University of Maryland Extension (UME) was established by Congress in 1914. UME is an educational network, centered in the country's seventy-two land grant universities and provides research-based practical education to the problems of American families, agriculture, business, and industry. In Maryland, UME operates through the University of Maryland at College Park, and the University of Maryland Eastern Shore. UME has field offices in all twenty-three Maryland counties and Baltimore City.

UME faculty and staff are professionals engaged in non-formal educational programs that address economic, environmental, technical, and social concerns of all residents. UME faculty and staff efforts are supported by a multitude of dedicated volunteers. Our educational programs include agricultural production, natural resources, food safety, nutrition and healthy lifestyles, youth development, volunteer development, and agricultural nutrient management.

All of this is made possible through a successful cooperative arrangement with the University Of Maryland College Of Agriculture and Natural Resources, the United States Department of Agriculture, and the Caroline County Government, who have been longstanding supporters. As you will see in this report, UME's outreach efforts provide solutions to improve the lives of Caroline County residents.

*Note: Does not include nutrient management plan data.
In 2013, Craig Yohn, Nutrient Management Advisor, wrote nutrient management plans for 31,314 acres and 151 farmers in Caroline County. P-site index (phosphorus) was done on 141 fields. This planning, along with Jim Lewis, Ag Agent, conducting voucher trainings keeps farmers in compliance with the “Mandatory Nutrient Management Law”. The UME office has also conducted pre-side nitrate tests (PSNT). These tests analyze soil for nitrate concentrations to fine tune Nitrogen applications on corn to both protect the environment and maximize the farmer’s profit. PSNT’s were done on 75 fields resulting in a reduction of 16,783 lbs. of nitrogen. Fall soil nitrate tests (FSNT) were done on 37 fields with 35 being allowed to apply fall nitrogen.

Jim gives numerous educational presentations around the state in the areas of sorghum production, soybean variety selection and irrigation management. Grant funds were obtained for a demonstration project to convert diesel driven irrigation pumps to submersible electric driven pumps.

Jim is involved in several research projects being conducted in Caroline County, including:
- Identifying highest yielding maturity group soybeans under irrigation;
- Effects of nitrogen fertilizer applications and N20 losses from farms;
- Water quality/BMP (best management practices) project with UMCES – Horn Point, helping with TMDL/WIP (total maximum daily load/watershed implementation plan);
- Effects of utilizing switch grass on septic drain fields, helping with TMDL/WIP.

As a result of UME classes:
- 78 farmers with private pesticide applicator licenses were recertified.
- 72 farmers with nutrient management applications were recertified.
- 224 commercial pesticide applicators were recertified.

Jim made recommendations to clientele on fertility, irrigation, soil management, nutrient management, weed control, insect control, disease management, hay/pasture management and vegetable production.

Conference participant: "The time you spoke on the panel was one of the most informative segments of the day."
211 Caroline County youth are active members of community and project 4-H clubs focusing on shooting sports skills, sewing, rabbits, horses, dogs, livestock and many other projects. 53 members completed and passed the required Maryland 4-H Quality Assurance Animal Husbandry Training. 2,969 youth participated in short term 4-H programs in the county school setting in the areas of human, animal and environmental sciences taught by the 4-H Educator.

4-H Afterschool, in partnership with the 21st Century Afterschool county grant, provides National 4-H STEM (Science, Technology, Engineering and Mathematics) resources to 232 youth.

These 4-H members also gain skills in the following projects: teambuilding, leadership, nutrition and agricultural sciences.

56 4-H volunteers serve as leaders directing skill building opportunities for youth. At an estimated value according to the Independent Sector of $23.05 per hour (value of volunteer time), they contributed 2,650 hours of service which equals $61,082.50.

The 4-H Educator served as a co-writer, manager and program leader for four UME state grants totaling $24,100. Locally, $14,750 in grant funds were received to support local programming.

**Why are your children members of 4-H?**

**The things I have noticed my boys have learned in 4-H:**

- Leadership in a peer group, public participation in decision making, and dealing with difficult personalities and unexpected challenges during planned event.
- Cooperation – becoming invested in helping or teaching others.
- Competence in a variety of skills – cooking, sewing, gardening, woodworking, electrical work, fitness, leadership and much more.

Volunteers statements about the value of 4-H: “*I volunteer and participate, because I want to see my daughter succeed and change the world.*”

Program manager of the 21st Century 4-H Afterschool Grant: “*The partnership between Caroline County 4-H and The 21st Century grant (Parks and Recreation office – they manage the grant) has brought tremendous benefits to the youth of Caroline County. On the national level, 4-H leads the field in developing STEM curriculum. We are privileged to have 4-H professional development opportunities providing 4-H curricula for both the summer and afternoon programs. As a result, Caroline County is recognized as a leader in the provision of high quality summer and afterschool programming in the state.*”

4-H member quote: “*4-H has helped me and my family by teaching us about public speaking, how to sew, how to help the community, others and so much more.*”
Food Supplement Nutrition Education (FSNE)

UME – Food Supplement Nutrition Education (FSNE) is a federally funded program that has been providing services in Caroline County. Last fall, a 30 hour Maryland State Department of Education (MSDE) Continuing Professional Development training course for teachers in the Midshore area focused on youth gardening for nutrition was offered. Teachers were provided an MSDE-approved curricula, Growing Healthy Habits, written by UME with specific gardening and curricular links to Maryland. In addition to the extensive training on nutrition, cooking with kids and gardening, teachers received toolkits containing items such as 7 gallon reusable gardening bags, salad spinners, lettuce knives, seeds and many other items that will provide them with a jump start into implementing youth gardening for nutrition into their classrooms. Teachers will continue to hear from UME-FSNE on a monthly basis through emails that include timely suggestions for lessons, garden activities and recipes as well as helpful links. Earlier this year, another 30 hour course called incorporating Nutrition Education into the Classroom was completed with 9 elementary school teachers in the county. Educators earned two MSDE credit hours upon completion.

The FSNE program educators have worked extensively with the Caroline County Parks and Rec through providing three sessions of “Up for the Challenge” with the After School program at Lockerman Middle School. Each group had 10 to 20 students and ran for approximately six weeks. “Up for the Challenge” is a fitness/nutrition curriculum developed by the US Army and 4-H Council to address America’s nationwide problems of obesity plus lack of nutritional understanding. Its format is quick access, user friendly lessons that involve exercise, fitness games, nutritional teaching and cooking.

This year, a Lockerman Middle School staff member is conducting the lessons as a Trained Trainer. The groups are about 12 students and to date three groups have received education. There is also a staff member at Colonel Richardson Middle School teaching the same curriculum.

Partnerships are also in place with the Caroline County Public Schools. There are five teachers at Federalsburg Elementary teaching Serving Up My Plate: A Yummy Curriculum reaching 100 students. This is a standards based nutrition education program created by USDA which allows teachers to incorporate nutrition education into the classroom while still meeting the common core standards. FSNE is scheduled to work with the Judy Center/Family Support Center in 2014.

Sustainable Agriculture

Nevin Dawson has taken the new Sustainable Agriculture Coordinator position within University of Maryland Extension and works out of the Caroline County office. He will be providing professional development opportunities to UME – agriculture educators and other agriculture service providers, both in Caroline County and across the state. He will also assist UME agriculture educators with grant writing. He is currently completing a needs assessment to determine the program focus for the next three years. Funding for the position is provided by a grant from USDA Sustainable Agriculture Research and several internal UME sources.

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