Soybean Rust Update

Asian soybean rust was found in another county in Florida on March 23. Hernando County just north of the first find in Pasco County had kudzu plants with active rust pustules. Louisiana has begun scouting and no soybean rust has been found there.

New websites for tracking soybean rust occurrence and movement are found at:

USDA/APHIS Tracking site
http://www.sbrusa.net/

and

North Carolina State Univ. Forecasting site
http://www.ces.ncsu.edu/depts/pp/soybeanrust/

We have updated our Extension website to include two new portal sites with plenty of links to more soybean rust information than you have time to read, as well as these new tracking and forecasting sites. Labels for fungicides that are currently registered for use on soybean rust have also been added to the site. The section 18 labels listed are specific for Delaware. Visit:
http://ag.udel.edu/extension/pdc/

Bob Mulrooney

Vegetables

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

Seed Corn Maggot (SCM) in Spring Planted Vegetables
With the recent rainy, cooler weather, seed corn maggot can be a potential problem in all early planted fields. Seed corn maggot flies will lay eggs in recently plowed and/or manured fields. Cool wet conditions at planting, the use of manure and/or plowing under of green cover crops close to planting all favor maggot problems.

(a) Peas and Snap Beans: In recent years, the use of a hopper box treatment of diazinon 50W has provided good protection from SCM damage in succulent peas and early planted snap beans. It is the only diazinon hopper box formulation registered for use on succulent peas and succulent beans. As indicated in the last newsletter, the EPA has indicated that diazinon hopper box treatments can still be used in 2005 under the old label until existing stocks are exhausted. Diazinon 50W should be applied at a rate of ½ oz per bushel of seed and graphite added to prevent bridging in the planter. Lorsban-SL, only available as a commercial applied seed treatment on peas and snap beans, has also provided good protection from SCM damage. As of December 2004, Cruiser 5FS (thiamethoxam), another commercial applied seed treatment, is now labeled on the legume
vegetable group which includes but is not limited to peas (*Pisum* species), snap beans and lima beans (*Phaseolus* species). The label states early season protection of seedlings against injury from seed corn maggot and the rate is 1.28 fl oz/100 lbs. of seed. It is also highly recommended that Cruiser be used with compatible and registered seed treatment fungicides. These fungicides must show safety on treated seed, alone and in combination with Cruiser 5FS. The new label can be accessed at [http://www.cdms.net/ldat/ld59U003.pdf](http://www.cdms.net/ldat/ld59U003.pdf).

(b) Sweet Corn: Hopper box treatments available for protection of seeds and seedlings from seed corn maggot include permethrin (e.g. Kernel Guard Supreme and KickStart VP), diazinon/ lindane (e.g. Kernel Guard and KickStart), and imidacloprid (Concur and Latitude) formulations. As indicated in the last newsletter, the EPA has indicated that diazinon hopper box treatments can still be used in 2005 under the old labels until existing stocks are exhausted. In addition to hopper box treatments, a number of commercial seed applied treatments including Lorsban SL, Gaucho 480, Poncho and Cruiser are available on sweet corn for protection from seed corn maggot damage. Soil insecticides including Force, Lorsban, Fortress, Furadan and Counter are also labeled for SCM control in sweet corn. Be sure to check all labels for use rates, any label changes and rotational restrictions.

Growing Good Watermelon Transplants - Ed Kee, Extension Vegetable Specialist; kee@udel.edu

Within a few weeks, watermelon growers will be transplanting in the field with plants that are being started now. Seedless watermelons, which make up probably 60% of our acreage, need higher temperatures to germinate. It is helpful to keep the day temperatures up between 85 and 90, and not let the night temperatures get below 70. This helps germination.

However, it is critical to not keep those temperatures that high once the watermelon seedlings are emerging. High temperatures from that point forward will lead to “leggy” plants that do not transplant well. I turn the temperatures back as soon as 80 to 90% of the seeds have cracked through and have the cotyledon leaves showing. From that point on, day temperatures at 80 and night temps at 65 or even 60 will keep them growing nicely, producing a blocky, sturdy plant with plenty of roots when they are ready for the field 30 days after planting.

“Leggy” watermelon or cantaloupe transplants are especially problematic because they are susceptible to damage caused by wind. First, a tall transplant will not be able to maintain its moisture requirements as well, because the root system can’t keep up with the larger top area (an important reason to have well-developed roots). A wilting, limp or flaccid plant is even more susceptible to wind, which twists the plant around. Cucurbits have very little fiber in their stems, so they cannot resist the twisting action as well.

Bottom line - keep the greenhouse warm during germination and the earliest emergence stages, then moderate the temperatures to grow a stocky, well-developed plant that will withstand the cold, harsh reality of the field once transplanted.

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

Potatoes

Just a reminder, as growers begin to treat seed potatoes for planting, that late blight was a problem in seed areas last year. Hopefully, your seed is free from late blight, but there is more reason this year to use a seed treater with mancozeb or maneb for late blight control. These include the combination seed treaters Maxim MZ, Tops MZ and Tops MZ Gaucho, Evolve, MonCoat MZ, and the mancozeb alone products including Polyram. Evolve seed treater contains mancozeb and cymoxanil which is also very active against late blight on seed tubers.
Spinach
Be sure to check overwintered fields for white rust. As soon as white rust is seen or discovered in the area, apply Quadris (Amistar) or Actigard 0.75 oz/A as a foliar spray on susceptible varieties.

Phytophthora Blight and Fruit Rot
Phytophthora Blight and Fruit Rot, caused by the fungus *Phytophthora capsici*, is still a concern for vegetable growers. The fungus is favored by wet conditions and flooded soil. It was seen last season again on lima bean pods from wet areas of fields in Kent County. On limas it can look like downy mildew, but it is different. It was also seen on pumpkins in Kent and New Castle Counties. It has caused significant losses in cucumbers, both slicers and pickles, pumpkins and summer squash in past years when we got lots of rain in a short period of time.

The best control is to grow the peppers and squash on raised beds to get them out of the water and to rotate for long periods of time (3 years or more) away from susceptible crops. For vegetable growers this is difficult because many crops are susceptible and irrigation availability limits rotation intervals. But a combination of rotation and other horticultural practices combined with fungicides may provide some relief. Fungicides alone have not provided a solution as results from New Jersey on Phytophthora blight on peppers has shown. Overuse of fungicides can result in the fungus becoming resistant or tolerant of the fungicide. We have documented that several populations of the fungus are resistant to mefanoxam (Ridimil, UltraFlourish) in DE. What drives this disease is water. Choosing well-drained fields, avoiding planting wet areas, and planting on high beds combined with fungicides that are labeled for the crop have provided a measure of control.

Be aware that this soil-borne fungus is out there and could become a problem if introduced or identified on your farm. It infects a wide number of vegetables including cucurbits (cucumbers, cantaloupes, watermelons, pumpkins and summer and winter squash), peppers, eggplant, tomatoes and now lima bean pods. It also has been reported to infect snapbeans in Michigan in fields with a history of zucchini or cucumber production and *P. capsici* infection.

For more detailed info click on the link from the Great Lakes Vegetable Meeting: http://www.glexpo.com/abstracts/2004abstracts/phytophthora.pdf

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**Agronomic Crops**

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

**Alfalfa**
Begin scouting fields in early April for signs of alfalfa weevil feeding. Look for small larvae feeding in the tips of plants producing a round, pinhole type of feeding. Once you detect tip feeding, a full field sample should be taken. You will want to avoid treating fields too early since it may result in multiple applications. In general, no treatment should be needed before you observe 50 percent of the tips with feeding damage. A more accurate way to time an application and try to avoid multiple insecticide applications would be to sample stems and determine the number of weevils per stem. A minimum of 30 stems should be collected per field, placed top first in a bucket to dislodge larvae from the tips and then count the number of weevils per stem. 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 - 15 inches tall - 1.5 per stem; 16 inches tall - 2.0 per stem and 17 - 18 inches tall - 2.5 per stem. Numerous pyrethroids are now labeled for alfalfa weevil including Baythroid, Mustang MAX, permethrin and Warrior. Furadan, Imidan, Lorsban, Lannate and Steward are also labeled for alfalfa weevil control.

**Field Corn**
We will again be cooperating with UAP Inc. in a pheromone trapping program for black cutworm moths. As of this date, only one moth has been caught in the Delmar area. Although no precise numbers are available, moth catches of 9 to 15
moths per 7-day period have been associated with a moderate to high potential for cutworm outbreaks. Larvae should be large enough to begin cutting when about 300 base-50 degree-days have accumulated since peak moth activity and egg laying. Pheromone trap catches can help determine when peak moth flight and egg laying occurs; however, they cannot predict the amount or magnitude of cutting that will occur. The presence of a major flight only means that the potential for an outbreak exists. Adverse weather, lack of adequate food for newly hatched larvae, predation, and disease can reduce larval populations. You can use pheromone trap and degree-day information to estimate or predict when first cutting will occur. Scouting of seedling corn near the first cutting date is the best way to determine whether a problem exists. Just a reminder, if you plan to tank mix a pyrethroid with an herbicide for cutworm control, it should be done at or immediately following planting. Pyrethroids combined with early burn-down applications, 2-3 weeks before planting, have not provided effective control.

**Timothy**
As soon as fields green up, you should begin checking for cereal rust mites and the early signs of infested leaves, especially in fields with problems in past years. These mites are microscopic, so the use of a 20x-magnifying lens is necessary. If rust mites become a problem, Sevin XLR Plus still has a 24(c) label on timothy for rust mite management. The following are the use directions for this label: Apply 3 pts per acre using ground equipment only, and adequate water for complete coverage (20 or more gallons by ground). One application should provide enough suppression to prevent economic yield and quality losses. Apply at approximately 3-4 weeks after green-up in fields with a previous history of rust mites and/or when 25% of the plant tillers exhibit curled tips of the new leaf blades within several weeks of green-up. Do not apply within 30 days of harvest or grazing and do not apply more than once per cutting. The following is a link to the 24 (c) label for Delaware.
http://www.cdms.net/ldat/ld332028.pdf

**Wheat**
Be sure to begin sampling fields by mid-April for cereal leaf beetle activity. We have found the first evidence of adult feeding, so fields should be scouted early for the presence of egg masses. In recent years, the threshold for cereal leaf beetle has been adjusted to include sampling for eggs, especially in high management wheat fields or areas where problems were experienced the previous year. The eggs are elliptical, about 1/32 inch long, orange to yellow in color when first laid changing to a burnt orange prior to hatching. Check our website for pictures of cereal leaf beetle adults, larvae and eggs: http://www.udel.edu/IPM/facts/clbpictures.htm

Generally, eggs are laid singly or in small scattered groups (end-to-end) on the upper leaf surface and parallel to the leaf veins. Cereal leaf beetle larvae are brown to black, range in size from 1/32 to 1/4 inch long, and eat streaks of tissue from the upper leaf surface. Since cereal leaf beetle populations are often unevenly distributed within the field, it is important to carefully sample fields so that you do not over or under estimate a potential problem. Eggs and small larvae should be sampled by examining 10 tillers from 10 evenly spaced locations in the field while avoiding field edges. This will result in 100 tillers (stems) per field being examined. Eggs and larvae may be found on leaves near the ground so careful examination is critical. You should also check stems at random while walking through a major portion of the field and sampling 100 stems. The treatment threshold is 25 or more eggs and/or small larvae per 100 tillers. If you are using this threshold, it is important that you wait until at least 50% are in the larval stage (i.e. after 50% egg hatch). If the above egg/small larvae threshold is not used, the threshold of 0.5 larvae per stem can be used as a guideline to make a treatment decision; however, fields must be scouted carefully and visited twice a week when populations are approaching threshold levels. Materials labeled for cereal leaf beetle control on wheat include Sevin, Lannate, Warrior and Mustang Max. The only material labeled for cereal leaf beetle on barley is Lannate.
Agronomic Crop Diseases: Bob Mulrooney, Extension Plant Pathologist, bobmul@udel.edu

Soybean Cyst Nematodes.
It is not too late to soil test for the soybean cyst nematode (SCN). If soybean stubble is present, sample with a soil probe 6-8 inches deep between the plants in the row. Samples should be taken before any spring tillage. Sample size should be 20-25 cores taken in a zig-zag pattern across the field. Ideally samples should represent no more than 10-20 acres. Sample bags and information sheets are available from the county extension offices. The cost is $10 per sample. Information sheets including instructions on how to take a sample are also available on the web now at: http://ag.udel.edu/Extension/Information/pdc/pdf/Nematode_Assay_taking_samples.pdf

Samples should be submitted with this form. New fields and those to be planted with susceptible varieties are the most critical to sample at this time. Several fields in early summer were seen with severe stunting from high nematode populations and the early dry weather. The ample rainfall the last two seasons has favored plant and root growth that provides SCN with plenty of food to reproduce. Infected plants will not show much if any stunting under these conditions which leads growers to believe that all is well with the crop. Soil testing for SCN will let you know what is happening in your fields.

Keep in mind, that most Roundup Ready varieties do not have resistance to race 1 of the soybean cyst nematode (SCN) but carry some resistance. From sampling done in the mid 90’s we know that approximately 33% of the fields tested were infested with race 1. This makes monitoring SCN populations more important if you are growing continuous soybeans and using Roundup Ready varieties. Periodic sampling can indicate if SCN populations are increasing. Soybean variety trial results are available from the county Extension offices and on the web at http://www.udel.edu/varietytrials/soybeans/ so you can see how a few varieties performed locally. Make use of this information. Without aggressive management such as planting SCN-resistant varieties and rotating with non-host crops, yields can be reduced by 75 percent or more in hot, dry growing seasons.

Late Green-Up and Slow Early Spring Growth in Barley and Wheat - Richard W. Taylor, Extension Agronomist, rtaylor@udel.edu

A slow warm up this spring has resulted in very slow green-up in many wheat and barley fields. Even in fields that have received nitrogen (N) application, rainfall accumulation in some areas could soon either move the N below the rooting zone or result in N losses through denitrification of nitrate nitrogen. Up to this point, cool to cold weather has limited rooting depth since rooting depth is determined by soil temperature. Although many growers have applied all N in one application, they will need to monitor the crop closely over the next few weeks to be sure that leaching or denitrification do not limit yield potential. If the crop begins to show N deficiency symptoms and the crop stage of growth is appropriate for an additional N application, a second application may be needed. Keep in mind that barley N need is lower than that for wheat since lodging becomes very significant in barley if N rates are above 80 lb N/A. Winter wheat tolerates more N but manage it based on your own experiences for your soil types.

Split N applications, especially on small or late planted wheat, can improve yield potential. In our work and work in other nearby states, split N applications under good growing conditions, show an average yield increase of 3 to 5 bu/A. This advantage increases if the wheat is not well tillered. For barley, a single N application of 60 to 80 lbs N/A shortly before or soon after green-up is very effective in producing maximum economic yields.

For no-till wheat, data from several sources indicate that an extra 20 lb N/A (applied at green-up) will be needed. Apply a larger proportion of total N at green-up if splitting N application since conditions in early spring are more unfavorable for growth with no-till compared to reduced or conventional till wheat. The extra N improves wheat’s growth and vigor.
This year’s weather pattern has put a lot of stress on the crop and the extra N likely will be very necessary.

Since many wheat fields have not progressed very far with respect to stage of development, it may be useful to growers and consultants to use the information developed by Virginia Polytechnic Institute and State University. Virginia Tech’s research data relates stand counts and tiller counts to N application rate when split N applications are used. First, lets take a look at Feeke’s growth stage 3 (GS3--tillering) at spring green-up time. If the stand count is 30 or more plants per square foot (15 per foot of row on 6 inch rows or 18 to 19 per foot of row on 7 or 7.5 inch rows) or 70 or more tillers (a tiller has 3 leaves emerged) per square foot, the stand is adequate for optimum yield so apply more of your N in the second split at first jointing (the first node or stem swelling appears above the soil surface). If stand tiller counts are more than 100 per square foot, no N is needed until GS 5 (leaf sheaths erect and just before jointing begins). For stands this good, use your regular fertilizer program but split the N with 1/3 or more of the total N at green-up and the remainder at GS5. Early season N tends to stimulate more vegetative growth, taller plants, and more potential for lodging. Growth stage five N improves yield and protein content of the grain. After the first N application observe the crop for possible manganese deficiency problems about a week to 10 days after active growth occurs.

If the stand count is less than 25 per square foot but tiller counts are 50 to 70 tillers per square foot, early N at green-up will help stimulate further tillering and maintain current tillers. Apply as a split application but with 40 to 50 percent of the total N early and the remainder at G55.

When stand counts are 16 to 24 plants per square foot but tiller counts are low, yield potential is below optimum. In this case, do not over fertilize with N especially with high N prices but split apply N with at least 50 to 60 percent early to stimulate tillering. If the stand count is below 15 plants per square foot, Kentucky data indicate yield potential is 70 percent or less so fertilize accordingly.

### Reminders on Acetochlor Use Restrictions

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

Acetochlor is a preemergence herbicide for corn that controls annual grasses and some broadleaf weeds. It is in the following products: Harness, Harness Extra, Degree, Degree Extra, Topnotch, Fultime, and Keystone. There are restrictions that are important in our area. The restrictions pertain to groundwater quality. The restrictions are based on depth of groundwater within one month of planting and the combination of soil type and organic matter. Do not apply acetochlor if the groundwater depth is within 30 feet 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.

### Dicamba Formulations for Horseweed Control

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

There has been some confusion about use of Clarity and/or Banvel for weed control prior to planting soybeans. Both Clarity and Banvel contain only dicamba as the active ingredient and both are labeled prior to planting soybeans. Both require a period of time between application and planting. Banvel restriction is 30 days regardless of rate. The Clarity label requires a cumulative amount of rain or irrigation of 1 inch (meaning the rain does not have to fall all at one time) followed by 14 days before planting if less than 8 oz of product is used (longer interval is required if more than 8 oz/A is used). University of Delaware research has shown 6 oz of Banvel or Dicamba at this time of year is adequate for horseweed control.

### New(er) Corn Products for 2005

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

Lexar (Syngenta) is a premix of atrazine, Dual, and Callisto. These are the three herbicides in Lumax, but at different rations. Lexar can only
be applied up to 14 days prior to planting. Rates are based on soil organic matter, with 3 qt for less than 3% organic matter and 3.5 qts/A for greater than 3% organic matter. Lexar can be applied to emerged corn (up to 12 inches tall).

**Expert (Syngenta)** is a premix of atrazine, Dual, and glyphosate. It is very similar to Bicep Magnum plus an IPA-glyphosate. Additional surfactants are not needed. Expert can be applied up to 30 days prior to planting and preemergence. Expert can not be applied to emerged non-Roundup Ready corn; but up to 12 inch tall Roundup Ready corn. The label includes numerous tank partners, and rate varies from 2.5 to 3.75 qts/A.

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**Preemergence Herbicide Rates in Corn -**
**Mark VanGessel, Extension Weed Specialist; mjv@udel.edu**

I have been asked about comparable rates of various premixed soil-applied herbicides for corn. That is very difficult to come up with. All of these pre-mixes have varying ratios of atrazine and chloroacetamide herbicides. Chloroacetamide herbicides are the grass herbicides such as metolachlor (Dual) or acetachlor (Harness), or dimethenamid-p (Outlook). Some of the basic manufacturers in our area encourage the use of their products at rates above what is recommended on the label to ensure consistent performance. I have told people when they ask about comparable rates, that you have to look at the label and see what the companies themselves recommend for a given soil type and organic matter content. The soils in our region (high percentage of sand and low organic matter) are not well suited to hold enough herbicide for full-season weed control. Unless we have ideal conditions that allow for early activation of the herbicide and excellent growing conditions for vigorous corn growth immediately after planting, the soil-applied herbicides are not likely to provide season-long weed control and will need some postemergence herbicides to keep the fields clean until harvest.

There have been changes in formulation and ratios of products for many pre-packaged herbicides over the past few years. As a result, check the label for your product of choice since often the new formulations recommend lower use rates than what was previously labeled. Below is a chart on rates of the most common pre-packaged mixtures used in the area, general use rate, and the amount of products they are providing:

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rates</th>
<th>atrazine</th>
<th>chloroacetamide (grass herbicide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicep II Magnum</td>
<td>1.6 qts</td>
<td>1.24 qt</td>
<td>1.0 pt Dual II Magnum</td>
</tr>
<tr>
<td>Fultime</td>
<td>3.0 qts</td>
<td>1.2 qt</td>
<td>2.25 qt Topnotch</td>
</tr>
<tr>
<td>Guardsman Max</td>
<td>2.0 qts</td>
<td>1.3 qt</td>
<td>14.5 oz Outlook</td>
</tr>
<tr>
<td>Keystone</td>
<td>2.6 qts</td>
<td>1.5 qt##</td>
<td>2.4 qt Topnotch**</td>
</tr>
<tr>
<td>Harness Xtra 5.6L</td>
<td>1.7 qts</td>
<td>1.1 qt</td>
<td>0.76 qt Harness</td>
</tr>
<tr>
<td>Lumax</td>
<td>2.5 qts</td>
<td>0.625 qt</td>
<td>1.76 pt Dual II Magnum AND 5.4 oz Callisto **</td>
</tr>
<tr>
<td>Lexar</td>
<td>3.0 qts</td>
<td>1.3 qt</td>
<td>1.3 pt Dual II Magnum AND 5.4 oz Callisto **</td>
</tr>
</tbody>
</table>

##The atrazine formulation in Keystone is not available in other products.

**Not a true comparison since Topnotch is a capsule suspension formulation and the acetachlor in Keystone is a suspo-emulsion formulation.**

**Callisto is not a chloroacetamide**
Herbicide/Insecticide Reminders - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

Counter, Lorsban, and Fortress are organophosphate (OP) insecticides used in this area. Many of the postemergence herbicides have precautions about applying them to corn previously treated with OP insecticides. Herbicides that list restrictions or precautions include Python, Hornet, Accent, Basis Gold, Steadfast, Steadfast ATZ, Celebrity Plus, Harmony GT, Pinnacle, Beacon, Exceed, NorthStar, Spirit, Callisto, Option, Equip, and Lightning. If you are considering using any of these herbicides, refer to the label regarding restrictions/precautions with OP insecticides before you plant.

Upcoming Meetings

Pesticide Safety Training and Testing for Pesticide Applicators Certification
June 28 & 29, 2005
Kent County Extension Office

June 28 is training -- 8:30 am - 4:30 pm. Training continues the morning of June 29, from 8:30 a.m. - noon. The exam starts at 1:00 pm on June 29.

Be sure to bring your Workbook! You don't have to register for training, but you must register for the exam. Call DDA (302-698-4500) one week in advance to register for the exam. All exams are closed book!! Bring your calculator for the calibration questions.

2005 Wye Strawberry Twilight Meeting
May 25, 2005  6:00 - 8:00 p.m.

-2004-05 research plots
-Effect of Strawberry tip plugging date on Spring yields with and without Fall applied row covers in the field and in a high tunnel.
-Variety trial with Bish, Treasure, Festival and Gem. USDA cooperative research on "conditioned" strawberry plugs for Fall and Spring harvest.
-Greenhouse-gutter production system.
-USDA Fruit Pathologist Bill Turechek will discuss strawberry diseases and current control measures. USDA and University small fruit specialist will also be on hand.

Equine Hoof Care Workshop
April 23, 2005  9:00 a.m. – 12:00 noon
Harrington Raceway

This will be the first in a series of workshops focusing on the horse’s hoof. Laura Florence, Resident Farrier from University of Pennsylvania Veterinary School’s New Bolton Center will lead the workshop.

Space is limited and registration is $5. Contact Susan Truehart Garey (302) 730-4000 truehart@udel.edu

Beef Cattle Program
April 7, 2005  6:30 p.m
Kent County Extension Office

The Delmarva Cattleman’s Association will be holding a seminar and brief meeting. The featured speakers will be Greg Hill and John Tigner from ADM/Alliance Nutrition on the topic of Brood Cow Nutrition. Discussion will follow about setting up an advisory board to guide the association and its activities. Please consider volunteering your time and expertise!

Refreshments will be provided. Contact Susan Truehart Garey (302) 730-4000 truehart@udel.edu
## Weather Summary

**Weather Summary**

<table>
<thead>
<tr>
<th>Rainfall:</th>
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</thead>
<tbody>
<tr>
<td>0.08 inches: March 25</td>
</tr>
<tr>
<td>0.43 inches: March 28</td>
</tr>
<tr>
<td>0.02 inches: March 29</td>
</tr>
</tbody>
</table>

Readings taken for the previous 24 hours at 8 a.m.

<table>
<thead>
<tr>
<th>Air Temperature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highs Ranged from 64°F on March 28 to 48°F on March 25.</td>
</tr>
<tr>
<td>Lows Ranged from 46°F on March 29 to 36°F on March 31.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil Temperature:</th>
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<tbody>
<tr>
<td>49°F average.</td>
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</table>

(Soil temperature taken at a 2 inch depth, under sod)

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**Order Form for Pest Management Recommendations for Field Crops 2005**

Please send me ____ copy(ies) of the Pest Management Recommendations for Field Crops 2005. Cost is $15 per book (including shipping and handling.)

Make checks payable to “University of Delaware”

Amount enclosed $_______ Check # _________

Name:__________________________________________________________

Address: ______________________________________________________

City: ___________________________ State: __________ Zip: __________

Telephone: _________________________________________________

Return this form to: Sharon Webb, University of Delaware Research & Education Center, 16684 County Seat Highway, Georgetown, DE 19947

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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:**

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*University of Delaware*