



# Newsletter

DORCHESTER COUNTY • P.O. BOX 299 • CAMBRIDGE, MARYLAND 21613 • (410) 228-8800

## AG PROFIT

Dear Friends,

This growing season has brought us an array of challenges from unfavorable weather, crop diseases, and volatile crop prices to the deepening recession which is taking a toll on our growers. Nationwide the farm sector is expected to be in red for longer. America's pork producers have lost money in 19 of the past 21 months. Beef prices are down by 19%. The National Milk Producers Federation "retired" 101,000 dairy cows this month. The poultry industry began cutting production last year. A source of relief to farmers is feed prices dipping but that will hurt the grain growers. With all this uncertainty set to continue, it's sad to see that the government isn't listening.

U.S. Office of Management and Budget figures detailing the President's proposed budget for fiscal year 2010, show federal funding for agriculture down more than six percent from the previous year while other areas saw increases from one to more than ten percent. Institutions like the National Science Foundation, the Energy Department and National Institutes of Health were awarded funds of \$3 billion, \$2 billion and \$10 billion respectively for new research. Given recent calls by Nobel laureate Dr. Norman Borlaug, widely acknowledged as the Father of the original Green Revolution, for a second, more extensive, agricultural investment is more important than ever.

Since our challenges are greater than ever, it is the time that we should stand up for what we believe in. Life in its entirety exists because some form of agriculture is there to feed and sustain it by providing food and oxygen. It may be possible for the ones who don't support our livelihood to be acting out of ignorance. If we act collectively then there is a chance that we will continue to have a strong production system for the future. If not it will be late to catch up. I encourage you to talk to the lawmakers about the necessity of having a successful agriculture production system in our country.

The Pipestone System, which manages swine farms in the Midwest, has an upbeat motto: "Helping farmers today create the farms of tomorrow." Of course, the farms of tomorrow may be there, if they survive at all. It is the time for a great awakening!

Sincerely,

Sudeep Mathew  
Extension Educator – Agricultural Sciences

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Educating People To Help Themselves

Local Governments • U.S. Department of Agriculture Cooperating

## Understanding the crop nitrogen requirements using canopy reflectance

Nitrogen fertilizer is usually applied in greater quantities to corn than almost any other crop. But when it's applied in excess of requirements, loss of the excess fertilizer to the environment can contribute to degraded water quality. One of the challenges to making an appropriate nitrogen fertilizer recommendation is the potential variability in soil nitrogen availability that may occur spatially across a field and temporally from year to year.

A canopy reflectance sensor would provide an easy-to-use method for farmers to improve sidedress nitrogen applications to corn if canopy reflectance could be successfully correlated to nitrogen requirements. Scientists at the Pasture Systems and Watershed Management Research Unit of USDA-ARS and Penn State University compared crop canopy reflectance to more traditional approaches of making nitrogen recommendations for corn.

The success of an active sensor, Crop Circle ACS-210 (Holland Scientific, Lincoln, NE), was compared with the success of using a chlorophyll meter, presidedress nitrate test (PSNT), and a preplant assessment for making appropriate nitrogen recommendations. Results from the study were published in the July–

August issue of *Agronomy Journal*.

The economic optimum nitrogen rate (sidedress) for corn was determined at eight different sites in 2005 and 2006. These sites were selected to represent a wide range of soil nitrogen availability, based on the previous crops of corn, soybean, or alfalfa, and some sites had a history of receiving



manure applications.

At each site, three different preplant treatments were applied, including: a manure application, 56 kg ha<sup>-1</sup> nitrogen as ammonium nitrate, and zero nitrogen fertilizer. Seven sidedress nitrogen rates increased from zero to 280 kg ha<sup>-1</sup> nitrogen. The success of the different methods of making nitrogen fertilizer

recommendations was compared with the observed optimum nitrogen rate.

The results from this study indicated that a reflectance index based on relative green normalized vegetation index (GNDVI) measured when the corn was at the six to seven mature leaf stage was as good an indicator of optimum nitrogen requirements as a relative chlorophyll index or the PSNT. These latter two methods are currently considered the most reliable ways for making a nitrogen fertilizer recommendation for corn in Pennsylvania.

“Reducing the overall amount of nitrogen fertilizer that is applied to corn will depend on accounting for the within-field spatial variability and year-to-year temporal variability,” says John Schmidt, one of the scientists conducting the study. “This research suggests that active sensors could play a significant role in developing appropriate nitrogen recommendations for corn in Pennsylvania and the mid-Atlantic region.”

This research is continuing in various geographic regions of Pennsylvania and is being evaluated at the field scale using precision agriculture technologies. The full article can be found at *Agronomy Journal* 101:916-924 (2009).

## Equine Pasture Management DVD from NRCS

Maryland and Pennsylvania Grazing Land Conservation Initiative Coalition has developed an Equine pasture management DVD that illustrates significant benefit of good pasture management and rotational grazing for equine operations. Land owners who

are willing to rotationally graze horses should be the prime candidates for receiving this DVD. For obtaining copies please contact Elmer Dengler at [elmer.dengler@md.usda.gov](mailto:elmer.dengler@md.usda.gov) or call 410-757-0861.



## Computer models for improving crop water use efficiency

Crop water use efficiency (WUE), or yield per unit of water used, can be improved through irrigation management and methods, including deficit irrigation (irrigating less than is required for maximum yields) and supplemental irrigation (irrigating to supplement precipitation so as to avoid crop failure or severe yield decline).

Thus, WUE is key for agricultural production with limited water resources. Policymakers and water resource managers working at all scales need to evaluate the many ways in which cropping systems and the amounts, timing, and methods of both irrigation and fertilizer applications may be changed to improve WUE while meeting yield and harvest quality goals.

Although field experiments are too costly to address all scenarios, computer models of crop growth and yield may fill in the gaps if the models are shown to be accurate WUE predictors. An international team of experts led by the Food and Agriculture Organization of the United Nations (FAO) developed an agronomic model called AquaCrop to address the need for modeling WUE under widely varying conditions around the world and with limited data.

To look at the ability of this and other agronomic models to estimate WUE, a team member with USDA-ARS in



Bushland, TX organized a symposium titled “Yield Response to Water: Examination of the Role of Crop Models in Predicting Water Use Efficiency” at the 2007 International Annual Meetings of ASA–CSSA–SSSA. Results using several agronomic models were discussed. Nine papers arising from the symposium have been published in a special section of the May–June 2009 issue of *Agronomy Journal*.

The papers explore how four of the simulation models were used to simulate yield, water use, and WUE of cotton, maize, quinoa, and sunflower in North and South America, Europe, and the Middle East. All the models simulated WUE adequately under well-watered conditions but tended to over or underestimate WUE under conditions of water stress. This limits their usefulness for exploration of deficit irrigation scenarios or rainfed or dryland situations with less-than-adequate water.

None of the experimental conditions reported involved separate

measurements of evaporation of water from soil (E) and transpiration of water by plants (T); so there was no opportunity to test the values of E and T calculated by the models, which is key to accurate water use simulation. The lack of separate E measurements also limited the authors in exploring reasons why WUE was not simulated well under water stress conditions.

“Future studies exploring WUE simulation should include evaporation or transpiration measurements in addition to total crop water use measurements so that effects of management methods that reduce evaporation in favor of transpiration can be studied and models of WUE tested and improved,” says symposium organizer Steve Evett.

Evett says this examination of WUE estimation by multiple models helps close the gap that exists between what can be done using crop simulation models and what policymakers and managers need from these models in order to develop useful management alternatives for crop selection and timing, tillage systems, and irrigation and fertilization practices. Development of AquaCrop and several other models is continuing and will be guided by the findings of these studies. The full article is available for no charge for a limited period electronically at <http://agron.sci journals.org/cgi/reprint/101/3/423>

## CHESAPEAKE Wine Trail Debuts August 4

The Chesapeake Wine Trail links wineries from Cecil County down through Worcester County, and is a partnership between Eastern Shore county offices of tourism, the Maryland Department of Agriculture and the

Maryland Wineries Association. You are invited to join for a celebratory toast to the opening of the Chesapeake Wine Trail, and enjoy a wine tasting of regional wines. State and County representatives have been invited to

attend and discuss the importance of the wine trail to the region’s agriculture and tourism sustainability efforts. On August 4, 2009, 2 – 3 p.m. at Cassinelli Winery & Vineyards, 3830 Church Hill Road, Church Hill, Maryland 21623.

## Maryland Farmers Urged to Test Small Wheat and Barley for *Mycotoxins*. Be in contact with crop insurance agent; test grain before feeding to livestock; MDA is providing testing services

**ANNAPOLIS, MD**— Many farmers are now seeing a negative result of persistent spring rain in their wheat and barley harvest in the form of vomitoxin. Deoxynivalenol (DON), better known as vomitoxin, may be produced in wheat and barley grain infected by the fungus, *Fusarium head blight (FHB)* or scab. The presence of vomitoxin can make the crop unmarketable or unusable as feed, depending upon the level of contamination. The Maryland Department of Agriculture’s (MDA) State Chemist is sampling grain at grain elevators and feed mills to determine if vomitoxin is present and if so, at what level. MDA is providing free testing and guidance to farmers who may be considering feeding this year’s small grains to livestock. Testing for crop insurance purposes must be done through a crop insurance adjuster.

“Any Maryland farmer with crop insurance who has not yet harvested a wheat crop should contact a crop insurance agent before harvest and definitely before mixing in storage. It

appears that wheat already in storage will not be eligible for crop insurance claims, but testing may help marketability and price,” said Agriculture Secretary Buddy Hance. “Anyone considering feeding this year’s crop to livestock definitely needs to know if vomitoxin is present and at what levels as some animals are very sensitive to the toxin and can become sick from eating it.”

**For Farmers with Crop Insurance**

If vomitoxin is suspected, contact a crop insurance agent. A sample must be collected before the grain is placed in storage. Farmers should contact their crop insurance provider for instructions on how to have the grain sampled and tested. Crop Insurance adjusters or agents should contact the Maryland Department of Agriculture’s Food Quality Assurance Office at 410-841-5769.

**Grain Dealers and Mills:**

The Maryland Department of Agriculture’s (MDA) State Chemist is sampling grain at grain elevators and feed mills to determine if vomitoxin or

other mycotoxins are present and if so, at what level. Contact the MDA State Chemist Section at 410-841-2721 for testing or other information.

**Farmers considering feeding this year’s crop of wheat and barley to livestock:**

Proceed with caution. Know if the feed has any vomitoxin and if so, how much. Call your veterinarian if you detect illness. There is considerable variation in species tolerance of the vomitoxin, with poultry generally tolerating much high amounts and swine being much less tolerant. Ruminant tolerance is intermediate between the two. The primary clinical sign is refusal to eat contaminated grain or feed. Most animals will refuse to eat sufficient quantity of toxin to become seriously ill. Animals eating vomitoxin may initially experience excessive salivation, irritated oral and gastrointestinal tissue. Contact the MDA State Chemist Section at 410-841-2721 to arrange for sampling and testing.

Federal Food and Drug Administration (FDA), advisory levels for vomitoxin in livestock feed:

<b>Class of Animal</b>	<b>Feed Ingredients &amp; Portion of Diet</b>	<b>DON Levels in Grains &amp; Grain By-products and (Finished Feed)</b>
<b>Ruminating beef and feedlot cattle older than 4 months</b>	Grain and grain by-products not to exceed 50% of the diet	10 ppm (5 ppm)
<b>Chickens</b>	Grain and grain by-products not to exceed 50% of the diet	10 ppm (5 ppm)
<b>Swine</b>	Grain and grain by-products not to exceed 20% of the diet	5 ppm(1 ppm)
<b>All other animals</b>	Grain and grain by-products not to exceed 40% of the diet	5 ppm (2 ppm)

In 2007, the value of the harvest was \$61 million or wheat and \$6 million for barley. This year, Maryland farmers planted 230,000 acres of wheat and 55,000 acres of barley. More than 133,000 acres of wheat are insured in Maryland this year and more than 25,000 acres of barley.

## Organic food is no healthier than ordinary food



There is little difference in nutritional value and no evidence of any extra health benefits from eating organic produce, UK researchers found. The Food Standards Agency who commissioned the report said the

findings would help people make an "informed choice". But the Soil Association criticized the study and called for better research.

Researchers from the London School of Hygiene and Tropical Medicine

looked at all the evidence on nutrition and health benefits from the past 50 years. Among the 55 of 162 studies that were included in the final analysis, there were a small number of differences in nutrition between organic and conventionally produced food but not large enough to be of any public health relevance, said study leader Dr Alan Dangour.

Overall the report, which is published in the American Journal of Clinical Nutrition, found no differences in most nutrients in organically or conventionally grown crops, including in vitamin C, calcium, and iron. The same was true for studies looking at meat, dairy and eggs.

Differences that were detected, for example in levels of nitrogen and phosphorus, were most likely to be due to differences in fertilizer use and ripeness at harvest and are unlikely to provide any health benefit, the report concluded.

Dr Dangour, said: "Our review indicates that there is currently no evidence to support the selection of organically over conventionally produced foods on the basis of nutritional superiority." She added that the study was neither pro nor anti organic food and recognized there were many reasons why people choose to eat organic, including animal welfare or environmental concerns.

## Insect Flight Update

As of July 28<sup>th</sup> across the state has been seen increased Corn Earworm activity. European corn borer has decreased in Southern MD but all other areas has seen increase including mid shore counties. Please note below table the 5 day total for Corn Earworm and European Corn Borer moth numbers at individual locations. Although there has been insect activity increased, all flights are below the historic averages.

County	Insect Trap Location	Corn Earworm	European Corn Borer
Caroline	Denton	1	23
	Henderson	1	3
Dorchester	Vienna	-	-
	Church creek	0	0
	Rhodesdale	-	-
Wicomico	Salisbury	27	2
	Mardela Springs	0	1

Regional silk spray schedule: 5 to 6 days interval

## Congressman Kratovil meeting with Farmers on August 5th

Each year during the month of August, Congress takes a break to allow elected officials to go home to visit with their constituents. Congressman Frank Kratovil (MD-1) is devoting the first full week of the August District Work Period to the farm community. Coordinating with farm bureau and extension, the Congressman has scheduled

town hall-style meetings across the shore to talk with local farmers. The meetings are the perfect opportunity for farmers to convey their concerns about economic conditions on farms, about the potential impact of higher energy costs and to discuss what they want – and don't want – in a health care reform package. Please mark

your calendar and plan to attend the Farm Town Hall meeting in Dorchester County on Wednesday August 5<sup>th</sup>, 9 am at County Building, 501 Court Lane, Cambridge, MD 21613.



## Farm Bill Program Meeting on August 10 in Georgetown, DE

Are you confused about the new farm bill programs? What are ACRE and SURE all about? With FSA program deadlines approaching on August 14, 2009, learn all you can about your options. The program will include recognized farm program policy and

risk management specialist Dr. Art Barnaby, Professor of Agricultural Economics, Kansas State University. In addition, there will be presentations on the recent performance of small grain crop insurance as well as group yield and

revenue coverage. Plan to attend on August 10, 2009 8.30 am-4.00 p.m. at the Elbert N. & Ann V. Carvel Research and Education Center, 16483 County Seat Highway, Georgetown, DE 19947. Please register by calling 877-673-2767.

## Maryland Woodland Stewards program to be on September 17, 18, 19 and 20, 2009

University of Maryland Extension's has started accepting application for Maryland Woodland Steward Workshop on September 17-20 in Queen Anne's County. This program is designed to help woodland owners learn how to manage their land, as well as to encourage them to share their knowledge with others. Through this intensive seminar, participants will learn about the ecology and management of Maryland's forests and wildlife, sources of professional assistance to help them,

and how they can put this information to work in their communities.

If you are selected to receive the training, the seminar cost, including lodging, meals, and reference materials, is only \$95. After the training, participants, called *Maryland Woodland Stewards*, agree to return to their communities and actively serve for one year as advocates of wise forest and wildlife management. Stewards are asked to contribute 40 hours in outreach

effort over the next year.

Apply for the Maryland Woodland Stewards program and take your education one step further with conversations with a variety of natural resource professionals, field trips, and a commitment to share your knowledge with others. For more information contact Nevin Dawson at 410-827-8056, ext. 125 or [ndawson@umd.edu](mailto:ndawson@umd.edu)

## WMREC Fruit & Vegetable Twilight Meeting September 24, 2009

Join Bryan Butler, Galen Dively, and Chris Walsh at WMREC to learn about the latest research on pumpkins, Bt sweet corn, tree fruit, high tunnel

production. *Time:* 4:30 p.m. - 7:00 p.m. *Location:* Western Maryland Research & Education Center (WMREC), 18330 Keedysville Rd,

Keedysville, MD 21756. A light meal will be provided. RSVP to 301-432-2767 x350 or [cmason@umd.edu](mailto:cmason@umd.edu)

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## Syngenta introduces “Pay it forward with Plant Performance”

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Syngenta and local Syngenta authorized retailers has started a program when farmers use Quilt or Quardis fungicides on corn or soybean acres, they will donate \$0.25/acre to the local county 4-H. For



details see a local Syngenta authorized retailer. No endorsement of these products by University of Maryland Extension is implied or intended.

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## USDA Farm Service Agency Program Updates

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The Producer certification deadline for spring crops, DCP & ACRE signup has been extended to August 14, 2009. FSA will not accept any late filled applications.

### Loans for the Socially Disadvantaged

FSA has a number of loan programs available to assist applicants to begin or continue in agriculture production. Loans are available for operating loans and/or purchase or improve farms or ranches. While all qualified producers are eligible to apply for these loan programs, the FSA has provided priority funding for members of socially disadvantaged applicants. For more information contact your local FSA office at 410-228-5640, ext 2.

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## Visit our website for research updates, events and archived newsletters

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<http://dorchester.umd.edu/AgNaturalResources>



### Did You Know?

U.S. vegetables travel 1,500 miles before it reaches the supermarket. It takes two times more energy to transport, process, package and sell food than to grow.

Solution: Grow local. Buy local. Eat local!