Dave’s Ramble

Our over commitment has resulted in the abandonment of some of the very deeds that matter most. Thus we chant our overachievement mantra continually heaping stress and impatience, duping us to conclude that time is our enemy.

I looked down while in my tomato patch picking the last of the summer tomatoes this weekend and noticed an out of place white stone. Hurriedly, I passed it by. Then curiosity beckoned me back to pick up the quartz artifact; in fact a perfect arrowhead. Imagine someone having the time to chisel this stone, and then lash it to an arrow for the sole purpose of obtaining an evening meal. Our generation certainly has had more personal free time than any past generation, possibly any future generation.

Yet, I fear we have become less social. Our independence and self reliance now has us racing from event to event and task to task; enamored with our own accomplishments. Individualism to a fault; we left the village a long time ago. Choose this day to bind time with deeds that matter. What deeds you inquire? Volunteering your time, to pass knowledge, skill, good will and cheer to others. Recently, I have noticed that our County Fairs attract few farm entries and even fewer farmers. To our open shame; for this is one of our best forums for sharing our love of the land. Let us bury the excuses and strive to reunite.

I envision nearby an era, a generation of people, Americans that take time to teach and congregate on common ground. Our Agriculture surely will survive, fully incorporated in this landscape, for the benefit of all. Over committed, you bet this generation will be for each other instead of for themselves.

Let us start anew today; take the time to explain to others your passion for agriculture. Lay a hold of someone to share an experience and you will have opened their heart. Over commit to agriculture and melt away the enemy of time with tasks that matter most.

Fall 2006

Calendar of Events
Mark Your Calendars --- Plan To Participate

♦ September 28 – Pumpkin Twilight - WYEREC
♦ November 4 – Small Farm Conference - UMES
♦ November 18 – MCE Horse Conference – A. A. Com. College
♦ November 28-30 – Crop Mgmt. School - Ocean City
♦ December 8 – Southern MD Crops Conference – Waldorf
♦ December 11 – Fruit & Veg IPM Workshop - DFRC
♦ January 8 – Pesticide Certification Training - DFRC
♦ January 22 – Pesticide Certification Exam - DFRC
♦ January 24 – Forage Conference - Waldorf
♦ January 26 – Central MD Veg Meeting - Upperco
♦ February TBA – Grape Pruning Clinic – Upper Marlboro REC
♦ February 7 – So. MD Veg & Fruit Mtg – Leonardtown
♦ February 21-24 – MADMC Marketing Conference - Solomons
♦ March 12 – Pasture & Field Crop IPM Workshop – DFRC

Inside This Issue

- Fall & Winter Meetings
- Tomato Research Studies 2006
- Nursery & Greenhouse Reports
- Emerald Ash Borer & P.G. Quarantine
- Grain Supply & Demand Report Highlights
- Cutting Fertilizer with Forage Management
- Local International Markets for Specialty Vegetables
- Avian Influenza Updates & Reports
- Q & A Hulless Barley Incentive Program
- Domino Lime
- Nutrient Management Update
- USAID ACDI/VOCA Farmer to Farmer Project
Fall & Winter Conferences
Mark your calendars now and plan to be a part of the fall and winter meetings.

Pumpkin Twilight & Vegetable Roundup
WYEREC, Queenstown, MD

September 28th, 2006
You are invited to attend the 2006 Pumpkin Twilight & Vegetable Roundup, Thursday, September 28, 2006, at the Wye Research and Education Center. The evening tour will begin at 5:00 p.m. At approximately 7:00 p.m. a light dinner will be served. Come see the 2006 Pumpkin Variety Trials and see the results of two fungicide schemes: conventional and reduced risk. Refresh your pumpkin disease identification skills. Also other cucurbit vegetable research will be presented by University of Maryland and University of Delaware Extension faculty.

For information, call 410-313-2707 (Maryland Cooperative Extension, Howard County) or 410-827-8056 x 115 (WYEREC). If you need special assistance to participate in this program, please contact Mrs. Carolyn Kulp at 410-313-2707 by September 15.

3rd Annual UMES Small Farm Conference
November 4, 2007
The 3rd Annual UMES Small Farm Conference will be held at the Richard A. Henson Center, University of Maryland Eastern Shore, Princess Anne, Maryland on Saturday, November 4, 2006. Small Farm topics included at the conference: production issues, food safety, local marketing and financial management.

For more information contact the Maryland Cooperative Extension at 410 651-6206 or hohudson@umes.edu for a conference registration packet.

Mid-Atlantic Crop Management School
November 28-30th, 2006
The Mid-Atlantic Crop Management School will be held at the Princess Royale Hotel in Ocean City on November 28-30, 2006. Individuals seeking advanced training in soil and water, soil fertility, crop production and pest management will have an opportunity at hands on, intensive sessions that also provide continuing education units (CEU’s) for the Certified Crop Advisor (CCA) Program. You may also register on line at: www.mdcrops.umd.edu

University of Maryland Announces
New Horse Conference
November 18th, 2006
The University of Maryland will be hosting a new Annual Horse Conference to educate horse industry participants on a wide array of topics including horse health care, nutrition, pasture management, equine business management. This year’s event will be held Saturday, November 18, 2006 from 8:00 a.m. to 3:30 p.m. at the Anne Arundel County Community College in Arnold, MD. Cost for the conference is $30 for adults and $15 for youth 17 and under. Registration includes entry to 12 available lectures, lunch and proceedings of lecture notes and presentation.

Registration closes on November 10, 2006. To register, contact Kristen Spahn at 301-405-4685.

Please visit: www.equinestudies.umd.edu for more information on the Horse Conference.

Southern Maryland Crops Conference
December 8th, 2006
The Southern Maryland Crops Conference will be held on December 8, 2006, at the Waldorf Holiday Inn from 8:30 a.m. to 3:30 p.m. This conference provides an opportunity for those involved in agriculture to meet and discuss common problems and hear from speakers on the latest in agricultural production and management.

Speakers this year will provide crop production IPM updates on “Weed Control”, “Insect Control” and “Disease Control”, as well as “Alternative Grain Crops”. Participants will have the opportunity to visit sponsor exhibits and talk with company representatives. All-day attendance at this program will also fulfill the requirements for Private Pesticide Applicator Recertification. Come and join other Southern Maryland farmers and industry representatives for “news you can use”.

The registration fee of $5.00 includes a luncheon. For further information and tickets call your local Southern Maryland Cooperative Extension office or (301) 753-8195. Register by December 1, 2006 to ensure luncheon availability. If you need special assistance to participate in the Southern Maryland Crops Conference, please contact Pamela B. King, Charles County Cooperative Extension, at 301-934-5403 by December 1, 2006. Use the Maryland Relay Service at 7-1-1 for text telephone service to our voice number.
Fruit & Vegetable IPM Workshop  
Pesticide Recertification & Nutrient Management Voucher Training  
December 11th, 2006

Make plans to attend the **Fruit & Vegetable IPM workshop, Monday, December 11, 2006** at the Davidsonville Family Recreation Center (DFRC) from 6:00 p.m. to 9:00 p.m. This workshop will explore advanced concepts of fruit and vegetable crop production in the Southern Maryland region from establishment to harvest.

Topics will include: *Crop selection; integrated crop management; soil fertility; weed control; insect control; and disease control* for fruit and vegetable crops.

**Private Pesticide Applicator Recertification & Nutrient Management Voucher Recertification** will be awarded for full class participation.

To register for this event contact the Anne Arundel County Extension Office at 410 222-6759.

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**New On-Line Private Applicator Pesticide Recertification**

December 21st, 2006

If you would like the opportunity to learn from home, yet still be engaged, then be sure to enroll in the **New On-Line Private Pesticide Recertification Training**, scheduled for **December 21, 2006** from 6:00 to 8:00 p.m.

This CENTRA recertification session will be live via the internet directly from the University of Maryland. CENTRA is a student interactive system that will document your attendance. To participate in a live CENTRA session a high speed cable or satellite internet connection is required.

**Private Pesticide Applicator Recertification credit** will be awarded for full 2-hour session participation. **Registration by December 18th is required** in order to receive CENTRA login password information.

To register for this on-line event contact the Anne Arundel County Extension Office at 410 222-6759.

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**Become a Certified Private Applicator**

If you have allowed your pesticide certification to expire or are a new applicant, then you must attend the **Private Pesticide Applicator Certification Training and pass the exam**. **A Private Applicator Certification Training** will be conducted at the Davidsonville Family Recreation Center (DFRC) from 7:00 to 9:00 p.m. on **January 8, 2007**. **A Private Pesticide Applicator Exam** will be given at the Davidsonville Family and Recreation Center (DFRC) from 7:00 to 9:00 p.m. on **January 22, 2007**.

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Maryland/Delaware Forage Council Holds  
Pasture & Hay Conference Series  
Delmarva Hay & Pasture Conference  
Harrington, Delaware, Fairgrounds  
January 22, 2007  
Western Maryland Hay & Pasture Conference  
Keedysville, Maryland, CMREC  
January 23, 2007  
Southern Maryland Hay & Pasture Conference  
Waldorf, Maryland, Isaac Walton League  
January 24, 2007

At all three conference locations topics will be presented covering all aspects of hay and pasture production. The programs will address key issues and concerns facing hay and pasture producers. Topics will include designing grazing systems for small acreages, equine health impacts from grazing, managing sacrifice and heavy use areas, weed control in pasture and hay, and preparing for pasture establishment: taking soil samples and selecting species.

The conferences also feature displays and exhibits by numerous agribusinesses. Attendees will be able to obtain information on seed, fertilizer, equipment, fencing, etc. needed for hay and pasture production and management. Conference program and register information will be available at local Extension offices by early December.

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**Central Maryland Vegetable Growers Meeting**

January 26, 2007

This well sponsored, large grower meeting always offers a great deal of vegetable industry information. The **Central Maryland Vegetable Growers Meeting** will be held on **January 26, 2007** from 8:00 a.m. to 3:30 p.m. at the Friendly Farm Inn, located on Foreston Rd. in Upperco, MD. Pesticide recertification credits are awarded for attending this meeting. For full meeting details, and to register call the Baltimore County Extension Office at 410 666-1024 today.

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**Upper Marlboro Research Vineyard Pruning Clinic**

February TBA, 2007

The University of Maryland Vineyard Team and the Maryland Grape Growers Association wish to invite you to attend the **MGGA Upper Marlboro Research Vineyard Pruning Clinic** to be held in February TBA, 2007 from 9:00 a.m. to noon at the Upper Marlboro Research and Education Center located at 2005 Largo Road, in Upper Marlboro, Maryland. For more details and directions give me a call, or go to the MGGA web site at: [http://www.marylandwine.com/](http://www.marylandwine.com/)
Southern Maryland Vegetable & Fruit Production Meeting
February 7, 2007
Make plans to attend the Southern Maryland Vegetable and Fruit Production Meeting on Wednesday, February 7, 2007. This year the meeting will be held at the A-Maze-in Place Hall in Clements, MD. This meeting will provide Private Applicator Recertification & Nutrient Management Voucher Recertification. Speakers will provide IPM updates and present on a broad range of production topics.

Also meeting sponsors will showcase their products and services, and state vegetable organization leaders will be present to recruit and answer your questions. Please attend and make this meeting the best ever. For full conference details, contact Ben Beale, Extension Agent, St. Mary's County Extension Office at 301 475-4481. Please register no later than January 31, 2007.

Get Ready, Get Set, Direct Market Conference Will Teach You How
Mid-Atlantic Direct Marketing Conference
February 21-24, 2007, Solomons, MD
Mark your calendars…the Mid Atlantic Direct Marketing Conference (MADMC) is coming to Maryland in 2007! Scheduled for February 21-24, 2007, in Solomons, Maryland, MADMC is a must for farmers and organizations that market agricultural products directly to consumers. This exciting event will take place at the Holiday Inn Select and will feature four days of informational, educational and networking opportunities, including:

- Workshops
- Seminars
- Farm tours
- An industry specific trade show

You’ll leave with creative new ideas, personal connections and renewed enthusiasm for your agricultural enterprise.

For more information contact 410-822-1244, sdill@umd.edu or periodically check the website www.madmc.com.

Field Crops & Pasture IPM Workshop
March 12th, 2007
Make plans to attend the Field Crops & Pasture IPM Workshop, Monday, March 12, 2007 at the Davidsonville Family Recreation Center (DFRC) from 6:00 p.m. to 9:00 p.m. This workshop will explore advanced concepts of pasture and field crop production in the Southern Maryland region from establishment to harvest, including animal utilization. Topics will include: Crop selection; integrated crop management; soil fertility; weed control; insect control; and disease control for soybeans, corn, wheat, barley and hay crops.

Private Pesticide Applicator Recertification & Nutrient Management Voucher Recertification will be awarded for full class participation.

Tomato Research Studies 2006
by Jerry Brust, IPM Vegetable Specialist
University of Maryland
jbrust@umd.edu

Variety Trial (Table 1)
Sixteen varieties were examined. A quick summary of the results is presented. Plants grew well in May and June. In late June, Southern Blight and Timber Rot started to appear in the field. All varieties were susceptible to the wilts, although 'Early Girl' was most susceptible. Most varieties showed some level of uneven ripening or yellow shoulders although a few such as: 'Ultra Boy', 'Heatwave' and 'Beef Master' had high percentages of their fruit with this disorder. For this year, good yields of medium to large size fruit with few blemishes were found in the varieties: 'Ultra Sweet', 'Applause', 'Indy' and 'Crista', ‘Sweet Tangerine’ had a nice fruit set of medium size (9-10 oz/fruit) orange-yellow fruit.

Reduced Risk Chemical Control IPM Trial (Table 2)
Reduced risk chemicals can give the same control as high risk chemicals, but do not significantly reduce natural enemies. This study compared the use of reduced risk chemicals, such as Bt (early worm control) SpinTor (fruiting worm control and thrips & CPB control) and Rimon (stinkbug control) applied only when necessary – (total of 4 sprays as of August 24) vs. pyrethroids that were sprayed on a 7-10 day schedule starting the first week in June (total of 11 sprays as of August 24) vs. no sprays (Control). All treatments had weekly applications of fungicides. There were no significant differences in yields or pest damage between treatments. The only significant difference was in the rating of beneficial insects, which was greater in reduced risk and the Control treatments vs. High risk treatments. This means the 11 sprays applied on a weekly to 10 day basis were overkill as probably were the four sprays in the reduced-risk plots. However, growers cannot take risks and therefore not spraying any insecticides is not acceptable. A good alternative to weekly sprays with high risk chemicals is to use reduced risk pesticides only when needed (four sprays) which will control the pests and preserve the natural enemies. Preservation of natural enemies will help decrease pest damage even further.

State-wide Thrips Survey
Over the course of the summer tomato, cucurbit and pepper fields were sampled for thrips species throughout the state of Maryland. County Educators and growers helped with the survey by sending in flowers of the crops. Very brief mention of the results will be made here as not all samples have been analyzed and some are yet to come. Overall Eastern flower thrips (Frankliniella tritici) make up 66.5% of the thrips in samples so far. Western flower thrips (WFT) (Frankliniella occidentalis) are the next largest group of thrips in the survey consisting of 22.7% of the samples. In some areas of the state WFT consisted of a very low percentage of the thrips population while at a few sites WFT was a very high percentage of the population. The farms that had the greatest levels of WFT also tended to: spray earlier and more often than the other sites.
use pyrethroid insecticides more frequently, grow a wide variety of vegetables.

Further results of these trials and others will be presented at area meetings this winter and can be found on a future website. I will be developing this fall concerning MD vegetables.

Table 1. Tomato Variety Trial CMREC, Upper Marlboro 2006

<table>
<thead>
<tr>
<th>Variety</th>
<th>Avg. wt lbs per 3 plants</th>
<th>% Culls</th>
<th>Yellows</th>
<th>Blemish</th>
<th>Shoulder</th>
<th>End rot</th>
<th>Cracking</th>
<th>Cat face</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra Sweet</td>
<td>45.3 a</td>
<td>5.2 a</td>
<td>YL</td>
<td>YL</td>
<td>YL</td>
<td>YL</td>
<td>YL</td>
<td>Good Yielder, compact plants</td>
<td></td>
</tr>
<tr>
<td>Mt. Fresh +</td>
<td>30.5 c</td>
<td>6.3 ab</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>YL</td>
<td>Large fruit</td>
<td></td>
</tr>
<tr>
<td>Applause</td>
<td>43.6 ab</td>
<td>10.7 b</td>
<td>YL</td>
<td>YL</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Compact Plants</td>
<td></td>
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<tr>
<td>Ultra Boy</td>
<td>32.7 bc</td>
<td>21.6 de</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>L</td>
<td>Medium size fruit</td>
<td></td>
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<tr>
<td>Florida - 47</td>
<td>29.6 c</td>
<td>5.1 a</td>
<td>YL</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Later yields</td>
<td></td>
</tr>
<tr>
<td>Early Pick</td>
<td>33.7 bc</td>
<td>8.8 ab</td>
<td>L</td>
<td>YL</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Early yield not there</td>
<td></td>
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<tr>
<td>Heatwave</td>
<td>39.5 ab</td>
<td>20.3 d</td>
<td>M-H</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Compact plants</td>
<td></td>
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<tr>
<td>Better Boy</td>
<td>31.6 bc</td>
<td>12.5 bc</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Large fruit, but little yield so far</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big Boy</td>
<td>26.5 c</td>
<td>16.4 cd</td>
<td>L-M</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>Large fruit, low yield</td>
<td></td>
<td></td>
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<tr>
<td>Early Girl</td>
<td>28.6 c</td>
<td>22.3 d</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>40% plants wilted</td>
<td></td>
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<tr>
<td>Indy</td>
<td>38.7 ab</td>
<td>8.1 ab</td>
<td>L</td>
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<td>L</td>
<td>L</td>
<td>Compact plants</td>
<td></td>
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<tr>
<td>Oregon Spring</td>
<td>41.7 ab</td>
<td>14.7 c</td>
<td>L</td>
<td>L-M</td>
<td>L</td>
<td>Early maturing, small fruit, no real size</td>
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<td>Lemon Boy</td>
<td>36.1 abc</td>
<td>11.8 bc</td>
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<td>L-M</td>
<td>L</td>
<td>Yellow fruit</td>
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<td></td>
<td></td>
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<tr>
<td>Crista</td>
<td>44.7 a</td>
<td>10.9 bc</td>
<td>L</td>
<td>L-M</td>
<td>L</td>
<td>Do not leave on vine too long</td>
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<tr>
<td>Sweet Tangerine</td>
<td>37.7 ab</td>
<td>7.7 ab</td>
<td>VL</td>
<td>L</td>
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<td>Orange/yellow medium size fruit</td>
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<td>Beef Master</td>
<td>32.4 bc</td>
<td>26.8 e</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>M</td>
<td>Very large fruit, prone to cracking and yellow shoulder</td>
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<tr>
<td>Variety Avg.</td>
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</table>

1 Natural enemies range from low=0 to moderate=3 to high=5 in numbers of predators or parasitized pests. Means within a row followed by different letters are significantly different at the p< 0.05 level.

Table 2. Percent fruit damage by pests, yield and natural enemy populations in 3 tomato treatments

<table>
<thead>
<tr>
<th>Pest Type</th>
<th>High Risk</th>
<th>Reduced Risk</th>
<th>No spray (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm Damage</td>
<td>2.5% a</td>
<td>2.1% a</td>
<td>4.7% a</td>
</tr>
<tr>
<td>Thrips Damage (mostly dimpling)</td>
<td>4.3% a</td>
<td>2.4% a</td>
<td>5.2% a</td>
</tr>
<tr>
<td>CPB feeding</td>
<td>1.0% a</td>
<td>0.9% a</td>
<td>4.3% a</td>
</tr>
<tr>
<td>Stinkbug feeding</td>
<td>3.6% a</td>
<td>4.1% a</td>
<td>6.8% a</td>
</tr>
<tr>
<td>Yield (lbs/3 plants)</td>
<td>36.6 a</td>
<td>39.5 a</td>
<td>32.2 a</td>
</tr>
<tr>
<td>Natural Enemies 1</td>
<td>0.8 a</td>
<td>2.9 b</td>
<td>3.5 b</td>
</tr>
</tbody>
</table>

1 Natural enemies range from low=0 to moderate=3 to high=5 in numbers of predators or parasitized pests. Means within a row followed by different letters are significantly different at the p< 0.05 level.

Nursery/Greenhouse
TPM/IPM Report

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)

Deer Management
Deer can be a real problem in mum fields and pansy fields outdoors. We have solutions for your operation. We are holding a Deer Management Conference on October 19, 2006. It will be located at Ruppert Nurseries in Laytonsville, Maryland. We have asked nursery managers, owners, trappers, veterinarians, and other experts on animal management to speak at this conference. The topics will be a great benefit to you in your management of deer, rabbits, and small animals that damage plants in nurseries and landscapes. For a copy of the brochure go to: http://www.agnr.umd.edu/ipmnet/crses97.htm

Bacterial Soft Rot
We submitted a poinsettia sample to the Plant Diagnostic Lab last week with Soft Rot (Erwinia carotovora). Soft rot is worst in hot humid weather. Fungus gnats were also found on this sample. Fungus gnat larvae can spread soft rot and can burrow into cuttings and damage them.

Management: Rotting cuttings can not be cured and should be promptly discarded. Fertilizer for mother plants can help to reduce soft rot susceptibility in cuttings. No more than 20% of the total nitrogen should be supplied in the form of ammonium. Calcium nitrate reduces susceptibility to soft rot and bacterial wilt.

Crucifer Bacterial Black Rot
The Plant Diagnostic Lab received an ornamental cabbage with crucifer bacterial black rot (Xanthomonas campestris pv. campestris) this week. Under microscopic examination bacterial streaming was observed in the leaf veins and petioles. This disease is spread in splashing water from overhead irrigation. Black Rot is usually introduced in transplants grown from infected seed. To prevent disease in the next crop, obtain certified, disease-free seed or treat seed. This bacterium can remain in the field over winter so a minimum two year rotation is advised for fields where black rot was active.

Management: There is no effective control once many plants show advanced symptoms. If the disease is detected early enough, those few symptomatic plants can be removed and Alliette or a fixed copper fungicide (Kocide, Phyton 27) may be applied to protect the foliage from new infection.
Pansies
Black Root Rot
We submitted a pansy sample to the Plant Diagnostic Lab that was infected with Black Root Rot (Thielaviopsis basicola). Spores of the fungus were observed on the roots, crown, and blighted leaves under microscopic examination. Management: This disease is promoted by high pH so maintain the soil pH below 5.5. Remove infected plants, do not reuse soil, pots and flats, or disinfect them with steam or chemicals. Keep fertilizer on the low side and avoid excessive use of ammonium forms of nitrogen. Apply fungicide drenches (Cleary's 3336, Terraguard) at seeding and again at intervals according to the label of the product you select. Monitor and control fungus gnats which can move fungal spores from diseased plants to healthy ones.

MDA Quarantine Order
Prince George's County
Notice: Emerald Ash Borer Surveillance Detects the Presence of the Insect. Regional Survey and Response Plans are Being Implemented, No Ash Trees or Hardwood Firewood May Enter or Leave Prince George's County.

Maryland officials have confirmed the presence of the emerald ash borer (Agrilus planipennis) in ash trees located in the Clinton/Brandywine area of southern Prince George's County. The effected trees were discovered during survey and eradication efforts begun after the detection of the insect in Maryland in 2003, when a Michigan nurseryman shipped infested trees into a Prince George's County nursery.

"While we are disappointed to find the emerald ash borer after nearly three years of no detections, we are pleased that our surveillance efforts have proven to be effective and that we found the insect before it could spread further," said Agriculture Secretary Lewis R. Riley. "Together with our federal, state, and local nursery partners, we are beginning aggressive measures to control and eradicate this destructive pest."

The Maryland Department of Agriculture (MDA) today issued a Quarantine Order (#06-01) that prohibits anyone from moving ash trees or any hardwood firewood into or out of Prince George's County until further notice. Over the next two months, the Department of Natural Resources (DNR) and MDA will survey the area south of Rt. 4 to locate all ash trees. The results of the survey will determine the necessary course of action and scope of tree destruction and pest surveillance. The accepted protocol used in Maryland and the other impacted states is the removal and destruction of all ash trees in defined areas followed by on-going surveillance.

This year Maryland is also restricting the movement of all hardwood firewood into and out of Prince George's County.

"DNR foresters together with MDA are proactively following this course of action to safeguard Maryland's trees on both private and public lands, neighborhood trees and the nursery industry," said DNR Secretary of C. Ronald Franks.

Since 2003, efforts to eradicate the insect included the collection and destruction of all trees sent to Maryland from the Michigan nurseryman, destruction of all ash trees within a ½ mile radius of the introduction point, and three years of surveillance, which produced no emerald ash borers until now. The insect, an exotic pest from Asia, feeds on and kills ash trees in one to three years after infestation.

The presence of the emerald ash borer typically goes undetected until the trees show symptoms of being infested - usually the upper third of a tree will thin and then die back. This is usually followed by a large number of shoots or branches arising below the dead portions of the trunk. Other symptoms of infestation include: D-shaped exit holes in the bark where adults emerge, vertical splits in the bark, and distinct serpentine-shaped tunnels beneath the bark in the cambium, where larvae effectively stop food and water movement in the tree, starving it to death.

Maryland's nursery and greenhouse industry accounts for $303 million of the state's $1.4 billion agriculture industry. Ash is the most common tree in Baltimore with approximately 293,000 trees and accounts for about six million trees in the Baltimore metropolitan area. The U.S. Department of Agriculture has estimated losses could exceed $227,568,000 in the Baltimore area alone if the emerald ash borer were to become established.

Additional Resources:
Maryland Invasive Species Council: www.mdinvasivesp.org/species/insects/Emerald_Ash_Borer.html
Maryland Department of Agriculture: www.mda.state.md.us
Maryland Department of Natural Resources: www.dnr.state.md.us/forests/forester/eab.asp
Ohio Department of Agriculture: www.ohioagriculture.gov/eab/
Michigan Department of Agriculture: www.michigan.gov/mda/0,1607,7-125,-65294--00.html
USDA APHIS: www.aphis.usda.gov/ppq/ep/eab/
USDA Forest Services: http://na.fs.fed.us/hp/eab/
PHOTO, White ash tree: www.cnr.vt.edu/dendro/dendrology/syllabus/famericana.htm
PHOTO, Green ash tree: www.cnr.vt.edu/dendro/dendrology/syllabus/fpennsylvanica.htm

Property Surveys for the Emerald Ash Borer Begin
Brandywine/Clinton Area Residents Can Expect to See Officials Scouting Around "Don't Pack Firewood - Buy it Where You Burn It" Message to Firewood Consumers

Teams of tree and insect experts from local, state and federal governments are launching initial property surveys to try to find all ash trees and the emerald ash borer - an invasive and destructive pest - before it can become established. The teams will be scouring yards, forested areas and other properties in Prince George's County south of Rt. 4 in the Clinton/Brandywine vicinity over the next month or two. The results of the survey will determine the necessary course of action to eliminate the insect from Maryland.

"This survey work is the first step in what will be a multi-year effort to eradicate the emerald ash borer," said Agriculture Secretary Lewis R. Riley. "The most important thing that homeowners, firewood dealers, hunters, campers, developers, excavating companies, nursery operators and others can do is simply to keep ash products as well as all hardwood firewood -
where they are. Don't transport any firewood from Prince George's County: 'Buy it where you’ll burn it' instead."

The accepted protocol used in Maryland and other states coping with the emerald ash borer is the removal and destruction of all ash trees in defined areas followed by on-going surveillance. In addition, firewood is the most common way for insects to move around; therefore, people are not allowed to move firewood from Prince George's County to any other part of the State. Further, neither hardwood firewood nor any ash products can be moved from south of Rt. 4 to the northern part of the county.

The presence of the emerald ash borer typically goes undetected until the trees show symptoms of being infested - usually the upper third of a tree will thin and then die back. This is generally followed by a large number of shoots or branches arising below the dead portions of the trunk. Other symptoms of infestation include: D-shaped exit holes in the bark where adults emerge, vertical splits in the bark, and distinct serpentine-shaped tunnels beneath the bark in the cambium, where larvae emerging below the dead portions of the trunk. Other symptoms of infestation include: D-shaped exit holes in the bark where adults emerge, vertical splits in the bark, and distinct serpentine-shaped tunnels beneath the bark in the cambium, where larvae effectively stop food and water movement in the tree, starving it to death.

Maryland's nursery and greenhouse industry accounts for $303 million of the state's $1.4 billion agriculture industry. Ash is the most common tree in Baltimore with approximately 293,000 trees and accounts for about six million trees in the Baltimore metropolitan area. The U.S. Department of Agriculture has estimated losses could exceed $227,568,000 in the Baltimore area alone if the emerald ash borer were to become established. Michigan, Indiana, and Ohio where the insect has become established, have lost more than 20 million ash trees.

For more information about the emerald ash borer and Maryland's eradication efforts, visit the Maryland Department of Agriculture's Web site, www.mda.state.md.us

Get Your Ash out of Town

By Stanton Gill, Regional Extension Specialist, University of MD

Back in 2003 we had the big shake up with introduction of the destructive emerald ash borer, which was accidentally brought into Maryland. The Maryland Department of Agriculture took aggressive action, destroying the infested trees and any ash tree within a ½ mile radius. They placed out sentinel trees in the area and examine them. They declared in 2005 that it appeared Maryland was emerald ash borer free. In 2006 they found ash trees near the original infestation site in a wooded area that had an infestation of emerald ash borer. One 10’ “caliber tree had 17 galleries and 12 larvae present in the galleries. There were no emergence holes in this tree. MDA representative made an official press release statement at 11:00 am. on Tuesday, August 22nd. The Maryland Department of Agriculture (MDA) issued a Quarantine Order (#06-01) that prohibits anyone from moving ash trees or any hardwood firewood into or out of Prince George’s county until further notice. Over the next two months the Department of Natural Resources and MDA will survey the area south of Rt. 4 to locate all ash trees.

In the mid-west the emerald ash borer has changed the landscape and forest dramatically. The survival of Ash trees in landscapes and as forest tree in the mid-west is being severely challenged. New invasive pest species and native pest are making it a more demanding task to keep ash trees healthy and thriving in urban settings. Don't get me wrong, green and white ash continue to be popular and be installed in commercial and residential landscapes from the mid-west and up and down the east coast. Hopefully ash species will continue to be very valuable in landscapes but it just may take attention to detail to keep them healthy. MDA and The University of Maryland Cooperative Extension need your help in keeping this problem from spreading in the state by reporting in any suspicious small d-shaped holes on the trunk and rapid dieback on the tree.

Ash have been a big seller for nursery managers for the last 25 years. In Dirr’s book on woody plants he listed green ash as “a worthwhile tree for difficult situations.”. Dirr also calls it the “everyman’s tree” (this should be updated to “every person’s tree”).

If you desire a large sized shade tree with a 40-50 canopy spread it is hard to beat the green ash (Fraxinus pennsylvanica.) or white ash ( Fraxinus americana). One of the most popular glossy leaf, male green ash is the 'Marshall seedless'. It has lost some popularity in the past couple of years because the overall shape is not as uniform as some would like it. Many nursery managers are now growing the cultivar ‘Patmore’, which is a hardier male selection with upright branches and more uniform outline. The summer foliage color is dark green and the fall color is a great golden yellow. In white ash the cultivar 'Autumn purple' has been popular for years.

Sales of liners ash for nurseries has dropped off tremendously on a national basis since emerald ash borer has been found in the Michigan, Ontario, Ohio, and Maryland. Maryland nursery managers are still planting green and white ash but most have reduced the numbers being planted each year. This may be the nail in the coffin of the green and white ash market.

New and Exotic Pests

Maryland has experienced a plethora of exotic pests over the years but none have the potential for destruction as the tiny green colored beetle called the emerald ash borer, Agrilus planipenis. This beetle can devastate ash trees in Maryland in as short a time period as one season.

If this pest become well establish in Maryland many landscapes will be ravaged and the forest dramatically changed forever. This pest was accidentally introduced into Michigan and discovered in 2001 in the Detroit/Windsor area. In July of 2002 the beetle was found in Ontario.. The beetle was found in Ohio in 2002 and in Maryland and Northern Virginia in 2003. The emerald ash borer attacks green, white, black and purple ash.

How serious is this pest?

Ash trees make up to 1/3 of the forest in the mid-west states such as Ohio, Michigan and Illinois. Ash are a major component of the forest in the northeast forest. The Emerald ash borer has the potential to dramatically change the forest mix if it becomes established. It could move ash out of favor for use in landscapes. In Maryland white ash is in the mix but we are dominated by oak and maple forest. Unfortunately, In the landscape, green ash has been used heavily over the last 30 years.
Official thought it would be years until we experienced the beetle in Maryland but it leaped-froged to our state via a nursery tree shipment from Michigan to a nursery in Prince George's county. Now it has moved out the original infestation site to adjacent wooded areas.

Back in 2003 a Maryland nursery purchased nursery trees that were shipped from Michigan and the trees were infested with larvae of the beetle. The plants were left in the nursery during the adult emergence time in June and the beetles infested additional trees. Some of these infested trees were moved into Maryland and Northern Virginia landscapes.

Emerald ash borer infested trees were found in Prince George's county in Maryland and Northern Virginia. A trace was placed and the trees sold out of the nursery have been located in landscape in Prince George’s county and in Northern Virginia. All of these trees have been destroyed. By Maryland Department of Agriculture and Virginia Department of Agriculture. All of the ash trees within a ½ mile radius of the infested trees from the nursery were cut down and ground up to ½ " chips. Work conducted in Michigan and Ohio found that chipping would 1” radius destroy all larvae. Choosing a small chip size may be overkill but it reassures one that the larvae have been destroyed. MDA moved aggressively attempts to keep this pest from become established in Maryland. The new federal requirement may be expanding the area that ash trees must be destroyed.

Sentinel trees were planted around the area where the infestations were found. Based on work conducted in Michigan where they found that ash trees that were physically girdled were highly attractive to emerald ash borer adults the MDA planted sentinel trees around the perimeter of infested sites. These single trees were examined this fall by MDA and found to be free of Emerald ash borer activity.

On revisiting the original infestation sites some very young ash tree that were not destroyed on the first go around were quickly destroyed. Hopefully, the problem, as it appears at this moment, is solved.

Monitoring

The emerald ash borer beetles do not produce any long range pheromones so the use of pheromone traps is impossible. The use of girdled ash trees is probably the best trap method near known infestations. Keep in mind that even with all of the aggressive destruction of damaged plants the beetle could slip through the drag net. We need your help to make sure this pest is stamped out. As landscape managers we need you to stay alert for problems with green and white ash.

Life cycle

Adult beetles start to come out in June and peak in late June and trail off by mid-July (in Ohio) . Adults feed for 10 -14 days before mating and females oviposit onto trunks, usually on the trunk. They prefer to lay eggs on larger trees but have been found in trees as small as ½” diameter. Females lay single eggs as time but lay up to 50 eggs over their life time. Larvae feed in the phloem and scar the xylem. The xylem is the part of the tree involved with water uptake. The scarring causes a rapid develop of scar tissue under the bark causing the bark to split. One of the first symptoms seen is bark splits on the trunk. Since larvae are just under the bark wood peckers will be very active feeding on the infested trees. High wood pecker activity among ash trees is a good indicator of an infestation. The downy and hairy woodpeckers are the two most commonly found feeding on infested trees in the mid-west. An infested tree will have round funneled holes from the woodpecker feeding and d-shaped holes for the emergence of the adult beetles. The larvae feed in S-shaped galleries and pack the galleries with frass. As an infestation become established the S-shaped galleries cross over many times.

Here is what to look for:
1. Look for D-shaped holes in the trunks of green and white ash.
2. Rapid dieback of ash tree and formation of witch’s brooms
3. shaped galleries under bark that are packed with frass
4. presence of small, slender green colored beetle with a brassy underside

If you see these signs or symptoms contact MDA or an Extension office and alert them about the site. We cannot emphasize the importance of destroying this pest rapidly and preventing this pest from becoming established in Maryland or it will be deadly for Ash trees.

Resistance to Emerald Ash borer

Asian Ash are resistant to emerald ash borer. There is a Manchurian ash that has been shown to be very resistant. Plant breeders are looking at these Asian ash for a possible long term solution to developing ash with resistance to this pest.

Chemicals Control

This is a quarantine pest so all infested trees and trees within a ½ radius will be destroyed so chemical control is not a real option. Trials in Michigan by David Smitley et.al, evaluated several chemical control with trunk injection, soil drenching and foliar sprays. Here is what they found:

<table>
<thead>
<tr>
<th>Foliage applications in June</th>
<th>Chemical</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthene (single application)</td>
<td>30 %</td>
<td></td>
</tr>
<tr>
<td>Tempo</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>Orthene (2 application day)</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>Sevin (single application)</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Onyx</td>
<td>84%</td>
<td></td>
</tr>
<tr>
<td>Onyx (2 applications)</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>Tempo (2 applications)</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>Sevin (2 applications days)</td>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>

Trunk Injection

<table>
<thead>
<tr>
<th>Imiticide – Mauget capsule</th>
<th>60-96% at all sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pointer (Wedel System)</td>
<td>6 -60%</td>
</tr>
</tbody>
</table>

Bidrin applied in June had variable results
Bidrin trunk injected in mid-July and early September gave 82 and 77% control

Soil Injection

| Imitadcloprid applied with Kioritz | 33% |
| Imitadcloprid applied with high pressure | 86% |

What is important to note is that none of the materials or treatments provided 100% control which means chemical control will not keep emerald ash borer from becoming established.

Summary

Ash, both green and white ash, are beautiful trees and worth keeping in the landscape mix but keep in mind that you will need to monitor these plants closely and keep the Emerald Ash Borer (ELB) and Asian longhorned beetle (ALB)
from before firmly established in the Maryland. For the native pests like the banded ash clearwing timed chemical applications may be necessary to control the insect borers that can attack these trees.

Meanwhile, those ginkgo, tree lilac, hackberry and dogwood trees are looking pretty good. This pest may create new needs for replacement trees.

**Grain Supply/Demand Report Highlights**
Carl German, Extension Crops Marketing Specialist; University of Delaware clgerman@udel.edu

**Corn Analysis**
U.S. corn production is now forecast at 11.144 billion bushels, a 138 million bushel increase from the August estimate. USDA raised the '06 corn yield estimate to 154.7 bushels per acre, as compared to 152.2 bushels per acre a month earlier. Acres to be harvested were lowered to 71.8 million acres, a reduction of 300,000 acres from last month. Beginning stocks were reduced 50 million bushels and are now placed at 1.012 billion bushels. Imports were unchanged at 10 million bushels for a total '06/'07 marketing year supply of 13.135 billion bushels. If realized, the U.S. is projected to produce the second highest corn yield and the second highest corn production record.

Domestic demand was left unchanged from the August forecast for a total domestic corn use of 9.665 billion bushels. The U.S. corn export estimate was increased by 100 million bushels from last month, now projected at 2.250 billion bushels. Total U.S. corn use for the '06/'07 marketing year is now estimated at 11.915 billion bushels. Ending stocks were reduced by 12 million bushels from the August estimate and are now estimated at 1.220 billion bushels. In comparison, carry over stocks from the '05/'06 marketing year, which carried into the '06/'07 marketing year, were 2.012 billion bushels. Even though some in the grain trade expected a lower production number for '06 U.S. corn production, the report is likely to be viewed as price neutral due to the fact that ending stocks were reduced slightly. The season average farm price for U.S. corn is unchanged from last month at $2.15 to $2.55 per bushel.

**Soybean Analysis**
U.S. soybean production is now estimated at 3.093 billion bushels, a 165 million bushel increase from the August estimate. USDA raised the soybean yield estimate to 41.8 bushels per acre, a 2.2 bushel increase from last month. Acres projected for harvest were left unchanged at 73.9 million acres. Beginning stocks were reduced 30 million bushels from the August estimate and are now placed at 485 million bushels. Imports were left unchanged at 4 million bushels for a total '06/'07 marketing year supply of 3.581 million bushels. On the demand side of the equation, crushings were increased 15 million bushels and are now estimated at 1.765 billion bushels. U.S. soybeans for export were increased 35 million bushels, now estimated at 1.125 billion bushels. Seed use was left unchanged at 91 million bushels. Residual use was increased 5 million bushels and is now placed at 70 million bushels for a total use of 3.051 billion bushels for the '06/'07 marketing year. Ending stocks were increased 80 million bushels from the August estimate and are now projected at 530 million bushels.

The September soybean supply and demand estimates were widely expected in the trade. The report is somewhat bearish due to the increase in ending stocks. The season average farm price projection was decreased 10 cents on both ends of the price range from last month and is now estimated at $4.90 to $5.90 per bushel.

**Wheat Analysis**
The only change made in the September U.S. Wheat S & D balance sheet is a 5 million bushel increase in wheat used for food. This resulted in ending stocks for U.S. wheat being reduced by 5 million bushels, now estimated at 429 million bushels. The season average farm price for all U.S. wheat is now projected at $3.95 to $4.45 per bushel, a 5 cent increase on the low end and a 5 cent per bushel decrease on the high end of the price range.

**Marketing Strategy**
The release of the September supply/demand estimates for U.S. corn and soybeans does not change earlier expectations for the markets to work lower through the harvest period. It should be duly noted that total U.S. corn use for the '06/'07 marketing year is outpacing production by 801 million bushels. For U.S. soybeans, '06 production is projected to be just 42 million bushels greater than total use for the marketing year. This means that achieving normal or better '07 production in the U.S. and world will be extremely important for both corn and soybeans. This is likely to result in good price volatility and excellent pricing opportunities for both the remaining portion of '06 production (post harvest) and excellent pre-harvest pricing opportunities for next year's production, beginning after the first of the calendar year. For those that do not have storage space available it may be advisable to consider re-ownership of harvest delivered corn and soybean production by purchasing call options. The opportunity to employ that strategy will not materialize until we near the harvest peak. For technical assistance on making grain marketing decisions contact Carl L. German, Extension Crops Marketing Specialist.

**EPA Methyl Bromide Inventory Data Shows Downward Trend**
Last week, the Environmental Protection Agency (EPA) released data showing a steady decline in the aggregate methyl bromide inventory held by companies in the United States since 2003, when the agency began collecting such information.

The data includes, in aggregate form, the inventory held by approximately 35 companies in the United States from 2003 to 2005. The methyl bromide inventory data shows a continued decrease—approximately 16,422 metric tons in 2003, 12,994 metric tons in 2004, and 9,974 metric tons in 2005—and demonstrates that the United States is managing its domestic inventory appropriately.

Methyl bromide is a widely used soil fumigant that is also a powerful ozone-depleting substance. Under the Montreal Protocol on Substances that Deplete the Ozone Layer and the
because they lacked some of the benefits from having an endophyte. The novel endophyte tall fescues do not have this problem and were found naturally occurring in the environment. **Legumes & Pasture Nitrogen Relationship**

The time to save on energy costs for nitrogen fertilizer is now. If you overseed a third of your pastures every year to red clover by doing a frost seeding in late winter you can cut your nitrogen fertilizer needs in half or more depending on your overall management needs. In addition as you build up to 40% legume in your pasture you will see a marked increase in the quality of forage and the weight gain of the animals you are managing.

Another benefit is an increase in the quantity of forage available during the summer months. Red clover continues to provide good quality feed into the middle of summer. Red clover will improve overall pasture quality through the critical summer months while producing up to 150 lbs of nitrogen that is recycled into increased grass production. The naturally occurring Dutch white clovers produce far less nitrogen and forage than common red clover. The improved white or ladino clovers are also good ways to boost forage quality and produce your own nitrogen. We will discuss how best to incorporate clovers into your management program.

**PLEASE REGISTER** if you plan to attend to get directions and get updates on any changes. Contact Becky Hickman at becky.hickman@md.usda.gov or 443-482-2934 or the Calvert Soil Conservation District Office at 410-535-1521, ex. 3. Maps and information are available on the web at http://www.md.nrcs.usda.gov/programs/glci/glci.html, or your local Soil Conservation District or Extension Office, or the District’s web site at http://www.calvertsoil.org

**DIRECTIONS:** Take 2/4 south from Prince Frederick. South of St Leonard make a right onto Parran Road, and then a left onto Mackall Road to 8515 Mackall Road. (Look for green and white Pasture Walk signs on Route 2/4 South of Prince Frederick.)

This tour is sponsored or supported by the Maryland Grazing Lands Conservation Initiative Coalition and the Maryland USDA Natural Resources Conservation Service in partnership with local conservation districts, University of Maryland Cooperative Extension Service, Maryland Department of Agriculture and the Maryland- Delaware Forage Council.

All are welcome.

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**Local International Marketing of Ethnic & Specialty Vegetables**

by Stephan Tubene, Coordinator, University of Maryland Small Farm Institute

Yao Afantchao, Marketing Associate, Honorary County Agent

**International Markets**

There is a growing outsourcing by U.S. businesses. Several vegetable growers as well as other producers have re-located to cheap-labor countries in order to lower costs of producing their outputs including food products. However, outsourcing is a cause of U.S. unemployment. The flux of food from overseas can be diminished by opening up international markets for U.S. farmers. Ethnic vegetables produced in the U.S. can be exported as far as Canada, Latin America, Europe and/or Africa. Some U.S. farmers are currently linking to these new international market outlets taking advantage of the high demand for these unique products. As the states of Delaware, Pennsylvania, New Jersey and New York move their produce to Maryland through direct and wholesale
marketing strategies, Maryland should do the same and more specifically reach international markets.

Identification of Sellers, Buyers and Suitable Ethnic Vegetable Varieties.

Recent market surveys revealed that the following ethnic vegetables were the most sold, starting with garden eggs first as the most sold, and ending with other eggplants as the least sold. Buyers’ data set is attached as a Dbase format. The most challenging task was to estimate the saturation point for ethnic vegetable markets. However, given the size of the U.S. markets for ethnic vegetables and assuming that stores are not supplied at the same time by farmers, leading vegetables still command good market price. As mentioned earlier, if markets were flooded with ethnic vegetables and that excess supply occurred, causing surplus and price decrease, alternative solutions would be selling in international markets, and processing vegetables (i.e., canning, and freezing). In addition, required vegetables volume can be extrapolated using vegetable volume data per store and per week provided below. For instance, required volume for garden eggs per week for 50 Washington, DC stores would be 10,000 lbs per week. Hence, it takes on average 1.16 acres to supply 50 stores per week with garden eggs (i.e., yield for garden eggs is 8,654 lbs/acre).

List of vegetables (ranked in terms of market demand) and average volume per week per store

1 - Garden eggs are leading both in demand and price
   200 lbs/week $2.0/lb
2 - Hot and spicy peppers (Scotch Bonnets & Caribbean Reds)
   75 lbs/week $2.5/lb
3 - Amaranth (green) - both African and Jamaican Callaloo.
   75 lbs/week $1.0/lb
4 - Sweet Potato leaves
   75 lbs/week $1.0/lb
5 - Edible Hibiscus (sawa-sawa or sorrel)
   75 lbs/week $1.0/lb
6 - Jute leaves for both African and Asian markets.
   50 lbs/week $1.5/lb
7 - Okra
   50 lbs/week $1.0/lb
8 - Gboma (Solananum Gilo) grown for the leaves and fruits
   50 lbs/week $1.5/lb
9 - Solananum Gilo (Ketele or miniature bitter balls)
   50 lbs/week $1.5/lb
10 - Basil
   15 lbs/week $1.5/lb
11 - Eggplants (Zebra and Kermit)
   75 lbs/week $1.5/lb

Editors Note: If all of the above product amounts are supplied weekly - Gross per store per week: $1,222.50

Low Pathogenic North American Strain of H5N1 Detected in Eastern Shore Ducks

Statement from the Maryland Department of Agriculture
Sue duPont, 410-841-5889 or Kate Wagner, 410-841-5888

Statement from Agriculture Secretary Lewis R. Riley
ANNAPOLIS, MD - Sept. 1, 2006 - "The U.S. Department of Agriculture notified us this morning that fecal samples taken from wild resident mallard ducks on private property in Queen Anne’s had tested positive for a H5N1 avian influenza that has been detected several times in wild birds in North America. Tests-to-date show the strain to be low pathogenic (LPAI). It was detected as a result of surveillance associated with an avian influenza research project. The USDA is the lead agency in this matter and we are in close contact with them as well as our state and industry partners to monitor the situation and take any actions necessary. This strain is not known to cause human illness and properly cooked poultry meat remains safe to eat.

We encourage hunters, poultry growers, and bird owners to maintain their high level of biosecurity on farms and in their every day handling of birds. Some of these measures include: restrict access to poultry farms to those with official business; wear only dedicated farm clothing and shoes into poultry houses and when working with backyard birds and wildlife; keep commercial poultry indoors and away from migratory birds. Hunters should always wear gloves and wash hands after handling wild birds, disinfect gloves and tools that come in contact with killed birds, and place uncooked game in a plastic bag or container for transport. Hunters who find dead wild birds should report them to USDA Wildlife Services at 1-877-463-6497. More information about preventative measures can be found on our website, www.mda.state.md.us

CONFIRMATORY TESTS BEING CONDUCTED ON MARYLAND WILD BIRD FECAL SAMPLES

Angela Harless, USDA (202) 720-4623
Joan Moody, DOI (202) 208-6416

WASHINGTON, Sept. 1, 2006-The U.S. Departments of Agriculture and Interior today announced that the presence of the H5N1 avian influenza subtype has been detected in fecal samples from wild birds in Maryland. Testing has ruled out the possibility of this being the highly pathogenic H5N1 strain that has spread through birds in Asia, Europe and Africa. Test results thus far indicate this is low pathogenic avian influenza (LPAI), which poses no threat to human health.

The fecal samples were collected on August 2 from resident wild ducks in Queen Anne’s County, Maryland, as part of a research project conducted by Ohio State University. The fecal samples came from mallards that showed no signs of sickness, which also suggests that this is LPAI.

Because of the nature of the research project and because there was no sign of illness in the birds, the samples were not prioritized for testing. On August 24, 2006, USDA’s National Veterinary Services Laboratories (NVSL) in Ames, Iowa received the samples. On August 31, 2006, NVSL tests indicated that nine samples were positive for the H5N1 avian influenza subtype. Today, genetic analysis of the virus was completed, which suggests that this virus is similar to low pathogenic strains that have been found previously in North America.

LPAI commonly occurs in wild birds, where it typically causes only minor symptoms or no noticeable symptoms. These strains of the virus are not a human health concern. This includes LPAI H5N1, commonly referred to as North American H5N1. This strain of LPAI is very different from the more severe HPAI H5N1 circulating overseas, which is commonly referred to as the Asian H5N1.

Additional testing at NVSL will confirm the pathogenicity of the virus. These results are expected within two weeks and will be made public when completed. It should be noted that wild birds are known to harbor many influenza viruses, and the finding of these viruses during routine testing is not unusual.
Recognizing that LPAI is endemic in wild bird populations, commercial poultry operators, including those in Maryland, employ extensive biosecurity measures to prevent exposure to wild birds and have done so for more than ten years. According to guidelines issued by the World Organization for Animal Health, known as OIE, there should be no trade restrictions imposed due to detection of avian influenza in wild birds.

Mallard ducks are among the wild bird populations that are commonly hunted. There is no known health risk to hunters or hunting dogs from contact with low pathogenic forms of avian influenza virus. Nevertheless, hunters are always encouraged to use common sense sanitation practices, such as hand washing and thorough cooking, when handling or preparing wildlife of any kind. DOI has issued guidelines for safe handling and preparation of wild game.

Numerous institutions of higher learning collaborate with USDA to conduct avian influenza testing. USDA issues grants to researchers, who voluntarily submit for testing the samples they collect from birds. This research-related testing complements the extensive wild bird testing program implemented jointly by DOI and USDA in April 2006.

For more information about USDA’s efforts and research related to avian influenza, go to www.usda.gov/birdflu.

For more information about DOI’s efforts and hunter education program, go to www.doi.gov/issues/avianflu.html.

For information about the federal government’s overall efforts related to avian influenza and human pandemic preparations, go to www.avianflu.gov.

**FACT SHEET**

**AVIAN INFLUENZA Low Pathogenic H5N1 vs. Highly Pathogenic H5N1 Latest UPDATE September 1, 2006**

There are two types of avian influenza (AI) that are identified as H5N1. A difference exists in the virus classification; one is low pathogenic (LPAI) and the other is highly pathogenic (HPAI).

Pathogenicity refers to the ability of the virus to produce disease.

HPAI H5N1, often referred to as the "Asian" H5N1, is the type causing worldwide concern. LPAI H5N1, often referred to as the "North American" H5N1, is of lesser concern. Following is an explanation of the differences between them.

**LPAI H5N1 ("North American" H5N1)**

LPAI, or "low path" AI, commonly occurs in wild birds. In most cases, it causes minor sickness or no noticeable signs of disease. It is rarely fatal in birds. LPAI strains are not a human health concern. This includes LPAI H5N1.

Evidence of LPAI H5N1 has been found in wild birds in the United States in recent years and is not closely related to the more severe HPAI H5N1 circulating overseas. Examples of historical reports of LPAI H5N1 received by USDA include:

- 1975 – LPAI H5N1 was detected in a wild mallard duck and a wild blue goose in Wisconsin as part of routine sampling, not as a result of noticeable illness in the birds.
- 1981 and 1985 – the University of Minnesota conducted a sampling procedure in which sentinel ducks were monitored in cages placed in the wild for a short period of time and LPAI H5N1 was detected in those ducks in both years.
- 1983 – LPAI H5N1 was detected in ring-billed gulls in Pennsylvania.

1986 – LPAI H5N1 was detected in a wild mallard duck in Ohio as part of routine sampling, not as a result of noticeable illness in the birds.

2002 – LPAI H5N1 antibodies were detected in turkeys in Michigan but the virus could not be isolated; therefore this detection could not be confirmed.

2005 LPAI H5N1 was detected in ducks in Manitoba, Canada.

2006 – LPAI H5N1 was confirmed in two Michigan mute swans sampled as part of USDA’s expanded avian influenza surveillance. In the past, there was no requirement for reporting or tracking LPAI H5 or H7 detections in wild birds so states and universities tested wild bird samples independently of USDA. Because of this, the above list of previous detections might not be all inclusive of past LPAI H5N1 detections. However, the World Organization for Animal Health (OIE) recently changed its requirement of reporting detections of avian influenza. Effective in 2006, all confirmed LPAI H5 and H7 AI subtypes must be reported to the OIE because of their potential to mutate into highly pathogenic strains. Therefore, USDA now tracks these detections in wild birds, backyard flocks, commercial flocks and live bird markets.

HPAI H5N1 ("Asian" H5N1)

HPAI, or "high path" AI, spreads rapidly and is often fatal to chickens and turkeys. This includes HPAI H5N1. Millions of birds have died in countries where HPAI H5N1 has been detected. This virus has also infected people, most of whom have had direct contact with infected birds.

HPAI H5N1 has not been detected in the United States. However, other strains of HPAI have been detected and eradicated three times in the United States: in 1924, 1983 and 2004. No significant human illness resulted from these outbreaks.

The 1924 HPAI H7 outbreak was contained and eradicated in East Coast live bird markets.

The 1983-84 HPAI H5N2 outbreak resulted in humanely euthanizing approximately 17 million chickens, turkeys and guinea fowl in Pennsylvania and Virginia to contain and eradicate the disease.

In 2004, USDA confirmed an HPAI H5N2 outbreak in chickens in Texas. The disease was quickly eradicated thanks to close coordination and cooperation between USDA and State, local, and industry leaders.

**TERMINOLOGY**

Avian influenza (AI)--the bird flu--is a virus that infects wild birds (such as ducks, gulls, and shorebirds) and domestic poultry (such as chickens, turkeys, ducks, and geese). There is flu for birds just as there is for humans and, as with people, some forms of the flu in birds are worse than others.

AI viruses are classified by a combination of two groups of proteins: the hemagglutinin or H proteins, of which there are 16 (H1-H16), and neuraminidase or N proteins, of which there are 9 (N1-N9).

Pathogenicity: the ability of the virus to produce disease. AI strains also are divided into two groups based upon the ability of the virus to produce disease: low pathogenic (LP) and highly pathogenic (HP).

Low Pathogenic or "low path" avian influenza (LPAI): LPAI occurs naturally in wild birds and can spread to domestic birds. In most cases it causes no signs of infection or only minor symptoms in birds. These strains of the disease pose little significant threat to human health. These strains are common in the U.S. and around the world.

Highly Pathogenic or "high path" avian influenza (HPAI): HPAI is often fatal in chickens and turkeys. HPAI spreads rapidly and has a high death rate in birds than LPAI. HPAI has been detected and eradicated three times in U.S. domestic poultry. HPAI H5N1 is the subtype rapidly spreading in some parts of the world.
Questions & Answers
About the Hulless Barley Incentive Program
By Lynn Hoot

Farmers for the first time would be eligible for an additional $15.00, on top of the current $20 for harvestable cover crop to grow hulless barley. Attached is the official Q&A from MDA and another from MGPUB.

Lynne C. Hoot
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Maryland Grain Producers Association
Maryland Grain Producers Utilization Board
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410-956-5771 (phone)
410-956-0161 (fax)
www.marylandgrain.com

The Hulless Barley Incentive Program and Maryland’s Ethanol Initiative is a Cooperative Venture Between the Maryland Grain Producers Utilization Board (MGPUB) and the Maryland Department of Agriculture.

Here are answers to frequently asked questions concerning the Hulless Barley Incentive Program and Maryland Cover Crop Program. If you have additional questions or comments, please contact your local soil conservation district or the Maryland Agricultural Water Quality Cost-Share (MACS) Program at 410-841-5864 for assistance.

Q What is hulless barley?
A Hulless barley is a relatively new barley line with a loose fitting hull that is removed during the harvest process. It is being promoted by the MGPUB as a primary feedstock for a local ethanol project now in the planning stages. Hulless barley has a two to three percent higher starch content than hulled varieties traditionally grown in the mid-Atlantic and a test weight in the 56 lbs/bu range. Currently Doyce is the only commercially available winter hulless barley variety, but Virginia Tech has several new varieties that are expected to be released soon.

Q What is the Hulless Barley Incentive Program?
A The Hulless Barley Incentive Program provides farmers who are enrolled in cover crop program with an additional incentive payment of $15 per acre to plant hulless barley following guidelines specified for farmers who plan to harvest their cover crop. This incentive is above the $20 per acre rate available to farmers participating in the Commodity Cover Crop Program.

Q How much funding is available through the Hulless Barley Incentive Program?
A MGPUB has received a USDA Conservation Innovation Grant for $750,000 to encourage Maryland farmers to gain experience growing and harvesting hulless barley in preparation for its use as a feedstock in ethanol production. The grant allows up to 3,000 acres of hulless barley to be planted this fall with a $15/acre incentive payment. Next year up to 20,000 acres may be planted with an incentive payment of $12/acre. In 2008, up to 50,000 acres may be planted with an incentive payment of $10/acre. At that time, it is anticipated that ethanol production will be on line and able to utilize the crop.

Q How will the Hulless Barley Incentive Program be administered?
A MACS will administer the program as a special enhancement to the Commodity Cover Crop Program. The application procedures are the same as the cover crop commodity program.

Q Will the $15 incentive payment for planting hulless barley come from MACS?
A Yes. MACS will pay farmers and then bill the Maryland Grain Producers Utilization Board for the expenditure.

Q Will farmers receive one payment of $35/acre or two separate payments of $20/acre and $15/acre?
A Farmers will receive one MACS payment of $35/acre after the crop is harvested.

Q Will farmers who have already signed up for the commodity cover crop program be allowed to switch to the hulless barley option?
A Yes. Applicants will need to submit a new application to their soil conservation district specifically for hulless barley. They may apply to plant hulless barley acreage in addition to the 500 acre cap for the commodity cover crop program.

Q Where can farmers purchase hulless barley seed?
A Farmers should contact MGPUB directly at 410-956-5771 for information on where to purchase seed.

Q Are there different management requirements for hulless barley?
A Yes. Although hulless barley is genetically very similar to hulled barley, there are distinct differences between the two crops that will require farmers to change their existing cultivation practices. Specifically, hulless barley requires different seeding rates, seeding depths and combine threshing specifications for cylinder speed and concave opening.

Q How do farmers sign up? Is there a deadline?
A Farmers sign up for the program through their local soil conservation district. Districts, in turn, will submit completed applications to MACS for processing. The sign-up deadline is August 18, 2006.

Q Will farmers need to provide MACS with any special information?
A MACS will not require additional information, but MGPUB would like each grower to complete a short questionnaire so that it can learn more about the agronomics of hulless barley from a farmer’s perspective.

Q Can farmers save seed to participate in next year’s program?
A Yes, for their own use, not for sale to others.

Q Since the ethanol plant is not yet operational, what are the marketing opportunities for hulless barley?
A Farmers may market hulless barley or feed it to livestock. Feed value information is available from MGPUB, but essentially hulless barley has a higher feed value than traditional barley since the fiber has been removed. In addition, Perdue has agreed to purchase the crop.

Q Who should farmers contact with technical questions about the program?
A Maryland farmers may contact MGPUB directly at 410-956-5771 or Dr. Bob Kratochvil at the University of Maryland at 301-405-6241 with technical questions. Dr. Kratochvil is an expert on hulless barley and can provide farmers with technical assistance on growing and harvesting the crop.

Additional Questions & Answers on the Hulless Barley Commodity Cover Crop Program  (August 2, 2006)

Q Where can I buy seed?
A Boyle Brothers in Queen Anne, Maryland, has experience handling hulless barley seed in Maryland. MGPUB has arranged for them to have sufficient seed available for the Hulless Barley Commodity Cover Crop program this year. Boyle Brothers can be reached at 410-758-2007. Your own seed dealer may be able to acquire some seed through Virginia Crop Improvement Association although, as Doyce is a new variety, there is not much seed available.

Q How much does hulless barley seed cost?
A The seed is roughly $5.50 per bushel. Price per bag will depend on the size of the bag.
Q. What is the appropriate seeding rate?
A. Approximately 2.5 bu/acre with a range of 2.3 to 2.7 bu/acre. More specifically, there should be 1.5 to 1.75 million seeds per acre or 38 to 44 seeds per square foot. You should know the number of seeds per lb to determine bu/acre seeding rate for different lots of seed. This can vary. At WREC the 2005 seed lot had 15,100 seeds/lb and 90% germination. (1,500,000 seeds/15,100 seeds/lb)/.90 = 110 lbs/48 = 2.3 bu (1,750,000 seeds/15,100 seeds/lb)/.90 = 129 lbs/48 = 2.7 bu

Q. How deep should the hulless barley be planted?
A. Plant no deeper than 1”; less is better than more.

Q. When should the hulless barley be planted?
A. Plant between late September and mid-October.

Q. What yield reduction should I expect without fall nitrogen?
A. According to work by Dr. Bob Kratochvil at the University of Maryland, you can expect a yield loss of approximately 8 bu per acre less yield without fall N. 80 lb of N should be applied at greenup, no sooner than March 1st, but asap after that date.

Q. Why should I sign up for this program?
A. MGPUB is supporting the development of an ethanol plant in Maryland that will use hulless barley for part of the year. MGPUB requested this grant from USDA to allow farmers to learn how to grow hulless barley as a future energy source, while at the same time expand the use of cover crops in the Chesapeake Bay watershed. The $35.00 incentive payment will help offset any reduction in yield caused by the elimination of fall fertilizer, the reduction in yield from hulless barley vs hulled barley and any additional seed cost. It is expected that once the ethanol plant is up and running, the increased value of the hulless barley compared to hulled barley will more than offset the yield reduction. This project will provide helpful field-scale information on the agronomics of growing hulless barley.

Editor Note: The Hulless Barley Incentive Program sign-up has expired for the 2007 crop, however, if seed is still available you may consider planting a small field trial on your farm.

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New Book From the Natural Resource, Agriculture, and Engineering Service

New book from the Natural Resource, Agriculture, and Engineering Service (NRAES) of which MCES is a member state and Extension faculty can purchase at a discounted price. Retail price is below for sales to the public. Let your clientele know this is available. Lester Vough of Maryland is an author.

Managing and Marketing for Pasture-Based Livestock Production

Book Number: NRAES-174, 116 pages, $27.00 with shipping and handling direct from NRAES

Starting a Pasture-Based Livestock Business: Would It Work for You?

There are many factors to consider before starting a pasture-based livestock business. What is your mission? What are your goals? Do you have the resources to succeed? How well do you understand the marketplace and the importance of meeting consumer demands?

A new book, Managing and Marketing for Pasture-Based Livestock Production, NRAES-174 (116 pages; January 2006) provides fundamental and essential information a producer needs to manage and market a goal-oriented forage-livestock system. How this knowledge applies to a producer’s unique situation will help determine whether or not this business venture will be a feasible one. This is the first of four books on pasture-based livestock systems to be published this year. More information is available at http://www.nraes.org/publications/nraes174.html

Managing and Marketing for Pasture-Based Livestock Production, NRAES-174, costs $21.00 plus $6.00 shipping and handling (within the continental U.S.) Make checks payable to NRAES; all major credit cards accepted. New York residents, add sales tax (on both the cost of the book and the shipping and handling charges).

Contact NRAES for other shipping and handling rates and possible quantity discounts: NRAES, Cooperative Extension, PO Box 4557, Ithaca, NY 14852-4557; phone (607) 255-7654, fax (607) 254-8770; e-mail NRAES@CORNELL.EDU; web site WWW.NRAES.ORG.

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Small Grains Crop Insurance Deadline Fast Approaching

The Raleigh Regional Office of the USDA Risk Management Agency reminds farmers that September 30, 2005 is the final date to obtain crop insurance on wheat, barley, and oats. Current small grains policyholders also have until September 30 to make any changes to existing contracts. Price elections for the 2006 crop are $2.80 per bushel for wheat, $1.85 for barley, and $1.33 for Oats. The Crop Revenue Coverage (CRC) plan of insurance is available for wheat in Delaware, Maryland, New York, North Carolina, Pennsylvania, and Virginia. The CRC plan offers guarantees against a drop in the market price. Insurance premium subsidies have been significantly increased in recent years, particularly at the higher levels of coverage. Farmers should contact a local crop insurance agent as soon as possible for premium quotes and other details. For a list of crop insurance agents, farmers may contact their local USDA Farm Service Agency office or log on to the Risk Management Agency web site at http://www3.rma.usda.gov/tools/agents/
It is important to note that the composition of the two products is very similar. The Domino Lime is also a Hi-Calcium product. The Domino Lime has a lower Calcium Carbonate Equivalent (CCE), which would require an application increase of 13% to equal the Genstar product. However, the Domino Lime is a much finer ground product with 99.66% passing through a 100-mesh screen compared to only 56% of the Genstar lime passing through a 100-mesh screen. Therefore, the Domino Lime would react quicker to buffer soil acidity and the 13% application increase may not be required.

### Nutrient Management Update

**By, Krista Mitchell**  
Nutrient Management Advisor for Anne Arundel County

Now that summer has left us and fall has begun, it's time for producers to start thinking about their 2007 Nutrient Management Plan. Soil samples are needed every three years under current nutrient management regulations, however; if you're planning on liming your fields this fall, you may want to take a soil sample prior to any lime application. Just send your soil test results to your Nutrient Management Advisor to find out your recommended lime application rate.

Soil sampling in the fall is great for two reasons: One, it has been about 6 months (for some producers) since they made their spring nutrient applications. It is a very good idea to monitor the residual nutrients in the soil at this point so you can know what will be left in the soil for next spring's crop. The second reason many producers choose to soil sample in the fall is to find out the pH of their soil. It normally takes 6-12 months, depending on the type of lime that is used, for a lime application to take effect. Many people choose to soil-sample and lime accordingly in the fall because they want to have the pH adjusted to an optimal level, come next spring.

Your county Extension office has all the information you need on soil testing labs that can be used for the development of your new or updated Nutrient Management Plan. We also can loan soil probes out to those who will be taking soil samples for their Nutrient Management Plans. Remember, all producers that make greater than $2,500 Gross Annual Income and/or those operations that have 8 or more animal units (1 animal unit = 1,000 lbs. live weight) are required to have a current Nutrient Management Plan for their operation. Call Chris Dowell in P.G. County or myself in Anne Arundel County, for more information.

### USAID International Assignment Recruitment

Attention farmers you may have an overseas assignment awaiting your expertise. The Farmer to Farmer Project is funded by the United State of America International Development agency. ACDI/VOCA is just one of several private contracting agencies for the USAID Farmer to Farmer Project. ACDI/VOCA is a private non-profit international development organization, which provides high quality expertise at the request of agribusiness, cooperatives, and private and government agencies abroad. ACDI/VOCA was created in 1997 by the consolidation of Agricultural Cooperative Development International and the Volunteers in Overseas Cooperative Assistance.

ACDI/VOCA identifies and opens economic opportunities for farmers and other entrepreneurs worldwide by promoting democratic principles and market liberalization, building international cooperative partnerships and encouraging sound management of natural resources.

Last year I took a two-week vacation to Russia as an assignment volunteer for the Farmer to Farmer project. I have included the project final report in this edition of the newsletter for your interest, and possibly to entice you to become a future project volunteer. If you would like more information concerning the recruitment process don't hesitate to give me a call.

### Final Report 

**ACDI/VOCA**  
**Farmer to Farmer Project**  
**Final Report # 331586**

Ronald David Myers  
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Belgorod State Agricultural Academy  
Advanced Agronomic Technologies  
Training Course Improvement  
October 6 – October 22, 2005  

**Host Name:** Belgorod State Agricultural Academy (BSAA), Russia  

**Primary Contact:** Ekaterina Gennadijevna Kotlayarova, Assistant Professor of Agricultural Chair, BSAA  

**Address:** 308503 Belgorod Oblast, Belgorodskiy Raion  
Mayiskiy Village, Vavilava Street 1  

Tel: (0722) 39-11-74  
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E-mail: bsaa@bel.ru

#### I. Assignment Summary

The Belgorod State Agricultural Academy (BSAA) is one of the most widely recognized agricultural institutions in Russia. Additionally, it has a strategic importance for the Western part of Russia. It is a large, dynamically developing scientific and educational institution which is trying to fulfill the demand for new information and skills in evolving and developing professions.

Currently, the Academy needs a specialist to review its training program in agronomy and make practical recommendations for improvement. Based on these observations, the specialist and the Academy staff will modify the current training course to include both the U.S. experience and other aspects relevant to Russia. This updated training course will be used for student training, consultations to agricultural enterprises interested in updating agronomic practices, and specialist retraining.
This volunteer needs to deliver current and advanced agronomic practices and technologies to the faculty at BSAA; suggest ways to improve and expand the agronomy training courses offered at the academy; and conduct a series of workshops/seminars to the professors and to the students on advanced methods in agronomy. In addition, this volunteer should plan to provide lecture and training materials related to advanced methods for No-Tillage and Reduced Tillage Systems; Soil Building; Organic Matter Improvement; Erosion Control; Conventional and Organic Crop Production; Integrated Pest Management; and Biolntensive Approaches.

The immediate goal of the host organization is to utilize the volunteer’s expertise to improve their current training courses on agronomy.

The long-term plans of the host organization is to expand the range of training courses on advanced agronomics technologies, and provide training to their teachers and a greater number of students.

11. Activities Completed

While in the United States in preparation for the assignment this volunteer researched and compiled information on the United States agronomy practices that were requested by BSAA. The materials were brought along on the assignment compiled as Word and Power Point files on a personal computer to readily consult and develop recommendations or lecture as the assignment required. In particular, the volunteer focused on effective methods of managing an agricultural enterprise as well as on effective methods in agronomy. This volunteer researched and compiled information on all topic areas as requested in the assignment summary.

This volunteer knew that his past experiences as a Dairy Farmer, Professional Agronomist and Certified Crop Advisor, Weed Scientist, Extension Educator, and tenured faculty member of the University of Maryland, College of Agriculture and Natural Resources had prepared him to complete the following requested activities while in-country:

A. Upon arrival Sunday morning October 9th I was greeted by Ekaterina Gennadiyevna Kotlayarova (Katia), Assistant Professor of Agricultural Chair, BSAA; Mikhail Pisarenko, Assistant of Vice-Rector International Relations, and Alex Markovich, the project interpreter at the train station. We traveled to the campus apartment, which proved to be very comfortable and convenient for fulfilling the assignment. We discussed the assignment plans, and Ekaterina (Katia) provided a detailed assignment syllabus in English. We discussed the description of content and prepared titles for the seven 1½ hour planned lectures that I was tasked with. I worked the rest of the day finalizing this lecture series. Katia prepared advertisement fliers for the lecture series, and invited faculty and students to attend the lectures. Preparations made in advance for this assignment by Katia and the Belgorod State Agricultural Academy Administration and Department Chairs were excellent.

B. On Monday morning, October 10th Katia, Alex, Mikhail and I visited the Belgorod State Agricultural Academy (BSAA) Administration Building and met with Dr. Alexander V. Turiansky, Rector/President, BSAA and Pavel Breslavets, Vice-Rector Educational Program. We also met with Alexei Tsyboulkine, Vice-Rector International Relations. Together we reviewed the schedule and discussed the outcomes of the lecture series, workshops, and research farm visits. We also discussed the future goals of the academy and the regions agricultural development.

Before lunch we toured the livestock research barns where I met with two veterinarians and a technician. Dr. Vladamir was the veterinarian in charge of the poultry, rabbit, dairy and beef science research, and he introduced his dairy technician Sweta. Dr. Julia was the veterinarian in charge of the equine science research, which also consisted of a large breeding program.

In the afternoon I met Volga Kotlyarova, Agricultural Chair, and 11 other faculty members from various departments, (see the appendix for the list of faculty attendees for this meeting). We had a lively discussion about the seminar series which was developed to cover the following requested agronomic topics: The Loss of Soil Nutrients and Humus; Sustaining Soil Fertility; Worldwide Sustainability; Natural Composting; Making and Using Compost; Soil Fertility, and Soil pH; Adding Fertilizers and Compost; More Sustainable Fertilization; Crop Rotation and Balanced Ecosystem; Organic production practices for soybeans, corn, and alfalfa; Removal of hazardous waste materials from farms; Using of alternatives to chemical pesticides for dealing with pests, diseases and insects; and No-till technology, fertility impacts of tillage changes.

Sustainable Agronomic Tactics an Advanced Training - A Power Point Lecture Series for the Belgorod State Agricultural Academy:

Lecture I – Personal Agronomic No-Tillage Experiences in USA (126-slides) – October 11th 10:20 a.m. - 12:00. Attendance 115.

In this lecture I highlighted my current role as an Extension Educator for the University of Maryland and the Land Grant College system in the United States. I also explained my previous farming duties as the Agronomist for the 864-acre United States Naval Academy Dairy from 1980-1997; where I was in charge of the transforming of the cropping program to a 100% no-tillage, fully integrated pest management approach.


In this lecture we focused on rebuilding soils, especially organic matter, fully addressing the loss of carbon worldwide due to tillage. We examined soil fertility practices necessary for no-tillage production systems, and discussed how they differ for conventional tillage systems.

Lecture III – No-Tillage Systems Impacts & Practices (125-slides) – October 13th 8:30 a.m. - 10:05 a.m. Attendance 35.

This lecture provided a very pictorial and research based examination of fully integrated no-tillage production systems for small grains, field peas, corn and tomatoes. We introduced the latest no-tillage and strip-tillage (zone-tillage) machinery and techniques used by this educator and others worldwide. With research data and field pictures the use of cover-crops and burndown herbicide technologies was explained fully. During this lecture we compared the pros and cons of all tillage systems, and provided tactics to overcome the following three often quoted misnomers when practicing no-tillage: 1) No-Till stands are always poor due to heavy residues and cool wet soils; 2) Continuous No-Till leads to compacted soils; and 3) No-Till planted crops require more herbicides, insecticides and fungicides.

Lecture IV - Sustainable Crop Production Conventional & Transition to Organic Techniques (128-slides) – October 13th 10:20 a.m. - 12:00. Attendance 60.

This lecture provided a step by step examination of sustainable crop production conventional and
transitional to organic. A research study also was highlighted that detailed the method of no-till organic production of sorghum, barley, soybeans and corn. Also examined were no-tillage and strip-tillage techniques for integrating leafy vegetable production into agronomic grain rotations to further diversify an operation. The vegetable crops examined were spring and fall plantings of Chinese cabbage, sugar peas, radishes, lettuce, turnips and kale.

**Lecture V - Integrated Pest Management & Pesticide Usage** (117-slides) – October 14th 8:30 a.m. - 10:05 a.m. Attendance 55.

This lecture fully defined the practice and concepts of Integrated Pest Management (IPM). An example of solving a pest problem by developing monitoring and threshold techniques was shared. Also an overview of pesticide use and trends in the United States was provided. An integrated crop management approach was reviewed for alfalfa, and several herbicide chemical families and modes of action for agronomic crops were discussed.


This lecture examined the current organic production practices and regulations utilized in the United States. Discussed was the three year certification process as well as the labeling of acceptable organic chemicals list through OMRI, and other biorationals. Also discussed were the new alternative Bio-intensive Pest Management systems being developed in the United States. In this lecture we also discussed the problems associated with pesticide disposal and transportation.

**Lecture VII - Overview of USA Agriculture & Lecture Summary** (76-slides) – October 19th 10:20 a.m. - 12:00. Attendance 95.

In this lecture we summarized the lecture series and highlighted the key areas of question. Thus lecturer also provided a brief synopsis of the United States key agricultural issues including the following: Diversification: Small Farms verses Corporate Farms; Genetically Modified Crops; GPS Technologies; and Soybean Rust.

C. Also on Monday October 10th, in the evening I went to the machinery shop to introduce myself to the BSAA research farm crew. Without my interpreter I was able to use my small photo albums and limited German language skills to share the no-tillage technology and sustainable agronomic techniques with the crew. I met and became friends with Huzhkov Michael Ivanovich, Research Farm Leader; Ushta Valeza Vasilevich, Research Farm Mechanic; Kulishov Alex Vladimirevich, Research Farm Technician; Polnau Andrei Ivanowih, Research Farm Technician; Dr.Andrey Kachenko, Regional Manager Belgorod Region; and others unnamed. I found that just as on the farm at my home the farm shop was a gathering place for farmers to solve the world’s problems.

D. In the afternoon on Tuesday, October 11th following the morning lecture, Alex, Mike and I went to the BSAA Administration Building and met with Sergei Smurov, Head of Research Office, BSAA and Vladamir Nikolaeva, Research Worker Biotechnological Office, BSAA. We walked to the research fields at the facility. Sergei explained the rotations strips of clover, sugar beets, corn, dry field peas, wheat, barley and fallow at the research station. This year the strips of each crop were tilled and planted back to wheat. There was an excellent crop year followed by an August into mid-October drought that presented an obvious advantage to the wheat stand in the fallow strips. Although there was an acceptable stand behind the barley and wheat strips, most likely the most economical do to the excellent 2005 yield. Sergei is anticipating funding for a no-till drill in fact it was expected for the 2005 season but never materialized. In the distance Sergei pointed to some no-till planted strips as well as an organic beet strip. The organic beets did not yield well, cultivation failed to control weeds. We discussed the use of herbicides and he indicated that Dual® and Roundup® were the products that he has used. In normal years he felt that all rotations to fall planted wheat were successful except behind corn. Corn was always harvested late and required all available soil moisture. Also, the goal was to have the winter wheat planted by September 15th. We the spent the rest of the time evaluating the plots and discussing no-tillage and herbicides.

E. On Wednesday, October 12th, in the afternoon following the morning lecture Alex, Lena and I toured Belgorod.

F. Thursday, October 13th was a rainy day following the morning lecture I returned to my apartment and worked on the final report. I also made preparations to present a lecture summary and no-till technology seminar that would be presented on Friday, October 14th.

G. Following the lectures on Friday, October 14th, Dr. Alexander V. Turiansky, President, BSAA held an Agronomic “Round-Table”, where I presented to the BSAA administrative team, department chairs and faculty a summary of lectures focusing on the advance no-tillage and sustainable agronomic technologies (See the list of attendees in the Appendix). Attendance 32. My presentation was 30-minutes and a lively discussion followed for well over an hour. At the conclusion Dr. Turiansky asked if I would be willing to give a similar presentation to the Belgorod Ministry of Agriculture on Monday. I told him that I was honored and gladly accepted. After the discussion I also spoke with Andrei Hmyrov, Assistant of Vice-Rector on research Work, BSAA at length about no-tillage production technologies in the United States.

H. On Saturday, October 15th, Mikhail, Alex, Lena and I traveled to the Museum of ethnography in the village of Kupino. This museum has done an excellent job of preserving centuries of ancestoral history of the Russian people. We enjoyed a traditional porridge luncheon.

I. On Sunday, October 16th, Mikhail, Alex, Lena and I traveled to the Prokhorovskoye Pole (Field) War Memorial Center. This was the site of the Korsk Tank Battle against the Germans during World War II one of the three largest battles ever fought by Russia. It was during my travels to this battlefield that I really was able to see some of this regions most productive agriculture.

J. On Monday, October 17th, Alexei, Mikhail, Alex and I traveled to the Belgorod Ministry of Agriculture. The Agricultural Deputy greeted us and introduced my seminar before a body of agricultural agents, farmers and agricultural investors. The 45-minute presentation on no-tillage and sustainable agronomic technologies prompted an extensive question and answer period. There was great interest in no-till technologies, and it was also apparent that there was also apprehension concerning large investments into these new technologies for this region. Attendance 35.

K. On Tuesday October, 18th, Alexander Turiansky, Rector BSAA; Ivan Vasilenko, Dean of Agronomy Department, BSAA; Alexei; Alex and I traveled to two large farm corporations. The first was corporation was a large and expanding producer of grain, poultry (egg and meat), seed, feed noodle, and bottled water. Nicholas, the corporation
owner and president gave us a tour of the new grain handling, feed and seed facilities. This operation was one of the largest and most modern in the Belgorod region. After the tour we went to the corporate office. I made a 30-minute presentation on no-tillage and sustainable agronomic technologies prompted an extensive question and answer period. Attendance 24.

The second operation was the largest potato production and processing plant in Russia. We met with Vladimir the corporation owner and president. He took us to the fields where he produces more than 4000 hectares of potatoes. Then we toured the potato bagging facility and the new German French fry potato processing unit that takes raw potatoes and delivers cooked frozen and bagged product. Once again at the corporate headquarters, I made a 30-minute presentation on no-tillage and sustainable agronomic technologies prompted an interactive question and answer period. Attendance 15.

L. On Wednesday, October 19th, following the completion of the lecture series I went to Katia’s Agronomy class (students) where we had a Round-Table discussion for over an hour wide open topics. A very insightful discussion. Attendance 21.

II. Recommendations

Traveling the countryside in this agricultural sector and I can conclude by the residue following the summer harvest of barley, wheat, corn, sugar beets, and soybeans that without doubts this is indeed a very productive farming region. The soils are deep, fertile and naturally enriched with organic matter. There are evidences of reduced tillage practices such as chisel plowing and disking. Also, it was discussed that a few agricultural chemicals are commonly used such as Roundup® and Dual® in their grain systems. All farmers, students and faculty that I talked with indicated that they were very familiar with sprayer technologies and integrated pest management systems. There are many more agricultural chemicals especially herbicides that would have great economic importance to this region. The Ammonium (NH4+) nurse tanks in the agricultural sector also reveals that fertilizers are readily available in this sector. There are very large grain storage facilities and active railways for commodity transport. The component that I found most limiting economically to this agricultural sector was the lack of investment in new machinery and technologies during the past 20-years. However, the economy here seems to be stimulated, and at this time reinvestment in the agricultural sector would bring about quick recovery. This region could easily become one of the most productive agricultural regions in the world. Agriculture in this region is a large and dynamic industry; therefore, it now needs to take a bold leap into the world agricultural market system and advanced technologies.

A. Recommendation: Appoint a committee of students and faculty at BSAA to review recommended websites and publications relevant to no-tillage and sustainable systems. Have this committee collaborate with researchers, farmers, investors, local governments, agricultural ministries, universities, equipment and herbicide companies to create a comprehensive plan for developing a regional no-tillage strategy. This committee should also examine the Agronomy curriculum at BSAA and insure that it is relevant to the latest world agronomic technologies and science. **Impact:** A comprehensive plan for the implementation of regional adoption of new technologies for sustainable and no-tillage crop production would provide economic stimulus, and succeed in modernizing the regions agriculture in a manner that is environmentally sound.

B. **Recommendation:** This committee or separate one should also investigate the required certifications and verifications needed to successfully market organically produced crops worldwide. Organically grown crops will typically require more labor, fuel and time inputs and have inherently more production risks; therefore, I recommend that organic crops be marketed at a target price double a comparable conventional crop. Organic crop production is an excellent market diversification tactic. It also allows small farms and their farm families to earn a competitive wage. Organic production may be to risky to commit to large scale agriculture; Even in the United States where organic production has been expanding for nearly a decade it still represents well less than 5% of the U.S. agricultural production. **Impact:** This Belgorod Region’s low humidity during the majority of the growing season offers a distinct advantage in the production of organic grains and vegetables. The success of an organic industry in the Belgorod Region will be best served by time spent in market development first. The Belgorod Region should be able over time to develop a considerable sector of organic production.

C. **Recommendation:** Researchers and educators at BSAA need to conduct unbiased scientific investigation of new technologies while forming alliances with agricultural ministries, local governments, universities, farmers, agrochemical companies and equipment manufacturers throughout the world. Many no-tillage practices have been nearly perfected in the United States and other regions of the world; they only need to be adapted to agriculture industry already thriving in the Belgorod Region. **Impact:** The faculty, researchers and students at BSAA would become highly regarded by the farmers and agricultural industries. The necessary role of science in agriculture becomes apparent, and BSAA will provide these vital educational skills. The links that BSAA forms with the industry will also benefit students with ready access to internships and employment in agriculture.

D. **Recommendation:** I would encourage the researchers at BSAA to take the risks not the farmers or their investors. All companies claim to have the best technologies, however, I have discovered extreme differences in performance especially in no-tillage equipment technologies. Poor equipment design and investment may discourage the acceptance of this great agricultural system so necessary to rebuilding soil organic matter and preventing soil erosion. No-Tillage systems also require less tractor horsepower, less fuel inputs and time, which allows for more crop land farmed by fewer farmers much more efficiently. **Impact:** The agricultural industry will not stumble due to poor investment decisions if BSAA works ahead of the industry development researching new technologies first. BSAA will be recognized as a leading educational organization, gaining high levels of respect and confidence by the farm community.

E. **Recommendation:** Sustainable agronomic systems are fully integrated and diversified across disciplines and philosophies. Agriculture needs to feed as many as possible, efficiently, economically; while conserving our soil and water resources, hopefully passing them on in a much better condition then received. Agriculture does not need to be overwhelmingly laborious and taxing, but it should embrace the latest technologies and scientific discoveries to encourage our brightest youth to aspire to be farmers. **Impact:** In the Belgorod Region agriculture will change hands from one generation of farmers to the next making consistent improvements. The farmers will be professionals, highly educated, and motivated by their career.
Appendix

Websites Recommended for Reinforcing the Lecture Series:
Residue Management No-Till Row Cleaner Technology
www.yetterco.com/
The History of Row Cleaner Development by Yetter Co.
www.yetterco.com/PressRelease/resmgmnt.html
U.S. Agro-Chemical Product Labels
www.cdms.net
Sprayer Technology and Nozzle Design Teejet Co.
www.teejet.com/MS/teejet/
USDA Integrated Pest Management (IPM) Centers
www.ipmcenters.org/
Organic Sustainable and Alternative Agriculture, U.S. National Agricultural Library
www.nal.usda.gov/afsic
U.S. Organic Materials Registration Institute (OMRI), National Organic Program
www.ext.wsu.edu/noas
Biointensive Integrated Pest Management (IPM), Appropriate Technology Center (ATTRA)
www.attra.ncat.org
University of Maryland Cooperative Extension
www.agnr.umd.edu/MCE/
University of Maryland College of Agriculture
www.agnr.umd.edu/
Anne Arundel County Cooperative Extension
www.agnr.umd.edu/AnneArundel/
Anne Arundel County Newsletters
www.agnr.umd.edu/annearundel/newsletter.htm
Anne Arundel County Agricultural bulletins
www.agnr.umd.edu/annearundel/agbulletin.htm

Recommended Related Publications Available On-Line:
USDA/ARS Conservation Tillage Fact Sheet: Dryland No-Till Benefits
www.akron.ars.usda.gov/fs_taking.html
U.S. Crop Profiles
www.ipmcenters.org/cropprofiles/docs/
Crop Profile for Spring Wheat in South Dakota, U.S.
www.ipmcenters.org/cropprofiles/docs/sdwheat-spring.html
Crop Profile for Spring Barley in North Dakota, U.S.
www.ipmcenters.org/cropprofiles/docs/NDbarley.html
Crop Profile for Sugar Beets in Idaho, U.S.
www.ipmcenters.org/cropprofiles/docs/IDsugarbeets.html
Crop Profile for Alfalfa in Minnesota, U.S.
www.ipmcenters.org/cropprofiles/docs/mnalfalfa.html
Crop Profile for Canola in Minnesota, U.S.
www.ipmcenters.org/cropprofiles/docs/mncanola.html
Crop Profile for Safflower in South Dakota, U.S.
www.ipmcenters.org/cropprofiles/docs/SDsafflower.html
Crop Profile for Peas in Montana, U.S.
www.ipmcenters.org/cropprofiles/docs/MTdrypea.html
Crop Profile for Dry Edible Beans in Minnesota, U.S.
www.ipmcenters.org/cropprofiles/docs/MNbeans(dry-edible).html
Crop Profile for Lentil in Montana, U.S.
www.ipmcenters.org/cropprofiles/docs/MTlentil.html

Participants of meeting with faculty of Agronomy Department on October 10th
1. Kotlyarova O.G. - Head of Agricultural Chair, Academician of Russian State Agricultural Academy
2. Uvarov G.I. - Professor of Selection and Seed Breeding Chair
3. Matsnev A.S. - Assistant Professor of Plant Production Chair
4. Naumkin V.N. - Professor, Head of Plant Production Chair
5. Pavlov M.I. - Head of Selection and Seed Breeding Chair
6. Kolesnikov L.M. - Assistant Professor of Agricultural Chair
7. Kotlyarova E.G. - Assistant Professor of Agricultural Chair
8. Litsukov S.D. - Assistant Professor of Agricultural Chair
9. Derevjaikin P.V. - Assistant Professor of Plant Production Chair
10. Nikulina N.D. - Assistant Professor of Plant Production Chair
11. Nechaeva N. M. - Senior teacher of Selection and Seed Breeding Chair
12. Kloster N. - Senior teacher of Selection and Seed Breeding Chair

Participants of Rector's Agronomic "Round Table" on October 14th
1. Turianskiy A.V. - Rector
2. Breslavets P.I. - Vice-rector on Educational Work
3. Tsybulkin A.I. - Vice-rector on International Relations
4. Uzhik V.F. - Vice-rector on Research Work
5. Kotlyarova O.G. - Head of Agricultural Chair, Academician of Russian State Agricultural Academy
6. Smurov S.I. - Head of Office (Research)
7. Grigorov O. - Research Worker of Agricultural Office
8. Podlegaev O.A. - Research Worker of Agricultural Office
9. Leonov A.V. - Research Worker of Agricultural Office
10. Bakhtin V.P. - Head of Seed Breeding Office (Research)
11. Solonetskaja E.V. - Research Worker of Seed Breeding Office
12. Shinkarenko O.V. - Research Worker of Seed Breeding Office
13. Shevchenko N.S. - Head of Soybean Selection Office
14. Oliva T.V. - Head of Biotechnological Office
15. Nikolaeva I.V. - Research Worker of Biotechnological Office
16. Uvarov G.I. - Professor of Selection and Seed Breeding Chair
17. Gorodov V.T. - Assistant Professor of Selection and Seed Breeding Chair
18. Kotlyarova E.G. - Assistant Professor of Agricultural Chair
19. Sereda P.J. - Head of Fodder Production Office
20. Uzhik V.I. - Head of Economic Office
21. Bulavin S.A. - Dean of Engineering Department
22. Matsnev A.S. - Assistant Professor of Plant Production Chair
23. Hmyrov A.V. - Assistant of Vice-rector on Research Work
24. Potapov N.K. - Assistant of Vice-rector on Research Work
25. Pisarenko M.S. - Assistant of Vice-rector on International Relations

Number of Beneficiaries:
A. Lecture Series
   Direct: 135  Men 87  Women 48
   Indirect: 409  Men 265  Women 144
B. Faculty Meeting
   Direct: 12  Men 7  Women 5
   Indirect: 20  Men 12  Women 8
C. Research Farm & Machine Shop Meeting
   Direct: 16  Men 14  Women 2
   Indirect: 20  Men 17  Women 3
D. Rector’s Round-Table
   Direct: 32  Men 24  Women 8
   Indirect: 45  Men 30  Women 15
E. Student’s Round-Table
   Direct: 21  Men 17  Women 4
   Indirect: 25  Men 20  Women 5
F. Belgorod Ministry of Agriculture Seminar
   Direct: 35  Men 28  Women 7
   Indirect: 280  Men 224  Women 56
G. Belgorod Poultry/Grain/Feed/Seed Corporation Seminar - Nicholas
   Direct: 24  Men 17  Women 7
   Indirect: 30  Men 22  Women 9
Welcome Anne DeMarsay
Extension Fruit Pathologist, University of Maryland

It is with pleasure that I announce that our new Fruit Pathologist, Dr. Anne DeMarsay, has officially started as member of the MCE team! Anne received her Ph.D. at Rutgers University working on diseases in Blueberry. She is stationed at the Central Maryland Research and Education Center, Upper Marlboro facility on Largo Road and will have statewide responsibility for fruit pathology. Please join me in welcoming Anne to Maryland. Her contact information is below – you should have no trouble remembering her email!

Anne DeMarsay, Ph.D.
Regional Extension Specialist, Fruit Pathology
University of Maryland
2005 Largo Road
Upper Marlboro, MD 20774-8508
Phone: (301) 627-8440
Fax: (301) 627-3273
Email: fruitdr@umd.edu

Check Out Our Updated County Website

Visit us in Cyberspace!!!

Christie Kneipp 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

Thanksgiving Proclamation
[New York, 3 October 1789]
By the President of the United States of America, a Proclamation.

...and manifold mercies, and the favorable interpositions of his Providence which we experienced in the course and conclusion of the late war--for the great degree of tranquility, union, and plenty, which we have since enjoyed--for the peaceable and rational manner, in which we have been enabled to establish constitutions of government for our safety and happiness, and particularly the national One now lately instituted--for the civil and religious liberty with which we are blessed; and the means we have of acquiring and diffusing useful knowledge; and in general for all the great and various favors which he hath been pleased to confer upon us.

...and also that we may then unite in most humbly offering our prayers and supplications to the great Lord and Ruler of Nations and beseech him to pardon our national and other transgressions-- to enable us all, whether in public or private stations, to perform our several and relative duties properly and punctually--to render our national government a blessing to all the people, by constantly being a Government of wise, just, and constitutional laws, discreetly and faithfully executed and obeyed--to protect and guide all Sovereins and Nations (especially such as have shewn kindness unto us) and to bless them with good government, peace, and concord--To promote the knowledge and practice of true religion and virtue, and the encrease of science among them and us--and generally to grant unto all Mankind such a degree of temporal prosperity as he alone knows to be best.

Given under my hand at the City of New York the third day of October in the year of our Lord 1789.  George Washington

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Enjoy the Harvest!

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

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Individual Newsletter
2002 National Winner

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6707 Groveton Drive, Clinton, MD 20735
301 868-8783

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Glen Burnie, MD 21061
410 222-6759 or 301 970-8250

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