

AGSPLOATION: THE SCIENCE OF MARYLAND AGRICULTURE

Maryland Grain Producers Utilization Board Grant

Proposal No. 2016278

Final Report 2016

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Summary of Project Activities

AGsploration is a developing University of Maryland Extension signature program focused on agricultural literacy. This is the 7th year of the program and it continues to grow in leaps and bounds. At its inception the program was 13 agriculture science based lessons, which has now grown to a robust 24 lessons all written by University of Maryland faculty and staff. To supplement curriculum, resources for the program now include teaching supply kits, a network of trained educators, and a website and YouTube channel. The major objectives of AGsploration 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 contributions to Maryland's economy.

2016 program objectives for AGsploration centered on (1) final publication of the curriculum package, (2) validation of the curriculum package by a national audience, and (3) continued expansion of educational opportunities through outreach, enhancement of the AGsploration website, and educational network expansion.

In 2016, the 24 lesson AGsploration curriculum went through a sequence of revisions with the final piece of the process being the University publication process. The University of Maryland publication process is an electronic publication submission and tracking system. Through this system, a series of edits were completed to finalize the publication of the curricula. The final curriculum is published on the AGsploration website at <https://extension.umd.edu/agsploration/teachers/agsploration-curriculum-request>.

With AGsploration curriculum being shared and taught at two national professional educator venues in 2016, a diverse audience of professional 4-H, agriculture and family & consumer science educators received instruction about the program. A presentation proposal was submitted and accepted for the National 4-H Agents Conference (NAE4-HA) and the Epsilon Sigma Phi (ESP) Conference (ESP is the national organization fostering standards of excellence in the Extension System and developing the Extension profession and professional). The AGsploration team taught seminars at both conferences in the fall of 2016 reaching over 75 professionals. The AGsploration team was the recipient of the prestigious 2016 National Association of Extension 4-H Agents national curriculum award for an educational package. Teaching at the National Agri-Science Summit was a third opportunity to share the curriculum at a national venue. This national summit on Agri-Science is a venue for high school students to develop life skills and knowledge needed for the challenges facing agriculture, food security, and sustainability.

AGsploration has a broad and diverse teaching base with 827 educators, volunteers, and teens trained to implement that curriculum. Even so, continued dissemination of the curriculum to other interested teachers is imperative. To this end AGsploration partnered with the Maryland Agriculture Education Foundation to be a key presenter at MAEF's summer

teacher in-service for 57 teachers. The program was such a success that AGsploration has been invited back for a third year to present.

Aside from in-school time the AGsploration team also strives to promote science and agriculture during students' free time. With that in mind the team offered a summer science experience in 2016. The day long program provided 24 youth the chance to experience several AGsploration hands on lessons and then have field trips and conversations with agriculture professionals. The program was very well received and will be continued and expanded in the future based on participant responses.

Finally, the AGsploration program continues to develop its online resources to have a strong web presence with a website and YouTube channel. The website is updated with curriculum and is receiving its first online games to post at the end of the year. In addition, the YouTube channel has 6 videos with over 486 views and more being added yearly.

The grain industry is well-represented within the AGsploration curriculum and educational outreach. The curriculum includes a Maryland grain component and includes lessons that highlight the science of grains and soybeans. The two new lessons also focus on corn and grain by-products and plant DNA. Many of the careers explored by the lessons relate directly or indirectly to grain farming. In addition, each teacher in-service training featured hands-on lessons related to these grain lessons.

How Program Objectives Were Met

The AGsploration program has several targeted objectives:

- Through participation in the program, students will improve their science, technology, engineering, and math skills. They will also become interested in agriculture careers and potentially seek post-secondary education related to agricultural science fields.
- By participating in AGsploration lessons, students will develop a better understanding of agricultural production, environmental conservation, and nutrition/health.
- Maryland residents' awareness, appreciation, and support of agriculture will increase as they develop an increased understanding science in their everyday lives will increase.

In 2016 University of Maryland educators, teen and adult volunteers, teachers, and after-school providers taught lessons from the curriculum to more than 2,900 youth and adults within Maryland. A wide variety of hands-on learning activities kept participants actively engaged. Interest in science and agriculture increased for most participants as documented by survey results. In addition, a majority of youth surveyed said the program made them more interested in science and agriculture careers. They also indicated that they better understand agriculture's importance in daily life and contributions to Maryland's economy.

2016 educator trainings reached 57 educators and volunteers. These trainings were programs that emphasized the connections between science and agriculture. They engaged teaching professionals in hands-on activities from the curriculum and allowed them to gain experience and confidence in teaching agricultural science lessons and concepts to their students. During these trainings, teachers learned to implement lessons within their classrooms. Educators in non-formal settings learned to modify the lessons for use in settings such as after-school programs, summer camps, 4-H clubs and programs, and other community venues.

Additional evidence of the curriculum's usefulness is documented by the extent to which it has been downloaded from the website. In 2016 alone, 363 people from 25 states downloaded the curriculum from the AGsploration website. Since the website was created, 511 people from 39 states or territories have accessed it. Therefore, it is evident that the program has an extremely wide reach and is helping to create agriculturally literate citizens within Maryland and across the United States.

Formal and non-formal educators, volunteers, and teens who attended trainings received access to a variety of curriculum materials. In addition, many participants received teaching kits with all of the materials needed to teach an entire unit of lessons.

Continued program access and support is provided on the AGsploration website at <http://extension.umd.edu/agsploration>. The website includes the full curriculum, videos, assessment information, links to external resources, information about agriculture careers, and contact information for all sponsoring organizations.

MGPUB Recognition

MGPUB's financial support is acknowledged on handouts and promotional materials that are provided to participants. In addition, MGPUB is listed as a financial supporter in an AGsploration introductory PowerPoint presentation that is shared at each workshop or training. Finally, MGPUB is listed as a financial supporter on the AGsploration program website at <http://extension.umd.edu/agsploration/about/achievements>. The committee members greatly appreciate the board's continued support of University of Maryland agricultural literacy educational programs and events.

Short Summary

University of Maryland Extension's *AGsploration: The Science of Maryland Agriculture* is a statewide signature program that improves students' science abilities through learning experiences that explore agricultural science. In 2016, 57 educators were introduced to the curriculum. Educators attending trainings received resources to implement the AGsploration program. Teacher evaluations indicated that 100% planned to utilize the curriculum within their respective classroom or outreach settings. In 2016, more than 2,900 youth and adults participated in hands-on lessons and activities from the curriculum. The AGsploration website also provides youth, families, and educators with 24-hour access to lesson plans and supplementary resources. Students who participate in AGsploration develop a better understanding of agriculture's importance to Maryland's economy and their daily lives. They also become more interested in pursuing science and agriculture careers including careers related to grain farming. To date the program has reached more than 29,400 youth and 827 educators. Contributions from MGPUB are helping us to accomplish our mission of creating an agriculturally literate Maryland population.