for no-tilling vegetables into. Plant by September 30.

### Small Grains

These winter annual grasses will provide significant biomass, recycle nutrients (especially nitrogen), and produce excellent mulch for no-tilling vegetables in the spring: rye, triticale, wheat, barley, winter oats. Spring oats can be used where you want to get fall cover but need the crop to winter kill for early spring vegetable crops. Plant by the end of October.

### Mustard Family Cover Crops

These include both fully hardy overwintering species and species that will winter kill. They provide significant organic matter, recycle nitrogen, can reduce compaction, and offer the potential for biofumigation. Plant by September 15. Included are:

Rapeseed and Canola - overwinter and are good biofumigants

Forage Radish, Oilseed Radish, and Daikon Radish - very good for reducing compaction in soils; forage radish winter kills, oilseed radish is more hardy

Mustards (brown and yellow mustards as well as garden mustard) - offer good biofumigant potential; half hardy

Turnips (forage and garden types) - good biomass production; half hardy

Kale (forage and garden types) - winter hardy; good biomass production

Hybrid Forage Brassicas (such as 'Typhon') - these are hybrid crosses of two or more species

that will produce excellent fall growth and some will overwinter

### Annual Ryegrass

This winter annual grass offers easy establishment, even when overseeded, and puts on significant fall and spring biomass. It scavenges nitrogen and is a quick decomposer in spring. Plant by October 15.

For seeding rates, contact your County Extension Office.

It is often advantageous to plant several of these cover crops together and most will mix well. Use the planting deadline for the species that has to be planted the earliest. Reduce the rate of each component in the mix by  $\frac{1}{3}$  to  $\frac{1}{2}$ . I particularly like a rye-hairy vetch-crimson clover mix.

---

### Tomato Buckeye Rot - Bob Mulrooney, Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

Be on the lookout for buckeye rot caused by *Phytophthora nicotianae*. This is primarily a disease of processing tomatoes that are ground grown, not trellised. Large brown water soaked spots with concentric rings that resemble a buckeye are seen on the fruit. Once seen it's too late for control. Ridomil or MetaStar needs to be applied to the soil surface under the vines 4-8 weeks before harvest.



### More About Tomato Ripening Problems and the Role of Potassium - Jerry Brust, IPM Vegetable Specialist, University of Maryland; [jbrust@umd.edu](mailto:jbrust@umd.edu)

In last week's issue of WCU Gordon Johnson did a nice job of explaining some of the problems with tomato ripening that we are seeing in the area in the article titled [Ripening Disorders in Tomatoes](#). The ripening problems are called various names such as blotchy ripening, yellow shoulder, graywall, internal whitening, etc. (Fig. 1). They all have the same root cause; lower levels of potassium (K<sup>+</sup>) than what is needed by the fruit to ripen properly. But, just as with blossom end rot, the factors that can lead to the ripening problems are more complex than just reduced levels of K<sup>+</sup> and that is what I would like to discuss. The first problem I was aware of, mostly because it was happening in my research high tunnel was internal whitening (Fig. 2). This is different from graywall because there are blotches of hard, white, corky tissue instead of collapsed dark tissue (common in graywall) in the outer wall of the fruit. In addition the corky white tissue is not confined to the outer wall of the fruit but is found throughout the interior walls of the fruit. Tomatoes look good on the outside but bad on the inside. Other high tunnel growers in the southern part of Maryland and on the Eastern Shore were also having these same problems at the same time. There were many peculiar factors with this problem; first that it happened over a large geographical area, second that it happened across many varieties and third that the ripening problem occurred much more frequently in high tunnels than outside. A couple of high tunnel growers took soil and foliar samples and consistently found that the soil was at adequate or even high levels for K<sup>+</sup>, but the tissue samples were low to very low in K<sup>+</sup>. What could cause a reduction in K<sup>+</sup> in the plant when there was plenty in the soil? The best explanation for this is the weather we had in May and June. As you recall we either set records or came close for those two months for rain. This also meant we had very cloudy skies. Whether it was the excess moisture, the cloudy skies or both, the plant's ability to take up enough K<sup>+</sup> was seriously reduced. This may seem odd, but anything that interferes with the ability of the plant to take up K<sup>+</sup> will result in ripening

problems, especially when there is a heavy fruit load on the plant (which there was in high tunnels, but not in the field in May and June). What makes me think the fruit load is important? In a small study I removed 50% of the fruit (various sizes of all green fruit) from tomato plants scattered throughout a high tunnel. A month later the incidence of ripening problems was about 20% on the plants with all their fruit and almost 0% for plants that I had removed the fruit.

Now we are seeing problems in the field and high tunnels with yellow shoulder and uneven ripening (Fig. 3). It comes around in mid to late summer when plants are putting on fruit and temperatures and humidity are high. The cause is the same,  $K^+$  levels too low in the plant, but for different reasons. Some of the reasons could be inadequate moisture and a poor tomato root system, which results in a plant that cannot take up the proper amount of  $K^+$ . If the roots are concentrated in the top 6 inches of soil and the plant canopy is poor this can expose the black plastic to the sun and raise soil temperatures to the point where water as well as  $K^+$  and other nutrient uptake is reduced enough to cause ripening problems.

You will notice that I have not mentioned any real solutions to the various factors that cause ripening problems. Saying "be sure you have enough  $K^+$  in your soil" as I have over the years does not seem to be the best solution any more. I know that some growers use a foliar spray of potassium sulfate or potassium phosphate after flowering to move more  $K^+$  into the plant. I have no idea whether this will work or not. Some growers use white plastic mulch to reduce soil temperatures and many have fewer problems with yellow shoulder in late summer. What I hope to do is conduct several studies looking at many of the above factors next year.



Figure1. Various forms of ripening problems for tomatoes in the Mid-Atlantic



Figure 2. Internal whitening of tomato fruit, mostly found in high tunnel tomatoes early this summer



Figure 3. Various forms of yellow shoulders showing up now in the field and high tunnels

## Agronomic Crops

**Agronomic Crop Insects** - Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

### Alfalfa

Be sure to watch for fall armyworm, beet armyworm, webworms and corn earworm which can quickly defoliate alfalfa. Mixed populations of larvae can be found in fields and controls should be applied before significant defoliation occurs. Defoliators can be destructive in last cuttings, especially during drought conditions. When defoliators are present, early harvest may eliminate the problem. Although there are no specific thresholds, as a general guideline if the crop is more than 2 weeks from cutting and 25 to

30% of the terminals are damaged, treatment is suggested.

### Soybeans

As the potential for late season insect control increases, be sure to check all labels for the rates, days from last application to harvest as well as other restrictions.

### *Corn Earworm Alert*

The potential for corn earworm pressure in soybeans is high statewide. Trap catches remain high throughout the state, moths can be found laying eggs in double crop fields statewide and larvae are being found. *With the continued high trap catches throughout the state, be sure to check all fields for earworms.*

*Although open canopy blooming fields will be the most attractive to egg laying moths you should check all fields to be sure you do not miss an infestation.*

As a general guideline, a treatment should be considered if you find 3 podworms per 25 sweeps in narrow row fields and 5 podworms per 25 sweeps in wide row fields (20 inches or greater). However, these static thresholds were calculated for a 10-year average soybean bushel value of \$6.28. The best approach 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. As reported in previous newsletters, states to our south, including Virginia, have reported control failures with pyrethroids in soybeans in 2007 and 2008. As of the 2008 season, poor control with pyrethroids in our area has been the result of treating too late, treating large worms or using too low of a rate. If a pyrethroid is used for earworm control, you need to be using the highest labeled rate. In addition to the pyrethroids, Steward, Lorsban or Larvin should also be considered, especially if armyworms are in the mix. In some fields, fall armyworm and beet armyworm can also be found.

You will also need to continue to scout for soybean aphids. With the recent cooler night temperatures, we are seeing an increase in populations in all three counties, especially in later planted fields and economic levels have been found in fields in Kent County. As a general guideline, treatment is needed through the R5

stage (seed is  $\frac{1}{8}$  inch long in the pod of one of the four uppermost nodes on the main stem) of soybean development if economic levels are present. It may also be beneficial to spray through R6 stage (pods containing a green seed that fills the pod cavity at one of the four uppermost nodes on the main stem) – reports vary as to the benefit of spraying once plants reach the R6 but in some years and some situations there has been an economic return. Spraying after R6 stage has not been documented to increase yield in the Midwest. The suggested treatment threshold from the Midwest is still 250 aphids per plant with 80% of the plants infested with aphids. This number should provide a 5 to 7-day lead time for treatment to avoid economic loss.

Although populations have been generally lower this season, we are also starting to see an increase in populations of stinkbugs. You will need to continue to scout for stinkbugs in fields that are in the pod development and pod fill stages. Economic damage is most likely to occur during these stages. You will need to sample for both adults and nymphs when making a treatment decision. Available thresholds are based on beans that are in the pod development and fill stages. We are currently following the same guidelines that are being used in Virginia. Thresholds are based on numbers of large nymphs and adults, as those are the stages most capable of damaging pods. As a general guideline, current thresholds are set at 1 large nymph/adult (either brown or 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.

---

### **Selecting Head Scab Resistant Wheat**

**Varieties** – *Dave Van Sanford, Wheat Breeder, University of Kentucky and Bill Bruening, Variety Testing Specialist, University of Kentucky*

*Bob Mulrooney Notes: This is an excellent article from Kentucky Pest News (#1210 Aug 25, 2009) that is very timely for Delaware growers.*

Selection of wheat varieties is one of the most critical management decisions Kentucky wheat

producers will make. The decision is complicated this fall by the fact that 2009 was a year in which Fusarium head blight (FHB) or head scab, was a problem for KY wheat growers. The real question is “how important is head scab resistance?” Clearly, in a bad head scab year, growers recognize that FHB resistance is very important. After a year or two with little or no head scab, however, farmers tend to underestimate the value of scab resistance. In any given year, how likely is it that head scab will be a serious disease in Kentucky? We know that with our corn-wheat-soybean rotation we will always have plenty of inoculum. Although we don’t know if the moisture requirements of the disease will be met when the crop is flowering, it is reasonable to assume that we will always have a chance of seeing FHB in our Kentucky wheat crop. How serious is the disease? In addition to reducing yield and test weight, the thing that sets FHB apart is the toxin (DON or vomitoxin) that is produced by the fungus. Elevated DON levels can result in serious discounts or even rejection of loads at the elevator or mill. For this reason alone, we need to take head scab very seriously.

### **Resistant Varieties**

The best known and most widely studied genetic resistance comes from Sumai 3, a Chinese spring wheat variety. Pioneer Brand 25R18 is an example of an older soft red winter wheat variety that has Sumai 3 resistance. This is Type II resistance, or resistance to spread of the fungus in the head which means that under heavy FHB pressure, there might be many heads that are infected, but the severity of infection on each head will be low. In addition to the Sumai 3 resistance source, there are numerous adapted SRW varieties with varying levels of scab resistance. Truman and Bess are two varieties released by the University of Missouri which have good scab resistance that is not derived from Sumai 3. Due to the heavy scab pressure throughout Kentucky in 2009, we had a good opportunity to rate scab symptoms on all 88 entries in the state variety trial (Table 1). Keep in mind that these ratings are based on chaff symptoms observed between flowering and physiological maturity. These symptoms often provide a good indication of kernel damage that

is likely to occur, but the relationship is not perfect.

### Combining Resistance with Fungicides

When we define FHB resistance, our targets include a low level of infection, plump kernels with no yield or test weight reduction and low DON levels in the grain. In a year like 2009 under heavy scab pressure, it takes a combination of good genetic resistance and a well-timed fungicide application to hit these targets. In Table 2 we present two years of data from our inoculated scab nursery at Princeton, KY where varieties and breeding lines were evaluated with and without a fungicide application. Scab is a difficult disease for farmers, millers and researchers. It takes several years of testing and retesting to really get to know the scab profile of a variety. For this reason, the data in Tables 1 and 2 should be studied very carefully before deciding which wheat varieties to plant this fall.

It is also important to apply the other risk management strategies that we have discussed in previous variety selection articles. In particular it is important to remember that wheat growers can minimize their risks by planting several varieties with good yield and test weight potential that complement one another for disease resistance and maturity. Choosing varieties of differing maturities makes sense for a number of reasons, but it is especially important when considering head scab. In those years when head scab is problematic, if the early flowering varieties are hit hard, then the later flowering types often face less scab pressure, and vice versa. A final suggestion is to avoid planting varieties that appear to be very susceptible to head scab. If a variety completely lacks genetic resistance, a fungicide application will not be sufficient to prevent yield loss and elevated toxin levels during an epidemic scab year.

**Table 1. Scab Ratings (1=excellent; 9=poor) Based on Chaff Symptoms; Each Value Represents the Average of Ratings at 6 Variety Trial Locations in Kentucky, 2009**

Variety	Head Scab
AgriPro Branson	6.6
AgriPro COKER9511	3.9
AgriPro COKER Oakes	5.5
AgriPro W1104	4.5
AgriPro W1377	5.4
AgriPro W1566	6.1
ARMOR 3602	6.4
ARMOR ARX 6202	6.3
ARMOR ARX 840	6.8
ARMOR GOLD	7.0
ARMOR RENEGADE	5.0
Beck113	5.3
Beck122	5.7
Bess	4.0
Clark	5.7
Cumberland	6.0
Delta Grow1600	5.8
Delta Grow4500	6.2
Delta Grow5200	5.8
Delta King 9108	5.9
Delta King 9577	7.1
Dixie 907	5.9
Dixie 940	5.9
Dixie 989	6.4
Dyna-Gro 9911	5.3
Dyna-Gro 9922	5.3

Variety	Head Scab
Dyna-Gro Shirley	6.0
Dyna-Gro V9710	6.5
Dyna-Gro V9723	5.6
Dyna-Gro V9812	6.6
EXCEL 163	6.9
EXCEL 234	4.2
EXCEL 341	5.6
Exsegen Anna	6.4
Exsegen Candace	6.2
Exsegen Dinah	4.8
Exsegen Lois	5.6
Exsegen Lydia	6.5
Jamestown	6.3
KAS 5003	6.0
KAS 5058	4.9
KAS 7700	5.9
KY 00C-2059-24	5.7
KY 00C-2109-01	7.3
KY 00C-2175-10	6.0
KY 00C-2567-01	6.5
KY 00C-2697-04	5.9
KY 97C-0321-02-01	6.9
KY 97C-0508-01-01 A-1	5.6
KY 97C-0519-04-07	6.1
KY 97C-0540-01-03	5.7
KY 97C-0574-01-04	5.4

Variety	Head Scab
Merl	7.1
Milton	5.7
Pembroke	5.1
Pioneer variety 25R63	5.0
Pioneer variety 25R78	7.1
Pioneer variety 26R15	5.5
Pioneer variety 26R22	6.4
Pioneer variety XW07B	7.1
Pioneer variety XW07X	3.5
PROG ENY 117	5.5
PROG ENY 119	5.5
PROG ENY 130	5.3
PROG ENY 136	6.8
PROG ENY 166	6.3
PROG ENY 185	5.9
Red Ruby	6.2
SC 1298	5.8
SC 1318	6.7
SC 1325	5.6

Variety	Head Scab
SC 1328B	5.4
SC 1339	7.0
SC 1348	6.0
SS 520	8.0
SS 5205	6.4
SS 548	7.0
SS 8302	4.9
SS 8309	4.4
SS 8404	5.9
SS 8641	7.6
SS MPV-57	6.0
Steyer Geary	6.5
Steyer Jordan	5.4
Steyer Nofziger	6.2
Truman	2.6
USG 3350	6.0
VA 04W-90	5.7
<b>Average</b>	<b>5.9</b>

Table 2. Two Year Comparison of Wheat Varieties and Breeding Lines Treated vs. Untreated with Prosario Fungicide in Princeton Inoculated Scab Nursery, 2008-09 (DON data not available at press time)

Entry	Fungicide Treated			Untreated		
	Yield (bu/A)	Test Wt (lb/bu)	Scabby Seed (%)	Yield (bu/A)	Test Wt (lb/bu)	Scabby Seed (%)
AgriPro Branson	77.2	51.3	5.4	60.3	48.1	9.6
AgriPro COKER 9511	75.2	57.9	1.9	67.9	57.0	2.8
AgriPro W1377	69.7	55.8	4.5	56.1	52.2	7.5
Bess	78.8	56.9	2.4	61.9	54.6	5.9
Clark	62.5	54.2	2.7	53.5	51.0	6.7
Cumberland	74.2	52.0	5.6	56.9	47.8	14.9
Delta Grow 1600	70.3	51.5	7.5	50.4	48.5	9.9
Delta King 9577	61.8	49.6	7.2	45.7	45.7	16.6
KY97C-0508-01-01A-1	76.6	53.5	4.2	53.3	49.7	10.7
KY97C-0540-01-03	59.9	51.9	4.8	53.9	50.4	13.8
KY97C-0574-01-04	67.0	53.2	5.2	41.1	47.8	14.9
MO 011126	63.8	54.5	3.8	51.1	50.8	7.7
Pembroke	77.2	54.3	4.1	53.6	50.9	5.6
Pioneer variety 26R15	80.2	51.6	7.0	69.0	49.9	8.3
Pioneer variety 26R22	62.2	50.0	4.8	45.1	44.8	17.0
SS 520	63.0	52.1	5.2	50.4	47.3	12.7
SS 8302	70.1	54.3	2.9	63.8	51.9	8.0
SS 8309	77.2	53.4	3.5	58.5	49.6	8.5
SS 8404	67.0	54.0	3.8	54.0	49.6	11.5
SS MPV-57	65.2	51.6	5.7	57.0	47.2	14.5
Truman	82.5	56.0	3.0	72.9	54.5	3.8

**Soybean Sudden Death Syndrome** - *Bob Mulrooney, Extension Plant Pathologist;*  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

Sudden death syndrome (SDS) has been tentatively identified from a soybean field in Sussex County and several fields in New Castle County this week. We have not seen this disease in Delaware since 2000 when it was first identified. The reason we are seeing it again is that we have had weather conditions that were very favorable for SDS just like in 2000. It has to be cooler and wetter than normal in the early part of the season for SDS to appear. What does SDS look like in the field? Yellow blotches form between the veins, usually developing first on the uppermost leaves. In a few days the yellow blotches will coalesce and begin to turn brown. The end stage is complete tissue death between the veins, with the only green tissue remaining being that associated with the primary leaf veins. The edges of severely diseased leaves will roll inward. Over time the diseased leaflets may fall off the leaf stalks (petioles) or they may remain attached to the plant. When you dig up the infected plants primary, secondary and tertiary roots are severely rotted. Nitrogen-fixing nodules are mushy. The exterior of the stem appears healthy but the interior of the stem is a milky-brown color, compared to the yellow-white color of a healthy stem. Serious yield loss usually only occurs when plants are exhibiting serious foliar symptoms BEFORE mid-pod fill. After that time, plants can look pretty rough, but yields may not be affected much. Individual and groups of plants, 10-50 feet in radius, usually show a range of symptoms ranging from some leaf spotting to complete defoliation. Wet or otherwise stressed areas of fields from compaction or other causes, such as along field edges, will usually be the first to develop symptoms. In extreme cases, entire fields may show symptoms. When SDS is severe, symptoms will first develop in "hot spots" and later progress into other areas. This gives the effect that the disease is spreading, but in reality it is not. Rather the time of infection, crop health, and field conditions vary, so disease symptoms are expressed at varying times and rates. The only control is reducing plant stress by reducing compaction, and planting resistant or tolerant varieties. Rotation is of little to no

value in controlling SDS. Be careful to check plants carefully for these symptoms because stem canker can also produce similar symptoms.



Foliar symptoms of SDS



Infected root on the left with diseased leaf compared to healthy stem and leaf

---

**Weed Control in Seedling Alfalfa** - *Mark VanGessel, Extension Weed Specialist;*  
[mjv@udel.edu](mailto:mjv@udel.edu)

Getting seedling alfalfa off to a good start is critical for a long-term quality stand. The following herbicide suggestions are for pure alfalfa stands. Gramoxone or Roundup can be used prior to planting to kill emerged weeds. Balan or Eptam can be used pre-plant incorporated for control of small-seeded

broadleaves such as pigweed or lambsquarters and most annual grasses. Residual control of either Balan or Eptam is only a few weeks. Butyrac, Buctril, Pursuit, Raptor, and others can only be used after the alfalfa has emerged and developed trifoliolate leaves. Fall postemergence treatments include Butyrac 200 (2 to 4 alfalfa trifoliate), Buctril (at least 4 trifoliate), Kerb, Poast Plus, Select, or Pursuit or Raptor (at least 2 trifoliate). Pursuit or Raptor provides the broadest spectrum of control, and can be tank-mixed with Buctril or Butyrac to improve control. The addition of Buctril to Pursuit will improve German moss, lambsquarters, and henbit control. Kerb will provide the best common chickweed control, but it must be applied when soil temperatures are 50°F or less and requires rainfall for activation. Applications to small weeds are critical for effective control. Poast Plus and Select are effective only on grasses, and cannot be used on alfalfa plus grass stands. Most of the labeled herbicides can cause some crop injury to the alfalfa.

---

**Weed Control for Grass or Mixed Pasture Plantings** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

Weed control options are very limited for establishing a grass or mixed stand pasture. There are no products to use pre-plant incorporated or preemergence that will provide residual control and not injure the crop. Early postemergence options are also very limited. Ally, Banvel, Overdrive, Crossbow, or 2,4-D can be used for pure grass seedlings (they will kill clovers and alfalfa) but grasses need to be well established at time of application. Ally can injure fescue and ryegrass. Fescue injury can be reduced if Ally is tankmixed with 2,4-D.

---

**Options for Harvest Aid Treatments** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

A harvest-aid may be a consideration to dry down vegetation prior to harvesting and to reduce foreign matter in the harvested grain. For corn Defol (sodium chlorate) is labeled for

applications 14 days prior to harvest and it can be applied by air. Defol will dry down plants but it does not have herbicide activity. Dry down is slow; expect at least 14 days for dry down. Glyphosate is labeled but must be used with care do to potential injury to desirable vegetation. Apply glyphosate at 35% moisture or less and black layer has formed. Allow 7 days between application and harvest. Refer to the glyphosate label for rates. Gramoxone Inteon is labeled for broadcast treatments. Application rates are 1.2 to 2 pts/A plus a non-ionic surfactant, and must be applied at least 7 days prior to harvest. Be sure to read the label for all precautions.

2,4-D amine is labeled but due to volatility and off-target movement, use of 2,4-D is not recommended. Applications with air temperatures above 85°F increase the likelihood of off-target movement. Application timing is after the hard dough or dent stage.

## Announcements

### **Beekeeping Meeting**

Saturday, September 12, 2009 8:30 a.m.-noon  
Wye Research and Education Center  
Queenstown, MD 21658

### **Meeting Agenda**

8:30-9:00 – Sign-in and coffee

#### **Varroa Mites**

Dean Burroughs, Master Beekeeper and Maryland Apiary Inspector

#### **The BARC American Foul Brood Diagnostic Laboratory and Update on the Specifics of American Foul Brood Disease**

Bart Smith, USDA Bee Laboratory in Beltsville

#### **Nosema Diseases (yes, there are two of them!) and What We Can Do to Prevent or Control Them**

David Morris, a master beekeeper from the Bowie-Upper Marlboro Beekeepers Association and a past President of the Maryland State Beekeepers Association

### **Update on Control of Small Hive Beetle**

Mike Embrey, University of Maryland Extension  
Apiculturist

### **Question and Answer Session**

**Meeting will end at 12:00**

*For additional information please contact Mike Embrey at (410) 827-8056 x148 or [membrey@umd.edu](mailto:membrey@umd.edu)*

---

### **Friends of Agriculture Breakfast Series**

Modern Maturity Center  
1121 Forrest Avenue, Dover, DE

Friday, September 18, 2009 7:15 a.m.

### **Agriculture: Delaware and Beyond – Considering the Complex Issues Facing our Industry**

*Dr. Bill McGowan*

Agriculture is one of Delaware's leading economic engines and touches every Delawarean and beyond. As we begin our 2009-2010 Ag Breakfast series, it's appropriate that we take time to consider the complex issues facing our industry. Using a discussion format and audience response system, we will identify and discuss several of those issues.

**Registration for each breakfast is \$20.**

### **Additional upcoming dates for the 2009–2010**

#### **Friends of Agriculture Breakfast Series**

#### *Speakers to be Announced*

October 16, 2009

November 20, 2009

January – Ag Week

March 19, 2010

*To register, please contact Alice Moore at (302) 831-2504 or [ammoore@udel.edu](mailto:ammoore@udel.edu). Additional information at: <http://ag.udel.edu/agfriends>.*

---

### **Pole Lima Breeding Line Evaluation**

Thursday, September 24, 2009 5:30-7:00 p.m.  
Carvel Research and Education Center  
16483 County Seat Hwy.  
Georgetown, DE 19947

Attention Pole Lima Bean Enthusiasts!

Come help to evaluate the pole lima varieties and breeding lines being tested at the Georgetown research farm. Lines to look at include twelve varieties, thirteen hybrids and four diverse populations developed from crosses.

Please contact Emmalea Ernest by Tuesday, September 22 if you plan to attend: (302) 856-7303 or [emmalea@udel.edu](mailto:emmalea@udel.edu).

---

### **Equine Pasture Walk**

Tuesday, September 29, 2009 5:30-7:30 p.m.  
University of Delaware Webb Farm  
508 S. Chapel St., Newark, DE

Come and meet University of Delaware's new Equine Extension Specialist, Dr. Carissa Wickens. Learn about rotational grazing and management practices used on-farm at UD. Get help with decisions regarding pasture nutrient needs and the rising cost of fertilizers and amendments. Learn about NRCS programs available to help you and your farming operation.

Experts will be on hand from the University of Delaware and the Natural Resource Conservation Service (NRCS) to answer your questions!

This meeting is free and everyone interested in attending is welcome. Please bring a folding chair.

Nutrient management and CCA credits will be available.

Please preregister by September 25. To register, request more information or if you require special needs assistance for this meeting, please call our office at (302) 831-2506.

See you there!

Anna Stoops, New Castle County Ag. Extension Agent

---

**2009 Mid-Atlantic Grass-Finished Livestock Conference: "Merging the Art and Science of Grass Finishing"**

Friday, October 23 and Saturday, October 24  
Holiday Inn Conference Center  
Staunton, VA

**Topics Covered**

Forage Systems for Grass Finishing  
Alternative Marketing Outlets  
Small-Scale Processing Facilities  
Healthy Grazing Systems  
Supplementation in Pasture Finishing  
Factors Affecting Meat Quality  
Genetics for Grass Finishing  
Meat Cutting and Cooking Demo

Early registration is \$200, and must be postmarked by September 15, 2009.

Brochure and registration information is available here: <http://www.rec.udel.edu/update09/grassfinished.pdf> or contact Margaret Kenny at (434) 292-5331 or [makenny@vt.edu](mailto:makenny@vt.edu).

## Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of August 20 to August 26, 2009

Readings Taken from Midnight to Midnight

**Rainfall:**

2.17 inch: August 22  
0.42 inch: August 23  
0.64 inch: August 24

**Air Temperature:**

Highs ranged from 91°F on August 21 to 85°F on August 22 and August 24.  
Lows ranged from 77°F on August 21 to 65°F on August 25.

**Soil Temperature:**

83.0°F average

Additional Delaware weather data is available at [http://www.deos.udel.edu/agirrigation\\_retrieval.html](http://www.deos.udel.edu/agirrigation_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. For subscription information, contact her at [emmalea@udel.edu](mailto:emmalea@udel.edu) or (302) 856-2585 x 587.*

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