

❖ The Grain Store ❖

Volume 14 Issue 1

Winter 2007

A Joint Publication of the Maryland Grain Producers Association
and the Maryland Grain Producers Utilization Board

New Year is Time to Stay Proactive

In early December, I attended the U.S. Grains Council annual membership meeting. The outlook for corn demand is high but there appears to be enough supply. Foreign buyers have adjusted to the higher U.S. cost because they rely on the quality. Farmers attending all voiced a 5-15% increase in their 2007 corn acreage. The additional acreage is likely to come from CRP ground as contracts end, and a shift from soybean acreage. Directors from around the world attended and spoke on the outlook for their part of the world. The U.S. Grains Council is a non-profit organization that promotes barley, sorghum and corn sales worldwide. They receive matching government funds plus extra from all grower checkoff dollars contributed. As a grower in Maryland, you help fund international market development through checkoff dollars.

As the new administration comes to Maryland, we say good luck and good

health to Lewis Riley who has done such a great job for so long. His shoes will be hard to fill and he will be greatly missed.

There are many key issues coming in the future. Maryland Grain Producers pledge to help our new Secretary of Agriculture Roger Richardson and Governor Martin O'Malley respond to the needs of agriculture. They will need insight from the farming community that only we can provide. Lynne Hoot is part of the governor's ag transition team. I can't think of a more widely backgrounded person in so many ag forums to help represent us and to educate the new administration on what is going on in Maryland ag.

Please welcome Charles Schaefer, II, of Carroll County, as the new president of the Maryland Grain Producers Association. I'm sure he will be a strong leader for our organization and the grain industry.

May your health and family prosper in 2007! *Ed Stanfield, MGPA President*

Matthew Fry and Julie Roop Scholarship Recipients

Demonstrating the commitment of the Maryland Grain Producers Utilization Board to education and to the future of the state's agricultural industry, Matthew Fry and Julie Roop each received a \$2,500 scholarship to help them pursue a career in agriculture.

Matthew Fry is attending Virginia Tech with a major in dairy science. He plans to return to the Eastern Shore family farm upon graduation. Julie Roop is majoring in Agricultural and Environmental Education at West Virginia University, and plans to return to Maryland as an ag teacher.



Richardson Named Ag Secretary

MGPA welcomes Roger Richardson as Maryland's next Secretary of Agriculture. Roger is a 6th generation farmer, who works 3,500 acres of land on the Eastern Shore. He also has a private trucking company devoted to the transportation of agricultural products.

Roger has been in public service for years. He currently serves as president of the National Association of Farmer Elected Committees, Director of the American Corn Growers Association, president of the Snow Hill Grain co-op and a board member of MGPA and MGPA. In addition, Richardson is a member of the Agricultural Stewardship Commission, the Board of Directors for the Maryland Center for Agro-Ecology, and the Worcester County Farmland Committee. Previously, Richardson has been a Presidential appointee as Chairman of the Maryland Farm Service Committee, a State Committee member of the Maryland Agricultural Stabilization Committee, and Supervisor of the Worcester Soil Conservation District.

Insurance Reflects Strong Corn Prices

While crop insurance premiums may have "gone through the roof" they are simply reflecting the additional revenue to be insured. With \$4 corn, 70% coverage through a CRC program may seem expensive, but it can guarantee a return of \$2.80/bu, a far cry from previous years.

The 2006 U. S. corn crop was one of the largest on record, but many market analysts predict that utilization for the

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Lynne Hoot Receives Miller Award

"Lynne's exceptional work and commitment to the Maryland grain industry, and the whole state agricultural industry, made her the ideal candidate in this year's selection process," stated Jason Scott. "She has advanced ethanol and grain projects, worked relentlessly to improve regulatory issues with the General Assembly and state agencies, and promotes our agricultural industry continuously."



Secretary of Agriculture Lewis Riley and MGPA President Jason Scott present Lynne Hoot with the 2006 Dr. James R. Miller Award at the Maryland Commodity Classic.

MEMBERSHIP FEE TRANSFER FOR MGPA

Under the guidelines established under the Maryland Grain Checkoff program, a grain producer may request to have \$125 of the assessment that the producer has paid into the checkoff program used to pay for a 3-year membership to the Maryland Grain Producers Association, or \$50 for a 1-year membership, for both new or renewal membership. MGPA will then provide the producer with information and educational materials from the state checkoff board (MG PUB) and national associations such as the National Corn Growers Association, National Association of Wheat Growers, and the National Barley Growers Association. To initiate this transfer of funds, a producer must complete the form below and return it to MG PUB. If a producer has requested a refund during the last year, the request must include a grain sales receipt for at least \$125 (\$50 for one year) on which a refund has not been requested. Non-producers who fail to meet the above criteria, can complete the application and enclose a check for \$125 (3 years) or \$50 (1 year). If you have any questions please contact Lynne Hoot at 410-956-5771 or email lynnehoot@aol.com.

MARYLAND GRAIN PRODUCERS UTILIZATION BOARD

To use grain checkoff funds to become a member of the Maryland Grain Producers Association (MGPA), complete the following. Please print or type.

Member's Name _____ Membership in (check one) Name _____
 _____ Company _____

Farm/Co. Name _____ Farmer (Check if yes) _____

Spouse's Name _____

Home Phone (_____) _____ Business Phone (_____) _____

Address _____

City/State/Zip _____

Total Farm Acres _____ In Corn _____ Wheat _____ Barley _____ Oats _____ Milo _____ Canola _____

County _____

Do you wish to receive information from: National Corn Growers Association? Yes _____ No _____
 National Association of Wheat Growers? Yes _____ No _____

Email address _____

Referred by MGPA Member _____ (optional)

This is a partial refund form for grain checkoff to pay MGPA membership dues only.

3 years _____ 1 year _____ New _____ Renewal _____ Member Record No. _____

I hereby certify that I am a bona fide grain producer and that I contribute a minimum of \$125.000 to the checkoff program in a 3-year period (a minimum of \$50 for a 1-year membership).

Signature _____ Date _____

Please return the completed form to: MG PUB, 53 Slama Road, Edgewater, MD 21037-1423

MGPA & MG PUB BOARD

MGPA & MG PUB Regional Members

(Regional members serve on both boards)

Kevin Anderson (Region 1)	410-651-0022
Vacant (1)	
Jason Scott (2)	443-521-0080
Lewis Smith (2)	410-822-6983
Jim Boyle (3)	410-758-1454
Bruce Burgess (3)	410-556-6201
Ricky Bauer (4)	410-531-6261
Charles Schaefer, II (4)	410-848-6392
Bubby Norris (5)	301-769-3870
Chip Bowling (5)	301-259-4397
Donald Maring (6)	410-795-2970
Walter Gordon (6)	301-371-7605

MG PUB Officers

President - Donald Maring
 Vice President - Walter Gordon
 Treasurer - Raymond Norris
 Secretary - Jason Scott

MG PUB Non-Voting

Breck Debnam - Ag Commission
 Charles Morris - Industry (Perdue)
 Bob Kratochvil - University of Maryland
 Mark Powell - Maryland Dept. of Agriculture

MG PUB Voting

Jamie Jamison - NCGA Director
 Edward Stanfield - UCGC Director
 Robert Hutchison - NBIC Director

MGPA Officers

President - Charles Schaefer, II
 Vice President - Chip Bowling
 Treasurer - Drew Stabler
 Secretary - Jason Scott

MGPA At Large

Mike Nelson
 Bob Shaw
 Charles Otto

MGPA Advisory

Patrick McMillan - MDA
 Ronald Mulford - UMD

Administration

Lynne Hoot - Executive Director
 Marguerite Guare - Administrative Assistant
 Laurie Adelhardt - Public Relations
 410-956-5771 (telephone)
 410-956-0161 (fax)
lynnehoot@aol.com (email)
PR@marylandgrain.com (email)

www.marylandgrain.com

Maryland Grain Producers Association &
 Maryland Grain Producers Utilization Board
 53 Slama Road
 Edgewater, MD 21037-1423

Crop Insurance

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marketing year may exceed production, leaving a negative carryover into next year. The demand for biofuels is part of the increased demand for corn and soybeans. In the near future, many predict increased price volatility. Weather uncertainty, which is always a factor in Maryland's grain production and marketing, may contribute to even more volatility than usual.

According to the Maryland Department of Agriculture's Crop Insurance Information program, doing nothing can result in significant unintended consequences. This new environment of expected higher and more volatile prices and abnormal weather requires a careful reevaluation of individual risk management strategies. For example, rerunning a good 2006 crop insurance plan in 2007 could result in some big surprises if a natural disaster loss occurs and/or harvest time prices increase.

Crop insurance is a good base for a 2007 risk management plan because it can be used to help reduce adverse weather, yield/price and marketing risks to manageable levels. It also provides loan security up to the amount of protection that you choose. Contact a crop insurance agent for more details and a printed quote, before the March 15th deadline! Don't risk missing the benefit of high prices due to weather related yield losses.

Maryland's Tim Bishop Tops National Contest

Tim Bishop of Queenstown won first place in the Class A No-Till / Strip Till Non-Irrigated division of the National Corn Growers yield contest. His Campbell 7700 YG R2 seed yielded 279.153 bushels an acre, strongly out-performing the second place finisher at 245.499 bushels.

Tim farms 1,500 acres of grain as well as being a dealer and regional supervisor for Campbell. He will be recognized as the national winner at the 2007 Commodity Classic, March 1-3 in Tampa, Florida.

Hulless Barley Commodity Cover Crop

Farmers across the state planted 700 acres of Doyce hulless barley last fall for an added bonus of \$15/acre above the states regular commodity cover crop program that allows for fertilizer to be applied after March 1st and the crop to be harvested. Under a USDA Conservation Innovation Grant, Maryland farmers will again be given this opportunity for the upcoming fall. Farmers can sign up during the regular cover crop sign-up period to grow up to 10,000 acres of hulless barley for an additional incentive payment of \$12/acre. For more information contact your local soil conservation district.

Chesapeake Ethanol

Robert Hutchison, Chesapeake Ethanol LLC President, reports that this group is pursuing the construction of a 50 million gallon per year ethanol plant in Maryland that will use hulless barley for part of the year and corn for the remainder. Work is underway to obtain a site in Baltimore. Chesapeake Ethanol grew from MGPIB's efforts to determine the feasibility of building an ethanol plant in the state. The major goals of Chesapeake Ethanol are to utilize hulless barley as well as corn, and to develop a profitable project that maximizes the opportunity for farmers to participate as investors and grain suppliers.

President Calls for 35 Billion Gallons of Biofuels by 2017

When President George W. Bush's called for increased production of biofuels of 35 billion gallons by 2017, he was not expecting it to all come from corn-based ethanol. However, NCGA has suggested that, given projected trend-line advances in corn and ethanol yields, 15 billion gallons of ethanol may be produced from corn by 2015, utilizing approximately 5 billion bushels of a 15 billion bushel crop. Much of the remaining gallons will come from cellulosic ethanol and biodiesel.

The current increase in ethanol production, an expected doubling in the next 12-months from 5 billion gallons per year (bgy) to 10 bgy, has caused the sudden high demand for corn. However, the market is expected to level out.

Over the last five years farm-gate corn prices and retail meat prices have been decoupled, with literally no correlation between the two. In contrast, for consumers the increase in gas and oil prices of the last three years has been much larger and had a much more significant negative impact on consumers and food prices and our economy as transportation costs have resulted in higher consumer prices. Retail food prices are almost totally insulated from the price of corn. When corn is \$4 a bushel, the value of corn in a box of corn flakes is still less than 10 cents.

Maryland State Corn Yield Results

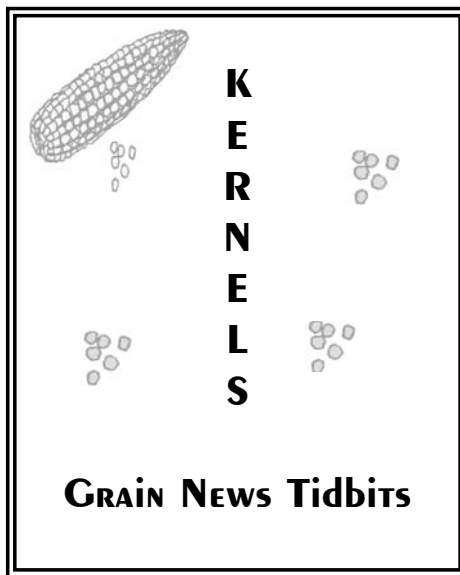
CLASS	PRODUCER	HYBRID	YIELD
Irrigated	Scott Dulin	Pioneer 33H26	264.367
	Michael Bostic	Pioneer 33D11	255.270
	Marion Wilson	DEKALB DKC57-84	242.954
Non-Irrigated	Grimmel Farms	Pioneer 33N11	260.299
	Gregory Dell	Pioneer 33A87	222.602
	Russell Baker	Pioneer 33B51	219.567
Ridge Till Irrigated	Michael Bostic	Pioneer 33B55	252.519
Ridge Till Non-Irrigated	Cathy Bostic	Pioneer 34P88	204.647
No Till / Strip Till Irrigated	Mica Farms	Pioneer 33H26	262.720
	John Dulin	Pioneer 33H26	260.860
	Schmidt Farms Inc	Trisler by Augusta 5337CB	241.870
No Till / Strip Till Non-Irrigated	Tim Bishop	Campbell 7700R2	279.153
	Tommy Duke	DEKALB DKC63-39	245.499
	Dale Leager	DEKALB DKC61-72	229.578

Commodity Classic . . . Corn, soybean and wheat growers are invited to learn more about profitability, crop yield, grain contracts, and other issues at the Commodity Classic in Tampa, Florida, March 1-3, 2007. There will be an extensive trade show highlighting the latest in technology and services, as well as entertainment by country singer Collin Raye. Commodity Classic is the annual trade show and convention of the American Soybean Association, the National Corn Growers Association, and the National Association of Wheat Growers. For schedules and further details, visit www.commodityclassic.com.

Chip Bowling selected for African Mission . . . Maryland Grain Producers Association's new Vice President Chip Bowling will join a team of five U.S. Grains Council members and travel to Morocco and Egypt on February 12-21. This grain export market mission will provide valuable market assessment, enhanced customer/producer relations and a unique educational experience for participants. Sarah Novak, USGC Membership Director, says participants will get a first-hand look at how the Egyptian market for U.S. corn and other feed grains has grown substantially over the last several years - in part because of a ground-breaking demand building program the Council pioneered in Egypt. Other team members include Fred Yoder, Ohio Corn Marketing Program; Debra Keller, Iowa Corn Promotion Board; Tommy Young, Arkansas Corn & Grain Sorghum Promotion Board; and James Rapp, Illinois Corn Marketing Board.

Merchandise . . . the National Corn Growers Association is introducing the **NCGA CORNER Store**, a web-based merchandise and apparel site designed to allow states and members to order products with both state and national logos. You can also order corn-based plastic (PLA) materials from Brenmar Corp., and choose from more than 600 products available through the Corn Products Guide. Visit www.ncga.com for more information.

E85-capable vehicles new stars of North American International Auto Show . . . For the first time, several automakers unveiled concept and production models capable of burning E85, the blend of 85% ethanol and 15% gasoline backed by Detroit automakers as the most viable option for reducing U.S. oil imports. Even Toyota Motor Corp. jumped on the bandwagon, announcing its new Tundra pickup would offer an E85 version in the 2009 model year.



National AgrAbility Project . . . It is estimated that 15 to 25% of farmers have a physical challenge and / or health condition. The goal of the AgrAbility Project is to inform, educate and assist farmers and farm workers with disabilities as well as their families, so they can continue to lead successful careers in agriculture. Modern technology can make it possible for a farmer with a physical limitation or health condition to stay on the farm and keep working. The Delaware-Maryland AgrAbility Project brings together experts in rehabilitation engineering, bio-resource engineering, assistive technology, safety and social work to provide services, education, and support for farmers and their families. Contact Coit Custer at 301-784-1774 or email mdagrability@rficil.org for more information.

USDA Rural Development announces Value-Added Producer Grants (VAPG) . . . In an effort to build a stronger rural economy through value-added business, the USDA Rural Development program offers grants to producers to develop businesses that produce and market value-added agricultural products. The goal is to fund a broad diversity of projects that help increase the agricultural producers' customer base and share of the food and agricultural system profit. Examples include a coop or other group of growers processing their own grain into bread or pizza crusts, or ethanol. Value-added efforts such as these not only help producers keep more of the profits derived from their efforts, but they usually help to keep more dollars in rural areas of the nation. Since 2001, USDA has awarded more than \$115 million for over 700 VAPG projects. For more information visit www.rurdev.usda.gov/rbs/coops/vadg.htm, call 202-720-4323, or email CPGrants@wdc.usda.gov.

MARBIDCO names first Executive Director . . . Stephen R. McHenry has been appointed as the first Executive Director of the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO). With an initial state investment of \$1 million, MARBIDCO will offer four targeted low-interest loan and rural business development programs this year to leverage affordable rural business financing, assist with alternative or value-added enterprise development, and support the next generation of producers. Visit www.marbidco.org or contact Stephen McHenry at MDA, 410-841-5772, email smchenry@marbidco.org.

WETEC Dissolved . . . The wheat industry has consolidated programs and dissolved the Wheat Export Trade Education Committee. Its activities with the federal administrative agencies have been taken over by the National Association of Wheat Growers and legislative and congressional activities assigned to the U.S. Wheat Associates.

MGPUB 2006 Annual Funding Report

Dear Grain Producers,

It has been a banner year for grain farmers as high prices and strong yields have been the norm. The continual efforts of the industry and our organization to promote ethanol has reflected a higher price and increased demand for corn locally. I hope your harvest yielded strong numbers that were prevalent across the state as well.

When you get right down to it, the work of the Maryland Grain Producers Utilization Board isn't just about promoting grain, but about strengthening agriculture in our state and raising the bar for the board. In order for us to help our farmers, we need to be sure that we are the strongest organization that we can be. In 2006, we made great strides in pursuing projects that serve our producers, bringing all of us to a better position in the local, regional and world markets.

Over the years, the grain producers have supported projects in research and promotion to develop a state ethanol industry. We are seeing the results of that investment in higher corn prices, which has brought an additional \$50 million to Maryland corn growers this past year. We will continue to play a role in the future of ethanol and other products to increase the use of grain produced in Maryland.

We trust that you will see depicted in the pages of this annual report the image of an organization focused on its mission to promote greater utilization of grain through expanded promotion, research, education, information and other activities.

Our work would not be possible without the support of our grain farmers who once again voted to continue the Maryland Grain Checkoff program. We are grateful for your support and belief that the program makes a difference to you on the farm.

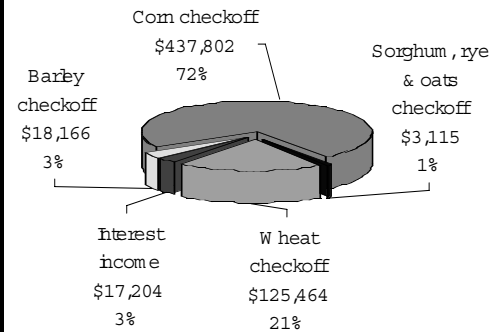
It has been my privilege to serve you and represent the Maryland Grain Producers Utilization Board. As my term ends and Donald Maring takes over as President, I hope you will join me in supporting him as the MGPUB strives to enhance our programs and promote our Maryland grain industry.



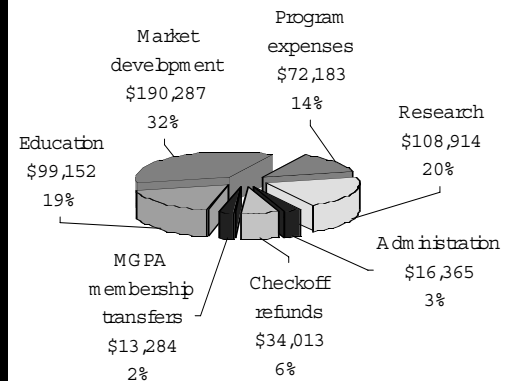
Jason Scott
MGPUB President



MGPUB Income 2006



MGPUB Expenses 2006



EDUCATION

Field Trip of a Lifetime

The Frederick County Extension Office offered Frederick County youth with the "field trip of a lifetime." During one week of programming the last week of September, 579 fourth grade students came by bus to the farm.

The students, with 35% representing minorities, participated in four learning stations designed to teach them about grains. They began with a wagon tour of the farm viewing fields in production, valuing machinery and recognizing grains from field to table. Each student made a grain jar with five grains grown on the farm. They learned about the many uses of corn, everything from grits to gasoline and corn syrup to crayons. They tasted corn grits and air popped popcorn with different seasonings. The nutrition station taught them about the health benefits of eating grains. Students made a trail mix using four different grain products and ate whole wheat pancakes. At the animal station students met cows, pigs, chickens, horses, and sheep and learned how much grain the animal is fed. Teachers report this is the favorite part of the field trip since many of the students live in the city and have not had exposure to farms and farm animals.

Kids Growing with Grains Big Hit in Western Counties

In September, 333 fourth graders in Washington County learned through hands-on lessons how grains are an important part of their everyday lives.

The students and 34 adults rotated through three stations at the Western Maryland Research and Education Center.

At the grain nutrition station the students learned about *My Pyramid*, identified food products made from grains, and made a loaf of bread, while learning the function of each ingredient. The animal science station taught students about the different types of digestive systems between various livestock, the digestion process, and the different uses for grains in animal feeds and roughages. Agronomy and grain harvesting was the third station. The students learned the anatomy of a plant and developed an understanding of the difference between several grain seed characteristics. The students then made grain mosaic jars and finished the day with a wagon ride.

**The activity itself was
a wonderful way to
have students actively
involved in math,
reading, and science.
It was a GREAT Day!**

More than 600 kindergarten students, teachers and parents from fourteen elementary schools in Allegany County had a similar first hand experience with grains. The students participated in twelve stations which featured grinding wheat, filling jars with various grains, and a milking station. Students also visited several animal stations in which they learned what grain products these animals consume. University of Maryland Cooperative Extension faculty and staff facilitated the event with the help of 4-H volunteers, Farm Bureau, and Ag Expo members.

Farm Safety Camp Adds to Ag Enrichment Program

Two farm safety programs were offered in 2006 and within each goodie bag provided to each of the 200 children attending a granola bar and information about Caroline County agriculture was included. The children also learned about farming practices during the camp as well as safety concerns.

More than 600 youth participated in hands-on Caroline County Extension programs. Several hundred youth and adults participated with the 4-H Educator in a hands-on grain awareness display held during the annual Rural Heritage Days program held in Queen Anne's County this past year.

33,000 Participate in Close Encounters with Agriculture

Close Encounters with Agriculture is an outreach agricultural awareness program geared for 4th grade students in Montgomery County. Since 1993 when Doug Tregoning began the program, more than 33,000 students have gained an appreciation and awareness for agriculture's importance in their daily lives.

Production agriculture, nutrition, and environment are the focus of hands-on learning stations consisting of grain and grain products, swine, beef, dairy, horticulture and horses. Students are taught and shown how urban sources of pollution impact the Chesapeake Bay, and the positive relationship farmers and farming practices have on the environment is emphasized. The benefits of grain products in a nutritious diet is taught. Attending teachers are provided with pre- and post-learning activities to reinforce the lessons learned onsite.

Maryland Envirothon Showcases Knowledge

Teams from 18 counties competed for the honor to be Maryland's #1 Envirothon team and for the right to represent Maryland at the 2006 North American Canon Envirothon in Canada. The Maryland Envirothon is conducted by the Maryland Association of Soil Conservation Districts and the State Soil Conservation Committee.

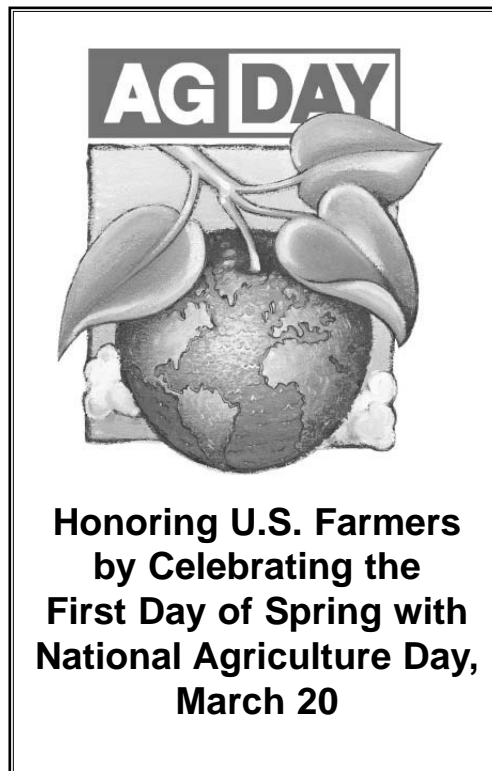
The teams participated in a Scales and Tales program, night hike, oral presentation skills training, choosing a career related to agriculture program, and additional training with professionals from each of the five areas of study: forestry, aquatics, soils, wildlife, and water stewardship. These sessions provided participants a chance to interact with various natural resource professionals who are potential career role models to these students. Each of the teams were tested on their knowledge at five resource stations in addition to the oral presentation station. This part of the competition allows the students to share their knowledge of the issue, show they can communicate effectively, demonstrate critical thinking skills and their ability to work as a team.

At the conclusion of the testing an awards program recognized the high scoring teams in each of the five resource stations as well as the oral presentation station, and the overall top scoring five teams from the competition. The Maryland Envirothon presented scholarships to the teams with the top three overall scores: \$500 each for the first place team and represent Maryland at the North American Canon Envirothon, \$300 each for the second place team and \$200 each for the third place team. A full account of the Envirothon is available at www.mascd.net/envirothon.

Ag in the Classroom Initiative Reaches 170,000

More than 2,000 educators have been trained to use the Maryland Resource Kit, a set of Maryland-specific resources that include the Maryland Commodity Map, Take Me Out to the Cornfield video/DVD, Digital Atlas of Maryland Agriculture CD, and an accompanying Teacher's Guide. The Maryland Agriculture Showcase exhibits at agricultural and non-agricultural events statewide. These resources are in use in classrooms and events across the state to creatively provide more than 100,000 students and more than 70,000 members of the public information about Maryland agriculture and its impact on the environment, economy, and every individual.

A 16-month calendar was developed to mark and promote agricultural events during the year. The calendar was distributed to more than 3,000 individuals involved in agricultural education. To learn about all of MAEF's activities, visit www.maefonline.com.



Off to the Fair - in an Ethanol Race Car

Fair displays gave Bunny Burkett and her crew the opportunity to talk with thousands of local drivers, making them aware of the future of ethanol. Bunny and crew handed out boxes of literature on ethanol and the many uses of grain. Besides the fair displays, over 100 days per year were spent on the East Coast highways with the ethanol logo prominently displayed on the trailer as they made their way to televised racing events. Bunny also comments on other uses of corn, including a variety of mass-produced plastics, antifreeze, livestock feed, food for a growing world, sweeteners and the fact that new avenues are being developed for marketing grain every day. Follow Bunny's racing trail at www.bunnyburkett.com

Dieticians Ready to Speak for Grain

Maryland dieticians representing state leadership, media spokespersons, and public relations chairpersons came together for a day of training sponsored by the Wheat Foods Council to better work with the media. Dieticians participated in hands-on activities designed to develop skills in preparing for television appearances; developing tools for responding to journalists' questions while maintaining the message; creating the desired message to communicate to the media; and getting the media to use quotes every time. Participants created message points addressing current topics on grains and grain nutrition. The Council provided current grain information, research abstracts regarding glycemic index, grains and cardiovascular disease, and folic acid fortifications.

Preparing Leaders for a Strong Agricultural Future



Maryland's rural communities and agricultural sector are increasingly buffeted by external and internal forces for change. Examples of those changes include: population growth - much of it sprawling onto rural landscapes; globalization of markets; increasing focus on the quality of the environment; and an aging rural population. To successfully adjust to such forces, the number and capacity of Maryland's rural and agricultural leaders must increase.

The LEAD Maryland Foundation, Inc. (LEAD) operates to help meet the rural and agricultural leadership challenge. LEAD Maryland's leadership development fellowship program involves diverse class groups of 20-25 Fellows in a two-year program designed to increase participants' assurance, skills, and knowledge for mobilizing people to solve problems. LEAD prepares emerging leaders to seek solutions and communicate in ways that will enhance the future of Maryland agriculture.

LEAD's new class, Class V (2007-2008), will meet in February for their first of five in-state seminars to be completed in their first year of participation. Over half of the new class represent production agriculture. Others in the class have activities or careers related to or supporting agriculture. To date, there are 114 LEAD Fellows.

FFA's Learn through Career Development Events

More than 675 of the 1363 active Maryland FFA members learned by doing as they participated in 2006 Career Development Events (CDE). The Maryland FFA Convention, held in Hagerstown, had 362 students, advisors and guests in attendance. In September, students and advisors traveled to the Eastern States Exposition in Springfield, MA to participate in career development events and receive further recognition. The National FFA Convention in Indianapolis, Indiana was attended by 159 Maryland FFA members, advisors and guests where they participated in leadership workshops, career development events and other career and personal development opportunities.

Maryland students participated in National CDEs and received twelve gold medals, thirty-three silver medals and thirty-seven bronze medals.

The Maryland Environmental and Natural Resources team, consisting of five students, ranked fifth in the nation and the Maryland Floriculture team placed tenth. Seven students placed in the top twenty in their respective CDEs and were awarded college scholarships totaling \$4,000. Five students were awarded the American Agriculturalist Degree. In October, four Regional State Leadership Workshops were held to strengthen and develop leadership skills.



Training for Success in Grain Marketing

It is vital that farmers learn and apply risk management techniques to their operation including crop insurance, contracting and hedging strategies in order to increase profit margins. The *Road to Marketing Success* and *Winning the Game* are two grain marketing workshops developed at the Minnesota Center for Farm Financial Management and have been adapted for Maryland basis and grain prices by Maryland Cooperative Extension staff.

Seven full-day workshops were held around the state that taught 211 participants how to avoid common mistakes in grain marketing and explore key elements of a pre-harvest marketing plan. Also included was a market simulation game which gave producers a hands-on approach to implementing a marketing plan and reacting to a real marketing year.

Producers report learning more about setting minimum prices and how to react to market fluctuations. The marketing game played during the afternoon session was well received and producers felt that they could actually practice what was learned.

As a result of this workshop 100 farmers report changing marketing strategies and writing a pre-harvest marketing plan. From the increased marketing action, a monetary increase of \$582,254 can be estimated as a result of the statewide grain marketing workshops.

The success of this initial program has generated so much interest that additional winter classes have been scheduled to teach post-harvest marketing.

Education funding represents 20% of the total checkoff grant funding is spent on education projects to promote the grain and agricultural industries of Maryland and the U.S.

Documenting the Ethanol Facts

One of the most compelling reasons to support ethanol production is the economic benefit that these facilities provide. Creation of jobs, increasing the tax revenue, and providing a range of direct benefits more than justifies incentives and support programs. The Clean Fuels Development Coalition (CFDC) Issue Brief series, as part of the Ethanol Across America education program, takes issues like this and presents them in a way that helps legislators, media, and ordinary citizens understand. Working in large part from recent U.S. Department of Agriculture studies and state economic studies, the Issue Brief explains how modern ethanol plants are returning substantial revenue and benefits at the local, state, and federal levels. To review a brief, visit www.cleanfuelsdc.org.

MARKET DEVELOPMENT



2006 Showcases Big Wins for Corn Growers

The victories achieved by corn growers this year could only be accomplished through the checkoff contributions of more than 300,000 corn farmers nationwide and a strong grassroots advocacy effort from all the state organizations. The National Corn Growers Association (NCGA) continues to be a strong and unified voice advancing the organization's key objectives on Capitol Hill. NCGA continued its educational efforts on

ethanol and energy development, the Water Resources Development Act (WRDA) and crop insurance reform.

More and more, corn growers are recognized as strong assets for influencing public policies, providing credible information to consumers and media and bettering research that will lead to achieving higher yields, healthier crops, and more abundant food supply while leaving the environment in better shape for future generations. The Association's activities can be followed on their website, www.ncga.com.



Maryland E85 Sales Increase 13%

Sustainable Energy Strategies, Inc. (SESI), lead by President Jill Hamilton, supported the MGPUB in the promotion of E85 in Washington, DC, Virginia and Maryland. Working together, a 13% percent increase in E85 fuel sales was seen for a total of 237,546 gallons for the year (based on MGPUB supported stations), despite high fuel prices and fuel contamination issues. SESI was able to increase the overall project value by \$14,250 through Maryland Energy Administration and General Motors support.

Focusing on advertising as a promotional tool, SESI was able to add a tag line listing E85 locations in the metro area to a pre-written one minute radio spot which was part of General Motors' Live Green Go Yellow Campaign. As a result of that relationship, SESI again partnered with GM and the Maryland Energy Administration to promote the Ft. Meade E85 station this winter through billboard advertising and free fuel cards.

Promoting U.S. Grain to the World

Access, development, defense and intelligence - these are the U.S. Grain Council's (USGC) marketing cornerstones as they work around the world to increase the demand for U.S. feed grains and their co-products in both established and potential markets. The Council aids partners around the world to expand operations and their use of U.S. feed grains.

The Council's efforts are not focused solely on commodity grains. The expanding ethanol industry has led to commensurate production of co-products including Distillers Dried Grains with Solubles (DDGS), creating new challenges. The Council has used results from DDGS feeding trials in Taiwan to educate livestock producers on the impact of U.S. DDGS on performance, leading to imports of 64,385 tons of U.S. DDGS - an increase of 117% compared to the same period in 2005. Furthermore, the Council successfully introduced DDGS to Egyptian grain buyers this year, resulting in sales of approximately 13,000 tons of U.S. DDGS since June.

The Council is headquartered in Washington, D.C., and has ten international offices that oversee programs in more than fifty countries. Financial support from private industry members, including state checkoffs, state entities, agribusinesses, and others, triggers federal matching funds from the USDA. This results in a combined program value of more than \$25 million to promote U.S. agricultural products. For more information about the U.S. Grains Council and its projects, visit www.usgrains.org.

Renewable Fuels Association

As the national trade association representing 90% of the U.S. ethanol industry, the Renewable Fuels Association (RFA) promotes policies, regulations and research and development initiatives that lead to the increased production and use of fuel ethanol.

Infrastructure development was the most dramatic note of 2006. Other industry accomplishments include: Ford exhibited first E85 Hybrid at Washington, D.C. auto show; Internal Revenue Service published Form 8911 - Alternative Fuel Vehicle Refueling Property Credit - which provides the first Federal income tax credit for the installation of E85 fueling systems; GM announced Live Green Go Yellow E85 awareness campaign; Iowa Governor signed E85 bill, the most aggressive ethanol bill in history; "Big Three" promised to double flexible fuel vehicle production; E85 stations exceeded 1,000; Underwriters Laboratory certification rescinded on E85 equipment; and rapid replacement of MTBE by ethanol in the Northeast expanded the availability of ethanol in these markets. Visit www.ethanolrfa.org for more information.

National Barley Growers Active on the Hill

The National Barley Growers Association (NBGA) is a grass-roots organization dedicated to advancing the national and international interests of U.S. barley producers. The NBGA works closely with congressional offices, federal policymakers, and regulatory agencies to ensure barley producers' concerns are considered. Details on NBGA activities can be found at www.nationalbarley.org.

Developing markets directly impacts farm gate prices. 35% of grant funding is dedicated to marketing, representing the largest category of checkoff funding.

Adding Value to Hulless Barley

Wynse Brooks, Mark Vaughn and Carl Griffey are working to improve the feed value of barley by developing hulless varieties that have a lower concentration of fiber, reduced phytic acid and higher metabolizable energy. This transformation should bring the feed value of barley closer to that of wheat and maize. In addition, development of hulless barley varieties having value-added traits, such as hulless seed, waxy endosperm, high or low beta glucan content, and low phytic acid content, is targeted at improving marketability of barley as a feed, food and fuel ingredient.

Hulless barley lines derived from crosses made between superior hulled cultivars and breeding lines with outstanding hulless lines are under development and testing. To date, more than 4000 hulless barley populations have been developed. Efforts have been initiated by the Virginia Polytechnic Institute to accelerate development of improved and higher quality hulless barley varieties for use as animal feed, human consumption and domestic fuel ethanol production. In the 2006-2007 season, pure lines will be selected among 5,360 hulless head rows. Twenty elite hulless lines will be evaluated in 2007 State Variety Trials. More than 100 advance hulless lines also will be evaluated in cooperating states. More than 400 hulless populations will be advanced and 252 pure lines evaluated in yield tests.

Biodiesel Refinery in the Works

The Chesapeake Green Fuels (CGF) program of feedstock to fuel biodiesel combines the latest and proprietary technologies to ensure the highest quality and most cost effective biodiesel possible. CGF will be operating both commercial and research facilities simultaneously, which will allow CGF to test and implement new technologies and produce fuel from a wider variety of feedstocks.

Chesapeake Green Fuels has accomplished a great deal in the past six months. It has grown from a company with no tangible assets to one with a functioning biodiesel refinery, creating value to the Maryland agricultural economy by adding demand for agricultural commodities such as soy oil and poultry fat for use in the refining process. Full-scale commercialization plans are moving forward. To track the development of CGF, visit their website at www.cgfcorp.com.

 **Your
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Dollars
at Work**

RESEARCH

"Chesapeake" Wheat Now Available

After several years of testing, a promising new soft red winter wheat line (MV5-46) was released as "Chesapeake" by José Costa at the University of Maryland. It performed well over the last three years and was increased for commercial distribution. This variety is high-yielding, has excellent test weight, and is resistant to powdery mildew. It is susceptible to stripe rust, however, like most other currently available varieties. Certified seed became available to growers in fall 2006.

Costa continues work on a backcross program, aided with DNA markers, to produce a scab resistant variety. The variety "McCormick" is being used as the backcross parent. Lines with stripe rust resistance are also being used in a final crossing of this material. Furthermore, DNA markers are being used in other selected crosses to improve scab and powdery mildew resistance in wheat.

Yield testing of current varieties and new lines of winter wheat and winter barley available for planting in Maryland was also conducted. Results were distributed to state extension agents and are available at www.mdcrops.umd.edu.

Corn Hybrid Test Includes Benchmark Hybrids

Farmers use a number of resources to obtain performance information about corn hybrids, including the University of Maryland's corn hybrid testing program. However, since the testing program is a fee-based program, the

hybrids submitted by seed companies were frequently their newer genetics that they either had just started to market or would soon market. Second, one of the leading seed companies made a corporate decision to no longer submit entries into University managed tests. This corporate decision eliminated the inclusion of hybrids in the test from a company that many farmers considered set industry standards. Both these factors minimized the inclusion of popular, widely grown hybrids that could be used as benchmark checks.

To help solve this problem, MGPUB provided a grant to the University of Maryland's corn testing program to fund the purchase and testing of seed for popularly grown, benchmark hybrids. Twelve benchmark hybrids were included in the tests in 2006 to serve as checks. For details, visit www.mdcrops.umd.edu.

Research Leads to Patent on Healthier Wheat Product

Maryland soft wheat contains significant amounts of natural antioxidants, tocopherols, and carotenoids, and may be used for functional food development, as researched by Liangli Yu. The research also showed that particle size may alter the availability of health beneficial components in wheat bran and grain, suggesting the possibility of improving the beneficial effects of wheat-based foods through improving post-harvest, storage, and food processing approaches. In addition, genotype, growing conditions, and the interaction between genotype and environment may alter the concentration of beneficial components in wheat grain. This research generated several articles and a U.S. patent application on all natural whole wheat functional foods rich in natural antioxidants.

Control of Perennial Weeds in Corn Promising

To assess the effectiveness in the control of perennial weeds in corn, Ron Ritter looked at twelve different herbicide programs that were fall applied. Canada thistle control ratings were obtained in the fall as well as the following spring. By the last rating in the fall, most herbicide programs were providing 80% or greater Canada thistle control. Ally, applied alone, did not provide acceptable thistle control. However, by the following spring, a lot of regrowth was noted.

Most treatments were providing 50% or less Canada thistle control. While fall programs for control of perennial weeds are highly suggested, the treatments tested in this study did not provide commercially acceptable Canada thistle control when applied in the fall and evaluated the following spring.

Ritter also compared the three new hp pd herbicide inhibitors for post emergence activity on Canada thistle in corn. All were applied with atrazine and their respective adjuvant system. Applications were made 06/06/2006. Little to no activity was seen until early July. By the last rating, Laudis provided the best activity (more than 70%), followed by Callisto (45%), and Impact (30%).

Suppression of Canada thistle in corn may be the only label one can place on these newly registered products for use in corn. However, their utility on the control of other weeds in corn can be extremely dynamic with excellent crop safety.



Using Poultry Litter in Notill Corn Production

Ronald Mulford was looking to find a tillage method with minimum soil and residue disturbance to improve nitrogen efficiency of surface-applied poultry manure in corn production. However, data shows notill plantings of corn following a surface application of poultry manure makes poor recovery of the applied nitrogen in the manure. This may happen from two methods: 1) nitrogen volatilization and 2) nitrogen movement by rainfall. Ron evaluated several tillage methods after poultry manure application (with and without Agrotain Super N Concentrate) including notill, shallow incorporation, and a complete tillage system of chisel plowing/disking two times. Corn was planted after the manure application and any tillage.

In 2005 treatments with Agrotain Super N Concentrate blended with poultry manure produced nearly ten more bushels of corn/acre than untreated manure for a two-year average of more than twelve more bushel/acre. In 2006 poultry manure treated with Agrotain, then side dressed with 30% UAN, the Agrotain treated manure accounted for 87% of the corn yield. The additional nitrogen from UAN only contributed 13% to the yield.

Average yields of shallow tillage or reduced tillage methods, using the Great Plains Turbo Till, and a Great Plains Notill Drill before corn planting, gave twenty additional bu/acre of corn over notillage. Other reduced tillage methods such as Zone Tillage, V-Ripper between corn rows before planting and disking the soil twice before planting, on average, produced two bu/acre more than using the Great Plains Turbo Till or going over the ground with the Great Plains Notill Drill before corn planting. Average yields for 2006 & 2005 for the

Chisel Plow/disk two times showed a slightly higher yield than the other tillage treatments. However, with the extra trips over the soil, and additional equipment required, one must ask if the reduced tillage methods and those with Agrotain are as economical.

Reviewing the 2006 and 2005 data, Zone Tillage and Disking the soil twice appears to be nearly as good as the Chisel Plow/Disk 2X treatment. However, in the absence of Agrotain, the data does show for efficient use of poultry manure getting it mixed into the soil is important.

Evaluating Application Timing of Harmony Extra

To save trips over the field and application costs, farmers and commercial applicators are blending Harmony Extra with either the greenup fertilizer solution or with liquid nitrogen at Feeks growth stage five to six. There can be significant burning to new plant tissue the later nitrogen solution is broadcast over wheat or barley.

Ten different treatments were compared by Ronald Mulford beginning in 2005. Minimum tilled wheat yields after corn and soybeans were the same while the notill wheat yields after notill soybeans were slightly higher than the notill wheat after notill corn.

Wheat yield with Harmony Extra Herbicide applied at Feeks growth stage five to six were less than grain yields for the mid-winter (January) application of Harmony Extra. This result was similar to the 2005 study. In both minimum tillage and no tillage following both soybeans and corn, wheat yields were the highest when Harmony Extra was applied in mid-January. In several treatments, the high rate of Harmony Extra (.6 oz/acre) seemed to lower wheat

yields. This was also seen in the 2005 study. These observations will be followed closely in the 2007 study.

Thus far in both the 2006 and 2005 studies, many of the results are similar to what was observed in the Willard High Q program. One is that early application (mid-winter to early Greenup) of Harmony Extra at the lower rate (.3 oz/acre) produced the higher wheat yields. There is a downside to applying Harmony Extra early and that being wild onions and garlic may not be controlled. Weed control was good in all treatments in general. There were enough weeds in the check plots to reduce yields significantly below the other treatments. There was more weed escape in the wheat following corn than soybeans but not enough to significantly reduce yields.

Control of Weedy Grasses in Small Grains Studied

Three studies were conducted at the Central Maryland Research and Education Center by Ron Ritter. The first study compared pre-emergence applications of Prowl or Dual II Magnum to post-emergence applications of Osprey. By the last rating Italian ryegrass control with Prowl was not commercially acceptable. Italian ryegrass control with Dual II Magnum ranged from 80 to 90%. One hundred percent Italian ryegrass control was achieved with Osprey or any of the Osprey combinations. Wheat yields did not vary in this study.

In the second study, early winter applications of Osprey, Define, or Axial to late winter applications of Osprey or Axial were compared. Different adjuvant systems were also compared. By the last rating most treatments were providing 80% or greater Italian ryegrass control. However, it was noted that early

winter applications of Osprey required the addition of a methylated seed oil versus a non-ionic surfactant plus liquid nitrogen in order to achieve satisfactory control. Wheat yields varied somewhat, with lowest yields achieved in the untreated controls.

The third study compared two different rates of Axial (CGA-185072) alone or in combination with eight different broadleaf herbicides to see if any antagonism could be noted in the post emergence control of Italian ryegrass. By the last rating, all single and tank-mix combinations of Axial were providing 90% or greater Italian ryegrass control. No antagonism was observed. Wheat yields were good with all treatments.

Combatting Wheat Spindle Streak Mosaic Virus

Wheat spindle streak mosaic virus is a soil-borne disease of wheat that can easily escape detection. Symptoms of this disease actually disappear when weather gets warm, so even detailed yield monitoring would only tell a farmer something was wrong. Because it's soil-borne and patchy, it would be easy to think it had something to do with the soil, such as a fertility or pH problem. Knowing what to look for and when helps to reduce the confusion, but ultimately this disease must be combatted with resistant varieties.

Many public and private seed companies have limited information on the resistance of their varieties, so through a MGPIB grant, Dr. Arvydas Grybauskas at the University of Maryland is maintaining and improving a test site that has the virus, and its vector as a wheat disease nursery.

Results from the evaluations show that there are a full range of responses from "very susceptible" varieties to

"very resistant" ones. The results are available in the University of Maryland Extension Bulletin number 237, "Pest Management Recommendation for Field Crops", which is updated annually and available online under Extension publications at www.agnr.umd.edu.

New products and improved production methods provide the tools for higher quality products and improved care of the environment. 20% of checkoff funding is directed toward research targeted specifically to Maryland production.

Predicting Fall Nitrogen Requirements for Wheat

During 2005, Dr. Robert Kratochvil began evaluating plant-based methods as alternatives to soil tests for determining if an adequate amount of residual nitrogen was present following corn to establish a fall-planted small grain. Field-testing was conducted at four locations with the establishment of three distinct nitrogen treatments on corn that were considered deficient, optimum, and excessive. Corn stalks and soil samples were collected from the corn plots and analyzed for nitrate concentration. Both the deficient and optimum

treatments fell below the 450 ppm benchmark that indicates all available nitrogen was likely consumed by the corn crop. Based upon the yield (125 bu/acre) attained by the deficient nitrogen treatment, 75 lb. N/acre resulted in a nitrogen deficiency. The corn stalk nitrogen test yield for the optimum nitrogen treatment (166 bu/acre) indicated that the crop likely attained near optimum yield while consuming nearly all the nitrogen. The excessive nitrogen treatment was within the corn stalk nitrogen range that indicates most of the available nitrogen was used to produce maximum corn yield (176 bu/acre). Soil nitrate concentrations for the three corn nitrogen fertility treatments correlated with the corn stalk nitrogen concentrations: deficient = 5.5 lb. N/acre-ft; optimum = 8.7 lb. N/acre-ft; and excessive = 23.5 lb. N/acre-ft.

Following corn harvest, wheat was planted into all the plots. Each plot was split into two fall nitrogen treatments (either 30 lb. N/acre of fall nitrogen or no nitrogen). Spring nitrogen applications were uniform across all plots. Wheat was harvested early July and the yield was six bushel/acre greater when fall nitrogen was used. However, this yield response for fall nitrogen was not the same for each of the three corn nitrogen treatments. When fall nitrogen was used prior to planting wheat, yields for each of the corn nitrogen treatments were: deficient = +6 bu/acre; optimum = +8 bu/acre; and excessive = no yield difference. These results indicate that wheat response to fall nitrogen is associated to the amount of residual nitrogen that remains following corn. Since corn stalk nitrogen test concentrations were correlated with fall soil nitrate concentrations, the corn stalk nitrogen test may serve as a predictive tool for determining the need for fall nitrogen when planting small grain after corn. Additional testing will be conducted to confirm results.

Study Analyzes Conservation Technology

The goal of this project is to demonstrate that commercially available conservation tillage technology can be successfully used to partially incorporate poultry litter in reduced tillage grain production systems. This would help preserve surface residue and soil conservation conditions, while reducing nitrogen and phosphorus losses in surface runoff and atmospheric ammonia emissions.

In April 2006, Dr. Frank Coale and Dr. Joshua McGrath initiated the study at the Wye Research and Education Center to evaluate four conservation tillage options:

- 1) notill
- 2) great plains turbo-till
- 3) chisel plow and disk
- 4) strip tillage

Poultry litter was applied at a rate of 9700 lbs per acre. Surface residue and poultry litter were left unincorporated

with notill, the turbo-till treatment mixed the poultry litter and surface residue approximately 2-3 inches, the chisel plow and disk tillage incorporated poultry litter and surface residue approximately 7-8 inches, and strip tillage resulted in 50% of the surface area being disturbed 7-8 inches deep, with the corn row centered on the tilled strip. Hybrid corn DKC 61-45 was planted perpendicular to the slope, parallel to tillage. All field applications, manure spreading, tillage treatments, corn planting and herbicide application were completed within the same day for all treatments.

Preliminary results show total nitrogen loss ranged from 0 to 3.8 lbs acre. Total phosphorus loss ranged from 0 to 1.2 lbs acre. Total sediment loss ranged from 0 where no runoff occurred to 50 lbs acre.

In the next phase of the study, 10-12 farmers will be identified for demonstration sites to expand the research base. Virginia Polytechnical Institute and the University of Delaware are cooperators in the study.

Wheat Fusarium Head Blight Control Elusive

The severity of recent Fusarium head blight (FHB) epidemics in the U.S. have caused enormous yield and quality losses of wheat and barley. Control of this disease has been difficult. Host resistance looks like a promising and effective management solution. Fungicides have been shown to be only partially effective.

Dr. Grybauskas compared several promising new fungicides as to their efficacy at different application timings. To date even with the most promising new fungicides, control is still only partially achieved when applied right at flowering. The new materials, once registered, do appear to have more effect on reducing vomitoxin, a toxin produced by the fungus that can lead to rejection of the grain at the mill or elevator. The future of Fusarium head blight management is going to depend on combining resistance with these new fungicides.

Maryland Grain Checkoff Receives Unprecedented Support

Under state law, a referendum is required every five years to reaffirm support for the Maryland Grain Checkoff program. The referendum conducted in 2006 passed with an unprecedented margin of 95%. While voter turnout was lower than the 2001 vote, the margin in favor of the program increased by 10%.

"We are very pleased that Maryland's grain producers are in such strong support of the Checkoff Program," stated Ed Stanfield, grain farmer from Baltimore County. "Projects funded through the checkoff program expand uses of grain and improve the market for our state's grain industry. Farmers recognize the importance of this

program and how it improves the profitability on their farm."

The mandatory checkoff states that a farmer must pay an assessment of one half of one percent (0.5%) to be collected on the net value of each bushel of grain sold. The checkoff is deducted at the first point of sale on all grain, with the exception of soybeans, which is under a national checkoff program. Any producer who does not wish to participate in the program can get a full or partial refund upon written request.

Part of the assessment may also be transferred to pay fees for membership in the Maryland Grain Producers



Association. Details are provided with the membership form on page 2 of this publication.

The fifteen-year-old Maryland Grain Checkoff Program will continue serving the state's grain producers for another five years beginning October 1, 2006.

For more information contact Lynne Hoot, MGPIB Executive Director, at 410-956-5771.

Answering Your Questions to Growing Hulless Barley

Hulless barley is considered a new crop opportunity for Maryland farmers. Thus, a number of management questions (harvest related seed damage, seeding rate, nitrogen management, planting date, seeding depth) have arisen. Replicated studies were conducted from 2004-2006 by Dr. Robert Kratochvil, José Costa and Aaron Cooper to address these questions.

Advanced lines and varieties of hulled and hulless barleys were tested in Maryland for grain yield, test weight, heading date, plant height, resistance to lodging, and grain protein content. Grain yield of hulless varieties on average was significantly lower than those of hulled varieties. Hulled barleys yielded over 8 bu/acre more than the hulless lines. Continued breeding of hulless barley for the mid-Atlantic will likely close this gap in productivity in the near future. Test weights were relatively high in 2006 and barley headed later than usual overall. There were no significant differences between hulled and hulless barleys for heading date. Doyce, the only currently released variety, had high grain yield and good test weight compared to other new hulless lines.

When should hulless barley be planted?

Hulless barley should be planted within a time frame that covers the last 10 days of September to mid-October. Because hulless barley seedlings do not have the same seedling vigor of hulled barley, planting during the latter part of October and early November should be avoided.

How deep should I plant seed?

Hulless barley seed will establish seedlings more easily if planted shallow rather than deep. Two planting depths (0.75" and 1.5") for Doyce were evaluated at two locations during fall 2006. Seedling emergence three weeks after planting was nearly 30% better for the shallow treatment. Thoroughbred hulled barley was evaluated at the same two depths and had 15% better seedling emergence at the shallow depth.

Do hulless barley seedlings have the same seedling vigor as hulled barley?

There is a difference. At three weeks post-planting and at the same seeding rates (number seeds/ft²), Doyce hulless barley had an emerged seedling population (# seedlings/ft²) that was 60% of the population for Thoroughbred hulled barley.

Should I increase the seeding rates to help compensate for stand emergence problems?

Doyce and Thoroughbred were evaluated over a range of seeding rates (750,000 to 2,500,000 seeds/acre) at five locations during 2005 and 2006. Optimum seeding rate for Doyce has been determined to be 1,750,000 seeds/acre. That same rate was found to be the optimum for Thoroughbred. Increasing the seeding rate for hulless barley is not necessary.

How does hulless barley respond to nitrogen?

Nitrogen fertilizer requirements for hulled barley have been well documented. However, little was known about hulless barley response to nitrogen. Doyce has been evaluated at one location per year (Wye-2005 and Beltsville-2006) to assess its response to a range of nitrogen rates and dates of application. To date, this research has indicated that hulless barley yield will reach maximum with 100-120 lb. N/acre. Evaluations at additional locations and for additional growing seasons are necessary to fine-tune these recommendations.

What field treatments are recommended?

- Fall nitrogen use at planting (20 lb./acre) produced an additional 20 bu/acre than the treatment that had no fall nitrogen during 2005. However, for the 2006 crop, the fall nitrogen treatment provided no yield benefit.
- When no fall nitrogen is used, it is important to supply hulless barley 40 - 60 lb. N/acre at spring greenup (or as soon after March 1 as possible if grown within the MACS cover crop program guidelines). It has also been observed that an additional 40 - 60 lb. N/acre should be applied as a second spring application when the crop reaches the jointing stage.
- When fall nitrogen is used at planting, the spring greenup recommendation is 40 lb. N/acre followed by a second 40 lb. N/acre at jointing.

How do I minimize harvest damage to the germ?

Combine cylinder speed should be adjusted to a slower rpm rate than is used for hulled barley. In research trials, seed germination improved more than 15 percentage points for a cylinder speed setting of 700 rpm compared to the more aggressive and commonly used settings of 1000 - 1100 rpm for hulled barley.

Mark your Calendars!

Thursday,
July 26, 2007



Queen Anne's
4-H Park

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