

# The Grain Store

## 2014-2015 FUNDING REPORT

### Message from the President

*Paul Spies, Maryland Grain Producers Utilization Board*

FARMER'S LIVELIHOODS depend on healthy land and water. Understanding the science behind the issues that impact those resources is the only way to develop science-based answers to both produce a healthy and productive crop and manage nutrients in a way to optimize both crop production and the health of our land and water.

Inside this funding report you will find that we are investing in research that will both improve the profitability of farms, as well as explore best management practices

that protect the resources we need to continue to grow crops. This principal is at the core of the decisions your Maryland Grain Producers Utilization Board makes when funding research projects with Maryland Checkoff Program dollars. Important for us too is that the research is targeted specifically to growing conditions in Maryland.

Taking the next step to educate consumers about our healthy and sustainable farm practices supports the continued viability of farming in Maryland. We have a great story

to tell about how we provide food, energy, and fiber essential to the consumer in a sustainable way. The MPT series *Maryland Farm and Harvest* has taken viewers behind the scenes of Maryland agriculture to show what we do and is making positive gains in consumers' attitudes towards farming.

This leads to our work in accessing new, and building existing, markets for our grain, both on the domestic and international levels. Our farmers' interests are well represented at the national level as Maryland farmers



are taking leadership roles in our affiliate national organizations.

We welcome your input and invite you to the Maryland Commodity Classic on July 23. Not only is it a great opportunity to learn more about what your organization is doing to help you on your farm, but this year features the Peterson Farm Brothers in a program you won't want to miss.



### The State of the Science of Phosphorus Symposium

OVER 350 PEOPLE from the agricultural, environmental and research communities came together at Chesapeake College on January 30, 2015 to learn about phosphorus and its role in Mid-Atlantic land and water resources at "The State of the Science on Phosphorus." Hosted by the Maryland Grain Producers Utilization Board, Chesapeake Bay Foundation and University of Maryland Extension, the symposium featured experts on the science of phosphorus from across the country who presented the current scientific knowledge on phosphorus transport, soil dynamics, legacies, modeling and its impacts on water quality. Speakers included: Dr. Anthony Buda, Dr. Peter Kleinman, Dr. Doug Smith and Dr. Peter Vadas from the USDA Agricultural Research Service, Dr. Josh McGrath, University of Kentucky, Dr. Walter Boynton, University of Maryland Center for Environmental Science, Dr. Frank Coale, University of Maryland, and Dr. Andrew Sharpley, University of Arkansas.

Both phosphorus and nitrogen play a powerful role in Bay water and habitat quality. Substantial reductions of both are needed to result in improved water quality and better habitat conditions. The pathways estuaries follow during degradation and restoration often involve time delays and abrupt threshold changes. Other factors are still to be understood through ongoing research.

Phosphorus in water is not just a Chesapeake Bay issue and not just an agricultural issue. Phosphorus is found throughout the landscape, it is not just farmland. For example, Conowingo Dam is close to 90% of its sediment holding capacity, which carries a lot of legacy phosphorus. A catchment source is in slow but perpetual motion from the original site of application to the downstream receiving areas and can hinder current methods to remediate water quality.

Future measures must manage for phosphorus and nitrogen and move towards targeted conservation systems. Developing partnerships with the science, environmental and farming communities, transferring the science to the farm to recover, recycle & reuse phosphorus, and managing expectations of stakeholders are key to the future.

The farm community was acknowledged for adopting and updating best management practices as science becomes available. The 4Rs of Nutrient Stewardship - applying the Right Source, at the Right Rate, at the Right Time, in the Right Place - are the basis for sustainable nutrient management to optimize production while minimizing environmental impact.

Dr. Boynton encouraged stakeholders to stay with the basic model of nutrient enrichment and restoration which is solid and showing positive results. The dual nutrient reduction strategy is sound. "Most people think nitrogen and phosphorus are pollutants; they are not. They are the stuff of life. We just have too much of a good thing," said Boynton.

The program concluded with a question and answer session with all presenters. Symposium recordings and proceedings are available at [www.phosphorussymposium.com](http://www.phosphorussymposium.com). An active conversation flowed throughout the day on Twitter, hashtag #P15Science.

"Phosphorus is an essential nutrient for life and is a valuable and finite resource," concluded host Paul Spies, MG PUB President. "We hope attendees left with a better understanding of how phosphorus works, so together we can develop science-based answers to manage the nutrient effectively for food production while protecting the environment."



# Leading the Nation



[www.ncga.com](http://www.ncga.com)

**I**N 2014, American corn farmers faced many challenges that they have been able to transform into great opportunities with the assistance and leadership of the National Corn Growers Association (NCGA). A proposal to reduce the amount of corn-based ethanol in the Renewable Fuel Standard (RFS) brought farmers and renewable fuel backers together on a common issue. It propelled farmers to be more vocal, share their story with federal agencies and, ultimately, help many people learn more about renewable corn ethanol and how the RFS is doing exactly what it was designed to do. A record crop for the second year in a row put a damper on corn prices, causing U.S. corn to find its way into new markets around the world. U.S. livestock producers may more quickly develop new foreign markets, translating into a bigger feed market here at home. Researchers are spurred to develop new industrial uses for corn.

A new farm bill meant a new suite of crop insurance and risk management options for farmers. A challenge, certainly, when planning for the years ahead; yet a great opportunity to better manage risk at the farm level with a premium and plan that best suits each farmer's operating style.

Challenging questions about contemporary farming methods and soil health created an opportunity to establish the *Soil Health Partnership*. The partnership will take the knowledge gained from dozens of research farms and answer questions about farm practices on soil health, economics, yield and environmental impact.

Working on these issues, the NCGA helps corn farmers create more opportunities for success for today and the next generation of corn growers.

*Grants: 2014-\$218,400; 2015-\$222,300*



*Chip Bowling, Charles County, is currently serving as the President of NCGA, representing more than 42,000 corn grower members and the interests of more than 300,000 farmers who contribute through state corn checkoff programs. Bowling serves on the Executive Committee for NCGA's Association Relations Committee and as the President of the National Corn-to-Ethanol Research Center. Additionally, he represents NCGA as the association's delegate to the U.S. Grains Council and the U.S. Environmental Protection Agency Farm, Ranch and Rural Communities Committee. Bowling often offers testimony on critical federal legislation and national policy, and frequently hosts delegations from Washington, DC on his Charles County farm to provide first-hand knowledge of farming in the Chesapeake region and across rural America.*



[www.uswheat.org](http://www.uswheat.org)

**U**.S. WHEAT ASSOCIATES is the export market development organization funded by America's wheat growers and USDA, which informs and trains buyers, flour millers and food processors in more than 100 countries. No other organization promotes Maryland's soft red winter (SRW) wheat in overseas markets.

U.S. Wheat Associates used checkoff funds to support its mission to develop, maintain and expand international markets to enhance the profitability of U.S. wheat producers and their customers. U.S. Wheat Associates also analyzes and reports SRW wheat quality, including vomitoxin, on an annual basis.

Through trade service, technical assistance, education and consumer promotion, U.S. Wheat Associates helped increase SRW wheat export sales in marketing year 2013-14 (June-May) by 46% to 283 million bushels compared to 194 million bushels the previous year. A surge of demand from China (131 million bushels), where U.S. Wheat Associates maintains strong relationships with government and private buyers, helped push SRW wheat exports to their highest level since 1989-90. Other top SRW wheat importers were Mexico, Nigeria, Egypt and Colombia.

In the first five months of the 2014-15 marketing year, the U.S. has exported 103.1 million bushels of SRW wheat, valued at more than \$646 million.

*Grants: 2014-\$38,800; 2015- \$43,300*

*Jason Scott, Dorchester County, is the Secretary-Treasurer of the U.S. Wheat Associates. At the annual meeting in July 2015, Scott will advance to the office of Vice-Chairman.*



[www.grains.org](http://www.grains.org)

**E**VERY SALE starts with a contact – and with 95 percent of the world's people, the world's fastest growing economies, and most of the world's growth in food demand occurring outside U.S. borders, those contacts don't come with a U.S. area code.

The U.S. Grains Council provides Maryland farmers with needed doors to international markets. The demand growth that will drive profitability for corn, DDGS and other feed grains is today mostly in Asia and Latin America. The policy barriers that inhibit exports are in places like China and the EU, and it is places like these that the U.S. Grains Council focuses.

The U.S. Grains Council conducts demand building initiatives in more than 50 countries, as well as policy engagement in major international trade negotiations. *Export Exchange* is one example, where over 200 international buyers from 41 countries learned about U.S. quality and capacity, and came to do business. But more importantly, the contacts made at *Export Exchange* will drive sales for years to come. Putting buyers and sellers together – that's what the U.S. Grains Council does.

The United States is traditionally the world's leading exporter of feed grains, but rising exports from Latin American and Black Sea producers are making the world a very competitive place. It is more important than ever for the U.S. Grains Council to keep American agriculture where it needs to be: the world's agricultural export champion, and the world's most reliable, trusted partner in developing markets, enabling trade and improving lives.

*Grants: 2014-\$75,000; 2015-\$75,000*

*Chip Councill, Talbot County, serves as Secretary-Treasurer of the U.S. Grains Council.*



[www.wheatworld.org](http://www.wheatworld.org)

**T**HE NATIONAL ASSOCIATION OF WHEAT GROWERS (NAWG) is a grower-governed and grower-funded organization seeking to create a unified voice supporting wheat growers resulting in positive action to improve risk management programs, increase the focus of capturing the benefit of energy policy, and foster investment and innovation in U.S. wheat. NAWG's priorities for work with Congress and the Obama Administration include confronting growing environmental regulation, showing the need for strong trade policy, working toward sound policy in the implementation of the Farm Bill, and following financial reform and sustainability talks.

*Grants: 2014-\$11,000; 2015-\$10,000*

*Eric Spates, Montgomery County, represents MGPUB on the National Association of Wheat Growers Board of Directors.*



[www.nationalbarley.com](http://www.nationalbarley.com)

**T**HE NATIONAL BARLEY GROWERS ASSOCIATION (NBGA) represents the interests of growers in the areas of farm policy, crop insurance, trade, industry relations, and biotechnology. NBGA has achieved key results for Maryland growers in the areas of new crop insurance for barley (which will be available in crop year 2016), expanding relationships with Congressional staff via the *Capitol Hill Barley, Boots, and Brews* reception, and providing comments on issues relative to barley growers. Emerging areas of participation include Waters of the U.S. (WOTUS), sustainability, transportation, and barley acreage stabilization.

*Grants: 2014-\$1,860; 2015-\$2,091*

## FARM STEWARDSHIP CERTIFICATION AND ASSESSMENT PROGRAM

MARYLAND ASSOCIATION OF SOIL CONSERVATION DISTRICTS  
[www.mascd.net](http://www.mascd.net)

**T**HE RESPONSE from candidates of the *Farm Stewardship Certification and Assessment Program* (FSCAP), Soil Conservation Districts (SCDs), and core partners, has been positive in regards to progress made and recognition provided. Candidates of the 114 farms visited, all felt the evaluation process was positive and informative. Conservation farmers are willing to be evaluated; those who fall short of the certification standard are willing to make the necessary improvements; and positive recognition and additional conservation efforts have been achieved in a voluntary program.

Two new part-time Agricultural Specialists have been stationed on the Eastern Shore to conduct evaluations. MDA has indicated that a FSCAP certification equals an official nutrient management inspection and certified stewards are removed from the inspection list for three years. SCDs perceive that FSCAP reinforces the conservation message and becomes a positive, voluntary incentive tool. Public recognition has been provided through farm signs displaying the farm name of the steward, program partners, and local soil conservation district. The FSCAP webpage provides recognition where each steward gets a full page and link to their webpage.

The major barrier to progress is working within the timeframe for both farmers and SCDs. The SCDs identify and make initial contact with farmers who are most likely to meet the certification standard. The challenge is to focus on time periods when both farmers and SCDs have time available. New partnerships with the Maryland Grazers Network and the Maryland Horse Council have provided new avenues for finding good candidates and 25 stewards were found through these partners.

*Grants: 2014-\$30,000; 2015-\$30,000*

# Developing Leaders

## LEAD MARYLAND PROGRAM

LEAD MARYLAND FOUNDATION, INC.  
[www.leadmaryland.org](http://www.leadmaryland.org)

**L**EAD MARYLAND Foundation works to increase the numbers and capacity of leaders serving agriculture. A 501(c)(3) nonprofit, LEAD offers educational programming to LEAD Fellows to learn through lectures, tours, discussions, presentations, trainings, assessments, and group projects. Fellows completed a series of four multi-day seminars, planned and implemented a one-day symposium, and prepared for a 2015 study tour to South Africa. Three seminars in 2014 were held on the Eastern Shore, and Fellows spent four days in Annapolis. Fellows learned about communication skills, working with public officials and government offices, various aspects of the grain industry and grain markets, new technologies available to farmers, the nursery industry, the poultry industry, water quality improvement issues and efforts, agricultural law, conservation, land use, aquaculture, and more. LEAD curriculum provides public issues education, skills building, leadership development, and personal growth. Through program participation, Fellows become more equipped and confident to solve problems, identify resources, educate the public, and to influence public policy.

*Grants: 2014-\$60,000; 2015-\$45,000*

## MARYLAND ENVIROTHON

MARYLAND ASSOCIATION OF SOIL CONSERVATION DISTRICTS  
[www.mascd.net/envirothon](http://www.mascd.net/envirothon)

**T**HE 24TH ANNUAL Maryland State Envirothon was held June 18-19 at Camp Pecometh, with 18 teams competing from all over Maryland. Students rotated through concurrent sessions of training. Resource professionals provided hands-on training in aquatics, soils, forestry, wildlife, and sustainable local agriculture. Park rangers from the Maryland Department of Natural Resources Scales and Tales Program

showed turtles, snakes, hawks and owls, and discussed their importance to local ecosystems. Awards were given to the top scoring team in each of the five resource areas. The fourth (Montgomery) and fifth (St. Mary's) place teams each received a framed wildlife print. The third place team (Harford) received a wildlife print and each student received a scholarship for \$300. The second place team (Washington) received a wildlife print and each student received a scholarship for \$400. The first place team (Carroll) received a wildlife print, a large trophy, and each student received a scholarship for \$1,000. In 2014, over 1,100 students participated in the Maryland Envirothon.

*Grants: 2014-\$9,000; 2015-\$12,000*

## DEVELOPMENT OF FUTURE AGRICULTURE LEADERS

MARYLAND FFA FOUNDATION  
[www.mdffaoundation.org](http://www.mdffaoundation.org)

**I**N 2014, the Maryland Grain Producers Utilization Board was designated a "Silver 3 Star Partner" for their level of sponsorship at the Annual State FFA Convention of a proficiency award, a motivational speaker, five leadership development workshop presenters and incentive scholarships, a members breakfast, and four FFA career development events (CDEs) on Agricultural Issues, Junior Extemporaneous Speaking, and Agriscience Research Presentation Events. CDE sponsorships provide funds for the recognition of student achievement and helps fund student costs in representing Maryland at the next level of competition. The grant also provided State FFA Convention support to assure the facilities needed for providing a valuable educational and leadership experience for over 340 Maryland FFA members at a reasonable student cost. Members of the FFA Foundation Board believe the development of agricultural leaders is vital to the future of Maryland agriculture and congratulate MGPUB for their commitment to helping the FFA Program in Maryland excel as one of the nation's best.

*Grants: 2014-\$13,000; 2015-\$16,000*



# Building the Image of Ag

## U-LEARN FARM FROM THE FIELD TO YOUR GLASS OF MILK

MARYLAND 4-H FOUNDATION, INC.  
[www.mymaryland4hfoundation.com](http://www.mymaryland4hfoundation.com)

WHERE did you get those cool name tags? I eat Maryland crops? Is that real corn? What's this mushy stuff? These questions and many more came from the over 3,500 visitors to the *U-Learn Farm* at the 2014 Maryland State Fair. The farm expanded and took over an entire aisle of the Cow Palace in 2014. Together with the Birthing Center, University of Maryland College of Agriculture and Natural Resources Dairy Herd, the *U-Learn Farm* manager, Taylor Robinson guided farm visitors through a series of activities, teaching youth and families about the agriculture in their back yard. *U-Learn Farm* successfully completed its seventh year of existence. Participants learned the major grain crops grown in Maryland, experienced the life cycle of grain crops, worked with Ag royalty, played in corn boxes, carded wool, and learned much more. Planning has begun for 2015 to welcome more visitors "Down on the Farm"!

Grant: 2014-\$3,500; 2015-\$6,000

## SCIENCE ON THE FARM

UNIVERSITY OF MARYLAND EXTENSION - WASHINGTON COUNTY  
[extension.umd.edu/washington-county](http://extension.umd.edu/washington-county)

THE WASHINGTON COUNTY 4-H Youth Development Program of Washington County presented *Science on the Farm Program*, an agricultural education summer program at five public libraries in Washington County during the summer of 2014. This program is available to youth ages 8-12 and is designed as a single day drop-in program geared to engage youth in hands-on learning about agriculture in their community. The schedule for each program was tailored to the request of each library which may have included: Brainy Grainy, Milk in Motion, Corn Science, Food Safety, Ag in Your Backyard, and Vegetable Dissection and Seed Saving. Each activity was staffed by a team of UME Faculty and Staff, Farm Bureau Ag Literacy trailer staff and 4-H youth volunteers who interacted with the youth in learning the benefits for their health, community and themselves.

Grant: 2014-1,000

## NATIONAL AG DAY

AG COUNCIL OF AMERICA  
[www.agday.org](http://www.agday.org)

THE AGRICULTURE COUNCIL of America (ACA) welcomed leaders from national agricultural associations, congressional members and student representatives from FFA, 4-H, Agriculture Future of America, the Consortium, and the National Agri-Marketing Association to the nation's capital in celebration of National Ag Day. Over 100 student delegates delivered the message of Ag Day to members of Congress and their staff. The Luncheon followed where John Deere Outstanding Young Farmers were in attendance and Senator John Boozman shared his take on the importance of agriculture. U.S. Deputy Secretary of Agriculture Krysta Harden addressed a sold out crowd at the National Celebration of Agriculture Dinner and remarked on the installation of Dr. Norman Borlaug's statue in the National Statuary Hall earlier that day. Orion Samuelson served as the evening's emcee. This year's National Ag Day celebration has been called the 'best yet'. Energy was high, and events were well attended, with 300 at the luncheon and 170 at dinner.

Grants: 2014-\$500; 2015-\$500

## DIETITIANS WHEAT ALL-STARS CONTEST

WHEAT FOODS COUNCIL  
[www.wheatfoods.org](http://www.wheatfoods.org)

SHARING RECIPES and photos through social media is wildly popular. Recipes are one of the top viewed sections of the Wheat Foods Council's (WFC) website. WFC has attracted positive attention to wheat and wheat foods through higher quality food photography, the modification of WFC's existing recipes, and adding new recipes which focus on healthy ingredients that taste great, look appetizing and are quick and easy to prepare. Promoting new content provided an excellent opportunity to present the facts and dispel the myths that surround wheat. WFC continues to educate by presenting science-based facts about the benefits of wheat and wheat-based foods. WFC will offer new wheat recipes for people to try, post, pin or share through various social media channels, newsletters, e-magazines, traditional print magazines and newspaper recipe columns.

Grants: 2014-\$16,000; 2015-\$16,000

Jennie Schmidt, Queen Anne's County, represents MGPIB on the Wheat Food Council.

## MARYLAND FARM & HARVEST

Airs Tuesdays 7 pm, Thursdays 11:30 pm, and Sundays 6 am on MPT; Fridays 6 pm on MPT2

View online anytime at: [www.mpt.org/farm](http://www.mpt.org/farm)



MARYLAND FARM & HARVEST climbed to the top of the charts as the number one rated local show on Maryland Public Television (MPT). The show puts a human face on Maryland agriculture, telling the stories of farmers who grow food and fiber. The series chronicles the successes and the challenges that local farmers face working in the state's number one industry. Last season, *Maryland Farm & Harvest* featured farms across the state, from a soy farm in Garrett County to a horse breeding farm in Baltimore to a tenth-generation vegetable and wheat farm in Talbot County.

Joanne Clendining, a veteran actress and owner of a family farm, won an Emmy® Award as Program Host/Moderator for Season 1!

In Season 2, *Maryland Farm & Harvest* continued to highlight the farmers, ranchers and orchardists who grow Maryland's rich bounty. Additionally, the story of grain is told, from harvest to milling, from the Chicago Board of Exchange to packaged flour on the supermarket shelf. Interestingly, viewers learn that Auntie Anne's Pretzels uses Maryland grain in every product they sell worldwide.

Launched in 1969 and headquartered in Owings Mills, MPT is a nonprofit, state-licensed public television network and member of the Public Broadcasting Service. MPT's six transmitters cover Maryland plus portions of contiguous states and the District of Columbia. Frequent winner of regional Emmy® awards, MPT creates local, regional, and national television shows.

Grants: 2014-\$250,000; 2015-\$250,000

## COMMONGROUND

MARYLAND SOYBEAN BOARD  
[www.findourcommonground.com](http://www.findourcommonground.com)

COMMONGROUND is a national collaboration developed by the National Corn Growers Association and the United Soybean Board to reach urban consumers with a factual story of food production. The goal is to build trust between consumers and farmers in the food system, showing that farmers share consumers' values and concerns. Volunteer farm women are offered professional development sessions to learn about the CommonGround program, goals and philosophy, and gain skills in how to effectively relay their personal perspectives on farming and food to consumers. Credible third-party resources are provided to back up personal farm knowledge. The combination of genuine, personal experiences and credible science is key to developing consumer trust.

Activities were coordinated for volunteers to share on-farm experiences and factual information with consumers at the Women in Ag Conference, Farmland Screening, National Ag in the Classroom Conference, Maryland Commodity Classic, Farmer and Chef Dinner, Farm Stand/Markets displays, Farm to Table Dinner on the Western Shore and Seasons on the Farm Dinner on the Eastern Shore, Baltimore County Teachers Night on the Farm, and the Metropolitan Cooking and Entertaining Show. Volunteers were also individually active in social media and farm blogs, plus several participated in national program activities.

Maryland volunteers were incredibly active in 2014, holding conversations with nearly 10,000 key urban and suburban consumers and influencers and reaching over a million consumers through social media and publicity conducted in the Mid-Atlantic region. These conversations with the public are leading to better informed consumers with more positive opinions about food production.

Grants: 2014-\$15,000; 2015-\$15,000

## SUKUP AGRI-THEATRE AT CITY STREETS, COUNTRY ROADS

THE GREAT FREDERICK FAIR  
[www.thegreatfrederickfair.com](http://www.thegreatfrederickfair.com)

THE GREAT FREDERICK FAIR'S newest educational component launched at the 2013 fair. A 24-foot round true-to-life grain bin, the Sukup Agri-Theatre and Learning Center is a new learning facility added to the *City Streets, Country Roads* Ag Education Awareness Exhibit. Fair patrons walk inside of an actual grain bin and are introduced to the world of grains, learning about their impact on our world. Through video, interactive visual effects, and sample grains at all development stages, the Sukup Agri-Theatre is a multi-functional exhibit designed to educate. By showing seed from plant to harvest, the theatre gives a complete example of the grain production industry through an interactive and eye-catching platform.

Grant: 2014-\$1,000

## WHOLE GRAIN CUISINE FOR SENIORS

UNIVERSITY OF MARYLAND EXTENSION –  
FREDERICK COUNTY  
[extension.umd.edu/frederick-county](http://extension.umd.edu/frederick-county)

THIS INNOVATIVE PROJECT reached 743 Senior Citizens in Frederick County. Training was provided on the health benefits of whole grains to the diet and was supplemented with a cooking demonstration on how to prepare a variety of recipes using whole grains. A colorful recipe booklet in large print was distributed. The demonstration was taped by the county government cable TV to be accessed online. A whole grains exhibit and handouts were also provided at the annual *Frederick County Senior Expo* reaching 628 people. In May 2015, participants in the program at the senior centers will receive a whole grain food item in recognition of *Older Americans Month*.

Grant: 2014-\$2,500

# Building the Image of Ag

## HERE WE GROW EXHIBIT

PORT DISCOVERY  
CHILDREN'S MUSEUM  
[www.portdiscovery.org](http://www.portdiscovery.org)

IN 2014, thanks to the support, input, and commitment of the agricultural community and MGPIB, Port Discovery's *Here We Grow!* agricultural exhibit garnered significant funding from the Institute of Museum and Library Services. This federal funding supports the expanded vision of our partners for a completely new exhibit to better serve the educational needs of Maryland's children.

During the course of the year, the Museum solidified preliminary plans and designs for the *Here We Grow!* exhibit. Prototypes built by the Exhibit department allowed staff to observe and evaluate the effectiveness of components. Prototyping also allowed the Museum to clarify material specifications for construction documents used in the bidding process.

In September, the request for proposals for exhibit design and construction was released and in November, Heartland Scenic Studio was hired. A New Year's Eve celebration was held where visitors could interact with the prototypes for the farm exhibit. The Museum is now poised to begin the final design phase and construction and *Here We Grow!* is expected to open to the public in September 2015.

The *Here We Grow!* exhibit will have a prominent location within the Museum and will serve a broad set of educational objectives. By focusing on modern agriculture, the exhibit will expose children and their caregivers to the many ways in which their lives are integrally connected to the people, plants, animals, technology, and activities of modern agriculture. *Here We Grow!* will introduce children to 21st century learning skills and 21st century agriculture.

Grant: 2014-\$15,000

## AGSPLOURATION - THE SCIENCE OF MARYLAND AGRICULTURE

UNIVERSITY OF MARYLAND EXTENSION –  
HOWARD COUNTY  
[extension.umd.edu/howard-county](http://extension.umd.edu/howard-county)

UNIVERSITY OF MARYLAND EXTENSION'S agricultural literacy program for youth, *AGsplouration*, is in its fifth year of enhancement and expansion. The objectives of *AGsplouration* are to help Maryland residents understand the contributions of agriculture to their daily lives, generate interest in agricultural science careers, and help people learn to value agriculture's contribution to Maryland's economy. The grain industry is well represented within the *AGsplouration* curriculum, which includes a grain component and lessons that highlight the science of grains.

Website development has been highly successful and expansion continues by adding educational videos and interactive activities. A YouTube channel has been created that features videos of Maryland agriculture in action. The channel will eventually include videos that help to promote Maryland grain production. Creation of online resources has made *AGsplouration* accessible to everyone in Maryland and across the country.

*AGsplouration* has reached more than 20,000 Maryland residents. During 2014, the team held trainings for 275 educators, adult volunteers, and teen leaders who are helping to promote agriculture's importance in our daily lives.

Grants: 2014-\$5,000; 2015-\$5,000



**AGsplouration**  
The Science of Maryland Agriculture

Explore activities and videos at:  
<https://extension.umd.edu/agsplouration>



# Developing Markets

## E85 MARKETING AND INFRASTRUCTURE DEVELOPMENT

SUSTAINABLE ENERGY STRATEGIES, INC.  
[www.sesi-online.com](http://www.sesi-online.com)

THIS YEAR'S E85 infrastructure and development efforts were a huge success. Sustainable Energy Strategies, Inc. (SESI) continued to work with E85 station owners and managers, federal fleets, distributors, and government officials to increase E85 infrastructure and fuel sales, and promote ethanol throughout the Mid-Atlantic. Two new E85 fueling stations opened in Maryland and plans were started for more. E85 fuels sales continued to increase as infrastructure was added and promotional efforts encouraged. Stations tracked under this grant report sold 791,000 gallons of E85, while the Federal Government fleets sold an additional 1/2 million gallons.

The promulgation of the Maryland Comptroller's Office revised tax regulation allowing for splash blending of E85 was accomplished, allowing terminals in Maryland to blend and sell ethanol at levels higher than 10%. This action could reduce transportation costs on fuel and lower the price at the pump. Working closely with Maryland state officials, a draft mailer was developed to educate Flexible Fuel Vehicle owners on the benefits of ethanol and retail locations.

Grants: 2014-\$34,662; 2015-\$43,333

## ETHANOL RACE CAR

BUNNY BURKETT RACING TEAM  
[www.bunnyburkett.com](http://www.bunnyburkett.com)

ETHANOL - although there have been notable strides made in the use of this remarkable renewable source of energy, the general public still has many questions. For over 20 years, thousands of local drivers have taken the opportunity to speak to members of the Bunny Burkett Racing Team as they display their Funny Cars at County and State Fairs. Along with the ethanol fueled race cars, there is an attractive display tent and table full of current brochures to answer frequently asked questions regarding ethanol blended fuel.

Bunny and The Boys educate people of all ages and lifestyles on the future of ethanol. They effectively promote ethanol and provide their audience with the true facts about how ethanol makes their lives better in many significant ways encouraging a positive impact.

2015 marks the 50th Anniversary of Bunny's successful and remarkable journey in her racing career. This occasion will attract even more attention and exposure to the Ethanol Performs Funny Car Racing Team.

Grants: 2014-\$10,500; 2015-\$10,500

## IMPROVEMENT AND DEVELOPMENT OF BARLEY FOR USE IN FEED, FOOD AND FUEL

CARL GRIFFEY  
Virginia Polytechnical Institute  
[www.cropgenetics.cses.vt.edu](http://www.cropgenetics.cses.vt.edu)

THE VIRGINIA TECH barley breeding program is the largest and one of the few programs in the eastern United States. The program is significantly diverse with breeding efforts focused on development of superior, widely adapted, high yielding, winter barley cultivars with a major focus on incorporation of value-added traits geared towards development of new markets. As a result, two winter barley varieties (Amaze 10-hulless and Secretariat-hulled) were released from the breeding program. The white seeded winter hulless barley variety Amaze 10, tested as VA07H-31WS, was officially released in April 2013; whereas, the hulled barley variety Secretariat, evaluated as VA08B-85, was released in March 2014, and both varieties are targeted for production in the Mid-Atlantic and southeastern United States as a potential commodity for feed, fuel and food. Agronomic data can be obtained from the *2014 Virginia Tech Small Grains Variety Trial* website ([pubs.ext.vt.edu/CSSES/CSSES-97/smgrains14sectoc.pdf](http://pubs.ext.vt.edu/CSSES/CSSES-97/smgrains14sectoc.pdf)).

Meanwhile, increased interest in winter malt barley production by several current and potential craft brewers, maltsters, and producers led the Virginia Tech breeding program to expand efforts to develop malt barley varieties adapted to the Mid-Atlantic and southeastern United States. The program is conducting a comprehensive breeding and genetics research effort and testing multiple generations of its breeding lines at key locations in states (Virginia, Maryland, Delaware, North and South Carolina, Ohio, Kentucky, and Pennsylvania) that produce malt barley or that have potential for expanded malting barley production. Population development has been initiated and a series of field testing trials to develop superior winter malt barley

varieties that are widely adapted to these regions. The strategy is to select and use superior germplasm from the *Uniform Winter Malt Barley Trial* (UWMBT) as parents in crosses with elite material from our program. The program will develop winter malting varieties that are valuable to local producers and the malting and brewing industries.

In the 2012-2013 season, the breeding program evaluated and identified one superior 2-row malt barley variety (Violetta) in the UWMBT. This malt barley variety developed by Limagrain has improved grain yield, enhanced malt quality and excellent disease resistance. It was evaluated for the second year in the 2013-2014 UWMBT and the Virginia Tech malt barley management test and has continued to perform very well in these tests in Virginia. The program is therefore requesting commercial production of this variety in Virginia and the Mid-Atlantic region by 2015.

In addition, in order to accelerate the development of superior, widely adapted, high yielding winter malt barley varieties, the breeding program, in collaboration with Oregon State University, has initiated development of pure lines using double-haploid techniques. These double-haploid lines were planted in field trials this fall and will be evaluated in the 2014-2015 season. Pure lines possessing good agronomic characteristics and malt quality will be selected and advanced in yield tests in the breeding program.

Barley improvement at Virginia Tech is a collaborative effort of the Plant Breeding and Genetics Program of the Crop and Soil Environmental Sciences Department, and the Virginia Tech Cooperative Extension Service. Specific breeding goals include high yield, resistance to diseases (leaf rust, powdery mildew, net blotch and fusarium head blight), and favorable feed, fuel malting and brewing characteristics.

Grant: 2014-\$8,000; 2015-\$8,000

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## Small Grains Research

### ASSESSMENT OF FALL SOIL NITRATE TEST FOR SMALL GRAIN PRODUCTION

ROBERT KRATOCHVIL  
*University of Maryland, Plant Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

THE NEED for fall fertilizer nitrogen for wheat can be determined by soil test that measures the amount of residual soil nitrate present in the surface six inches of soil. This test is called the *Fall Soil Nitrate Test* (FSNT). Up to 30 lb. fall fertilizer nitrogen per acre is recommended when a concentration of  $\leq 10$  ppm nitrate is determined by a laboratory measurement using a Lachat QuickChem Flow Injection Platform. Residual soil nitrate can be measured using a NitraChek Quicktest kit that is currently used to conduct the *Pre-Sidedress Nitrate Test* (PSNT) for determining need for sidedress nitrogen for corn. Currently, up to 30 pounds fall fertilizer nitrogen per acre is recommended when a concentration of  $\leq 12$  ppm nitrate is measured with this kit. This project provided additional FSNT testing.

A total of 163 laboratory soil measurements for determining the need for fall fertilizer nitrogen were made. There were 326 comparisons to these laboratory measurements (two Quicktest comparisons for each laboratory measurement) made by University of Maryland Extension nutrient management consultants utilizing the NitraChek Quicktest kits. Per these comparisons, the same recommendation for use of fall fertilizer nitrogen would have occurred 97% of the time. These results support the continued use of the NitraChek Quicktest kit for conducting the FSNT.

It is recommended that the NitraChek Quicktest kits used be calibrated and checked for accuracy before doing any tests and the nutrient management consultants who conduct the tests be adequately trained so that reliable results are obtained. Per the study results, the current concentrations of  $\leq 10$  ppm nitrate (laboratory test) and  $\leq 12$  ppm nitrate (NitraChek Quicktest) for recommending no fall fertilizer nitrogen are reliable.

Across the five locations for this study, average wheat yield advantage with the use of 30 lb. fall nitrogen per acre was 2.5 bushels per acre. At only one of those locations was the amount of additional yield with fall nitrogen enough to be profitable (5.4 bushel per acre yield advantage that resulted in \$5.81 per acre profit). Over the other four locations, all of which had residual soil nitrate concentrations that recommended fall fertilizer nitrogen be used, a net loss of nearly \$13 per acre occurred.

*Grants: 2014-\$8,250; 2015-\$6,930*

### USING GRAIN TO IMPROVE GOAT CARCASS QUALITY AND VALUE

SUSAN SCHOENIAN  
*University of Maryland Extension*  
[www.extension.umd.edu/sheep-goats](http://www.extension.umd.edu/sheep-goats)

THIRTY KIKO BUCKLINGS, sourced from a single farm with an average weight of 46.7 pounds, were randomly allocated to two treatment groups: Pen versus Pasture. The Pen goats were housed in a zero grazing pen and fed alfalfa-orchard grass hay and whole barley. The Pasture goats grazed alongside the bucks in the *Western Maryland Pasture Based Meat Goat Performance Test*. They were supplemented with pelleted soy hulls during the second half of the study. The goats were handled biweekly to collect data and fecal samples. After a short adjustment period and 84-day feeding period, all of the goats were harvested to collect carcass data. The Pen goats produced superior carcasses with a higher percentage of boneless, fat-free meat. Pen-feeding added \$65 in value to the goats, due to their heavier finish weights and superior USDA live grades. The Pen goats also had less problems with parasites (worms), as evidenced by lower fecal egg counts, better health test scores, and fewer anthelmintic treatments. Results showed pen-feeding with hay and barley proved to be a more profitable option than pasture-rearing for finishing meat goat kids for the high-value markets in the Northeast.

*Grant: 2014-\$11,684*

### NEW VARIETY DEVELOPMENT AND TESTING OF SMALL GRAINS IN MARYLAND FOR HIGHER YIELD AND DISEASE RESISTANCE

ANGUS MURPHY  
*University of Maryland, Plant Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

IN 2014, over 2,700 yield trial plots of small grains were grown across five locations in Maryland. Several new University of Maryland soft red winter wheat experimental lines had high grain yield, high test weight, resistance to scab and other diseases and were selected for further testing. The University of Maryland line MDC07026-F2-19-3-3 had the second highest grain yield overall in the *2014 Mason Dixon Soft Red Winter Wheat Nursery* conducted across four states (Maryland, Virginia, Kentucky and North Carolina) that included a total of 84 wheat entries from public and private seed companies. Furthermore, 20 University of North Carolina triticale lines were tested. One line (NCT07-1088) produced 19,900 lbs./acre of biomass, which was higher than the rye control.

Additionally, currently grown varieties and new lines of winter wheat and winter barley, including private and public cultivars, were tested across four locations in 2014 in the *Maryland State Test*. The *Maryland State Test* was also evaluated in a misted and artificially scab-inoculated nursery in Upper Marlboro for Fusarium head blight (scab) resistance. Detailed results are posted on the [mdcrops](http://mdcrops) website.

*Grant: 2013-\$33,000*

### MANAGEMENT SYSTEMS OF LOW RATE HIGH EFFICIENCY FERTILIZERS FOR NOTILL AND MINIMUM TILLAGE WHEAT

RONALD MULFORD  
*Mulford Agronomics*

THIS PROJECT is a compilation of five wheat studies. Two were planted notill after notill corn, and three were minimum tillage (rotary mowing then chisel plow disc). All five studies were planted after notill corn at 1.7 million seeds per acre. Most treatments received a fall application of 250 lbs. per acre of Willard's 2-4-12 liquid fertilizer. Fall and spring growing conditions were good to excellent allowing for high grain yields with good seed quality. Except for the Wheat Variety by Fungicide Study, the studies were focused around the productivity of the *Low Rate High Efficiency Fertilizers* being marketed to farmers. In all studies the Low Rate Fertilizer Programs, were compared to a traditional University of Maryland soil test fertility recommendation.

A general conclusion is that *Low Rate High Efficiency Fertilizers* seem to be as efficient as traditional University of Maryland fertility recommendations. In the Syngenta Variety by Fungicide Study, a split application of 2 oz. of Tilt at Feeks GS 6 and at flowering, Feeks GS 10.1, improved the average yield of the six wheat varieties by eight bushel per acre. Note that in the seven years this study has been conducted, fungicides have improved wheat yield.

*Grant: 2014-\$5,000*

## MGPUB 2016 Grant Deadline

December 1, 2015

For details, visit the Maryland Grain Producers website at: [marylandgrain.com](http://marylandgrain.com)



# Educating Youth

## GRAINS NUTRITION FOR YOUTH

UNIVERSITY OF  
MARYLAND EXTENSION -  
FREDERICK COUNTY  
[extension.umd.edu/frederick-county](http://extension.umd.edu/frederick-county)

THE FOODSMART TEAM developed a fresh blend of nutrition education and agriculture literacy into one program, *Grains Nutrition for Youth*. Educators from three counties piloted resources, lessons, and activities compiled by the FoodSmart team in order to develop one concise educational kit for 4-H and extension educators statewide in whole grain nutrition education.

Training was offered to educators, extension staff and volunteers statewide. Upon completion of the training each county received a notebook with the curriculum, six agriculture literacy books with corresponding lessons for teachers, and supplies for the lessons to include tortilla presses, animal byproducts and teaching resources to name a few. Participants were also provided links to the developed website for resources online so they could review the video clips, or print additional copies of handouts for participants and teachers.

Updates to the curriculum were made in 2014 and the scripted resource guide was developed. As a result, additional supplements to the teaching kits were purchased and provided to the counties.

In 2014, seven counties received \$250 mini-grants to start *Kids Growing with Grains* education programs in their counties. Over 7,000 youth and 250 adults were provided whole grain education through one-day programs. The counties offered programs in a variety of settings from research farms, to public libraries, 4-H club meetings, and in classrooms. Currently evaluation data is being collected from participants in the 2014 program.

*Grants: 2014-\$5,000; 2015-\$5,000*

## MOBILE SCIENCE LABS and TEACHER SCHOLARSHIPS

MARYLAND AGRICULTURAL  
EDUCATION FOUNDATION  
[www.maefonline.com](http://www.maefonline.com)

EDUCATING Maryland students about the importance of agriculture in their lives would not be possible without strong partners and advocates for agriculture education. In 2014, the MG PUB provided ten \$400 matching grants supporting elementary schools in Maryland that had not had the MAEF mobile science lab visit their schools. Each \$400 grant was matched with \$400 grants from the Maryland Fair Board. In 2014, elementary schools in six counties took advantage of this benefit. The schools represented both rural and suburban communities in Western and Southern Maryland, and Maryland's Eastern Shore.

The MG PUB grant also provided scholarships for Maryland educators who attended the 2014 National Ag in the Classroom Conference in Hershey, Pennsylvania the week of June 23rd. Over 525 educators from across the nation attended the three-day conference, which featured 90 workshops and traveling tours. Twelve Maryland educators from nine counties and Baltimore City attended the conference, including public school educators, private non-profit program educators and Extension educators. Each of the Maryland educators found the conference to be refreshingly rewarding.

"I'm excited to try the hands-on lessons in my Frederick County classroom", explained eager elementary teacher, Kimberly Baker. "I could not have afforded the conference without the Grain Producer grant." The teachers also appreciated the opportunity to network and communicate with educators from across the country.

*Grants: 2014-\$13,625; 2015-\$40,000*

## AG LITERACY MOBILE UNIT

WASHINGTON COUNTY  
FARM BUREAU  
[washington.mdfarmbureau.com](http://washington.mdfarmbureau.com)

NEW DISPLAYS were created inside the *Ag Literacy Mobile Unit* to introduce youth to the benefits of healthy grain choices. A new program, *Making Healthy Choices*, was also developed. Youth made bread and trail mix. Measuring ingredients and tasting brought a smile for their finished products. This lesson plan has reached over 500 youth and will be continued next year. The book "Corn", by Gail Gibbons, was read and purchased for every county library. Over 3,000 youth plus adults have visited the Mobile Unit. Nine schools requested the program this year. *Growing with Grains* and *Making Healthy Choices* programs will reach 2,000 county elementary students. A discussion about careers available in agriculture was held, using FFA and 4-H members.

*Grant: 2014-\$700; 2015-\$1,000*

## TROWELS, HOES, AND VEGGIES: CAROLINE COUNTY 4-H AFTERSCHOOL GARDENING

UNIVERSITY OF  
MARYLAND EXTENSION -  
CAROLINE COUNTY  
[extension.umd.edu/caroline-county](http://extension.umd.edu/caroline-county)

FEDERALSBURG ELEMENTARY SCHOOL 4-H Afterschool members learned about soils, growing both seeds and transplants, and learned to enjoy fresh veggies that some had never before tasted. They learned about grains and Maryland agriculture. Additionally, they learned about being responsible, caring citizens and learned about the connection of the meaning of the "H's in 4-H: Head, Hand, Heart and Health as they tended to the school garden. Club leaders shared resources from *AGsploration* lessons, which helped participants learn about the benefits of agriculture. These 4-H members now have a new appreciation for the source of their food and fiber.

*Grant: 2014-\$827*

## KIDS GROWING WITH GRAINS

FREDERICK COUNTY  
EXTENSION ADVISORY  
COUNCIL  
[extension.umd.edu/frederick-county](http://extension.umd.edu/frederick-county)

THIRTY-FIVE public elementary schools and three private schools participated in the popular program that began over a decade ago to offer youth a "field trip of a lifetime!" During the spring and fall programs, 5,564 youth and teachers learned about whole grains in their communities. The students, on site, participated in four learning stations designed to teach them about grains. They begin with a tour of the farm viewing fields in production, valuing machinery and recognizing grains from field to table. Each made a grain jar with five grains grown on the farm. At the corn station, students learned the many uses of corn, everything from grits to gasoline and corn syrup to crayons and made tortillas using masa. The nutrition station explained the health benefits of eating grains, especially whole grains. Students sampled whole grain snacks and made buckwheat pancakes. At the animal station students met cows, pigs, and sheep and learned how much grain the animal is fed to produce food for their needs. Each student received a recipe booklet to prepare whole grain foods at home.

Students also participated in two activities, Grain Nutrition and Grain Production, in the classroom. Each student learned the function of each ingredient while developing team building skills making a whole grain product, and tasting popcorn. The students completed an Ag literacy reading program entitled *What's In A Garden*. Students identified the parts of plant, how plants grow, and methods for planting seeds in a garden versus production agriculture. Students also planted seeds to grow at home.

*Grants: 2014-\$4,000; 2015-\$4,000*



## Educating Youth

### TRACTOR SCHOOL: PTOs, ROLL-OVERS, GRAIN BINS AND MORE!

UNIVERSITY OF MARYLAND  
EXTENSION - CAROLINE COUNTY  
[extension.umd.edu/caroline-county](http://extension.umd.edu/caroline-county)

**T**WENTY Delaware and Maryland teens earned their Federal Certification cards by successfully completing the 24-hour required course to help them be, and remain safe, while working on a farm. Instruction included awareness of hazards and safe procedures when working with both old and new tractors and farm equipment. These teens entered the workforce on farms this past summer and will hopefully continue to work in support of agriculture in the future. They are a benefit to any farmer in the state looking for qualified help.

Grant: 2014-\$1,500

### CLOSE ENCOUNTERS WITH AGRICULTURE

UNIVERSITY OF  
MARYLAND EXTENSION -  
MONTGOMERY COUNTY  
[extension.umd.edu/  
montgomery-county](http://extension.umd.edu/montgomery-county)

**C**LOSE ENCOUNTERS WITH AGRICULTURE promotes and increases the understanding of agriculture with urban youth and their families. The program is designed for public and private school fourth grade students in Montgomery County. About 4,000 students, parents and teachers participated in the program conducted over 14 days in October 2014, and it will be repeated for a similar number in 2015. The program has reached over 63,000 youth in the 21 years it has been in operation.

Three broad areas of emphasis are production agriculture, nutrition, and the environment. The production agriculture segment helps children better understand modern agriculture. Students have the opportunity to see and learn about growing plants, as well as learn about the relationship between soils and growing crops, and the environmental importance in soil stewardship.

*Close Encounters with Agriculture* is conducted in collaboration with the Montgomery Soil Conservation District, County Department of Economic Development-Agricultural Services Division, Natural Resources Conservation Service, Farm Bureau, the Montgomery County Agriculture Center (Fair Board), Maryland National Capital Park and Planning Commission, the Friends of the Agricultural History Farm Park, and over 150 volunteers. The event is a nationally recognized University of Maryland program. The program has won awards from the American Farm Bureau, National Association of County Agricultural Agents, Joint Council of Extension Professionals, and Epsilon Sigma Phi, the national Extension honorary fraternity.

Grants: 2014-\$6,000; 2015-\$6,500

### THE ALL-GRAIN FARM TEAM POWERS AMERICA

LASER LETTERS, INC.  
[www.allgrainfarmteam.com](http://www.allgrainfarmteam.com)

**S**INCE 2011, the *All Grain Farm Team Powers America* has been produced. This 12-page student activity booklet teaches Maryland fourth and fifth graders about the world of agriculture and the importance of grains—corn, wheat and barley—in their lives. In 2014, the booklet underwent a redesign to work closer with new curriculum standards. The booklet follows a baseball theme using the main characters, Willie Maize, Rex Barley and Red Wheat. The information provokes students to think about what they are reading. A vocabulary exercise has been added. The *What Did You Learn* activity asks a series of questions for students to review. The booklet emphasizes the importance of grains for nutrition, feed, industry, and as a homegrown, renewable and clean fuel source. USDA's *MyPlate* nutrition program, ethanol production, the environment and the modern farmer are included to foster a supportive view of modern American agriculture. The correlating website features a video, sample lesson plans, a classroom poster and an online order form for ordering materials.

Grant: 2014-\$31,000

### KIDS GROWING WITH GRAINS – WASHINGTON

WASHINGTON COUNTY  
EXTENSION ADVISORY  
COUNCIL  
[extension.umd.edu/  
washington-county](http://extension.umd.edu/washington-county)

**T**HE WASHINGTON COUNTY 4-H Youth Development Program, a part of the University of Maryland Extension (UME), presented *Kids Growing with Grains*, an agricultural education field trip at the Western Maryland Research and Education Center (WMREC) September 22-26, 2014. This program is available to all schools. It primarily targets fourth grade students and can be presented in schools for those unable to travel to the WMREC. Each program is designed to meet the needs and interests of the school visiting and offers hands-on learning at a variety of stations including: Grains and Agriculture, Grains and Science, Grains and Nutrition, Grains and Chickens, Grains Food Demonstration, and Animal and Grains. Each station is staffed by a collaborative team of UME and WMREC Faculty and Staff, Washington County Farm Bureau Ag Literacy trailer staff, UME volunteers and 4-H/FFA youth to engage the students in learning the health benefits of grains, the use of grains with animals, and develop a connection between themselves and agriculture in their community.

Grants: 2014-\$1,000; 2015-\$2,000

### SMALL GRAIN PRODUCTION HANDS-ON LEARNING EXPERIENCES TO AT-RISK YOUTH

UNIVERSITY OF  
MARYLAND EXTENSION -  
CARROLL COUNTY  
[extension.umd.edu/carroll-county](http://extension.umd.edu/carroll-county)

**T**HE AG-VENTURES PROGRAM is designed to target fourth grade students to further their knowledge of Maryland agriculture with a focus on grains. Three title one schools in Carroll County were selected to participate in *Ag-Ventures*. Students rotated through stations consisting of Grain Production, Grain Identification, Grain Nutrition, Animal Nutrition (Dairy/Beef), Poultry Production, and Watersheds. Stations were taught by University of Maryland Extension Faculty. Students cycled through each station every 30 minutes and participated in a variety of hands-on lessons. Students had the opportunity to identify grains while making grain jars, create a healthy whole grain snack, see farm equipment up close, experience land use best management practices, experiment with milk, and interact with live chickens. At the conclusion of the program, students and teachers provided feedback on the program. Based on the pre- and post-test evaluations of the 115 students at three schools, an average of a 46% increase in knowledge was found through the program.

Grants: 2014-\$2,000; 2015-\$2,000

### NEW 2015 EDUCATION GRANTS

#### FREDERICK COUNTY FARM BUREAU

✓ Frederick County Schoolhouse Chicks, \$5,000

#### QUEEN ANNE'S COUNTY EXTENSION

✓ Bay Days Program, \$1,000

#### WASHINGTON COUNTY EXTENSION ADVISORY COUNCIL

✓ Middle School Agriculture/Technology Program, \$1,000



# Cover Crop Research

## ASSESSING THE BENEFITS OF INTERSEEDING COMMODITY WHEAT INTO FORAGE RADISH

ROBERT KRATOCHVIL  
*University of Maryland, Plant  
Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

FORAGE OR TILLAGE RADISH is a Brassica species that is becoming more widely used as a cover crop in Maryland. It has the advantages of consuming high rates of residual nitrogen while at the same time potentially reducing soil compaction via the large tap root it can produce. It is killed by freezing temperatures during the winter which means no spring herbicide is necessary. It is becoming a popular aerial seeded cover crop because of its small seed size that provides economic and application efficiencies for aerial applicators. One disadvantage is the necessity for it to be planted relatively early (late August-early September) compared to cereals to achieve adequate fall growth. Aerial over-seeding of corn and soybean fields alleviates this, but as is the case for any surface broadcast method, it is dependent upon the amount and timeliness of fall rains for good stand establishment.

There have been reports from Ohio and Pennsylvania that farmers who had failed to clean their drills of residual forage radish seed prior to planting winter wheat observed improved wheat growth and better yield where the mixture of seeds had been planted. This observation caused some farmers to conduct on-farm experiments with blends of wheat and forage radish. Testimonials from those farmers indicated yield increases of 5-15 bushels per acre for the blend.

The objective of this research is to conduct replicated trials to verify if a wheat/forage radish blend can provide a yield benefit. In addition, this study is evaluating interseeding wheat into established forage radish since Maryland wheat planting dates are considered too late for planting forage radish and expect good fall growth.

The results from this study conducted at two locations are that no yield benefit for wheat was observed for either planting it as a blend with forage radish or when it was interseeded into an established stand of forage radish. No weed suppression effect caused by the forage radish was observed in wheat.

From this research, the University of Maryland Extension does not recommend the use of forage radish with winter wheat to either enhance wheat yield or provide weed suppression.

*Grant: 2013-\$6,000*

## EVALUATION OF FALL SOIL NITRATE TESTING AND FERTILIZATION FOR ESTABLISHMENT OF SMALL GRAINS AND ALTERNATIVE COVER CROPS ON DELMARVA

AMY SHOBER  
*University of Delaware*  
[extension.udel.edu](http://extension.udel.edu)

ELEVEN COVER CROP species/mixes were planted at four locations on Delmarva in September and October 2014 to evaluate the response of selected cover crops and cover crop mixes to fall fertilization when planted on soils with low and high levels of fall soil nitrate, based on the regulatory requirements in Maryland.

Results of preliminary visual evaluation suggests that biomass production may be higher when cover crops are fertilized at a nitrogen rate of 30 lb. per acre at planting compared to crops that were not fertilized. Tiller counts and biomass nitrogen analysis will be completed in spring to verify the impact of nitrogen on cover crop establishment and nitrogen uptake. The project will provide Maryland growers with fall fertility guidelines for fall planted cover crops and will provide nitrogen uptake estimates to identify the potential benefit of cover crop species/mixes to water quality.

*Grant: 2014-\$8,050*

## EVALUATE TRITICALE AS A COVER CROP ALTERNATIVE TO RYE AND WHEAT

ROBERT KRATOCHVIL  
*University of Maryland, Plant  
Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

RYE AND WHEAT are popular cereals used by farmers who participate in the *Maryland Cover Crop Program*. There is a large amount of wheat seed produced locally for both commodity and cover crop planting. However, little seed rye is produced in Maryland for a couple reasons. One, the Maryland Crop Improvement Association (MCIA) is generally opposed to rye seed production due to risk of contamination issues. Second, rye has low grain yield compared to other small grains, making it less profitable for seed producers. Consequently, Maryland Department of Agriculture (MDA) offers a \$10 incentive for cover crop rye partially to help pay for the importation of the seed and because of the nutrient uptake benefits that rye is reported to provide. This incentive is attractive enough for approximately 50,000 acres to be planted to rye cover crop annually, or an estimated \$1.5 million spent out of state.

Triticale is a cross between rye and wheat. It is considered to be a better production option as a seed crop by the MCIA. It is eligible for cover crop incentive payment by MDA. But, little triticale is used as a cover crop because of limited seed availability. The MCIA would like to see more cover crop triticale but little performance information is available as either a cover crop or about its seed production potential.

During 2013-2014, fifteen triticale breeding lines, obtained from the breeding program at North Carolina State University, were evaluated at two Maryland locations. Performance for biomass production, nitrogen uptake, nitrogen concentration, and grain yield was compared to performance for a rye variety (VNS), three commercially available triticale varieties and three wheat varieties. Based on the first year performance,

six of the North Carolina breeding lines were advanced for evaluation during 2014-2015. It is believed that following this second year of testing one or more of these North Carolina triticale breeding lines will be recommended for use as a cover crop in Maryland.

*Grant: 2014-\$3,465; 2015-\$4,000*

## MONITORING FIELD LEVEL GROUNDWATER QUALITY IN THE UPPER CHESTER SHOWCASE WATERSHED

JUDY DENVER  
*U.S. Geological Survey*  
[www.usgs.gov](http://www.usgs.gov)

CHANGES IN WATER QUALITY associated with improved conservation practices will be seen first in shallow groundwater directly beneath fields. Monitoring of shallow groundwater is needed to better understand the water quality response of recent (in the last 20 years) conservation efforts and the lag time between changes in shallow groundwater and the expression of those changes in stream quality.

To document the water quality effects of irrigated farming compared to dry land farming, an intensive groundwater flow-path study is currently being conducted beneath two adjacent fields—one with irrigation beginning in the 2014 growing season and one with dryland farming. Water from suction lysimeters and wells, soil samples, and water-level data are being collected year-round to compare nutrient concentrations and transport in each field.

The goals of this project are to evaluate the effectiveness of a selected conservation practices (irrigation) in shallow groundwater, and provide a better understanding of the transport and fate of nitrate in shallow groundwater in an agricultural setting. Results of the monitoring project will help Maryland agricultural officials and producers understand the effects that irrigated and dry land crop production have on groundwater quality.

*Grants: 2014-\$39,875; 2015-\$39,875*

# Nutrient Research

## RESPONSE OF CORN HYBRID TYPE TO NITROGEN RATES AND SUBSEQUENT ON WHEAT

ROBERT KRATOCHVIL  
*University of Maryland, Plant Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

**T**WO CORN NEAR-ISOLINE HYBRIDS (genetic makeup is the same except for one is a RR2 hybrid and the other is a VT3P hybrid) have been used in a corn nitrogen rate study since 2012. These two hybrids have been followed by wheat to assess if corn hybrid type affects wheat performance. During 2012, the VT3P hybrid, averaged over the six test sites and the three nitrogen rates typical of those used by Maryland farmers (100, 150, and 200 lbs. nitrogen per acre), produced nearly six bushels per acre more than the RR2 hybrid. And, at the two sites most impacted by the 2012 drought (Wye and Beltsville), the VT3P hybrid produced nearly 15 bushels per acre more than the RR2 hybrid over those same three nitrogen rates. These results supported the premise promoted by most seed companies that the multi-stacked hybrids will produce better under stress conditions. However, a surprising outcome occurred for the subsequent wheat crop at Beltsville following these two hybrids. Averaged over the six nitrogen rates, wheat behind the RR2 hybrid produced 4.5 bushels per acre better than wheat behind the VT3P hybrid. And, for the three nitrogen rates that encompassed the range typically used by farmers, the wheat after the RR2 hybrid produced seven bushels per acre better than wheat after the VT3P hybrid. These results raised two questions: 1) Will a wheat yield-drag following a Bt-traited corn hybrid be consistent across locations; and, 2) if it occurs, what is its cause?

To evaluate these two questions, assessments of corn and wheat performance were measured at five locations during 2013 (corn) and 2014 (wheat). At three of the test sites, the VT3P hybrid produced better than the RR2 hybrid (9-22% greater) across the six nitrogen rates. At the other two locations, yield response across the nitrogen

rates did not differ for the two hybrids. For the subsequent wheat crop, at four of the five locations the preceding hybrid did not influence the performance of the wheat. There was one location (Wye) where the same wheat response observed at Beltsville during 2013 occurred. At Wye, wheat that followed the RR2 hybrid produced over 7% better than wheat that followed the VT3P hybrid.

At this point, the data indicates there is not a consistent wheat yield drag when it follows a Bt-traited corn hybrid, however, occasionally a yield drag may occur. Further assessment is warranted, which is occurring with the 2015 wheat crop. In addition, factors that influence yield performance for corn (ear number, kernel number, kernel weight) and wheat (corn residue degradation rate, tiller number, kernel number, kernel weight) are being analyzed to more deeply probe what may be happening when a yield-drag does occur.

*Grant: 2014 - \$11,500*

## OYSTER RECOVERY PARTNERSHIP

STEPHAN ABEL  
*Oyster Recovery Partnership*  
[www.oysterrecovery.org](http://www.oysterrecovery.org)

**T**HE OYSTER RECOVERY PARTNERSHIP has partnered with the Maryland Grain Producers Utilization Board to enhance the oyster population in Harris Creek on the Eastern Shore of Maryland. The project includes recycling oyster shells from regional restaurants through the Shell Recycling Alliance and planting millions of baby oysters onto sanctuary reefs in Harris Creek, which is the largest oyster restoration effort ever conducted in the Chesapeake Bay and East Coast. Oysters are a keystone species to the Chesapeake Bay and provide vital water column filtering as well as habitat for reef dwelling and reef associated fishes, crabs, mussels, and other marine life.

*Grants: 2014-\$15,000; 2015-\$15,000*

## TRENDS IN SOIL TEST PHOSPHORUS AND SORPTION CAPACITY FOLLOWING LONG-TERM APPLICATION OF POULTRY LITTER AND COMMERCIAL FERTILIZERS

AMY SHOBER  
*University of Delaware*  
[extension.udel.edu/ag](http://extension.udel.edu/ag)

**F**IELD SITES receiving long-term applications of manure and/or inorganic phosphorus fertilizer at Georgetown, DE and Chestertown, MD were maintained through 2014. Corn was fertilized with poultry litter at 2, 4, 6, and 8 tons per acre, or inorganic phosphorus fertilizer at 20, 40, 60, and 120 lbs. per acre (as P<sub>2</sub>O<sub>5</sub>). Routine soil and tissue sampling was completed and results of analysis are pending. These results will provide information about build-up and crop removal of soil test phosphorus at these field sites.

In addition, the capacity of soils to hold phosphorus following long-term history of manure and fertilizer application was evaluated. Results were mixed, showing that some soils were able to hold more total phosphorus following long-term manure applications. These results are preliminary and must be confirmed with additional analysis of selected soils from the long-term phosphorus sites. Overall, it is the expectation of this study to provide Maryland farmers with better information about the behavior of phosphorus in soils with a long-term history of manure or fertilizer applications. This information should help farmers make informed decisions about future phosphorus applications and remediation of legacy phosphorus under routine grain crop rotations.

*Grant: 2014-\$13,650; 2015-\$32,495*

## GREENSEEKER NITROGEN MANAGEMENT

ANNA WOLGAST  
*Chester River Association*  
[www.chesterriverassociation.org](http://www.chesterriverassociation.org)

**C**HESTER RIVER ASSOCIATION is working with eight farms of 1,000 acres or more to introduce farm use of GreenSeeker technology as a method of increasing efficiency of nitrogen application. A GreenSeeker is a device that attaches to spreaders and analyzes in real time the nitrogen needs of crops, and applies only the amount of nitrogen the plants need. University studies, including those by the University of Maryland, and the application of GreenSeeker technology in the Midwest, have shown the ability to improve nitrogen application efficiency by decreasing nitrogen approximately 20 percent while maintaining or increasing yield in both small grain and corn production. There has been very little use of GreenSeeker technology in Maryland or on the Delmarva Peninsula.

As part of this project, six farms mapped 17,900 acres using GreenSeeker technology. This mapping showed significant variation of nitrogen need within the same field in all of the farms and fields mapped. Side-by-side analysis of four fields in which part of the field used historical nitrogen application (uniform application of nitrogen across the field) with GreenSeeker nitrogen application on the other part of the field, showed that less total nitrogen was applied using GreenSeeker technology. Further, nitrogen efficiency using GreenSeeker technology was shown to achieve a nitrogen efficiency of better than, or equal to, a standard ratio of: 1 lb. nitrogen/acre = 1 bushel corn/acre.

By applying what each plant needs, Chester River Association believes that broader application of this technology will result in higher yielding crops while also decreasing nitrogen loading to rivers and streams.

*Grant: 2014-\$56,000; 2015-\$50,000*



# Crop Research

## DOE HARVEST CHALLENGE INCENTIVE PROGRAM

MATT WILSON  
*Farmers and Hunters Feeding the Hungry*  
[www.fhfh.org](http://www.fhfh.org)

HUNTERS are invited to complete a *Doe Harvest Challenge* entry card for every doe donated to Farmers and Hunters Feeding the Hungry (FHFH) during the season. Junior Hunters may participate with their own separate portion of the contest all season long. By participating, hunters ease crop damage losses for farmers, help feed the hungry, and get a chance to win one of over 60 Bass Pro Shops gift cards awarded by random drawing after the hunting season.

Last season, generous hunters of Maryland donated 4,330 deer to FHFH providing over 860,000 meals of venison to food banks, soup kitchens, and churches across the state. Every successful *Doe Harvest Challenge* adds to those donation numbers and helps feed thousands of individuals and families struggling with hunger across the state. One deer can feed over 200 people.

*Grants: 2014-\$60,000; 2015-\$50,000*

## DETERMINING THE IDEAL IRRIGATION STRATEGY FOR HIGH INTENSITY CORN PRODUCTION

JAMES ADKINS  
*University of Delaware*  
[extension.udel.edu/ag/irrigation](http://extension.udel.edu/ag/irrigation)

THIS THREE-YEAR PROJECT aims to determine the ideal irrigation management strategy for intensively managed irrigated corn through replicated testing of eleven levels of irrigation intensity.

Overall, the irrigated yields for the 2014 season were very good with an average plot yield of 274 bushels per acre. Low heat stress throughout the growing season and timely rainfall enabled the dryland plots to achieve an average yield of 268 bushels per acre (typical dryland yields for this farm are less than 120 bushels per acre). While individual plot yields varied, no statistical difference in yield, harvest moisture or test weight was measured between irrigation treatments. Applied irrigation totals varied from 13" in the wettest treatment to 6" in the drier treatment, resulting in a negative economic benefit to irrigation in the 2014 season.

*Grants: 2014-\$26,206; 2015-\$27,395*

## MANAGING SUB-SURFACE DRIP IRRIGATION FOR MAXIMUM PROFITABILITY IN CORN

JAMES ADKINS  
*University of Delaware*  
[extension.udel.edu/ag/irrigation](http://extension.udel.edu/ag/irrigation)

UTILIZATION of Sub-Surface Drip Irrigation (SDI) as a tool to efficiently irrigate land previously considered too cost prohibitive to irrigate is quickly expanding in the Delmarva region. This three-year project studies a total of six irrigation treatments, replicated four times to define the best practices to manage SDI over a range of local soil types. Treatments include evapotranspiration based schedules with daily irrigations to replace what the plant used to five soil moisture triggered treatments ranging from very wet (15cb) to moderately dry (45cb).

Overall, the 2014 SDI managed corn crop received a seasonal total of 17" of rain with only 7" of that rain being effective or capable of being stored in the root zone. There was no significant difference in yield measured between each treatment. The plots averaged 264 bushels per acre. The low heat stress in August and timely rainfall resulted in excellent yields across the region, minimizing the need for irrigation in 2014.

*Grants: 2013-\$23,017; 2015-15,817*

## ROW CROPS TEST PLOTS TO ALLEVIATE DEER PRESSURE

CODY PINE  
*Clear Spring High School FFA*  
[www.facebook.com/clearspringffa](http://www.facebook.com/clearspringffa)

LARGE DEER POPULATIONS and high deer pressure have been observed at the Clear Spring High School farm through wildlife observation experiments. Students observed deer browsing at varying times of the day and night through the use of digital imaging and visual observations. It was determined through crop yields and this experiment, that deer caused a major crop yield loss. Students in the Agricultural Academy and FFA proposed to create test plots of corn to determine if varying row spacing and directions will help alleviate deer pressure and maximize yield potentials. Row spacing in the test plots alternated in 12 and 15 inch rows, six 30 inch rows and eight 20 inch rows in alternating patterns. Headlands were planted in a checkered fashion.

Grant funds were used to buy seed, plant seed, balance soil chemistry through soil tests for optimum yields, examine soil structure, and monitor deer browsing test plots. Yields of 1/1000th of an acre were harvested at four different intervals of 25 yards from the successional edge in the given test plots. The row patterns of 30 inches, 20 inches, and 15 inches were repeated in three test plots. No crop was yielded at the 25 yard interval for any row spacing. Overall, 25 test plots were harvested. Based on the calculated yield average, it was determined that for 5.71 acres no yield was harvested. 2.81 acres averaged 73.5 bushels per acres, another 2.81 acres yielded 107.62 bushels per acre, 2.1 acres yielded 163.77 bushels per acre, and 1.5 acres yielded 201.01 bushels per acre meaning that the 14.93 acres experimented with yielded 1163.37 bushels. Based on this experiment, it was determined that the field had the potential to yield 180 bushels per acre, but only yielded 77.92 bushels per acre due to loss from wildlife. This means Clear Spring FFA lost on average \$5,715.20.

*Grants: 2014-\$5,000; 2015-\$7,500*

## Roger Richardson honored with the Dr. James R. Miller Award

The Maryland Grain Producers Association awarded its prestigious Dr. James R. Miller Award to Roger Richardson, who farms in Worcester County.

Richardson served as Maryland Secretary of Agriculture from 2007-2009 and has been actively involved in organizations such as the Worcester Soil Conservation District, Worcester County Board of Education, Maryland Farm Service Committee, American Corn Growers Association, Harry Hughes Center for Agro-Ecology Advisory Council, Snow Hill Lions Club, Worcester County Farm Bureau and Snow Hill Grain Coop.



*Kevin Anderson (left), President of the Maryland Grain Producers Association, presents Roger Richardson (right) with the Dr. James R. Miller Award for his life-long service and contributions to the agricultural community.*

# Crop Research

## STATE CORN TEST: BENCHMARK HYBRIDS

ROBERT KRATOCHVIL  
*University of Maryland, Plant  
Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

**B**EGINNING IN 2001 and every year since, the Maryland Grain Producers Utilization Board has funded the inclusion of benchmark hybrids that are used as checks in the University of the Maryland *Corn Hybrid Performance Tests*. The check hybrids are selected for their proven performance which allows them to be used for comparisons with the newer hybrids that are tested. During 2014, nine benchmark hybrids were included in the three maturity group tests conducted at five Maryland locations. Three companies were represented; Pioneer (3), Dekalb (3), and Augusta Seed (3). The 68 hybrids tested during 2014 ranged the current spectrum of genetic technology; from conventional (non-genetically modified) to SMART STAX, Viptera, and RIB (refuge in the bag).

Corn performance during 2014 was record-breaking. The average yield over the five locations for the 68 hybrids (check hybrids included) was 211 bushels per acre, 19 bushels per acre more than the 192 bushels per acre average in 2013. The nine check hybrids averaged 214 bushels per acre, and indicated that they were representative of 2014 performance. The Maryland Department of Agriculture has estimated the 2014 crop at a record 170 bushels per acre. The excellent growing conditions during 2014 season favored hybrids with relative maturity greater than 112 days (26 hybrids averaged 221 bushels per acre). Early season hybrids (less than 108 day relative maturity) did not perform as well during 2014 (191 bushels per acre for 14 hybrids). View the complete 2014 report (Agronomy Facts No. 54), as well as reports from the extension crop website.

*Grants: 2014-\$8,250; 2015-\$8,250*

## ASSESSMENT OF PLANT GROWTH EFFECTS AND YIELD GAINS FROM CORN SEED TREATMENTS CONTAINING HIGH DOSES OF MULTIPLE PESTICIDES

GALEN DIVELY  
*University of Maryland, Entomology*  
[entomology.umd.edu](http://entomology.umd.edu)

**S**EED PROTECTION is a necessary preventive practice in corn production, primarily for the control of soil diseases; however, there is mounting evidence that the prophylactic use of neonicotinoids at the higher rates may not be warranted in every field situation or sustainable over the long term. Given the higher rates and combination of pesticides in seed treatments used today, their wide adoption in corn production may lead to unexpected ecological impacts on non-target organisms and soil health.

In this second year study, replicated trials were conducted at five research farms to determine if the combination seed treatments at higher rates of neonicotinoids result in an economic yield gain. Treatments included untreated (bare seed), fungicides only, Poncho 250, Cruiser 250, Avicta Corn Complete (with Cruiser 500), and Acceleron Poncho 500 Votivo.

Based on the findings of both years, neonicotinoid seed treatments did not significantly increase corn yields or improve plant stands. Although this prophylactic practice provides relatively cheap insurance, the benefits did not justify the extra cost of the seed, given the low level of soil insect pressure experienced. As we predicted, yield and stand populations were not significantly different between the low and high rates of Poncho and Cruiser. In most trials, the untreated seed treatment (which had no fungicides) and the fungicide alone treatments yielded similarly to the yields in the treated seed plots.

*Grant: 2014-\$8,698*

## EVALUATING LOW RATE HIGH EFFICIENCY FERTILIZER TECHNOLOGY TO UNIVERSITY OF MARYLAND PRACTICES

ROBERT KRATOCHVIL  
AND RONALD MULFORD  
*University of Maryland, Plant  
Science & Landscape Architecture*  
[www.psla.umd.edu/extension/md-crops](http://www.psla.umd.edu/extension/md-crops)

**I**N THE FIRST STUDY, *Low Rate Liquid Fertilizer Programs* were compared to a corn production program recommended by the University of Maryland. 2014 no-till corn results showed that for the third year, the *Low Volume High Efficiency Liquid Fertilizer Programs* of Grower's Mineral Solutions, Agroculture Liquid Fertilizers, Monty's Liquid Fertilizers, and Crop Production Services have been similar to the corn production system recommended by the University of Maryland. This research project will be continued in 2015 since grain yields of corn, wheat and double crop soybeans

continue to increase. In 2012, double crop soybean yields averaged over 80 bushels per acre, in 2013, soybean yields averaged over 60 bushels per acre, and in 2014, over 70 bushels per acre.

The major objective of Study 2 is to maintain soil phosphorus within University of Maryland recommendations for continuous use of a pre-plant broadcast application of broiler manure before planting corn. Results to date show that starter fertilizer seems to have no influence on corn grain yield. V Ripping between rows, after manure application, gave the highest grain yield in 2012 and 2013. This did not happen in 2014, as no-till produced the highest yield. V rippers were changed but in 2015 the original V ripper will be utilized. Residual soil phosphorus continues to be the lowest with the chisel plow/disk tillage system. The chisel plow/disk system continues to produce the lowest grain yields, as well.

*Grant: 2014-\$7,000*

## NEW 2015 RESEARCH GRANTS

### UNIVERSITY OF DELAWARE

- ✓ Assessing the Potential of Drones for Detecting Crop Moisture Stress, \$5,892
- ✓ Evaluation of Palisade & Alternative Fungicide Timings for Intensive Wheat Production, \$3,728
- ✓ Examining the Utility & Economic Returns of Fungicides for Wheat Disease Management, \$5,050

### USDA-ARS Soft Wheat Quality Laboratory

- ✓ End-Use Quality Improvement of Eastern Soft Winter Wheat for Better Marketability, \$15,000

### VIRGINIA POLYTECH INSTITUTE

- ✓ Variety Development & Accelerated Breeding for Scab Resistance in SRW Wheat, \$12,000

### UNIVERSITY OF MARYLAND

- ✓ Long Term Cropping Systems Effects on Soil Phosphorus, \$29,022
- ✓ Impact of Repeated Use of Neonicotinoid Insecticide Treated Seed in Crop Rotations on Non-target Invertebrates & Soil Microbes, \$25,962

### MULFORD AGRONOMICS

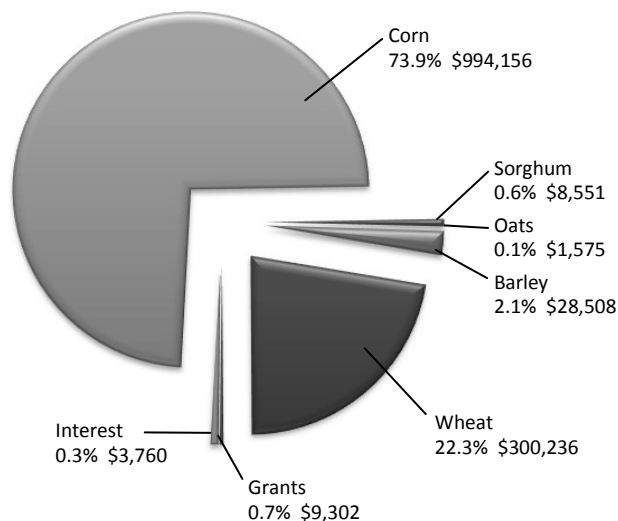
- ✓ Growing Wheat after Corn or Soybeans for Maximum Economic Yields, \$5,000



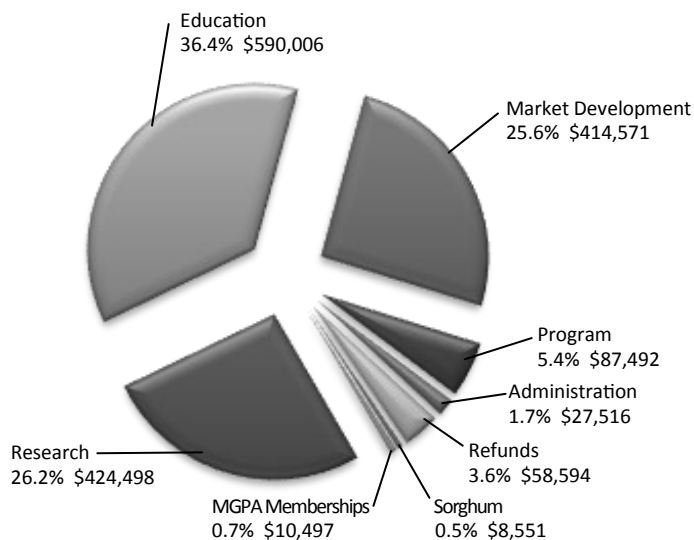
# Farmers Invest in their Future

The Maryland Grain Producers Utilization Board (MGPUB) administers Maryland's Grain Checkoff Program. Checkoff funds are used to promote greater utilization of grain through expanded promotion, research, education, information and other similar activities. Maryland Checkoff dollars help fund research that is Maryland specific and has a direct benefit to Maryland farmers and Maryland consumers.

## 2014 MGPUB Income



## 2014 MGPUB Expenses



Note: Sorghum funds are forwarded directly to the United Sorghum Checkoff Program. Toal, Griffith & Ayers, LLC of Annapolis, audited the Maryland Grain Producers Utilization Board and determined the accounts to be in order. A copy of the report is available by calling the MGPUB Office at 410-956-5771.

## GRAIN PROMOTION AND SUPPORT

MARYLAND GRAIN PRODUCERS ASSOCIATION  
[www.marylandgrain.com](http://www.marylandgrain.com)

THE MARYLAND GRAIN PRODUCERS ASSOCIATION (MGPA) works on education, promotion and policy issues for the state grain industry. It is a grass-roots organization of Maryland farmers and associates which supports the viability and success of grain farming in the state.

In 2014, MGPA conducted the 16th Annual Maryland Commodity Classic jointly with the Maryland Grain Producers Utilization Board, Maryland Soybean Board and the Mid-Atlantic Soybean Board. MGPA promoted the college scholarship program and a selection committee approved six recipients for the \$2,500 scholarships.

Activities were conducted to help improve the image of the Maryland farmer by the public. Exhibits were held at the Maryland State Fair, Commodity Classic, Farm Bureau Convention, Delmarva Chicken Festival, county fairs, university events, and extension meetings. New GMO and ethanol brochures were produced. The Grain Store annual report was sent to nearly 8,000 farmers, stakeholders, and legislators. The total visitors to the Maryland-Delaware beaches is estimated at over four million people. Funds were used to advertise farm facts on billboards between Annapolis and Ocean City from May to November to reach these urban consumers.

With social media, email and news websites, it is now easier to reach a broader audience with agricultural messages. Electronic newsletters were produced and Facebook and Twitter was updated with topics of interest several times a week. The [www.MarylandGrain.com](http://www.MarylandGrain.com) website provides information about the grain industry, while the associated [www.GoE85.com](http://www.GoE85.com) website focuses on flex fuel information, station locations, benefits and general information on ethanol.

Grants: 2014-\$162,000; 2015-\$177,600

## College Scholarships Awarded to Pursue Agriculture Careers



Well-trained professionals are needed to continue and grow the agriculture industry, which is why the Maryland Grain Producers Utilization Board annually recognize students for academic achievement, community involvement, and career interests in agriculture with \$2,500 scholarships.

Pictured above, MGPUB President Paul Spies (right) awarded the college scholarships to 2014 recipients, left to right: Ian Moore, Harford County, Nicole Brown, Queen Anne's County, Andrew Schnoor, Dorchester County, and Andrew Bauer, Howard County. Not pictured: Erika Edwards, Cecil County, and Andrew Sisler, Garrett County.



Maryland grower Harrison Rigdon placed first in the non-irrigated category of the NCGA National Corn Yield Contest. He was recognized at the 2015 National Commodity Classic in Phoenix, Arizona. Through the competition, corn growers compete to grow the most corn per acre, helping to feed and fuel the world.

**MGPUB & MGPA BOARDS**

**Regional Members**  
*Regional members serve on both boards*  
 Kevin Anderson (Reg.1) 410-651-0022  
 Bobby Guy (1) 410-546-9191  
 Jim Saathoff (2) 410-634-2678  
 Paul Spies (2) 410-829-2902  
 Region 3 2 vacancies  
 Melvin Baile, Jr. (4) 410-848-3174  
 Lawrence Meeks (4) 410-848-2867  
 Syd Moreland (5) 301-769-2480  
 Donnie Tennyson (5) 301-872-5612  
 Eric Spates (6) 301-428-8033  
 James Weddle (6) 301-797-3423

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*National directors serve on both boards*  
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 NBIC - Robert Hutchison  
 NCGA - Chip Bowling  
 USGC - Chip Councill  
 USW - Jason Scott  
 WFC - Jennie Schmidt

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 Vice President - Jennie Schmidt  
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 Secretary - Bobby Guy

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 University of MD - Robert Kratochvil  
 Industry - April Cheesman, Perdue  
 MD Ag Commission - Donald Maring

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**MGPA - At Large**  
 John Hughes  
 Allen Spray

**MGPA - Advisory**  
 MD Dept. of Ag - Pat McMillan  
 Univ. of MD-Ronald Mulford (retired)

**Administration**  
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 Lindsay Dodd - Program Assistant  
 Marguerite Guare - Admin. Assistant  
 Laurie Adelhardt - Public Relations  
 410-956-5771 (voice)  
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 Lynne.mdag@gmail.com (email)  
 www.marylandgrain.com  
 MD Grain Producers Utilization Board  
 & MD Grain Producers Association  
 53 Slama Road, Edgewater, MD 21037

Producer	Hybrid	Yield
<b>IRRIGATED</b>		
Bruce Bartz, Denton	DEKALB DKC62-97RIB	316.4339
Michael Bostic, Sr., Church Hill	Pioneer P1602AM™	314.6516
Michael Bostic, Jr., Church Hill	Pioneer P1105AM™	311.7893
<b>NON-IRRIGATED</b>		
Harrison Rigdon, Jarrettsville ( <i>1st place national</i> )	Pioneer P1498AM1™	353.4438
My Lady's Manor, Monkton	Mid-Atlantic Seeds MA8127VT2P	335.2181
Michael Harrison, Woodbine	DEKALB DKC62-08RIB	287.1433
<b>NO-TILL / STRIP TILL IRRIGATED</b>		
Mica Farms, Church Hill	Pioneer P1105AM™	309.0414
Bruce Bartz, Denton	DEKALB DKC64-89RIB	286.8449
Redman Farms, Queen Anne	DEKALB DKC61-88RIB	275.4024
Clearview Farms, Inc., Hurlock	Pioneer P1319HR	262.7306
<b>NO-TILL / STRIP TILL NON-IRRIGATED</b>		
Edward Appenzeller, Millington	DEKALB DKC62-08RIB	301.4236
Robert Riley, Newark	DEKALB DKC62-08	291.4782
John Rigdon, Jarrettsville	Pioneer P1197AM™	289.5363

The Maryland Grain Producers Association is a membership organization representing you.

MARYLAND GRAIN PRODUCERS ASSOCIATION MEMBER FORM  
 Send form to MGPUB, 53 Slama Road, Edgewater, MD 21037  
*Please print or type*

**WE ARE:  
 the voice of grain  
 producers in Annapolis –  
 where numbers count!**

**WE ARE:  
 members of a national  
 grain network to make  
 our mark in DC and  
 around the world**

**WE ARE:  
 You – the  
 Maryland farmer**

If you are a grain producer, your membership is free! Your checkoff assessment will pay your MGPA dues. Just complete and return this form to MGPUB. If you have requested a refund during the last year, please include a grain sales receipt for at least \$125 (\$50 for one year membership) on which a refund has not been requested.

Questions? Contact Lynne Hoot at 410-956-5771 or send email to: lynne.mdag@gmail.com.

Name \_\_\_\_\_

Membership in (check one)  Name  Company

Farm/Company Name \_\_\_\_\_

Farmer  Yes  No

Spouse's Name \_\_\_\_\_

Email Address \_\_\_\_\_

Home Phone \_\_\_\_\_

Business Phone \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Total Farm Acres \_\_\_\_\_ In Corn \_\_\_\_\_

Wheat \_\_\_\_\_ Barley \_\_\_\_\_ Oats \_\_\_\_\_ Milo \_\_\_\_\_

Membership  3-years for \$125  New  
 1-year for \$50  Renewal

**GRAIN PRODUCERS:** This is a partial refund form for grain checkoff to pay MGPA membership dues. I hereby certify that I am a bona fide grain producer and that I contribute a minimum of \$125 to the checkoff program in a 3-year period (or \$50 for 1-year)

**NON-PRODUCERS:** Check enclosed for membership fee

Signature \_\_\_\_\_ Date \_\_\_\_\_



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53 Slama Road  
Edgewater MD 21037-1423

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ThePetersonFarmBros](http://www.youtube.com/user/ThePetersonFarmBros)

- **Wye Research Tours**
- **Checkoff Funded Exhibits**
- **Commercial Exhibits**
- **Hot Topic Updates**
- **Chicken & Pork BBQ and Crab Feast**



**Thursday, July 23, 2015**

10:00 am–5:30 pm  
Queen Anne's 4-H Park

Maryland  
**COMMODITY  
Classic**

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