Agriculture, and Chesapeake Bay farmers in particular, are facing challenges from every angle. We need to build demand for grain, renewable fuels, and co-products. We need to create a more farmer-friendly environment in terms of taxes, regulation and policy. And we need to continue to tell our story to the public, especially those across the Chesapeake Bay region.

As a state organization, we address challenges and opportunities for farmers at scale, accomplishing more by working together. The Maryland Grain Producers Utilization Board (MGPUB) has strong partnerships with national organizations striving to increase grain sales in domestic and international markets. Strong foreign and domestic markets help to support prices for our grains in Maryland. We share innovative solutions and information on best management practices from MGPUB funded research focusing specifically on needs of Maryland growers. We showcase the good work that farmers do to improve consumer understanding, so that policies and purchase choices are made with accurate information.

We have an incredibly strong partnership with the national corn, wheat and grain export organizations, with board members and Maryland farmers serving as the leaders of these organizations. We could not have a stronger voice for Maryland grain than with the leadership we have now, bringing attention to our Mid-Atlantic region issues. I want to acknowledge and thank Chip Bowling, Chip Councell, Jason Scott, and Eric Spates for their commitment and hard work representing Maryland and the best interest of grain farmers across the country. For such a small state, we sure do grow strong leaders!

MGPUB is responsible for providing strategic leadership and oversight of the economic resources devoted to the Maryland Grain Checkoff Program. The Board’s membership, consisting of regional representatives, brings a broad range of industry experience and insight to the table. Our goal is to foster increased demand for grain, increase consumers understanding of agriculture and improve production and profitability for Maryland grain farmers by developing, funding, and implementing a coordinated plan of research, market development and education.

We’re grateful to have had the opportunity to work with one of the most dedicated individuals in the field, Lynne Hoot as our Executive Director. We thank Lynne for her tireless efforts on behalf of Maryland farmers, and for bringing Lindsay Thompson on board, who has taken the role of Executive Director.

I invite you to join us on July 27th for the Maryland Commodity Classic where you can learn more about the checkoff-funded projects described in this report, as well as the latest on state and national issues as we bring back the national grain organization leaders. In addition, our featured speaker, Stephan Neidenbach, will be taking on the GMO debate as he talks of educating the public about biotechnology. If you have questions or comments, don’t hesitate to contact me or reach out to any of our board members. We serve you, and we welcome your feedback.
This past year, the Council escorted 48 trade teams to the United States to receive a comprehensive overview of U.S. agricultural production. Team members participated in face-to-face meetings, farm and elevators visits as well as other activities. Hosting international customers through trade teams is an integral and highly successful means of developing markets, enabling trade and improving lives.

*Export Exchange*, the biennial event co-sponsored by the Council and the Renewable Fuels Association, provides opportunities for suppliers and service providers to engage with international buyers. In October 2016, International participants from 35 countries journeyed to the United States to network and interact with more than 300 domestic suppliers. In a survey of buyers and end-users who attended the conference, they reported that more than 2.6 million metric tons of feed grains were traded either at the conference or immediately around it, an estimated value of $460 million. Included in the total volume were more than 924,500 metric tons of corn, 875,000 metric tons of DDGS, and 838,000 metric tons of sorghum.

In addition, most of the international attendees participated in activities pre- and post-conference through trade teams visiting farms, major export terminal and processing and inspection facilities in sixteen states, including Maryland. Trade servicing programs and trade team experiences such as these are essential to making buyers comfortable with purchasing U.S. coarse grains and co-products. 2016 Funding $75,000; 2017 Grant $75,000

**DEVELOPING EXPORT MARKETS FOR MARYLAND WHEAT PRODUCERS**

US Wheat Associates (USW) is the only organization promoting the use of Maryland’s soft red winter (SRW) wheat in overseas markets. Funding from MGPA helps USW qualify for federal funds and promote the unique benefits of SRW for growing snack and pastry markets in Latin America, the Middle East and North Africa.

In 2016, USW activities helped increase SRW exports to several Caribbean and Central American countries. USW technical managers from Morocco visited the SRW production region to help them in their effort to promote SRW functionality in several Middle Eastern markets. USW also brought a team of wheat buyers from Peru to Maryland and Virginia to support Peru’s steady SRW imports. USW also helped build a trade case against the Chinese government’s excessive domestic price support, which guarantees Chinese farmers will be paid about $9.50/bushel for SRW imports. This Chinese policy costs U.S. farmers nearly $700 million/year in lost exports and lower prices. USW thanks MGPA for its support and Jason Scott for his service as a USW director and officer. 2016 Funding $54,600; 2017 Grant $56,100

**WINNERS**

**PRODUCER** | **YIELD / HYBRID**
--- | ---
**IRRIGATED**
1. Randall Willin, Jr. | 289.5745 Seaford
2. Michael Bostic | 276.8991 Church Hill
3. Dan Dulm | 273.2682 Queen Anne

**NON-IRRIGATED**
1. Drew Haines | 324.9316 Middletown
2. Jarod Smith | 301.4588 White Hall
3. Gregory Dell | 263.2993 Westminster

**NO-TILL / STRIP TILL IRRIGATED**
1. Bruce Bartz | 311.6199 Denton
2. Edward Appenzeller, Jr. | 272.8002 Millington
3. Gary King | 265.4891 Princess Anne

**NO-TILL / STRIP TILL NON-IRRIGATED**
1. Brad Rill | 281.5748 Hampstead
2. Tom Walsh | 281.4037 Hampstead
3. Ed Lippy | 278.1559 Hampstead

**NEW 2017 MARKETING GRANTS**

Maryland Agricultural Associates

- Investigating Opportunities for Maryland Grain Farmers in Cuba, $2,500

**NCGA recognized MGPA with its Reaching for Excellence Award for work on watershed issues at the Choptank Symposium, where the current state of the river, practices employed by the farm community to mitigate impacts on water quality, and how these practices can be applied in other watersheds was reviewed with the science farm and environment communities. Accepting the award are board members Jamie Jamison, Chip Bowling, Drew Stabler and Kevin Anderson.**

**Chip Council, Queen Anne’s County, (right) is serving as President of the U.S. Grains Council. Chip was the recipient of the 2016 James R. Miller Award, presented here by MGPA President Donnie Tennyson (left) at the Maryland Commodity Classic.**
The record yield and crop production figures this year, which followed three of the largest corn crops in history, are a testament to the know-how and hard work of farmers today. In response, NCGA will work with a broad coalition to increase ethanol demand, explore new uses, increase livestock exports and push for transportation infrastructure to get those products to market to create a competitive market demand for 19 billion bushels of corn by 2025. Strengthening customer and consumer trust involves building partnerships with new organizations and growing existing partnerships in food, ethanol and livestock. It also means sharing the positive story of how American corn farmers are the most sustainable in the world. Enhancing sustainability covers farmers are the most sustainable in the world. Enhancing sustainability covers everything from soil health to integrated weed and pest management practices to voluntary nutrient management plans. NCGA has made tremendous progress in both sustainable production practices and telling farmers’ sustainable story, and looks to build upon those successes. 2016 Funding $230,000; 2017 Grant $230,000

With the 2018 Farm Bill coming up, NAWG staff and directors spent much of the year engaged in discussions with the House and Senate Ag Committees on how to improve programs from the 2014 Farm Bill, to protect farm programs and crop insurance. NAWG was also engaged in several environmental issues, such as availability of pesticides used on wheat, the Honeybee Health Coalition, and efforts to stop the EPA’s Waters of the U.S. rule. Additionally, NAWG lobbied for passage of the Trans-Pacific Partnership and engaged in efforts with the U.S. Coalition for Cuba. NAWG dedicated time to ensure the passage of the GMO Labeling Regulations passed in July. Since then, NAWG has been engaged in the rulemaking process. Additional highlights on behalf of Maryland’s – and America’s – wheat growers, include collaborating with U.S. Wheat Associates on filing a WTO case against China’s use of subsidies, directing public attention to Canada’s grain-grading system, and working to improve USDA’s implementation of Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC). 2016 Funding $11,000; 2017 Grant $11,000

The National Barley Growers Association supported the successful passage of the Surface Transportation Reauthorization and Reform Act of 2015; re-authorization of the Surface Transportation Board; successful passage of the GMO labeling bill that put in place national labeling standards for GMO products that will preempt individual state and local government labeling; and expanded relationships with Congressional staff, via the Barley, Boots, and Brews event on Capitol Hill, which is inclusive of industry stakeholders. Continued areas of participation include sustainability through membership of Field to Market and the development of barley sustainability metrics, barley acreage stabilization, support of a $2 million funding increase for the Wheat and Barley Scab Initiative; and policy development for the 2018 Farm Bill. NBGA represents American barley growers in key areas of farm policy, crop insurance, trade, industry relations and biotechnology, and strives to expand its membership and their involvement in this member organization. 2016 Funding $2,100; 2017 Grant $1,987

Maryland Grain Producers have been the leading advocates for ethanol infrastructure in the region through this Ethanol Marketing and Infrastructure Development Project, which resulted in Maryland retailers selling E15 for the first time. A consumer awareness “It’s Your Choice” campaign was developed, including mobile, radio, print, online retargeting, videos, and key word advertisements. Over 13,000 postcards were mailed to flex fuel vehicle (FFV) owners. A video contest was held and 26 videos were submitted and viewed more than 2,000 times via www.driveflexfuels.org. The winning videos provide material for the advertising campaign, scheduled to coincide with the station openings. SESI raised an additional $10,000 from Protec Fuel, a local ethanol supplier, to pay for bus advertisements in Baltimore City and Montgomery County. SESI represented MGPUB at dozens of speaking engagements and meetings including the National Ethanol Conference, Maryland State Fair Fox News live broadcast, Greater Washington Region Clean Cities meetings, ethanol station openings, the Commodity Classic, and BIP management meetings. SESI also discussed ethanol and FFVs with state representatives, industry partners, auto dealers, fuel providers and fleet managers, and educated drivers, sales staff, retail sales clerks and fleet managers on using ethanol-based fuels. 2016 Funding $56,000; 2017 Grant $27,634

The primary goal of USDA’s Biofuel Infrastructure Partnership (BIP) is to expand availability of ethanol fuels to the consumer. This will add E15 to the Mid-Atlantic market by adding 200 pumps and 40 new ethanol stations, 22 of those stations in Maryland. The Maryland Comptroller’s office approved the sale of E15 in the middle of the year, which launched the ethanol station developments. The partners were approved for a June 30, 2017 extension and additional grant funding for more stations. Two new E15/E85 stations were completed in Maryland in 2016. The remainder are expected to be completed by late spring 2017. Maryland ethanol stations were contacted to provide technical assistance, training information and educational materials. The development of advertising campaigns with digital, TV, radio, video and print media outlets will allow MGPUB to target, educate and advertise within the region. 2016 Matching Funds $200,000
GREENSEEKER NITROGEN MANAGEMENT
Chester River Association | www.chesterriverassociation.org

This project introduces farm use of GreenSeeker Normalized Difference Vegetative Index (NDVI) technologies as a method of more efficiently applying nitrogen than historical practice. Year Three of this project utilized the observations and data collected in Years One and Two to maximize the performance of the technology and to provide additional comparisons between GreenSeeker application and historical application practice. The number of acres mapped in Year Three was the highest of the three-year project, at 28,734 acres. This brings the total number of acres mapped to over 60,000 acres. Chester River Association (CRA) purchased and installed variable rate application nozzles in order to have a quicker response between the computer’s algorithm-derived determination of nitrogen application rate and the actual application of nitrogen. This step maximizes the performance of the equipment by reducing lag time in on-field application response. A ramp trial was conducted as an additional tool to compare GreenSeeker application and yield with uniform application at different application rates. The results in Year Three are as follows: 28,734 acres of grain crops were mapped using GreenSeeker NDVI technology; NDVI mapping indicated significant variability in nitrogen needs within the same field. This was true across all of the fields mapped. Nitrogen application with GreenSeeker technology provided an ability to match specific nitrogen needs with variable nitrogen application within the same field, thereby increasing nitrogen use efficiency. A ramp trial that applied nitrogen in strips with nitrogen concentration varied from 0 lb/acre to 200 lb/acre indicated that increasing the nitrogen concentration continued to yield somewhat more bushels/acre, but the most economical application rate was on the lower end of that range. A comparison of nitrogen application based on the farmer’s nutrient management plan and GreenSeeker showed comparable yield with less cost using GreenSeeker. An analysis of nitrogen efficiency using a standard ratio of 1 lb N/acre = 1 bushel corn/acre with GreenSeeker nitrogen application demonstrated that a high yield was maintained while achieving a nitrogen efficiency of better than or equal to the standard ratio. Over the course of three seasons, GreenSeeker variable rate technology has demonstrated that there is significant variability among and within all fields mapped. Further, ramp trials conducted in Years Two and Three demonstrated that yields were comparable between conventional practice of uniform fertilizer application and GreenSeeker technology, but that nitrogen input costs were reduced using GreenSeeker technology. 2016 Funding $25,000

OYSTER RECOVERY
Oyster Recovery Partnership
www.oysterrecovery.org

The Oyster Recovery Partnership conducted two projects enhancing the Chesapeake Bay’s oyster population. In 2016, 12.29 million juvenile oysters were deployed onto a designated oyster restoration site in the Little Choptank River, one of the tributaries included in the ‘10 Tributaries by 2025’ project, which stems from an oyster goal in the 2014 Chesapeake Bay Watershed Agreement. In addition, the project supported the Partnership’s Shell Recycling Alliance which collects oyster shells from over 300 regional restaurants, hotels, caterers and seafood distributors. 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 fish, crabs, mussels, and other marine life. 2016 Funding $10,000; 2017 Grant $10,000

NEW 2017 RESEARCH GRANTS

Grow & Fortify, LLC
✓ Expanding Barley and Rye Production for the Craft Beverage Industries, $2,000

University of Maryland Extension—Somerset
✓ Assessing the Potential of UAVs for Integration into Field Crop Production, $2,795

University of Delaware Extension
✓ Evaluation of Poultry Litter Use on Soils with High Phosphorous Concentration, $10,400


Soil and water sampling has been conducted on adjacent irrigated and dryland fields in the Upper Chester River Basin for over three years. The sample period includes the implementation of an irrigation system on one field in 2014, while the other field remains rain-fed. Soil samples indicate no significant difference in total Kjeldahl nitrogen between the two fields, however, the irrigated field shows greater variability between growing seasons. Within growing seasons, shallow soil water concentrations of nitrate were elevated around primary fertilizer application periods (June). More soil water samples were attained under the irrigated field than the dryland field. Recharge to the water table occurred during the corn growing season under the irrigated field, but not the dryland field. It is not yet evident how the additional high-nitrate recharge during the growing season affects groundwater quality beneath the irrigated field. Specific conductance values in shallow groundwater samples were similar between fields over the study period. Shallow groundwater concentrations of nitrate/nitrite and were higher under the dryland field prior to study inception and remained higher through present sampling. Chloride concentrations in shallow groundwater remained constant under the dryland field but were highly variable under the irrigated field and appear to have increased over time. As a smaller, more conservative anion, chloride may be the first to respond to changes induced by irrigation. Data from two years of sampling are insufficient to determine a difference in groundwater nitrate concentrations related to irrigation. Data from additional growing seasons is needed at this site to determine irrigation effects on water quality. 2016 Funding $15,000; 2017 Grant $8,000
REPEATED USE OF NEONICOTINOID INSECTICIDE TREATED SEED IN CROP ROTATIONS
University of Maryland, Plant Science | http://hambylab.weebly.com/grain-projects.html

Neonicotinoid insecticide seed treatments are an effective way to protect crops from insect pests. Given their use across various crops, the same field could receive repeated applications of these treatments. This could lead to an accumulation of insecticide residues in the soil and develop insecticide resistance for pests. Kelly Hamby, Aditi Dubey, and Galen Dively are investigating the effect of continuous seed treatment use in a mid-Atlantic three-year crop rotation: soybean, followed by fall-planted wheat, double-cropped soybean and corn. They are evaluating impacts on plant growth, yield, changes to the pest and beneficial arthropod community, and on microbes such as nitrogen-fixing soil bacteria. Cruiser and Gaucho significantly reduced both pest and beneficial arthropod abundance in full season soybeans (2015) while only Cruiser had a significant impact on both in double cropped soybeans (2016). In wheat, both insecticide treatments significantly decreased aphid abundance in the winter but did not impact aphids or cereal leaf beetle in the spring. Despite early season pest suppression, neither neonicotinoid insecticide provided significant yield benefit relative to untreated and fungicide treated seed in any of these three crops. Other data are being processed and analyzed and will be reported for growers to make crop protection and management decisions. 2016 Funding $18,000; 2017 Grant $18,000

DETERMINING THE IDEAL IRRIGATION STRATEGY FOR CORN PRODUCTION
University of Delaware Extension
www.extension.udel.edu/ag/irrigation/

Each of the four years of this irrigation study demonstrated different trends regarding the best method to schedule pivot irrigation. 2013 tended to show that the wetter treatments performed best; in 2014 there was no need to irrigate as the dryland yields were not significantly lower than irrigated; in 2015 the yields were good as long as some irrigation was provided; and in 2016 irrigated treatments were similar and only slightly higher than the dryland treatment. The main conclusion that can be drawn is that 2013-2015 seasons were ideal corn production years with little natural moisture stress. In the Mid-Atlantic area, 2016 was not a great year for high-yield corn production. Yield levels achieved in this research in 2016 were off by about 40 bushels per acre compared to yields achieved in 2014 and 2015. In addition, the dryland treatment yield in 2016 was higher than expected despite the less than adequate rainfall received in July and August. It is possible that individual plot yields are being affected by an overall cooling effect in the field from adjacent 60’ x 60’ plots receiving irrigation. Going forward, future research should utilize larger plot size (120’ x 120’) to minimize any cooling effect from adjacent plots and include intensive sampling of electro conductivity, organic matter and elevation to establish replications. 2016 Funding $27,398; 2017 Grant $22,720

STATE CORN TEST: BENCHMARK HYBRIDS
University of Maryland, Plant Science
www.psla.umd.edu/extension/md-crops

During 2016, nine check hybrids were included in the three maturity group tests conducted at five Maryland locations. The inclusion of benchmark hybrids provides proven performance checks to compare with the newer hybrids in the University of Maryland Corn Hybrid Performance Tests. Three companies were represented; Pioneer (P0604 AM; P1197 AMXT; P1498 AM), Dekalb (DKC 57-92 RIB; DKC 62-08 RIB; DKC 64-87 RIB), and NK (N60F-3111; N70J-3111; N74R-3122). The 55 hybrids tested during 2016 ranged the current spectrum of genetic technology, from single gene modification (RR2) to SMART STAX, Viptera, and RIB (refuge in the bag). Corn performance during 2016 was considered very good. Average yield over the five locations for the 55 hybrids (check hybrids included) was 204 bushels/acre, 18 bushels/acre more than the 2015 average and only 7 bushels/acre less than the 211 bushels/acre record average in 2014. The nine check hybrids averaged 203 bushels/acre, and indicated that they were representative of 2016 performance. View the complete 2016 report (Agronomy Facts No. 54) as well as previous reports on the Maryland Crops website. 2016 Funding $6,350

SOIL TEST PHOSPHORUS AND SORPTION CAPACITY FOLLOWING LONG-TERM APPLICATION OF POULTRY LITTER AND COMMERCIAL FERTILIZERS
University of Delaware | www.udel.edu

Field sites receiving long-term applications of manure and/or inorganic Phosphorus (P) fertilizer at Georgetown, DE and Chestertown, MD were maintained through 2016. Routine soil samples from 2015 showed minimal increase in soil test P following increased rates of poultry litter application in 2014; no manure was applied in 2015. However, soil test P concentrations at both sites showed clear and consistent trends for increasing Mehlich 3 P concentration with higher P rates. Manure amended soils exhibited the highest Mehlich 3 P concentrations. Corn was planted in 2016 and P was applied to 8 of 10 treatments in the form of poultry litter (at 2, 4, 6, or 8 tons/acre) or triple superphosphate (at 20, 40, 60, or 120 lb/acre P2O5). Routine soil and tissue sampling was completed; results are pending. Corn yields for manure and fertilizer treated plots were higher than for soils receiving no P at the Georgetown site, but rate of P application had no effect on yields at Chesapeake Farms in 2016. Heavy precipitation and lodging of corn following heavy rains that occurred just prior to harvest resulted in high variability in yields among treatment replications, which likely masked any potential treatment effects on yield. The goal is to continue to maintain this historic site so Maryland farmers can be provided with better information about the chemistry and fate of P in soils with a long-term history of manure or fertilizer applications to make informed decisions about future P applications and remediation of legacy P. 2016 Funding $8,800; 2017 Grant $5,000
Fungicides are commonly used in mid-Atlantic production systems to help prevent losses from fungal diseases of the foliage and head. To provide growers with unbiased local research into the efficacy and profitability of fungicide use in wheat production, 14 different fungicide programs were evaluated, including four different fungicides applied early, at flag leaf, at flowering, or combinations therein at 10 sites over two growing seasons across Maryland, Delaware, Pennsylvania and Virginia. Fungicide programs including an application of Prosaro at flowering were the most efficacious at reducing diseases of the flag leaf and head. Yields were greatest in programs using a fungicide at stem elongation followed by either an application of Prosaro at flowering or a fungicide at flag leaf emergence. However, when considering application and product costs, Tilt applied at stem elongation followed by Prosaro applied at flowering was the most profitable when assessed from $3.5 per bushel. However, this program only paid between 40-63% of the time. 2016 Funding $5,088

Nitrogen (N) and fungicide management both influence milling quality and grower profits, so are the focus of this wheat research with two objectives: evaluate the influence of spring nitrogen rates and identify a protective fungicide to manage Fusarium head blight (FHB) on the yield and quality of commonly grown soft red winter wheat varieties. When selecting a wheat variety, seek information about FHB resistance or susceptibility, if it has test weight (57 lb/bushels or greater), and if it is high yielding. Jamestown, that had FHB tolerance, showed little response to the FHB fungicide (Caramba). However, the variety Shirley (FHB susceptible) had significant improvement for yield and amount of the vomitoxin (DON) that was present with the fungicide. Though this research is the result of only one year at one location, the response to N rates that was observed indicates that optimum yield likely will occur if the N rate is determined using more N than the 1 lb N/bushel of yield goal calculation that is currently employed. Test weight for Jamestown (~57 lb/bushel) remained the same across the N rates regardless of the use of Caramba. Test weight for Shirley was ~8 lb/bushel lower compared to Jamestown and dropped as N rate increased. The test weight decrease across N rates was much greater when no fungicide was used (~20%) compared to when fungicide was used (~10%). Protein content increased for both varieties by nearly 2.5 percentage points (10.5-13%) across the N rates tested. 2016 Funding $10,000; 2017 Grant $13,665

This project seeks to develop production and integrated disease management, including use of fungicides and scab tolerant cultivars, for soft red winter wheat that are highly effective and offer stable resistance to scab. In 2016, 630 elite wheat lines included in local and regional trials were evaluated for agronomic performance and scab resistance. More than 175 breeding populations, 8,000 headrows, and 58 pure lines were evaluated in 2016. A set of 333 new pure lines were selected for advancement in 2017. More than 300 single and 240 three-way crosses including scab resistant parents were made during spring 2016, and will be evaluated at Warsaw in 2017. DNA markers were used to select 652 of more than 1,200 plants, derived from 13 top crosses, having the major scab resistance gene Fhb1 and/or other combinations of up to six different resistance genes. 2016 Funding $9,000

Investigators continued the advancement of wheat crosses made by Dr. Jose Costa by collaboratively planting with several public breeding programs; participating in five regional breeding nursery field tests, published the results of the 2015 Maryland State Wheat and Barley Trials, and planted the Trials for 2016. To improve options available to producers, six elite wheat lines were licensed to Limagrain Cereal Seeds. Another line, 15MW117 was released as a public variety that producers can save for cover crop, or yield under higher input management systems. Further, to assist producers in choosing lines which will help them meet reduced wheat DON goals, the research group performed an inoculated scab nursery, which stress tested all entries in the statewide trials for fusarium resistance. 2016 Funding $16,000; 2017 Grant $16,000
**EVALUATION OF PALISADE AND ALTERNATIVE FUNGICIDE TIMINGS FOR WHEAT PRODUCTION**

University of Delaware Cooperative Extension | http://extension.udel.edu/ag/

Palisade was examined over three sites on 558500, a tall, adapted wheat variety with fair to good resistance to foliar diseases. The field test looked at applying Palisade alone or in combination with a fungicide, as well as the effects of adding a fungicide application at flag leaf or flowering, alone or in combination with the Palisade + fungicide application, to see the impacts on yield, test weight, height, and net returns to the grower. Results found that Palisade alone slightly reduced yields, and that the most profitable program included using a fungicide at Palisade Application plus a fungicide at flowering. No additional benefits of increasing nitrogen rates with Palisade were seen. Most programs were not profitable until $5 bushel/acre prices were attained. Growers in situations with high potential lodging may still benefit from Palisade use, but if lodging potential is low, its use may not be profitable.

2016 Funding $1,944

**GROWING WHEAT AFTER CORN OR SOYBEANS FOR MAXIMUM YIELDS**

Mulford Agronomics

Unlike in 2015, results for year two show wheat yields were higher when planted after corn in 2016. Wheat yields were best after corn, the same for both single and double crop soybeans. Corn yields were best planted into a wheat/soybean stubble. Planting no-till corn into a single crop no-till soybean stubble was only a couple of bushels less than planting into the wheat/soybean stubble. Quality was observed in 2016. Wheat was harvested at a higher moisture, however, there was no difference in wheat quality harvested at 16% than wheat harvested at 14%. In 2015, high wheat yields and quality improved the longer wheat was out of rotation (2 years or longer). This was not so in 2016. There may be advantages to planting wheat after soybeans such as less residue to plant into, potential for carryover nitrogen from the soybeans and potentially less disease from soybeans than corn. A study like this would take at least five years to run through the various rotation cycles to provide full results.

2016 Funding $5,000

**DEVELOPMENT OF BARLEY FOR USE IN FEED, FOOD AND FUEL**

Virginia Polytech Institute | www.pubs.ext.vt.edu

Recent interest in local and regional production of winter malt barley by producers and the malting industry has encouraged the Virginia Tech Barley Breeding Program to expand efforts to develop malt barley cultivars adapted to the mid-Atlantic and southeastern United States.

**Hulled Barley:** Three-year average (2014-2016) grain yield of Thoroughbred hulled barley was 101 bushels/acre with average test weight of 47.7 lbs/bushel, compared to the mean yield of 91 Bu/acre and test weight of 46.7 lbs/bushel for the mean of all cultivars tested. Three-year average grain yield of Secretariat (102 Bu/acre) was 1 Bu/acre higher than Thoroughbred. At the same time, the hulled barley experimental line VA12B-8 had the highest three-year average grain yield of 102 Bu/acre.

**Malt Barley:** In the 2015 crop season, mean grain yield of the winter malt barley cultivar Hirondella was the highest (81 Bu/acre) among 28 entries over four states and yielded 5 Bu/acre higher than the winter barley check cultivar Thoroughbred (American Malting Barley Association recommended). Two other winter malt barley cultivars, Calypso and 10/069/1, ranked third and fourth respectively in grain. In Maryland, grain yield of Hirondella (114 Bu/acre) was similar to Wintmalt, and 3 Bu/acre higher than Thoroughbred. Hirondella also has better resistance to leaf rust than the check cultivars Thoroughbred, McGregor, Endeavor, Strider, Wintmalt and Charles, and better resistance to BYDV than Thoroughbred, McGregor and Charles. 2016 Funding $5,000; 2017 Grant $5,000

**EVALUATION OF WINTER MALTING BARLEY VARIETIES AND PRODUCTION PRACTICES FOR YIELD AND QUALITY**

University of Maryland, Plant Science | www.psla.umd.edu/extension/md-crops

The University of Maryland gained acceptance to participate in the national winter (28 entries) and spring (20 entries) malt barley variety trials. These varieties and breeding lines, developed by breeding programs across the country and internationally, were evaluated for important agronomic and malting characteristics. In addition, a nitrogen management study and a fungicide management study for leaf diseases and scab were conducted to assess if and how those management practices are associated with attaining quality malting barley.

Per the agronomic performance for both the winter and spring malting barley varieties/breeding lines evaluated, the University of Maryland Extension recommends that farmers considering production of malting barley in Maryland grow winter malting barley. Thoroughbred had good performance in the 2015-2016 Maryland Winter Malting Barley Trial. Another variety, Violetta (not tested in the variety trial), had better performance than Thoroughbred in the nitrogen and fungicide studies. There were a half dozen other winter malting barley varieties with performance comparable to or better than Thoroughbred. Presently, these varieties are not easily purchased due to limited Maryland malting barley demand. This may change if the local craft brewing industry continues its growth and maintains its interest in local production.

Similar to feed barley, winter malting barley requires adequate nitrogen fertilizer to optimize yield. The one location study undertaken during 2016 does not provide sufficient data to establish a reliable nitrogen recommendation. Additional nitrogen response studies (two were planted during fall 2016) are needed. The current feed barley nitrogen recommendation is the best guideline to follow at present. Fungicides will have a greater role in protecting the malting quality of the grain than they do for feed barley. Knowledge of a variety’s susceptibility to fungal diseases can help a farmer decide if a fungicide program is necessary. In this study, Thoroughbred, a variety susceptible to a complex of fungal diseases, had a positive response to both a foliar fungicide and a fungicide for Fusarium head blight protection. Violetta also responded to the fungicide applications, but it could not be determined which fungicide caused the positive response because both the foliar and the Fusarium head blight fungicide treatments produced similar yield.

2016 Funding $7,044; 2017 Grant $6,718
MARYLAND FARM AND HARVEST
Maryland Public Television | www.mpt.org/farm

Maryland Farm & Harvest has been honored with nine Emmy® Award nominations, including one win awarded to Host Joanne Clendinning, a veteran actress and the owner of a family farm. Last season, a much-discussed but often poorly-understood topic was tackled: Genetically Modified Crops. The segment takes viewers from the soybean harvest at Schmidt Farms in Queen Anne’s County, to a Nebraska research facility where GM crops - like the Schmidt’s soybeans - are created. Viewers will learn how NASA satellites are used to help Maryland farmers stay on the cutting edge of sustainable growing, how cucumbers are transformed into pickles, and how having crop insurance can help farms survive and expand. 2016 Funding $250,000; 2017 Grant $125,000

AAS DEGREE PROGRAM IN AGRICULTURE
Chesapeake College | www.chesapeake.edu

Chesapeake College developed a new Agricultural Associates of Applied Science program, which began offering classes in the fall of 2016. The program features two tracks that fully prepare learning opportunities for students.

MARYLAND GRAIN PRODUCERS UTILIZATION BOARD

Utilization Board was recognized for its sponsorship of MPT’s #1 locally broadcast show airing on Tuesdays at 7 p.m. Receiving the award are Lawrence Meeks, Lynne Hoot and Mike Harrison.

MIDATLANTIC COMMONGROUND
Maryland Soybean Board | www.findourcommonground.com

The CommonGround program builds consumer trust in the food system, which improves support for farmers and the crops they grow. Addressing what consumers care about, volunteers cover all aspects of farming and food. The focus is on developing consumer trust through personal, relatable stories from real farm families and credible, third-party science on the value of modern American agriculture. Maryland and Delaware spokeswomen had direct conversations with nearly 10,000 key urban consumers and influencers at over two dozen CommonGround activities, such as the DC Metropolitan Cooking & Entertaining Show, farmers markets, health fairs, farm tours, and fairs. In addition, volunteers reached over a million consumers through social media and publicity conducted in the Mid-Atlantic region. Three new volunteers joined the program, expanding opportunities for reaching consumers and bringing an accurate view of agriculture to the local consumers. 2016 Funding $10,000

NATIONAL AG DAY
Ag Council of America | www.agday.org

This year’s National Ag Day on March 15 featured a new event; a newspmaker breakfast at the National Press Club, co-hosted by AAEA and Farm Credit. This was followed with over 100 student delegates delivering the message of Ag Day to congressional leaders and staffs. Hosted by the Agriculture Council of America, participants included leaders from national agricultural associations, congressional members and student representatives from FFA, 4-H, AFA, the Consortium and Student NAMA. Senator Cory Gardner spoke at the lunch which featured comments by John Deere Outstanding Young Farmer, Chad Garone. The Celebration of Ag Dinner, emceed by Orion Samulson, was well attended and morale was high. 2016 Funding $500

ACSPLORATION
University of Maryland Extension, Howard Co. www.extension.umd.edu/agsporation

This statewide program trained 57 educators in the agricultural science curriculum and provided resources to implement the AGsporation program. As a result, more than 2,900 youth and adults participated in hands-on lessons and program activities. The AGsporation website provides 24-hour access to lesson plans and supplementary resources, educating families and encouraging youth to pursue science and agriculture careers. To date, the program has reached over 30,000 youth and educators. 2016 Funding $3,500; 2017 Grant $3,500

GRAINS EDUCATION FOR YOUTH
University of Maryland Extension, Allegany Co. | www.extension.umd.edu/allegany-county

The 4-H Growing with Grains program educates elementary students about the importance of grains. This school enrichment program was held at agricultural centers, University of Maryland research centers, public libraries and in-school programs. Three mini-grants were accepted, reaching across the state in helping to cover supply costs of individual programs. Hundreds of youth participated in hands-on curriculum lessons including Animals Enjoy Grains Too, Grain Nutrition, Grain Science, Corn Products and Uses, and AG Literacy. Each program reporting also formed new partnerships within the agriculture industry. 2016 Funding $500

KIDS GROWING WITH GRAINS

This program offers hands-on lessons as either a field trip or an in-school program to reach fourth graders in all Washington County schools. A total of 324 students from four schools took part in the field trip option held at the Western Maryland Research and Education Center. One in-school program had 13 students participate. The program was presented by a collaborative team from Extension, Farm Bureau, and 4-H/FFA youth. Participants learn about the health benefits of grains, the use of grains, and develop a connection between themselves and agriculture in their community. 2016 Funding $2,000; 2017 Grant $1,000
**AG-VENTURE PROGRAM**
University of Maryland Extension, Carroll Co.  
www.extension.umd.edu/carroll-county

Fourth grade students are targeted in the Ag-Ventures Program, where students focus on grain through STEM education and learn more about Maryland agriculture. Eight Carroll County schools participated in 2016. Students identified grains while making grain jars, created a healthy whole grain snack, planted seeds and sampled vegetables, saw farm equipment, learned about land use best management practices, experimented with milk, and interacted with livestock. Sessions were taught by University of Maryland Extension Faculty with support from local agricultural producers and businesses. Pre- and post-evaluations showed a strong increase in knowledge gained for students and teachers from every school. 2016 Funding $2,000; 2017 Grant $1,500

**MOBILE LAB MATCHING GRANTS**
Maryland Agricultural Education Foundation  
www.maeonline.com

Seven schools took advantage of the $400 matching grants to assist elementary schools which have not had a MAEF mobile science lab visit their school. Three more schools will be added in the spring as a carryover from 2016. The schools were from Baltimore City, and Baltimore, Calvert, Carroll, Cecil, Charles, and Frederick Counties. In many cases, once experiencing the labs, schools secure funding from the community and PTAs to continue annual visits to the school. 2016 Funding $4,000; 2017 Grant $4,000

**NEW 2017 EDUCATION GRANTS**
University of Maryland Extension  
www.extension.umd.edu/montgomery-county

- **Kids Growing with Grains—Frederick,** $2,750
- **Tractor School: PTOs, Rollovers, Grain Bins and More!** $1,410
- **Queen Anne’s County Farm Bureau**  
  - Agriculture Awareness Day, $5,000  
  - Queen Anne’s County FFA  
  - Chapter Field Trip, $400

**WINNING THE GAME WORKSHOPS**
University of Maryland Extension, Montgomery County  
www.extension.umd.edu/montgomery-county

Low grain prices relative to crop production expenses have created an environment of very thin profit margins for Maryland grain producers. Producers have been forced to look for any edge they can find in order to remain profitable. The University of Maryland Grain Marketing Focus Team recognized this need and conducted ten ‘Winning the Game’ educational workshops. The workshops were held around the state and attended by more than 120 farmers. Program participants sharpened their marketing knowledge by learning how to write a grain marketing plan and then writing their own plan. The plans were then put to the test by using a fast-paced simulation game based on actual grain marketing years. End of program evaluations indicated farmers were very pleased with the quality of the workshops. 2016 Funding $1,000

**U-LEARN FARM CONNECTING THE DOTS FROM AG TO U!**
Maryland 4-H Foundation, Inc.  
www.mymaryland4hfoundation.com

The 2016 U-Learn Farm was “unFAIRgettable” to the Maryland State Fair’s 450,000+ attendees as they got to experience agriculture upfront and personal through various livestock displays and educational exhibits, such as Seeds, Soils and Students Green Wall. The U-Learn Farm featured a combine harvesting Maryland grain crops of corn, soybeans and wheat. *Maryland Farm and Harvest* was featured on the Ag-Stage, allowing families a chance to rest and learn about Maryland Farmers. A new program called “Meet the Farmer” brought members of the Maryland Agriculture Commission to the stage to talk to the public about agriculture. Together with MGPUB, Maryland State Fair, Maryland 4-H Foundation, Maryland Farm Bureau, Maryland FFA, Maryland Agriculture Education Foundation and the Mid Atlantic Dairy Association, the U-Learn Farm kept fair goers engaged in agriculture for its ninth year! 2016 Funding $5,000

**MARYLAND ENVIROTHON**
Maryland Association of Soil Conservation Districts  
www.mdenvirothon.org

Over 1,100 students participated in local envirothons, leading to the two-day 2016 Maryland Envirothon at Mount St. Mary’s University in June, where 17 five-member teams participated. These students, many of which were from urban areas with little connection to agriculture, were exposed to natural resource issues, including soils and agriculture. Students received training from professionals in five resources areas: aquatics, forestry, soils, wildlife, and the current environmental issues, which was invasive species. This hands-on training, followed by the next day’s hands-on competition, is what makes the Envirothon a unique environmental education program. MGPUB sponsored scholarship checks were presented to each student on the first, second and third place teams. 2016 Funding $5,000; 2017 Grant $5,000

**CLOSE ENCOUNTERS WITH AGRICULTURE**
University of Maryland Extension, Montgomery County  
www.extension.umd.edu/montgomery-county

Close Encounters with Agriculture promotes and increases the understanding of agriculture. This program demonstrates the interrelationships and positive aspects of production agriculture, nutrition and the environment. A total of 3,642 fourth-grade students, and 597 teachers and chaperones participated in the program in October 2016. Teachers responded overwhelmingly (92.5%) that their children had a much better understanding of agriculture after participating in this program. Close Encounters with Agriculture is a nationally recognized University of Maryland program. It has won awards from the American Farm Bureau, the National Association of County Agricultural Agents, the Joint Council of Extension Professionals, and Epsilon Sigma Phi the national Extension honorary fraternity. 2016 Funding $6,500; 2017 Grant $5,000
A farmer’s profitability and freedom to farm depend greatly on decisions made by other people—many of whom are not farmers. Their future is influenced by consumer opinion, regulatory guidelines and government programs. The Maryland Grain Producers Association (MGPA) is the grain farmers’ member organization that ensures growers’ voices are heard when decisions are being made that impact their farm.

LEAD Maryland Foundation (LEAD) works to increase the numbers and capacity of leaders serving agriculture. In 2016, LEAD Fellows completed a series of four multi-day seminars, learning through lectures, tours, discussions, trainings, and group projects. LEAD held seminars in Annapolis, Southern Maryland, Baltimore City, and Dorchester County. Fellows learned about advocacy, giving public testimony, working with public officials, and serving on organizational boards. Fellows gained insight on topics such as food policy, educating youth about agriculture, land use, water quality, conservation, and oyster aquaculture. Fellows learned public relations and social media marketing and toured the Port of Baltimore. Fellows completed a poultry industry study—from hatchery to processing—and learned about animal agriculture, grain utilization and markets. Fellows were stars for a day when MPT’s Maryland Farm & Harvest crew filmed and interviewed them.

LEAD provides public issues education, skills building, leadership development, and personal growth. Fellows become more equipped and confident to solve problems, identify resources, educate the public, and to influence public policy. As a nonprofit, LEAD relies on grants, donations, tuition, and events to support educational programming delivered to LEAD Fellows. 2016 Funding $35,000; 2017 Grant $20,000

FARM STEWARDSHIP CERTIFICATION AND ASSESSMENT PROGRAM
Maryland Association of Soil Conservation Districts | www.mascd.net/FSCPAP/farm_list.html

In its seventh year of operation, the Farm Stewardship Certification and Assessment Program (FSCPAP) has certified 142 conservation stewards, protecting 52,936 acres in 22 of Maryland’s 23 counties. The program provides voluntary, on-farm evaluation of stewardship activities, such as compliance with nutrient management regulations and establishment of conservation best management practices (BMPs) on both owned and leased land that addresses all soil conservation and water quality resource concerns, so no significant pollution leaves the farm and reaches the Chesapeake Bay. Every conservation steward receives a FSCPAP sign installed by FSCPAP and an individual webpage on the FSCPAP website with a farm description and photos. 2016 Funding $20,000; 2017 Grant $15,000

INVESTING IN LEADERS
Maryland FFA Foundation | www.mdffafoundation.org

Recognized as a “Silver 3 Star Partner”, the MGPA grant sponsored Maryland FFA team members to compete in Career Development Events at the National level in Agricultural Issues Forum, Agronomy, and Agricultural Science Fair. The grant also provided support for five regional Maryland FFA leadership development workshops, student leadership incentive scholarships, and both a breakfast and motivational speaker for those FFA members participating in the Annual State FFA Convention. Funding helped assure the State FFA Convention had the facilities needed to provide valuable educational and leadership experiences, at a reasonable student cost, for over 500 Maryland FFA members. Members of the FFA Foundation Board believe the development of agricultural leaders is vital to the future of Maryland agriculture and congratulate MGPA for their commitment to assuring the Maryland FFA Program continues as one of our Nation’s best. 2016 Funding $13,000; 2017 Grant $13,000

FARM STEWARDSHIP CERTIFICATION AND ASSESSMENT PROGRAM
Maryland Association of Soil Conservation Districts | www.mascd.net/FSCPAP/farm_list.html

IMPROVING GRAIN FARMERS’ BOTTOM LINE
Maryland Grain Producers Association | www.marylandgrain.com

A farmer’s profitability and freedom to farm depend greatly on decisions made by other people—many of whom are not farmers. Their future is influenced by consumer opinion, regulatory guidelines and government programs. The Maryland Grain Producers Association (MGPA) is the grain farmers’ member organization that ensures growers’ voices are heard when decisions are being made that impact their farm.

Staff and board members attended policy meetings and legislative hearings to express the views of farmers for fair and responsible policies based on facts. Information was provided via one-on-one conversations, displays, printed material and social media on issues such as genetic engineered seeds, pesticide use, conservation practices, healthy soil and the economics of farming. Education and promotion of E15 and E85 was done to expand ethanol markets, growing the markets for grain.

The Choptank Symposium hosted by MGPA gathered the farm, science and environmental communities together to assess research and plans for ongoing improvements in land use. MGPA sponsored the 18th annual Maryland Commodity Classic, showcasing grain checkoff funded projects, as well as discussing issues from a national perspective with organization leaders. Four college scholarships were awarded, as part of the ongoing interest to develop ag leaders for Maryland. 2016 Funding $127,000; 2017 Grant $100,000

MARYLAND GRAIN PRODUCERS ASSOCIATION
Join us—we work for you!

If you are a grain producer, your dues are even free! Your checkoff assessment will pay your MGPA membership.

For member form, visit marylandgrain.com/member_benefits.htm

Questions?
lindsay.mdag@gmail.com | 443-262-8491
BOARD EXECUTIVE RETIRES, THOMPSON HIRED

Lynne Hoot served as the Executive Director of the Maryland Grain Producers Association and Maryland Grain Producers Utilization Board since they were established — organizations which she helped get started. Lynne has been a strong advocate for agriculture and a powerful voice in Annapolis. She will be a friend greatly missed amongst the farm community and MGPA membership.

Stepping up into the Executive Director role, Lindsay Thompson is well versed in the organizations’ work, previously serving as program and policy coordinator for three years. Joining the staff for Programs and Public Relations is Danielle Bauer.

NEW MARYLAND GRAIN PRODUCERS OFFICE
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Leadership | Maryland Grain Producers
Thank you to our 2016 sponsors who help bring the latest research and ag news to grain farmers at the Commodity Classic!

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Maryland Grain Producers Association
Maryland Soybean Board
Maryland Grain Producers Utilization Board
Mid-Atlantic Soybean Association

Thursday, July 27, 2017
Queen Anne’s 4-H Park

✓ Research Tours begin at 9:30 am
✓ Checkoff Funded Project & Commercial Exhibits open at 10:30 am
✓ Afternoon session features National Leaders Panel with updates on hot topics domestic and international
✓ Chicken & Pork BBQ and Crab Feast

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Stephan Neidenbach, Keynote Speaker
Middle School Teacher and DC Chapter Leader of March Against Myths About Modification

✓ Tickets are $10 prior to 2:30 pm, $20 after 2:30 pm, no entry after 3:30 pm.
✓ Grain farmers can receive complimentary tickets if a member of MGPA—visit www.marylandgrain.com for an application or call the MGPA office at 443-262-8491