Dave’s Ramble

A whirlwind of bees encompassed me as I hastily abandoned the Allis Chalmers and dashed for the ditch bank. My first encounter with a honeybee swarm has intrigued me for life. I grew up during a time when honeybees were plentiful; as the colonies flourished a new queen was reared. The swarm was a natural process of dividing to start a new hive in the wild. The queen leads the quest with half the colony to locate the most suitable bee tree.

“Where are they?” exclaimed my grandfather. My courage was bolstered when he assured me that they would not sting while swarming. However, to capture this rogue hive, now that was truly exciting for a ten year old. He hastily grabbed an old box, a step ladder and proceeded to weight a rope then hollered, “Let’s go!” We ran to the site of encounter; low and behold there they where—a basketball sized mass of bees about ten feet off the ground on a small tree limb. The bee hunter positioned the box on the ladder directly under the swarmed bees. Then hurled the weighted line over the limb and gave a quick tug. A sound I will never forget, that thud as the bees splashed into the box. With very deliberate but cautious movement I watched with amazement my grandfather now possessing bear like qualities as he stepped up the ladder and closed the box leaving it ever so slightly opened. “Well that’s good for now. We will move them later tonight” he casually stated.

I too became a bee hunter; with powdered sugar on a board placed in a clover patch we methodically followed the white marked bees to a large bee tree in the nearby woods. In fact my cousin found the tree by walking too close to the hive thus receiving a couple of stings. Later on a winter’s day with the temperature around 20 degrees we used a road flare at the base of the tree to smoke the hive. With smoke still rising from the tree my grandfather dropped the tree and proceeded to split it with wedges.

The bee hunters gathered to witness the grandest display of honey imaginable. Like bears we carved out the new honey comb, even tasting this wonderful conquest. My grandfather reached down into the bees and threw them into the air raining down all over the gathered bear cubs. We scrambled madly swatting as his laughter bellowed through the woods.

Splendor not plunder, a memory few would ever be privy as the last of the bee hunters sat by the fire kindled from the wood of that old bee tree eating honey comb on toast smothered with milk – truly in the Land of Milk and Honey!

Spring 2007

Calendar of Events

Mark Your Calendars --- Plan To Participate

- May 5-6 - MD Sheep & Wool Festival - Howard Co.
- May 24 - Strawberry Spring Crops Twilight-Wye REC
- June 13 - Poultry Mortality Composting Course
- June 16 - MD Grape Growers Field Day - CMREC
- August 9 - Crops Twilight & Barbecue - CMREC

Inside This Issue

- Spring/ Summer Meetings
- Vegetable IPM Update
- Mites & Aphids in Strawberries
- Agronomic Crop IPM
- Controlling Top Ten Vegetable Weeds
- New Labels Sinbar (Watermelon) & Reflex (Beans)
- Sweet Corn Response to Callisto & Accent
- Corn Herbicide Package Mixes
- Water Activates Soil Herbicides
- Acetochlor Use Restrictions
- Weed Control for Forages
- Fungicide Resistance Management
- A New Agricultural Legend
- Fertilizer Strategies to Conserve Energy
- Heavy Metal Safety for Fertilizer & Sludge
- Continuous Corn Production Practices
- Orchardgrass IPM
- Pasturing Issues: Close Grazing & Grass Tetany
- Bt and Bee Colony Collapse Disorder
- Green House Ant Control
- Grain Marketing Highlights
- Farm Safety Articles: First On the Scene
- Nutrient Management Update
- Value Added Producer Grants
- Farmer Markets
- Gypsy Moth Aerial Spray Program
- Newsletter Renewal

It is the policy of the University of Maryland, Agricultural Experiment Station and Maryland Cooperative Extension, that no person shall be subjected to discrimination on the grounds of race, color, gender, religion, national origin, sexual orientation, age, marital or parental status, or disability.
Wye Strawberry & Spring Crops Twilight Meeting
Thursday May 24, 2007

Make plans to attend the annual Wye Strawberry & Spring Crops Twilight Meeting on Thursday, May 24, 2007 at the Wye Research and Education Center from 6:00 to 8:00 p.m. For more information contact Debby Dant at 410 827-8056 x115.

HEAR:
♦ Dr. Anne DeMarsay, UM plant pathologist will discuss current disease control strategies and products.
♦ Dr. Harry Swartz, UM small fruit breeder will discuss current work.
♦ Mr. Michael Embrey, UM-WREC apiary specialist, will discuss pollinator concerns.
♦ Mr. Michael Newell, UM-WREC, will discuss fall production research and field plasticulture variety trials.

SEE:
♦ 19 varieties on plastic from California, Florida and USDA breeding programs as part of several research trials.
♦ High tunnel fall production system using bag culture and 5 varieties.
♦ Living samples of strawberry insects and diseases if available. (Participants are asked to bring in samples. Light refreshments served after the meeting. No pre-registration necessary.

1:00 Compost Use - Dr. Jennifer Becker
1:30 Demonstration
2:45 Q&A, Wrap up

Registration Information:
Cost: $25 covers refreshments, lunch, and materials. Please register by Friday, June 8, 2007. For questions, call (301) 405-1395 or email plupo@umd.edu
Maximum Registration is 20 people.
Certificate of completion will be awarded. Name and contact information will be sent to MDA as desired.

Maryland Grape Growers Association
Summer Field Day
Research Vineyard at
CMREC Upper Marlboro
June 16, 2006

The MGGA Summer Field day is approaching fast; it is scheduled for June 16, 2007 at the Summerseat Farm in Saint Mary’s County. This all day event is hosted by the Southern Maryland Vineyard Team and the Maryland Grape Growers Association. Private Pesticide Recertification credit will be awarded for full participation. For more details visit the Maryland Grape Growers Association website at: http://www.marylandwine.com/mgga/

Poultry Mortality Composting Short Course and Demonstration
Wednesday June 13, 2007
9:00 AM- 3:00 PM
Poultry Research Center
University of Maryland Eastern Shore, Princess Anne, MD
Sponsored by Environmental Science and Technology Department
University of Maryland Cooperative Extension

AGENDA
9:00 Registration - coffee available
9:30 What Is Composting - Dr. Jennifer Becker
Description of the compost process, the variables that control the process, recipes to successfully compost, and the items that must be controlled: time, oxygen, moisture, pH, C:N ratio.
10:15 Whole Animal Composting - Dr. Gary Felton
Whole animal compost systems, set-up of a poultry mortality composter, bio-security, legal and environmental issues.
11:15 Channel composters - Bud Malone (U. Del.)
What Can Go Wrong with Mass Mortality Composting - Dr. Gary Felton
Both in-house composting and outside composting of large numbers of dead birds.
Mass Mortality Experiences - Dr. Nathaniel Tablante
12:00 Lunch

Annual Field Crops Research Twilight Barbecue & Ice Cream Social
CMREC, Upper Marlboro Farm
August 9, 2007

You are invited to attend a twilight wagon tour of the University of Maryland Upper Marlboro Research Farm, on Thursday, August 9, 2007 from 4:30 p.m. to 8:30 p.m. Maryland Cooperative Extension will host this Annual Field Crops Research Twilight Barbecue & Ice Cream Social.
Served after the barbecue, “Old-fashioned” homemade ice cream! It’s “old fashioned” ice cream because we will be using a 1929 Fair-Banks Morse antique gas engine to do the cranking.
This event will highlight all field crops, agronomic and horticultural research projects currently conducted at the CMREC Upper Marlboro Farm, possibly including but not limited to the following:
♦ Vegetable IPM
♦ Weed Control
♦ Vineyard Projects - Table and Wine Grapes
♦ Corn Stalk Nitrate Test Study
♦ P Phyto-Remediation Grain vs. Forage Systems
♦ Peach & Beach Plum Research
♦ Ethnic and Specialty Vegetables
♦ Strip-Till/No-Till Vegetable Production Techniques
♦ Blueberry Project
Vegetable Crop Insects
Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

Seed Corn Maggot (SCM) in Spring Planted Vegetables

Be sure to continue to consider seed corn maggot control in all spring planted crops. We have started to find maggots infesting earlier planted peas. With the recent rainy, cooler weather, seed corn maggot flies continue to lay eggs. Adult flies prefer to lay eggs in recently plowed fields, especially if cover crops were plowed under, as well as in manured fields. Control options can include commercial applied seed treatments, hopper box treatments or soil insecticides; however, not all options are available for all crops. Please refer to the labels as well as the following link for control options - http://ag.udel.edu/extension/vegprogram/publications.htm

Diazinon

The following EPA documents provide the most recent information on diazinon use on agricultural crops: http://www.epa.gov/REDs/factsheets/diazinon_cancellation_fs.htm

This January 2007 document lists all the cancelled uses of diazinon. All seed treatment uses have been cancelled. http://www.epa.gov/fedrgstr/EPA-PEST/2006/December/Day-06/p20429.htm

This December 2006 document provides more detail as well as comments on existing stocks. Although seed treatment uses have been canceled, in recent conversations with EPA and Makhteshim Agan of North America, Inc., they both indicated that existing stocks with old labels can be used this year. As a reminder, seed treatment products containing a mixture of both diazinon and lindane are subject to the stop sale (July 1, 2007) and stop use dates (Oct 1, 2009) for the lindane in the mix.

IPM Techniques for Vegetable Producers
Michael D. Orzolek,
Department of Horticulture, Pennsylvania State University

Use of plasticulture systems for vegetable production - Many vegetables benefit from being grown on raised beds (28" to 30" wide and 6" to 8" tall) covered with plastic mulch and drip irrigation tape buried beneath it in the bed. The plastic film, generally black but can be other colors, not only eliminates weed growth but also increases soil temperature, maintains higher soil moisture levels, reduces leaching of nutrients and other pesticides applied to the bed and retains soil structure throughout the growing season. Mulch color has been shown to reduce some insect problems as well as some disease problems.

If populations of volunteer weeds, insects or disease causing organisms are still present after using several of the cultural controls available for pest management in vegetables, then the use of appropriate pesticides should be considered. However, before applying the pesticide on the problem pest(s), several decisions need to be made by the grower. One, is the pesticide labeled for the intended crop use? Two, will the pesticide provide effective control of the problem pest(s) found in the crop? Three, what rate should be applied and what method of application should be used? Four, are there any sensitive crops being grown near the field where the pesticide will be applied? Five, what is the half life of the pesticide and how long will it last in the field after application? If a grower has answered all these questions to his/her satisfaction, then applying a specific pesticide to a specific vegetable crop to control a specific pest should be made. Of course, it is assumed that: 1) there is negligible wind during application, 2) the sprayer has been correctly calibrated, 3) all nozzles tips and screens have been checked for wear and blockage and 4) both the crop and pest populations are actively growing and not under stress.

As growers become busier tilling fields, planting crops and monitoring pests in the field, they invariably will take short cuts to become more efficient with time and maintain some resemblance of a production plan for the year. However, short cuts lead to mistakes and mistakes can result in the reduction of both yield and quality of most vegetable crops.

Mites and Aphids in Strawberry
Jerry Brust, IPM Vegetable Specialist; jbrust@umd.edu

Over the last few weeks I have visited several strawberry patches, many in high tunnels, and have noticed infestations of aphids and especially mites. The mites were found in every strawberry field I looked at, while aphids were in about a third of the fields. There were two species of mites found: the twospotted spider mite, Tetranychus urticae, and the strawberry spider mite, (sometimes called the strawberry red spider mite) T. atlanticus. Strawberry spider mite adults are generally red, but overwintering twospotted spider mites are also a red-orange and therefore most of the mites that can be seen with a naked eye will be reddish in color. Spider mites overwinter as adults in the soil or leaf litter, although they may remain somewhat active in high tunnels through the winter. In several high tunnel strawberries, but not on outdoor strawberries, I found many mite eggs. The light yellowish eggs are pearl-like in appearance and are attached to the undersides of leaves or on stems (Fig. 1). Aphid species found were the potato aphid, Macrosiphum euphorbiae and the green peach aphid, Myzus persicae. Aphids are still in low numbers outdoors, but in some places in the high tunnels aphids started multiplying rapidly when we had those few days of very warm weather. These overwintering populations of aphids and mites can be difficult to control as they are “entrenched” in the strawberries. Growers should check their strawberries for both mites and aphids now, especially if you have them in a high tunnel or under a row cover.

The most difficult thing to accomplish for good control is getting adequate spray coverage. Many of the spray applications do a good job of covering the top of the leaves, but do a poor job of reaching the underside of the trifoliates. The underside area of the leaf that usually sees very little chemical deposition is in the ‘palm’ of the leaf (Fig. 2). These are the areas where mites and aphids can still be found even after a few sprays and need to be carefully checked a few days after an application. Good coverage is
essential. One grower used a leaf blower-like back pack sprayer and applied 9 gallons of spray onto three rows of strawberries in a 14 x 100 ft area. Two applications of 1% (by volume) horticultural oil were applied about 7-8 days apart. He got excellent spray coverage on the underside of his leaves and consequently excellent control of the mites and the few aphids that were present using the horticultural oil. Control of the adults and nymphs was around 98%. By using two applications about one week apart it is possible to control not only the adults and nymphs, but also the newly hatched eggs. Oil is a good management tactic to use at this time of year as the plants are small and any possible burn from using the oil is a very low risk. An added benefit of the oil is that is rather inexpensive. I would like to see growers use something like oil now and save the other chemicals for later in the season when plants are much bigger and there is a flare up of mites or aphids. Using oils now will also greatly reduce any development of mite resistance to other chemicals over the course of the season. Acramite, and Agrimek are two excellent miticides. However, Acramite should only be used once during a season and resistance is possible if multiple applications are made or if there is poor coverage. Thionex or Provado can be used for aphid control.

**Figure 1** Two spotted spider mite adults and eggs

**Figure 2** Underside are of strawberry trifoliate where mites can avoid chemical sprays

**Agronomic Crop Insects**

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

**Alfalfa**

In addition to alfalfa weevil, be sure to watch fields for an increase in pea aphid populations. Heavily infested plants may turn yellow and wilt. Although generally not a problem, pea aphids prefer cool, dry conditions and can be a problem in both the first cutting and during spring seedling establishment. This species tends to congregate on the tips of alfalfa plants where they feed on young, succulent developing shoots. To sample for aphids, clip alfalfa stems at the base of the plant and record the number present per plant. You may want to examine plants over a white bucket to collect any aphids that are dislodged from the plants. In seedling stage alfalfa, a treatment should be considered if you find 5 aphids per stem. As a general guideline, you should consider a treatment in alfalfa less than 10 inches tall if you find 40-50 aphids per stem. The treatment threshold for alfalfa 10 inches or taller is 75- 100 per stem.

**Field Corn**

In general, black cutworm trap catches remain low. 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 in field corn. 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 an insecticide with an herbicide for cutworm control, it should be done at, or immediately following planting. Insecticides combined with early burn-down applications, 2-3 weeks before planting, have not provided effective control. For the most recent pheromone trap catches, be sure to check trap catches posted weekly on the University of Delaware IPM website at http://ag.udel.edu/extension/IPM/traps/currentbcwtraps.html

**Wheat**

Be sure to begin sampling fields 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).

Controlling the Top 10 Weeds: Vegetable Herbicide Update

Southern Maryland Vegetable & Fruit Meeting
Clements, MD
February 7, 2007

R. David Myers
Extension Educator, Agriculture

WEED LIFE CYCLES

• Biennial Weeds Require 2 Years to Complete Life Cycle (Bull Thistle)
• Perennial Weeds Live for More Than 2 Years (Dandelion). Simple Perennials Will Produce Seed Each Year as a Means of Reproduction. Creeping Perennials Produce Rhizomes or Stolons (Vegetative Means of Reproduction) and Seed (Johnsongrass). Bulbous Perennials Produce Seed and Bulbs (Wild Garlic)

PREEEMERGENCE HERBICIDES

Preemergence herbicide barriers are effective for 4-6 weeks.
For fast growing crops with adequate early canopy development this herbicide barrier is normally sufficient.
Co-emerging resistant and tolerant weeds or late germinating, large seeded or perennial weeds are the candidates for the top 10 list.

Top Ten Vegetable Weeds in Southern Maryland

<table>
<thead>
<tr>
<th>#</th>
<th>Weed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pigweed</td>
</tr>
<tr>
<td>2</td>
<td>Lambquarters</td>
</tr>
<tr>
<td>3</td>
<td>Morning glories</td>
</tr>
<tr>
<td>4</td>
<td>Cocklebur</td>
</tr>
<tr>
<td>5</td>
<td>Jimsonweed</td>
</tr>
<tr>
<td>6</td>
<td>Yellow nutsedge</td>
</tr>
<tr>
<td>7</td>
<td>Thistle</td>
</tr>
<tr>
<td>8</td>
<td>Crabgrass</td>
</tr>
<tr>
<td>9</td>
<td>Bermudagrass</td>
</tr>
<tr>
<td>10</td>
<td>Johnsongrass</td>
</tr>
</tbody>
</table>

Weed Thresholds in Field Crops

ANNUAL WEEDS -- # per 25 sq. ft. to cause 10% loss
- cocklebur: 3
- jimsonweed or velvetleaf: 3
- pigweed, lambquarters or morning glories: 5
- annual grasses: 20

PERENNIAL WEEDS -- % of field infested
- light: <5%
- heavy: <30%
- moderate: <10%
- severe: >30%

NOXIOUS WEEDS -- no threshold, eliminate all

Selective Control Options for the Top Ten Vegetable Weeds in Southern Maryland

1Pigweed  2Lambquarters
Herbicide resistant small seeded summer annual broadleaves. Prolific seed producers.
- Pre Herbicides with promise: Dacthal, Command or Strategy, Callisto, Lorox, Galigan/Goal, Karmex, Sinbar, Kerb
- Post Herbicides with promise: Pursuit, Aim, Banvel, Buctril, Callisto, Sandea (misses LQ), Sencor/Lexone

Vegetable Herbicides Pre-Emergence

Vegetable Herbicides Post-Emergence
Sinbar (Watermelon) and Reflex (Snap Bean) on Federal Labels

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

Over the past few years, Delaware and surrounding states have been granted Section 18s for use of Sinbar on watermelon and Reflex on snap bean. Since last summer, these uses have been added to the federal labels and special labels are not necessary.

Sweet Corn Response to Callisto and Accent

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

We have looked at multiple sweet corn hybrids for tolerance to Accent and Callisto as part of a multi-state project. The study was designed to tell us which hybrids were more sensitive to either of these products. Forty-three hybrids were included in two years of testing, while a total of 157 hybrids were included over the two-year study. Please note that this study was designed to determine...
relative sweet corn hybrid tolerance to Callisto or Accent at twice labeled rates. Yield was not recorded in these trials. The results are available at:
http://www.rec.udel.edu/weed_sci/WeedFacts/SweetCorn%20Trial%20Summary.htm

Bonus was not in the data base, but based on comparative trials, I would rate it as Tolerant for Accent. Bonus was not in the data base, but based on comparative trials, I would rate it as Tolerant for Accent. Bonus was not in the data base, but based on comparative trials, I would rate it as Tolerant for Accent. Bonus was not in the data base, but based on comparative trials, I would rate it as Tolerant for Accent. Bonus was not in the data base, but based on comparative trials, I would rate it as Tolerant for Accent.

Prior to postemergence herbicide application, it is important to have moisture present in the soil to incorporate (activate) the herbicide. The amount of water needed to “activate” soil-applied herbicides varies with the herbicide and soil conditions. The amount of moisture needed also depends on the soil moisture level at time of application. Herbicides, their solubility, and relative moisture required for their activation

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Solubility (ppm)</th>
<th>Relative moisture required to activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine</td>
<td>33</td>
<td>+++</td>
</tr>
<tr>
<td>Callisto</td>
<td>1500</td>
<td>*</td>
</tr>
<tr>
<td>Define</td>
<td>56</td>
<td>+++</td>
</tr>
<tr>
<td>Dual II Magnum / Cinch</td>
<td>488</td>
<td>**</td>
</tr>
<tr>
<td>Harness / Degree</td>
<td>223</td>
<td>***</td>
</tr>
<tr>
<td>Lasso / Micro-Tech</td>
<td>242</td>
<td>**</td>
</tr>
<tr>
<td>Outlook</td>
<td>1174</td>
<td>*</td>
</tr>
<tr>
<td>Princep</td>
<td>5</td>
<td>+++</td>
</tr>
<tr>
<td>Prowl / other pendimethalin formulations</td>
<td>1</td>
<td>+++</td>
</tr>
<tr>
<td>Topnotch</td>
<td>223</td>
<td>***</td>
</tr>
</tbody>
</table>

Water is Needed to “Activate” Soil-Applied Herbicides

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

Herbicides applied to the soil surface require rainfall or irrigation to move them into the soil where the plants will absorb them; or they need to be mechanically incorporated (field cultivator). The amount of water needed to “activate” these herbicides depends on the soil solubility of the herbicide and moisture content of the soil. Most soil-applied herbicides require 0.5 to 0.75 inches to be moved in the soil if the soil is “dry” (less water if the soil is moist). Princep requires 0.75 to 1.0 inches of water to become “activated.” If you have irrigation and your corn herbicides have been applied but you have not received at least 0.5 inches of water, you should consider applying that amount with your irrigation. The less soluble the herbicide, the more moisture (rain or irrigation) needed to incorporate (activate) the herbicide. The relative moisture to activate the herbicide is a guideline for rainfall or irrigation needed within a short time after application to move the herbicide into the root zone. Amount of moisture needed also depends on the soil moisture level at time of application. Herbicides, their solubility, and relative moisture required for their activation

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.
Weed Control in Forages
Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

If you have not done so yet, be sure to examine your hay, pasture, and alfalfa fields for weed infestations. Earlier applications are much more effective than later ones, as weeds get larger and start to produce seeds. For grass hayfields or pastures, weed control options include dicamba (Banvel or Clarity), 2,4-D, Overdrive, Crossbow, or Cimarron. Cimarron and Crossbow provide residual control, while the other products do not.

For pure alfalfa fields, Buctril, 2,4-DB, Pursuit or Raptor are labeled. Pursuit and Raptor will provide both postemergence control as well as residual control. For mixed stands of legumes and grasses, Pursuit is an option. Be sure to read the label and follow all precautions concerning grazing and haying restrictions as well as overseeding and re-seeding restrictions.

Growers Guide to Understanding the DMI or SI Fungicides (FRAC Code 3)
Bob Mulrooney; Extension Plant Pathologist; bobmul@udel.edu

The DMI (DeMethylation Inhibitors) or Sterol Inhibiting (SI) fungicides belong to FRAC Code 3 which include the triazoles and imidazoles. Some of these fungicides are commonly known as Tilt (propiconazole), Nova (myclobutanil) and Procure (triflumizole). SIs work by inhibiting the biosynthesis of ergosterol, which is a major component of the plasma membrane of certain fungi and needed for fungal growth.

Resistance of fungi to the SI fungicides has been characterized and is generally known to be controlled by the accumulation of several independent mutations, or what is known as ‘continuous selection’ or ‘shifting’, in the fungus. Such that, in any given field population the sensitivity to the SI fungicide by the fungus may range from highly sensitive (i.e. will be controlled by fungicide) to moderate (partially sensitive) or low (mostly resistant to fungicide). This type of resistance is also known as quantitative resistance. With quantitative resistance there are different levels of resistance to the fungicide due to independent mutations, which is unlike the target mutations that occur in qualitative resistance associated with the QoI fungicides (FRAC code 11).

Because different levels of resistance to the SI fungicide may exist in the field, the fungal population may behave differently to different rates of the SI fungicide being applied. Consequently, it is suggested that using a higher rate of a SI fungicide, may improve control when lower rates have failed. For example, let’s say that a powdery mildew population on pumpkin has 25% high, 50% moderate, and 25% low sensitivity to a SI fungicide. If fungicide is applied at the low rate, only 25% of the population (highly sensitive) may be controlled. However, if the high rate was used, 75% of population may have been controlled. The main point here is that if low rates of SI fungicides have been used and control seems to be weakening, bumping to a higher rate may improve control. Unfortunately, it is difficult to determine what proportion of the powdery mildew population is sensitive or not sensitive by looking at the field until you have begun spraying.

The best advice -- if you are using a low rate and the low rate is not working as you expected, the rate should be bumped up to the high rate the next time the fungicide is sprayed, and if the high rate doesn’t work it may be safe to assume the fungal population has grown mostly resistant. Importantly, if the high rate fails and control does not seem adequate, whether you bumped up to a high rate or started with one, do not continue to use the fungicide. Recognizing if and when fungicide chemistries are failing and when fungicide resistance is developing is critical to producing successful crops and is why scouting on a regular basis, at least before and after each fungicide application, is important. Regular scouting can help reduce unwarranted and ineffective fungicide applications and help reduce costs.

Remember to always tank mix SI fungicides with protectant (M) fungicides (i.e. chlorothalonil or mancozeb) to help reduce the chances for fungicide resistance developing. Always apply SI fungicides according to label rates and resistance management recommendations and always be aware of the fungicide rates you are applying. Adapted from an article by Andy Wyenandt; Extension Vegetable Pathologist, Rutgers University; wyenandt@rci.rutgers.edu

Agronomic Crop Diseases
Bob Mulrooney; Extension Plant Pathologist; bobmul@udel.edu

Barley
The most common disease seen so far this season has been the spot blotch form of net blotch and now I have seen classical symptoms of net blotch as well. This disease is favored by wet, cool weather, which we had. The disease appears to be widely distributed but not causing severe symptoms. As mentioned last week, I do not think that the disease will cause any economic damage as long as the upper two leaves are not spotted or only lightly. See the picture below for the comparison of spot blotch form of net blotch and true net blotch.

The left two barley leaves have symptoms of the spot blotch form of net blotch, and the two on the right have classic symptoms of net blotch.
Wheat

Be on the lookout for leaf rust. It is very early to be warning you about leaf rust. Usually this disease is seen late in the season and has no impact on plant health. Unfortunately it has been seen both at the Virginia Tech research farm in Warsaw, VA and just two days ago at the University of Maryland Research and Extension Center at Wye Mills, MD on susceptible cultivars. We have not had enough leaf rust since 2000 or 2002 to rate wheat varieties for resistance to this disease under our conditions. I am not talking about stripe rust which we saw two years ago but the old leaf rust that most of us were used to seeing. When leaf rust occurs early, before or at flag leaf emergence, the potential for serious losses is high for susceptible varieties if the weather is favorable for infection.

Management recommendations: First it is important to know what cultivar of wheat is being grown. There are plenty that have good resistance to leaf rust. The resistant cultivars are unlikely to need any fungicide but we need to scout them in case there is a new race appearing. The only recent ratings of resistance to the likely race of rust that is prevalent are from the Virginia program. McCormick, Sisson, Roane, SS 550, SS MPV57 and USG 3209 appear to be quite susceptible.

Susceptible cultivars could benefit from a fungicide application if rust begins to develop. You don’t want to spray right away if there is no obvious threat in the field or neighboring field. Fungicides will only last about 3 weeks, and for a single application to give the most bang for the buck, you need to protect the flag leaf for as long as possible. The application window is flag leaf through heading, if rust is a threat. If less than 3% of the plants are infected, any registered product will work well (Tilt, Quilt, Quadris, Headline, or Stratego). If there is more than 3% infection, then you need to move quickly and use a triazole fungicide (Tilt, Quilt, Proline).

This is just a warning not a recommendation to spray, but you should scout your wheat acreage and look for symptoms of leaf rust.

Leaf rust - note the raised orange-red pustules scattered on the leaf surface.

A New Agricultural Legend

Richard Taylor, Extension Agronomy Specialist; rtaylor@udel.edu and Cory Whaley, Sussex County Extension Agriculture Agent; whaley@udel.edu

Everyone is aware of so called “urban legends,” many of which move around the internet today, and are perhaps reminiscent of “old wife’s tales” from a previous generation. Apparently agriculture is not immune from such tales. An agricultural legend apparently was recently broadcast over RFDtv. The legend/information/program stated that you should not see above ground nodal roots on corn (what we refer to as brace roots) or you could be losing from 2 to 10% of your yield potential. The legend/information further indicated that the appearance of brace roots is influenced by seedling depth. The advice offered was that the recommended planting depth should be >2.5 inches to try and keep these roots underground.

In checking this legend out, we communicated with Dr. Bob Nielsen from Purdue University. Bob suggested that the legend is probably borne from someone's logical assessment that roots above ground do the plant no good and therefore must surely represent a wasteful use of plant resources. Bob stated that this reminded him of a quote from one of his colleagues, "Logic can be a systematic way of going wrong with confidence."

Along the lines of that wonderfully accurate quote, let’s review a few things about brace roots and their function in corn. First, with respect to seeding depth, do not plant corn > 2.5 inches deep or you will probably find yourself replanting the corn in three or four weeks. With the cold, wet soil conditions so far this spring, planting deeper than about 1.5 inches could pose a significant challenge for corn emergence as well as delay emergence and that means more risk of disease, pest injury, or crusting. Delayed uneven emergence can reduce yield potential in corn.

The first question that comes to mind is whether brace roots are any different from the other nodal roots that happen to form below ground? No, the roots that form at nodes above the soil surface and to which we refer to as brace roots are essentially identical to other nodal roots that form below ground since they all develop from the stalk nodes. Even the original seminal or seed roots technically originate from the scutellar node.

Brace roots that form at the above ground stalk nodes closest to the soil surface often successfully penetrate the soil and proliferate. Later in the season try pulling a plant or two out of the soil and you’ll be able to see a large proliferation of root mass from these brace roots. They will provide the plant with both nutrients and water and function just like roots from the stalk nodes that form below ground.

If the brace roots fail to reach the soil surface because their root tips dry out too quickly, the roots simply shrivel up and do not wastefully consume any further plant resources.
Lastly, seeding depth has little to no effect on the depth at which the nodal roots first originate. The depth of seeding actually affects the mesocotyl length since its elongation is a red-light mediated/controlled process. The red-light effect determines the depth at which mesocotyl elongation stops and this (depth) is fairly constant. Thus, the crown of the corn plant which is located immediately above the top of the mesocotyl will be located at a fairly constant depth no matter what the seeding depth. Planting too deep, however, can cause corn to fail to emerge from the soil.

For more information about corn root development, please refer to an article that Dr. Bob Nielsen wrote entitled “The Roots of the Matter”. Bob’s article can be found on the internet at: [http://www.kingcorn.org/news/articles.04/Roots-0511.html](http://www.kingcorn.org/news/articles.04/Roots-0511.html)

---

**Wheat Killer Spreads From East Africa to Yemen**

AgProfessional Weekly  
[agprofessional@doane.com](mailto:agprofessional@doane.com)

A new and virulent fungus that attacks a wide range of wheat varieties has spread from East Africa to Yemen on the Arabian Peninsula, the Food and Agriculture Organization of the United Nations (FAO) reported last week.

The wheat stem rust (Puccinia graminis), also known as wheat black rust, is capable of causing severe losses and can destroy entire wheat fields.

It is estimated that as much as 80 percent of all wheat varieties planted in Asia and Africa are susceptible to this new strain. The spores of wheat rust are mostly carried by wind over long distances and across continents.

“Global wheat yields could be at risk if the stem rust spreads to major wheat producing countries,” said FAO Director-General Dr. Jacques Diouf.

---

**Fertilizer Options? Cost Analysis for No-Till Corn**

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Price/lb</th>
<th>Total/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>150</td>
<td>.36</td>
<td>51.00</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>30</td>
<td>.34</td>
<td>10.20</td>
</tr>
<tr>
<td>Potassium</td>
<td>120</td>
<td>.26</td>
<td>31.20</td>
</tr>
</tbody>
</table>

*Fertilizer Total $92.00

**Fertilizer Application Costs:**

- 10/10/10 in planter box (300 lb/acre) 5.00
- Bulk Spread KCL (150 lb/acre) 8.00
- UAN at Planting Herbicide (15 gal/acre) 1.00
- UAN Split Drop-Nozzled (25 gal/acre) 15.00

**Fertilizer Application Costs** $29.00

*Fertilizer Grand Total $121.00/Acre

---

**“Fertilizer Strategies to Conserve Energy on the Farm”**

R. David Myers  
Extension Educator  
[Photo courtesy of Heather Hutchinson](mailto:Photo%20courtesy%20of%20Heather%20Hutchinson)
### No-Till Corn Fertilization Budget

#### Dairy/Beef Manure

**Scenario:** Soil test results: K-medium, P-optimum; Yield Goal - 150 bu

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manure (on-farm)</td>
<td>15 tons/acre</td>
<td>0.00</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>45 (150) 105 lbs @ .36/lb</td>
<td>37.80</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>105 (30)</td>
<td>0.00</td>
</tr>
<tr>
<td>Potassium</td>
<td>240 (120)</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Manure &amp; Fertilizer Costs</strong></td>
<td><strong>37.80</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Manure/Fertilizer Application Costs:**
- Manure cleanout 1.00/ton | 15.00
- Manure spreading 15 ton/acre | 22.00
- UAN at Planting Herbicide (15 gal/acre) | 1.00
- UAN Split Drop-Nozzled (20 gal/acre) | 15.00

**Manure Application Costs** | **53.00/Acre**

**Manure Fertilization Grand Total** | **$90.80/Acre**

(*) Amount required

#### Biosolids - N Based

**Scenario:** Soil test results: K-medium, P-optimum; Yield Goal - 150 bu

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosolids</td>
<td>4.5 tons/acre</td>
<td>0.00</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>153 (150)</td>
<td>0.00</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>86 (30)</td>
<td>0.00</td>
</tr>
<tr>
<td>Potassium</td>
<td>27 (120)</td>
<td>24.18</td>
</tr>
<tr>
<td><strong>Biosolids &amp; Fertilizer Costs</strong></td>
<td><strong>24.18</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Biosolids/Fertilizer Application Costs:**
- Bulk Spread KCL (160 lb/acre) | 8.00
- UAN at Planting Herbicide (19 gal/acre) | 1.00
- UAN Split Drop-Nozzled (25 gal/acre) | 15.00

**Biosolids/Fertilization Grand Total** | **$32.18/Acre**

(*) Amount required

#### Biosolids - P Based

**Scenario:** Soil test results: K-medium, P-optimum; Yield Goal - 150 bu

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosolids</td>
<td>2 tons/acre</td>
<td>0.00</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>68 (150)</td>
<td>28.08</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>38 (30)</td>
<td>0.00</td>
</tr>
<tr>
<td>Potassium</td>
<td>12 (120)</td>
<td>28.08</td>
</tr>
<tr>
<td><strong>Biosolids &amp; Fertilizer Costs</strong></td>
<td><strong>57.60</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Biosolids/Fertilizer Application Costs:**
- Bulk Spread KCL (180 lb/acre) | 8.00
- UAN at Planting Herbicide (15.00 gal/acre) | 1.00
- UAN Split Drop-Nozzled (21.0 gal/acre) | 15.00

**Biosolids/Fertilization Grand Total** | **$81.60/Acre**

(*) Amount required

#### Broiler Litter - N Based

**Scenario:** Soil test results: K-medium, P-optimum; Yield Goal - 150 bu

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler Litter 3.5 tons/A</td>
<td>5.00/ton*</td>
<td>17.50</td>
</tr>
</tbody>
</table>
- *(25/ton - 20/ton MDA cost share) |
| Nitrogen              | 151 (150)  | 0.00         |
| Phosphorus            | 203 (30)   | 0.00         |
| Potassium             | 151 (120)  | 0.00         |
| **Manure & Fertilizer Costs** | **17.50**   |

**Manure/Fertilizer Application Costs:**
- Litter spreading 3 ton/acre | 12.00

**Manure/Fertilization Grand Total** | **$29.50/Acre**

(*) Amount required

#### Broiler Litter - P Based

**Scenario:** Soil test results: K-medium, P-optimum; Yield Goal - 150 bu

<table>
<thead>
<tr>
<th>Unit</th>
<th>lbs/Acre</th>
<th>Total $/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler Litter 1 ton/A</td>
<td>5.00/ton*</td>
<td>5.00</td>
</tr>
</tbody>
</table>
- *(25/ton - 20/ton MDA cost share) |
| Nitrogen              | 43 (150)   | 38.52        |
| Phosphorus            | 58 (30)    | 0.00         |
| Potassium             | 43 (120)   | 20.02        |
| **Manure & Fertilizer Costs** | **63.54**   |

**Manure/Fertilizer Application Costs:**
- Litter spreading 1 ton/acre | 10.00
- Bulk Spread KCL (128.3 lb/acre) | 8.00
- UAN at Planting Herbicide (15 gal/acre) | 1.00
- UAN Split Drop-Nozzled (25.6 gal/acre) | 15.00

**Manure/Fertilization Grand Total** | **$97.54/Acre**

(*) Amount required
Biosolids

Average Plant Available Nutrients:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Total N</th>
<th>NH₃-N</th>
<th>Organic N</th>
<th>Total P</th>
<th>Total K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.74</td>
<td>0.57</td>
<td>4.13</td>
<td>2.27</td>
<td>0.51</td>
</tr>
<tr>
<td>Variability</td>
<td>0.98</td>
<td></td>
<td>0.90</td>
<td>0.83</td>
<td>0.77</td>
</tr>
</tbody>
</table>

7 Concentrations are on a wet solids basis.
* Determined as volatile solids.
* Standard deviation from the mean.

How can you be sure sludge is safe?

http://www.mde.state.md.us/assets/document/permit/sludge_app.pdf

How can you be sure fertilizer is safe?

http://agr.wa.gov/PestFert/Fertilizers/default.htm

"Always learning to take nothing for granted!"

“A recent study found that Ironite contains up to 3600 mg/kg As and 2900 mg/kg Pb and that solubility testing indicates that the product should be classified as a hazardous waste. On August 15, 2005, the New Jersey Department of Agriculture issued a "stop sale" on Ironite 100, but other Ironite products remain on the market.”

Sewage Sludge Heavy Metal Tolerance Guidelines

Fertilizers are state regulated

http://agr.wa.gov/PestFert/Fertilizers/ProductDatabase.htm
Production Practices for Continuous Corn

Dr. Bob Kratochvil
Extension Specialist – Grain and Oil Crops
University of Maryland
Email: rkratoch@umd.edu

What a difference a year makes!! One year ago, corn prices were well below $3.00 per bushel. Now, corn prices are $4.00 and over. With this rapid turn around in corn prices has come the extra residue from last year's corn is going to keep the soil temperature colder longer than fields that were either tilled or are being planted after soybean.

Decision by many farmers to increase corn acreage for 2007. Estimates are calling for US corn acreage to exceed 2006 production by 10-15% with many forecasting more than 90 million acres to be planted this spring.

Agronomists are similar to real estate agents regarding their mantra. In real estate, it is location, location, location. For agronomists, it is rotation, rotation, rotation. This has a good basis. Considerable research has been done comparing continuous corn with rotation corn. In nearly all cases, continuous corn has produced 10-20% less than corn grown in rotation with soybean when all other production variables were equal. And, continuous corn under no-till, the practice most likely to be used in the Mid-Atlantic region, has been shown by researchers at Purdue University to produce over 15% less than corn that is produced no-till but in rotation with soybean.

However, it is difficult to ignore $4.00 corn and what appears to be a favorable demand in the future driven primarily by ethanol. Reality is there will be considerable corn after corn planted this spring. In order to minimize the yield drag that likely will be realized with no-till continuous corn, I suggest that you consider these key production factors.

**Field Selection**

Since dry years have been shown to limit yield for continuous corn more than wet or normal rainfall years do, avoid fields that have low water-holding capacity unless you have irrigation. Avoid fields that drain poorly or have numerous low spots that remain wet long into the spring. These situations will make it difficult to get good seedling emergence. Poor emergence leads to poor plant population limiting your yield potential.

**Stand Establishment**

Have your planter field ready before you go to the field. Winter is shop-time. Use it to replace those worn bushings, bearings and disk openers, jagged seed delivery tubes, linkages that are loose, and the other mechanical problems that exist.

Corn germinates when the soil temperature is 500 F. With more acres to plant, the temptation will be to start planting a little earlier than normal. If you plan to start early, make sure that your soil temperature has been at 500 F for 2 or 3 days and the forecast for the next week is a warming trend rather than for cold weather. Remember, the extra residue from last year's corn is going to keep the soil temperature colder longer than fields that were either tilled or are being planted after soybean.

Do not plant when soil conditions are too wet. You know when it is right. When it is too wet, you increase the risk of creating side-wall compaction with your disk openers. This type compaction will make it more difficult for the germinating seedling's roots to penetrate into the soil below the V-opening and put it at greater risk if the weather after planting is dry. In addition, if conditions are too wet when you plant, you increase the risk of having some seed pinned in a piece of corn stalk that was not cut when the disks traveled over it. Pinned seed will not have good seed-soil contact and have more difficulty germinating.

**Disease Risk**

Disease risk will be greater because you are planting into last year's residue that has harbored disease inoculum over the winter. If you had grey leaf spot, leaf blights, or stalk and ear rot problems last year, you need to be wary of their infestation potential for this year particularly if you are planting into a field where disease pressure was moderate to severe.

**Insect Risk**

Continuous corn neither increases nor decreases the potential for European corn borer (ECB) infestation. Excellent protection from ECB is available using Bt hybrids. Make sure that you plant your 20% non-Bt refuge areas as recommended to avoid developing corn borer resistance to this technology.

The potential for corn rootworm infestation is increased in continuous corn. To avoid these root-pruning pests, either choose a hybrid that has a Bt event for rootworm protection or use one of the chemical forms of protection that come as either an in the furrow or t-band at-planting application or as a seed treatment.

**Hybrid Selection**

- For corn after corn, select hybrids with good:
  - Disease resistance/tolerance
  - Seedling vigor
  - Root ratings
  - Stalk strength
  - Tolerance to stress
- Choose hybrids that have good stability.
- A stable hybrid is a hybrid that will do well over a wide spectrum of conditions. To determine the stability of a hybrid, get as much information about its performance from different yield and performance tests conducted in your region as possible. A hybrid that consistently does well over a large number of locations in a region is likely to do well on your farm.

**Harvesting More Acres**

You've got more acres to harvest which is going to make the harvest season longer. This also means you will transport more corn, dry more corn, and have more corn to store. Some of the corn will likely remain in the field longer than you would like. This will increase the potential for lodging and mechanical harvest losses.

Be able to start harvest earlier by selecting 1 or 2 hybrids that are earlier maturing. These hybrids don't need to be planted to your continuous corn fields but they should be part of your planting plans.
To minimize losses, harvest fields that had disease or insect problems during the season first, if they are ready. Harvest those fields that cause problems when they get too much rain early if you can. You never know about the weather.

### Integrated Crop Management

#### “Troubleshooting Orchardgrass Stand Decline”

**R. David Myers**  
Extension Educator

### Orchardgrass Disease Control Strategy

1. Where possible, sow only certified, disease-free treated seed, of improved, well-adapted varieties.
2. Avoid:
   - Excessive rates of fertilizers high in quickly available nitrogen.
   - Pure, dense stands of a single grass variety - Where possible, seed a mixture of forages.
   - Leaving a heavy mat of hay on the grass during damp weather.
3. Rotate with non-grass crops where practical. Rotation helps prevent disease buildups.
4. Follow recommended mowing and grazing practices.

### Integrated Crop Management

#### Planter Box Seed Treatment

Damping-Off Organisms: *Rhizoctonia sp.*, *Phytophthora sp.*, and *Pythium sp.*

- Metalaxyl: Allegiance® Apron®
  - Systemic control of *Phytophthora* & *Pythium* only.
- Thiram® or Captain®
  - Non-Systemic control of all three damping-off organisms.

### Orchardgrass Fungicides

- Fos万户® – (phosphorous acid) Soil born diseases *Rhizoctonia*, *Phytophthora*, *Pythium* and *Fusarium*.
- Kumulus® – (Sulfur) *Septoria* Leaf Spot and Mite suppression.
- Thiolux Jet® – (Sulfur) *Septoria* Leaf Spot and Mite suppression.

### Cut Dates

<table>
<thead>
<tr>
<th>Cut Dates</th>
<th>May 5th</th>
<th>June 20th</th>
<th>September 20th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Regrowth</td>
<td>45 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Regrowth</td>
<td>45 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Regrowth</td>
<td>45 Days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Orchardgrass Notes:

- Winter dormancy: December 1st to March 15th.
- Summer dormancy: July 1st to August 1st (30-day rest period).
- 16% Crude Protein (12% Digestible Protein) for regrowth cutting interval of 42 to 56 days when orchardgrass is actively growing.

---

### Why Shouldn’t I let the Animals Graze that Close

**Richard W. Taylor**, Ph.D., Extension Agronomist  
University of Delaware  
Email: rtaylor@udel.edu

Early in the spring before cool-season forages really take off, it is often tempting to place animals on pastures and let them graze as close as they want and in doing so you can reduce your need for hay/grain and allow the animals out of confinement. This practice is especially prevalent among those who are not set up for rotational grazing or don’t have the time to spend moving animals from pasture to pasture. The potential for damage to your pasture with this practice depends on your stocking density (animal units per acre), pasture species, animal species, weather, fertility, and a number of other factors. I often see this practice used by the small grazer who has limited land with which to work. Let’s discuss a few of these factors with emphasis of their impact on pasture health.

Stocking density or the number of grazing animal units per acre often is determined by outside circumstances such as acres of pasture available and number of animals on the farm instead of by forage availability and forage (pasture) growth rate. Early in the spring as grasses and legumes are coming out of the winter and using up the last of their
stored energy (starch-sugar-carbohydrate) reserves to produce new leaves, the amount of leaf area available to intercept sunlight and fix carbon dioxide as sugars is very limited. Pasture plants left ungrazed quickly produce enough leaf area to become self-sustaining and capable of sustaining the rapid growth rate we traditionally think of for cool-season forages in late spring. If animals are allowed to graze this new growth before the pasture plants reach the self-sustaining point, the plants are forced to use any remaining stored food reserves to generate new leaves. When the food reserves eventually are completely used up, the plant, where possible, will cannibalize existing tissue (roots and other tissues) to support new growth. If close grazing persists, plants run out of energy or tissues to sacrifice and die or are weakened to the point that even if grazing is halted the plants are not able to compete with germinating weeds or other plants not favored by the grazing animal.

Pasture species is another key factor in how well the pasture can adapt to early close grazing. Pasture species that have many basal (low growing) leaves are generally less susceptible to close grazing. Kentucky bluegrass, the ryegrasses, the festuloliums, and to some degree tall fescue have basal leaves that allow them to tolerate some close grazing. Kentucky bluegrass and the ryegrasses are the most tolerant of close grazing.

Horses are one of the closest grazing animals and can often keep pastures grazed right down to the soil level. Horses also graze almost continuously due to the small size of their stomach and the fact that fiber digestion takes place in the enlarged cecum that comes after the small intestines. In addition, we often overstock horses on pastures and this places additional stress on pastures. Whenever you graze early in the season, be sure to understand the grazing habits of your animals and avoid adding additional stress to pastures as they begin spring growth.

Overgrazing early in the spring can have significant repercussions ranging from stand loss, low vigor (and thus lower yields) for the remainder of the season, weed encroachment, and susceptible plants subject to damage from other seasonal stresses (temperature, moisture, insects, diseases, and weeds). Favorable growing conditions are not enough to overcome the damage done to these pastures that eventually may need partial or complete renovation to restore them to optimal productivity.

What options do you have when you are not set up for rotational grazing? As expensive as it may be to keep animals in the barn or on a sacrifice lot where you will have to provide them with hay or other feed, this remains your best and often only option. You need to keep animals off pastures until adequate growth has occurred. An estimated normal height to start grazing in pastures dominated by each of the following grasses or legumes is given in Table 1. A rule-of-thumb suggests allowing pastures to obtain 2 inches of additional growth (above the suggested normal height) before the first grazing period for all forages. For example, Kentucky bluegrass, many clovers, and bermudagrass should be about 4 inches high when you begin grazing but for the first spring grazing cycle you should allow them to reach 6 inches before starting.

**Table 1. Suggested normal plant heights when making grazing decisions.**

<table>
<thead>
<tr>
<th>Grass/legume species dominating the pasture</th>
<th>Height (inches) to begin grazing</th>
<th>Height (inches) to stop grazing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchardgrass, fescue, ryegrasses, festuloliums</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Kentucky bluegrass, bermudagrass</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>White clover (common, small, intermediate)</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Ladino clover (large or giant type)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Red clover</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Big bluestem, little bluestem, switchgrass, Indiangrass</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Eastern gamagrass</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>

Another option available is to ensure the animals are well fed before they are let out onto the pasture. This works for ruminants but will not work as well if grazing horses. Horses with their small stomach tend to graze a large percentage of the time they are on pasture. To use this option with horses, you will need to limit the time they spend on the pasture to a few hours per day, lengthening the time as the grass approaches the suggested height for grazing. A second caution—if you have less than 2 to 3 acres available per horse, you are close to the point of overstocking the pasture and will need to be very careful not to over graze.

A third option partially discussed above is to limit the amount of time the animals are allowed to graze on a pasture in early spring. Depending on the growth rate of the pasture it can range from one or two hours per day to many hours per day. This is appropriate where a lack of interior fencing does not allow rotational grazing but the manager has time available to move animals between the barn or exercise/sacrifice lot and the pasture.

**Grass Tetany: A Look at its Causes, Symptoms and Management**

Candice M. Klingerman, Graduate Student, Animal and Food Science Department

Email: cmk@udel.edu &

Dr. Richard W. Taylor, Extension Agronomist

Email: rtaylor@udel.edu

Grazing animals on pasture can be an integral part of an effective feeding regime for cattle and other livestock. Grazing reduces valuable labor time and cost for the farmer because no harvesting is needed and provides exercise for the animal; however, as with other feeding programs, it does not come without risk.
calcium (Ca), phosphorus (P), and high potash or potassium test levels for the pastures indicate low magnesium (Mg), more common when the weather is cool and rainy and soil spring grasses. Incidences of grass tetany are seasonal and becomes a problem when the diets of cattle are changed winter tetany, or wheat pasture poisoning). It generally hypomagnesmic tetany, lactation tetany, grass staggers, allowed to graze on pasture is grass tetany (also called twitching, ear flicking, aggressiveness, abnormal gait, time, signs and symptoms may include excitability, are generally found dead. If the animal is discovered in acute, sub acute, or chronic. In acute cases, the animals cause a rapid decrease in the concentration of Mg in both cerebrospinal fluid and blood, increasing the risk of the development of grass tetany. Incidences of grass tetany can be characterized as acute, sub acute, or chronic. In acute cases, the animals are generally found dead. If the animal is discovered in time, signs and symptoms may include excitability, twitching, ear flicking, aggressiveness, abnormal gait, vocalization, convulsions, and frothing at the mouth. Their body temperature begins to rise and their heart beats louder and faster. Death generally occurs within 1 hour of the onset of symptoms. In sub acute cases, animals remain standing and signs develop over a period of a few days and include abnormal gait, excessive blinking, decreased feed intake, weight loss, and decreased milk production. The sub acute form, if not treated, can also result in death. Lastly, in the chronic form of grass tetany, animals may exhibit unthriftiness, weight loss, and decreased milk production.

The diagnosis of grass tetany is difficult because the cow usually dies before any determination can be made. Immediately before symptoms are seen, serum Mg levels will be low. As symptoms progress, serum Mg levels may rise to near normal levels. A better diagnostic method is the measurement of urinary Mg because the kidneys will begin storing Mg when serum levels are insufficient. Grass tetany is sometimes mistaken for ketosis or milk fever; however, animals that are deficient in Ca will generally appear sluggish, whereas Mg deficient animals will exhibit excitability.

Treatment of grass tetany involves removal from the pasture and increasing blood serum levels of Mg. A treatment method that has been suggested by the USDA is a dose of 200 ml of a 50 % solution of magnesium sulfate, injected subcutaneously. Other treatments are available so consult with your veterinarian for the option suited to your operation. After serum Mg levels are increased, the animal should be continued on a diet high in Mg to prevent relapse.

Some factors may predispose cattle to developing grass tetany. As cows age, the level of Mg and other minerals that are absorbed through the rumen are decreased. In addition to age, researchers have determined that Angus and Angus crosses are more susceptible than other breeds because they are naturally poor absorbers of Mg. High producers are susceptible to hypomagnesaemia and grass tetany. Early spring calving often places the cow at risk since plants are less efficient at taking up Mg in early spring.

Grass tetany is easily preventable. Analysis of forage should be performed prior to grazing if there is a history of grass tetany in the animals or on the pasture. If possible, fertilizers that are high in N and K should be avoided. When cattle consume forage high in N, a substantial amount of ammonia is produced in the rumen. If there is a large amount of ammonia present, dietary Mg may be converted to the unfavorable, insoluble hydroxide form. This lowers the availability of Mg in the blood and tissues. Fertilizers that may be applied to raise Mg levels of the soil include dolomitic or high Mg limestone which can contain 12-13 % of actual Mg. Dolomitic limestone is generally used when the soil pH is low. When a liming product is not desirable, a foliar application of Epsom salts (MgSO₄) in a 3 to 6% solution to supply 10 to 20 lbs MgSO₄, per acre is an option. If the K levels are not too high, Sul-Po-Mag (K₂SO₄·MgSO₄) can be applied either as a dry fertilizer or as a foliar spray. If the soil has a high pH, pastures can be dusted with a mixture of fertilizer containing magnesium oxide (MgO) although this has not been found to be very palatable.

Magnesium oxide also can be mixed with salt and fed directly to cattle ad libitum. The salt increases the palatability of MgO as well as increases the sodium level in the blood. A suggested mixture is 75 % salt to 25 % MgO. It has been shown that the balance of these two minerals may also help to increase the absorption of Mg through the rumen.
Perhaps the easiest method of prevention is simply not grazing lactating or high risk cows on grass tetany “hazard” pastures and reserving the land for other livestock such as steers or dry cows. Instead, legume hay or high-legume pastures would provide a safer alternative for these animals. Not only is it safer for the cow, but because legumes are more digestible than grasses, it is likely that lactating cows will produce more milk (6-10 lb) when grazed on a legume stand. Another incentive is that when managed correctly, a legume pasture will produce just as much forage as a grass stand.

The authors would like to acknowledge the following information sources:


Harris, Barney and Jan Shearer. 2003. “Nitrate, Prussic Acid (HCN) and Grass Tetany Problems in Cattle Feeding.” Univ. of Florida IFAS. Extension. 05 April 2007. <http://edis.ifas.ufl.edu/DS162>


Is Bt Corn Associated with Colony Collapse Disorder?

Galen Dively, University of Maryland
Professor, Entomology

Colony collapse disorder or CCD has caused much concern among beekeepers nationwide and it is not clear to date what is causing the die-off. Genetically modified crops, specifically Bt corn, have been suggested as a potential cause of CCD. While this possibility has not been ruled out, the weight of evidence based on a multitude of studies argues strongly that the current use of Bt corn is not associated with CCD.

The hazard to bees due to any potential toxicant depends on toxicity and exposure. The endotoxins currently expressed in Bt corn (Cry1 types against caterpillars; Cry3 types against beetles) are not biologically active against hymenopteran insects such as the honey bee, nor do the CCD symptoms resemble those expected in Bt intoxicated organisms. Exposure is also very low because the expression of endotoxins in pollen is barely detectable in most Bt corn hybrids and corn does not produce nectar. For these reasons, bees are not commonly found foraging in corn fields. Some argue that the increase in bee loss has paralleled the increase in Bt corn in the U.S.; however, severe bee losses have occurred in Europe and in areas of Canada where Bt crops are not grown.

What do the scientific studies say about the issue?

Numerous laboratory studies have examined the potential non-target effects of Bt corn on honey bees by feeding high doses of the pollen or purified endotoxin mixed with honey or sugar syrup directly to larvae in brood cells. This approach is a standard protocol for Tier I testing of non-target effects on bees and required by EPA before insect-resistant transgenic crops are approved for registration. Published studies and other technical reports submitted to EPA have all shown no adverse acute effects. In particular, recent laboratory studies in New Zealand and Switzerland exposed bees by feeding on pollen treated with purified Cry1 endotoxins at doses considered well above the maximum environmental exposure levels encountered in the field. Results showed no negative effects on bee survival. Laboratory feeding studies at the University of Maryland also showed no effects on the weight and survival of honey bees feeding on Cry1Ab-expressing sweet corn pollen for 35 days.

Potential sublethal effects of Bt corn on honey bees have also been addressed but not as extensively as the acute effects. For newly-emerged bees, the presence of Bt proteins in ingested pollen may affect hypopharyngeal gland development and thus the ability of nurse bees to make brood food. However, the same studies in New Zealand and Switzerland reported no effects of Bt pollen or endotoxin on hypopharyngeal gland development of newly-emerged bees. Results of another recent study conducted in indoor flight cages showed no effects of Cry1Ab protein exposure on mortality, syrup consumption, or learning capacities of free-flying honey bees, but foraging activity was slightly reduced. A two year field study (soon to be published in the European bee journal Apidologie) conducted by this author and his graduate student represents the first attempt to expose functional colonies of honey bees to Bt corn pollen under open field conditions. In this Maryland study, colonies placed in Bt sweet corn plots were allowed to forage on corn pollen and also fed Bt pollen cakes for 28 days. The pollen cake consumption alone represented approximately 44% of the expected daily pollen requirements of each exposed hive. Results showed no adverse effects on bee weight, foraging activity, colony bee strength, and brood development.

Although there is no evidence thus far of any lethal or sub-lethal effects of the currently used Bt endotoxins on honey bees, insecticidal products expressed by other transgenes in crops may need extended field testing on a case-by-case basis to assess the longer term consequences of sub-lethal changes in colonies and subtle modifications in bee behavior.
Guidelines for Developing an Effective Fungicide Spray Program for Wine Grapes in Maryland, 2007
Anne DeMarsay, Fruit Pathology Specialist, University of Maryland

Attached is a one-page excerpt (page 8) from the New Guidelines for Developing an Effective Fungicide Spray Program for Wine Grapes in Maryland, 2007.

The entire guide is available on Dr. Anne DeMarsay’s website at:
www.grapesandfruit.umd.edu Search GRAPES, then PEST MANAGEMENT, and listed under the Publications section.

Or follow this direct link to the PDF:

Greenhouse TPM/IPM Weekly Report
University of Maryland Cooperative Extension Central Maryland Research and Education Center
From: Stanton Gill and Ethel Dutky, University of Maryland Cooperative Extension; Ginny Rosenkranz, Extension Educator, Chuck Schuster, Extension Educator, Suzanne Klick and Shannon Wadkins, Technicians, University of Maryland Cooperative Extension; Amanda Laudwein, Joanne Lutz, John Speaker, and Marie Rojas (Independent IPM Scouts)

Ants
Most ant species are a nuisance in greenhouse production. Two groups, the pavement ants and the fire ants are of concern when they move into greenhouse production areas. John Speaker found pavement ants in three greenhouses in Maryland this week that were damaging bedding plants. The ants had stripped the base of vinca stems (see photo) and chewed through landscape fabric at one location. Let us know if you see ants damaging crops in your greenhouse.

Pavement Ants
Pavement ants, Tetramorium caespitium, are native to Europe and were introduced to North America in the 1700s. They have spread throughout the east coast with the shipping of plant material and are continuing to expand their range. IPM scouts in Maryland have found these ants in several greenhouse crops causing loss of plant material. We have had positive identification of this ant species in Maryland damaging petunia, vinca, and pansy crops. The ants feed on the roots and girdle the stems of plants causing them to collapse. In 2005 we received samples of this species damaging petunias in hanging baskets.

Identification
The pavement ant is dark brown with light colored legs. They have 12-segmented antennae with a 3-segmented club. On females, the thorax has a pair of small spines on the dorsal side. The males do not have these spines. The pedicel (area between thorax and abdomen) is 2-segmented.

Control
DuraGuard ME has a label for use in greenhouses and nurseries and will control ants. Apply this as a soil drench.

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

Executive Summary
Commodity prices for corn, soybeans, and wheat rebounded sharply the past couple of days after having lost ground at the beginning of this week. New crop corn and soybean prices are slightly softer than last week's levels as of this writing: $3.76 Dec '07 corn futures; $7.60 Nov '07 soybean futures. New crop July '07 wheat futures are currently at $5.18 per bushel, 18 cents higher than a week
Crop planting progress is creating uncertainty in these markets and renewing fund buying interest. We can expect high volatility and large price swings to continue occurring until ’07 U.S. row crop planting progress begins to be made in earnest.

**Crop conditions** across the Corn Belt are relatively unchanged from a week ago. Wet weather and cold soil conditions have landed corn planting progress at 11% as of April 23rd compared to 22% for the same time last year. It is also being reported that some of the corn already in the ground in the Southern states may be subject to replant and/or is being replanted. It is now becoming more apparent that, although catch-up in planting progress is still possible, the 10-day weather forecast is not indicative that will happen any time soon. It is likely to be mid-May before conditions become more conducive to making good planting progress for U.S. corn.

The weekly export sales report released this morning for the week ending April 19, 2007 was *bullish* for U.S. corn, soybeans, and wheat.

The extent of wheat crop loss due to early April freeze damage is not yet known. Traders will be attempting to decipher how many wheat acres are switched to corn plantings within the next four weeks.

---

**First on the Scene**

Ron Jester; Extension Safety Specialist (retired);
rcjester@udel.edu

Now is the time of year that I update my CPR certification and that reminder prompted this topic. If an accident occurs on your farm or in your business or a member of the family is stricken with a heart attack, are you and your employees prepared? Preparation includes but is not limited to the following:

- being able to administer CPR and the Heimlich maneuver
- knowing how to disengage power and shut off the engine if someone becomes caught or pinned under a piece of farm equipment
- knowing the Poison Control Center number and when to dilute or induce vomiting in the event of an accidental poisoning
- having a first aid kit accessible and in strategic locations such as on the combine or tractor
- having emergency numbers and directions to your farm posted
- having an escape plan in the event of a house fire

According the National Safety Council’s 2006 Injury Facts, agricultural work-related accidents accounted for over 700 deaths and 90,000 disabling injuries in the U.S. alone. The welcome news is that the number of fatalities and the death rate are at an all-time low for agriculture. Nevertheless, safety experts agree the rate can be further reduced if farm families work more diligently at reducing risks and developing emergency preparedness programs.

Recent surveys indicate that there will be a disabling injury on 1 out of every 14 farms on the Delmarva Peninsula. Some of those will be traumatic, life-threatening injuries where every second counts. Emergency scenarios on the farm include shock, severe bleeding, poisonings, animal bites, allergic reactions and, of course, childhood injuries.

The ability to make the right decisions when an emergency occurs depends on whether you have been trained in assessing farm accident scenes and are knowledgeable of first aid and emergency procedures. One must be familiar with the operation and hazards so that decisions made will not further injure the victim or put you in danger. For example, knowing that high levels of toxic hydrogen sulfide gas can accumulate in manure pits and that such structures should not be entered without self-contained breathing apparatus, can save your life.

The primary goal as the first person on the scene is to keep the victim alive until the ambulance arrives. Training in CPR (cardiopulmonary resuscitation) and first aid is required to judge whether the victim needs resuscitation and then to perform the procedure properly. Intuition cannot be used in these situations. Everyone should know first aid and CPR. Those first 4 or 5 critical minutes between when something happens and when professional help arrives can mean the difference between life and death.

Contact the American Heart Association, the American Red Cross or your local fire department to locate the nearest training center for a CPR class or first aid training in your area. These courses are inexpensive, take little time and yet can help you save a life!

Remember, the first person on the scene of an accident can help turn a tragedy into a second chance. Are you, your family members and employees prepared with the knowledge and skills to save a life?

---

**Maryland AgrAbility Project**

Ruth K Miller, Family Consumer Scientist, Retired
University of Maryland

When disability strikes a farm family, everything changes except perhaps the desire to continue farming. The AgrAbility Project may be able to educate and assist disabled farmers, farm workers and watermen so they can continue to lead successful career in agriculture. Debilitating conditions such as amputation, arthritis, stroke, respiratory problem, back pain and other conditions may keep farmers from doing necessary work on the farm. AgrAbility can bring assistive technology to the farm by finding the right adaptations for specific needs. Every day new devices and methods are developed to make independent living and working possible and easier. If you are a disabled farmer or waterman, call Dave Myers at the Anne Arundel Cooperative Extension at 410 222-6759 to find out if you are a candidate for assessment by the AgrAbility Project of Maryland. The Maryland Cooperative Extension, USDA and Resources for Independence are partners in this project.
Nutrient Management Update

The Phosphorus Site Index

Krista Mitchell, Nutrient Management Advisor
Anne Arundel County

How many agricultural producers know what the Phosphorus Site Index is? I posed this question to a group of farmers recently and was surprised at how many farmers did not know about this wonderful assessment tool. The Phosphorus Site Index (PSI) measures the potential for phosphorus loss from a field when soil-test P levels indicate that there is a possibility that excess P could move with water. The old-school thought was that P fertilizer could be applied to a field and the soil would store the P that the crop did not utilize indefinitely. Research in the last 10 years has shown that once P soil-test levels reach or exceed 150 FIV (University of MD's Fertility Index Value), there is a potential that the soil will not be able to hold the P there, and that it can then move within the soil profile and across the soil surface with water.

Anne Arundel County was historically a huge producer of tobacco, a crop that requires P fertilizer applications each year regardless of P soil test levels. Therefore, most of our farmland is very P-enriched. That's great for farmers, as their soil already contains plenty of 'free' P for their crops to grow, and P fertilizer has gotten pretty expensive recently. But what about producers that have animals and need to spread manure on their already P-enriched soils? That's where the PSI Assessment, conducted by a certified nutrient management consultant, comes into play. Not only is it required by the nutrient management regulations, it shows farmers how certain management practices can help reduce the risk of P-losses from their farms.

Many things go into a PSI Assessment. First, if a farmer has greater than or equal to 150 P-FIV soil test levels and wishes to apply either commercial P, manure, or biosolids, a PSI Assessment must deem that there is a low to medium risk of P losses from the field. But what if a farmer's PSI Assessment says that there is a high probability that P will be lost from the field? Farmers can do many things to lower their PSI score, such as agreeing to maintain a 25 foot "No P Application zone" around the borders of their fields or streams.

A New Nutrient Management Reporting Software Available for Farmers

The Maryland Department of Agriculture (MDA) and University of Maryland College of Agriculture and Natural Resources (AGNR) have announced the release of a new software program that is designed to make annual nutrient management implementation reporting easier for farmers and farm operators. Nutrient Management Reporter for Maryland (NuMan Reporter) is a Windows®-based software program that ties in closely with the reporting requirements of the Maryland Nutrient Management Program.

"Nutrient management plans help farmers protect water quality in the Chesapeake Bay and its tributaries by balancing crop nutrient needs with fertilizer applications," said Agriculture Secretary Roger L. Richardson. "Our goal in developing this software program with the University of Maryland is to make nutrient management reporting as easy and efficient as possible for our state's farmers and nutrient management consultants."

Maryland's nutrient management regulations require farmers to maintain a current plan and file an annual implementation report with MDA by March 1 of each year. These reports describe how farmers implemented their...
nutrient management plans during the previous cropping season. NuMan Reporter simplifies the reporting process for farmers and works in conjunction with the nutrient management software programs, NuMan MD and NuMan Pro.

NuMan Reporter allows farmers to edit files, confirm recommended nutrient application rates, and input actual field nutrient applications. The program also enables users to develop summary reports that satisfy MDA nutrient management reporting requirements. Importantly, anyone can use NuMan Reporter, even if they do not have NuMan MD or NuMan Pro.

Individuals who are familiar with NuMan MD or NuMan Pro should find the software fairly easy to use. Additionally, a "Help" file is built into the program to assist first time users. For those requiring additional assistance, Maryland Cooperative Extension (MCE) will offer NuMan Reporter training workshops at locations throughout the state.

NuMan Reporter software may be downloaded free of charge from the AGNR web site at: www.agnr.umd.edu/users/numan/reporter/.

To order a free CD of NuMan Reporter or obtain information on training workshops, contact the MCE Nutrient Management Program at 301-405-1318 or the Maryland Nutrient Management Program at 410-841-5959.

Crop Insurance Evaluator Update
Wes Musser, Farm Management Extension Specialist
University of Maryland

The 2006 iFarm Crop Insurance Evaluators for Illinois, Indiana, Iowa, and Maryland have been updated to reflect final price and volatility data released by RMA on March 3rd, and to reflect the most recent futures price distribution information available. Please see: http://www.farmdoc.uiuc.edu/cropins/index.asp for the most recent version of the iFarm Crop Insurance Evaluator.

Users select the county and crop that they wish to evaluate and the iFarm tools return estimates of premiums, frequency of payments, average payments, net costs, and risk reductions associated with alternative crop insurance products and election levels in an easily understood format.

The 2006 iFarm Crop Insurance Evaluators can be found at: http://www.farmdoc.uiuc.edu/cropins/index.asp

Value-Added Producer Grants
Marlene B. Elliott, State Director
USDA Rural Development, Delaware and Maryland
(302) 857-3580
marlene.elliott@de.usda.gov
www.rurdev.usda.gov

A reminder about Value-Added grants; proposals are due May 16, 2007.

The application period for this year's round of Value-Added Producer Grants opened today and will close on Wednesday, May 16. Over $19 million in competitive grant funds will be awarded to help independent agricultural producers enter into value-added activities. Details are at the link below:
http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gov
http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gov
Please call if you have any questions.

Plant Management Network News
Number 62: March 28, 2007
The current PMN Update is now available for viewing at http://www.plantmanagementnetwork.org/update/current/
MARYLAND HAS A NEW FARMERS MARKET!
The Crossroads Farmers Market
Wednesdays, 3-7 pm
Opening mid-May, 2007

The Takoma-Langley Crossroads area is a vibrant international community located on the fringe of Washington, DC, in Takoma Park, Maryland. This ethnically diverse, densely populated area is home to approximately 35,000 people, including a growing number of immigrants from Latin America, Asia, Africa and the Caribbean.

Ethnic and specialty produce, herbs and prepared foods will be in high demand at this market.

There are many good reasons to consider coming to the Crossroads to sell your products direct to customer, including:

The market will be held at a highly visible site in the heart of this bustling area. There is an extraordinary volume of foot and vehicle traffic in the area, and great potential for a steady stream of customers throughout market hours.

Marketing and promotions will be conducted before and during the market season, to include advertisements, street banners, flyers and public education about local foods and nutrition. Live international bands also will help draw customers to the market.

A wireless electronic debiting terminal will be implemented at the market for vendors to accept food stamps, credit and debit cards at their stands. Wooden tokens will be “sold” at a central terminal for use with any vendor in the market. At the close of market, vendors exchange the wooden tokens with the market coordinator for cash. Vendors at farmers markets across the nation have reported large increases in sales as a result of wireless electronic debiting.

The establishment of the Crossroads Farmers Market is being funded by grants from the Project for Public Spaces, WK Kellogg Foundation and Wallace Genetic Foundation.

A portion of the grant money will be used to make small business loans available to qualifying Crossroads Farmers Market vendors who are interested in expanding the capacity of their business operations and increasing their participation in direct marketing opportunities.

Please let me know if you have any questions about the market or if you are interested in receiving more information about the Crossroads micro-lending program.

Michele Thornett
Project Coordinator
(301) 693-1241 crossroadsmarket@gmail.com

Gypsy Moth Aerial Spray Program in Eleven Maryland Counties to Begin in May Populations Continue to Rebound after Pervious Years Decline

Beginning on or about May 1, the Maryland Department of Agriculture will conduct an aerial spray program to treat trees on approximately 50,000 acres of land in eleven counties to prevent forest defoliation caused by the gypsy moth. Spraying will take place in Allegany, Anne Arundel, Baltimore, Carroll, Cecil, Frederick, Garrett, Harford, Howard, Montgomery, and Washington counties. Increasing gypsy moth populations were observed in those counties last fall.

“The gypsy moth is by far the most destructive pest of forest and shade trees in Maryland,” said Agriculture Secretary Roger L. Richardson. “Through a combination of federal, state, and local funds this year we will be able to treat a majority of the acreage meeting our spray criteria, including nearly all eligible state lands, to protect our valuable hardwood forests and neighborhood trees.”

High counts of gypsy moth egg masses in several areas of the state have necessitated treatment of the largest number of acres since 1995. Caterpillars eat the leaves of oaks and other hardwoods from late April through June. Heavy populations of caterpillars will eat most or all leaves on a tree, potentially killing it. The first defoliation in Maryland occurred in 1980. Since 1980, gypsy moth caterpillars have defoliated 1,065,823 acres of valuable timber and residential trees in Maryland. Between 1982 and 2006, MDA sprayed the trees on 1,797,335 acres statewide with an average effectiveness rate of over 98 percent. In 2004 only 660 acres were treated and none were treated in 2005. In 2006 populations increased and 25,454 acres were treated.

The Cooperative Gypsy Moth Suppression Program is a partnership between MDA, the USDA Forest Service, local jurisdictions and landowners. An Integrated Pest Management approach is used; beginning with extensive pest population surveys targeted at susceptible high value rural and urban forested areas of Maryland. For more information about gypsy moths, the Suppression Program, to locate the spray blocks, and learn what homeowners can do pro-actively to prevent gypsy moth damage on their properties, log onto www.mda.state.md.us and click on gypsy moth. Residents may call 800-492-2105 or 2106 for access to spray schedules by block number.
Production Pointers

Production Pointers is a newsletter published quarterly expressly for farmers and the farm community in Anne Arundel and Prince George's Counties, located in Southern Maryland. The newsletter provides information with personal insight to develop professional clientele. Over six hundred individuals currently receive the newsletter. All aspects of crop production and marketing are opted as topics for discussion. Program emphasis is placed on commercial vegetable and fruit production in order to transition farmers from agronomic to higher value horticultural crops. A primary objective of the newsletter has been the promotion of Extension and other agricultural agency programs. A long-range goal of this publication is the development of a genuine bond between the Extension Educator and area producers. This newsletter is written, and published in the Anne Arundel County Extension office for dissemination using Microsoft Office® software, and is available online.

Please renew your subscription to this newsletter by completing the enclosed 2007 Newsletter Subscription Renewal Form. There is also an option to have an electronic copy emailed directly to you, which would provide dated information in a much timelier manner. During the past two years, this information has always been online at the county website at least two weeks prior to bulk mail delivery to your farm or business. Please, to help us reduce costs, do not request a mailed copy if an electronic emailed version would be sufficient. However, both a mailed copy and electronic copy may be requested if desired.

IMPORTANT:

Due to present budget constraints names of individuals who do not submit the enclosed 2004 Subscription Renewals will regrettably be dropped from this mailer.

Check Out Our Updated County Website
Visit us in Cyberspace!!!

Christie Germuth is our website designer. Christie has recently updated our website, and we hope that you find the additions helpful. The current and past newsletter additions are available for viewing or copy at:

http://extension.umd.edu/local/AnneArundel/files/agnews.cfm

An agricultural bulletin page is also available for viewing or copy under our hot topics section at:

http://extension.umd.edu/local/AnneArundel/files/agbulletins.cfm

Thanks for Partnering

Thanks for partnering with the Maryland Cooperative Extension, and supporting our programs. I also hope you enjoy this newsletter. If you are no longer interested in receiving this newsletter, please call or write the office for the removal of your name from the mailer.

The Land of Milk and Honey!

R. David Myers, Extension Educator
Agriculture and Natural Resources
Anne Arundel & Prince George's Counties
Fruits and Vegetables

Prince George’s Cooperative Extension
6707 Groveton Drive
Clinton, MD 20735
301 868-8783

Anne Arundel Cooperative Extension
7320 Ritchie Highway, Suite 210
Glen Burnie, MD 21061
410 222-6759 or 301 970-8250

Note: Registered Trade Mark® Products, Manufacturers, or Companies mentioned within this newsletter are not to be considered as sole endorsements. The information has been provided for educational purposes only.
Subscriber Information (check all that apply):

___ No, Please remove my name from the mailing list.
___ Yes, I wish to receive a mailed newsletter.
___ Yes, I wish to receive an emailed newsletter.

My Mailing Address is:

Name: __________________________________________________ Phone: ______________________

Address: _______________________________________________________________________

City: ___________________________________ State: _______ Zip: _______________________

My Email Address is: _____________________________________________________________
(Please Print Clearly)

Optional Information:

Race: ___ Asian ___ Black ___ Hispanic ___ White
Sex: ___ Male ___ Female

Check areas below that describe your farm interests:

___ Aquaculture ___ Beef ___ Full-Time Farmer
___ Corn ___ Horses ___ Part-Time Farmer
___ Soybeans ___ Sheep/Goats ___ Hobby/Enthusiast
___ Hay ___ Poultry ___ Agribusiness
___ Small Grains ___ Swine ___ Government
___ Fruit ___ Farm Markets ___
___ Vegetables ___ Greenhouse ___
___ Turf ___ Nursery ___

Others: __________________________________________________

_________________________________________________________________

Complete this form and mail to:

Anne Arundel Cooperative Extension
7320 Ritchie Highway, Suite 210
Glen Burnie, MD 21061

It is the policy of the University of Maryland, Agricultural Experiment Station and Maryland Cooperative Extension 
that no person shall be subjected to discrimination on grounds of race, color, gender, religion, 
national origin, sexual orientation, age, marital or parental status disability.