Bloodless Worm Sheds Light on Iron Deficiencies

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One of the great joys of summer is strolling barefoot in the cool grass. But while most of us appreciate the feel of healthy turf under our soles, we don’t usually think about what goes into cultivating this comfortable carpet. Fortunately, there are faculty in the College of Agriculture and Natural Resources who do. Their work—which involves evaluating and selecting appropriate cultivars, managing pests, ensuring water quality, and educating the turf professionals of today and tomorrow—is described in this issue of Momentum.

Other articles highlight some equally interesting and diverse programs and projects. For example, research by Dr. Iqbal Hamza using lowly, bloodless worms could lead to the development of new ways to reduce iron deficiency—the world’s number-one nutritional disorder.

And when it comes to young people, our reach is felt both near and far. An Extension program in Wicomico County is helping low-income youth develop their literacy and computer technology skills, while a study tour organized by our Office of International Programs in Agriculture and Natural Resources provided “real world” learning experiences for some Russian water resources management students.

So take a break from the summer heat, sip a glass of iced tea or Maryland wine, and enjoy a literary glimpse into the College of Agriculture and Natural Resources.
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We have what you are looking for in the College of Agriculture and Natural Resources.

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- Institute of Applied Agriculture
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I was attracted to the College of Agriculture and Natural Resources because it offers a Turf Program and the low student-to-faculty ratio appealed to me.

We have more!
- Agricultural and Resource Economics
- Animal and Avian Sciences
- Environmental Science and Technology
- Nutrition and Food Science
- Plant Science and Landscape Architecture
- Institute of Applied Agriculture
- Virginia-Maryland Regional College of Veterinary Medicine

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Nutritional Biochemistry Expert Named JIFSAN Senior Fellow

Dr. Sanford A. Miller has been appointed a senior fellow of nutrition and food safety and the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), a multi-disciplinary research and education program jointly administered by the University of Maryland and the U.S. Food and Drug Administration (FDA). Miller will build interdisciplinary and multi-institutional research teams to address emerging issues related to the safety of our food supply.

A former director of FDA’s Center for Food Safety and Applied Nutrition, Miller is also dean emeritus of the Graduate School of Biomedical Sciences at the University of Texas Health Science Center at San Antonio. Previously, he taught at the Massachusetts Institute of Technology as a professor of nutritional biochemistry.

A fellow of the American Society for Nutritional Sciences, Miller has served on advisory and planning committees for many national and international government and professional societies, including the Institute of Medicine at the National Academy of Sciences Food and Nutrition Board; the International Life Sciences Institute, North America; the National Institutes of Health/Oxford University Program on Dietary Ketone Bodies; and the Nutrition Programs Review Committee of the National Cancer Institute. He has served as chair of FDA’s Food Advisory Committee and was the first recipient of the agency’s Distinguished Alumni Award. Miller has authored or co-authored more than 200 original scientific publications, including the first report of the Joint FAO/WHO Expert Consultation to address the “Applications of Risk Analysis to Food Standards Issue.”

“The college is excited to have this opportunity to work with Dr. Miller,” says Dr. Cheng-i Wei, dean of the College of Agriculture and Natural Resources. “We believe he has the knowledge and leadership experience needed to build thriving, effective programs in food safety and applied nutrition.”

Stuffed Animals Bring Holiday Joy to At-Risk Children

Faculty and staff in the College of Agriculture and Natural Resources (AGNR) supplied more than 400 of the 1300 or so stuffed animals donated by the University of Maryland to the Bonnie Johns Children’s Fund during the 2007 winter holiday season. The stuffed animals were given to at-risk children, including those in shelters, foster care, and emergency settings, bringing joy and comfort during a difficult time in their lives. AGNR’s collection drive was coordinated by Theresa Simmons, executive coordinator for the Maryland Agricultural Experiment Station.

Tree Planting Ceremony Honors Virginia Tech Victims

Faculty, staff, and students in the College of Agriculture and Natural Resources (AGNR) gathered with other University of Maryland colleagues in April for a Memorial Tree Dedication Ceremony in honor of those who lost their lives at Virginia Polytechnic Institute and State University last year. Sponsored by Battelle Tree Experts with support from the Department of Plant Science and Landscape Architecture, the event included the presentation of a commemorative plaque and three dogwoods, the state tree of Virginia, on the field in front of Memorial Chapel. Speakers included AGNR Dean Dr. Cheng-i Wei; Dr. Linda M. Clement, University of Maryland vice president of student affairs; Andrew Friedson, president of the Student Government Association; and representatives of two Virginia Tech alumni chapters in Maryland.

New Program Initiatives Introduced

The College of Agriculture and Natural Resources has launched several new program initiatives.

A Master of Landscape Architecture program has received final approval and has begun accepting applications for the fall semester.

An Environmental Science and Technology program offering B.S., M.S., and Ph.D. degrees has received approval from the University System of Maryland and can begin accepting applications. Recruiting is underway and some undergraduate students have been admitted for this fall. At the undergraduate level, this new major will include four concentrations: ecological technology design, environmental health, soil and watershed science, and natural resources management.

A dual undergraduate degree program in Secondary Education with a content area in Agricultural Education has been approved by the University of Maryland Senate and is awaiting approval from the University System of Maryland and the Maryland Higher Education Committee. Students will enter the program through the College of Agriculture and Natural Resources as Agriculture Science and Technology majors. They will complete the gateway requirements of the College of Education during their first and second year. Graduates will be certified to teach agricultural education in the state of Maryland.

In addition, the graduate school and Senate PCC have approved a 4+1 program in Secondary Agricultural Education. This program will allow students to complete both B.S. and M.Ed. degrees in five years. The program also will provide an opportunity for students already holding a B.S. degree in an agricultural science area to pursue an M.Ed. degree.
Young Scientist Award and More

Dr. Liangli (Lacy) Yu of the Department of Nutrition and Food Science has been named winner of the 2008 Young Scientist Research Award from the American Oil Chemists’ Society (AOCS). The award recognizes oil chemists who “have made a significant contribution in basic or applied research that has had a significant effect on advances in the discipline or hold substantial promise for its effect in the near future.” Yu accepted her award at the AOCS annual convention in May, where she gave the award address, “Nutraceutical Lipids from Fruits, Spices, Herbs, and Flours.”

Kudos also go to some of Yu’s colleagues:

■ Dr. David Lei has been appointed by Dr. Abdullah Al-Othman, president of King Saud University (KSU) in Saudi Arabia, to the KSU Center of Biotechnology Board of Consultants.

■ Dr. Y. Martin Lo has been named editor-in-chief of the Journal of Food Processing and Preservation.

■ Dr. Jianghong Meng continues to serve on the National Advisory Committee on Microbiological Criteria for Foods, which advises both the U.S. Department of Agriculture and the U.S. Food and Drug Administration.

Extension Introduces Invasive Insects Detection Program

Three faculty members with the University of Maryland Cooperative Extension have been working with the Maryland Department of Agriculture (MDA) and the Maryland Arborist Association to offer an innovative new program to combat invasive insect species. Stanton Gill, nursery and greenhouse management specialist, Dr. David Clement, plant pathology specialist, and Dr. Mike Raapp, entomology specialist, collaborated with Dick Bean of MDA to develop an extensive notebook and lecture with hands-on identification skills. They offered their first training session in April to 30 individuals; 29 passed the concluding test and received certification as first detectors for insect invasive species through the National Plant Diagnostic Network Certification.

Specialist Elected President of Family & Consumer Sciences Association

Dr. Bonnie Braun, a family policy specialist in the Department of Family Science, is serving as president of the American Association of Family & Consumer Sciences (AAFCS). The association is committed to leading and supporting professionals whose work assists individuals, families, and communities in making informed decisions about their well-being, relationships, and resources to achieve optimal quality of life.

A long-time AAFCS member, Braun has held numerous leadership roles at the state and national levels. She has served as president-elect of AAFCS, president of the Minnesota Association of Family & Consumer Sciences, vice president for services for the Maryland Association of Family & Consumer Sciences, chair of the AAFCS Public Policy Committee, chair of the AAFCS Annual Meeting Committee, and AAFCS Chalkley-Fenn Visiting Public Policy Scholar. AAFCS has also recognized Braun for her contributions with the prestigious Leaders Award.

Veterinary Invention Licensed

The University of Maryland has exclusively licensed a technology invented by faculty in the Department of Veterinary Medicine to Intervet, Inc. The invention—“An Antigen of Ehrlichia Reticuli that Exhibits Strain-Specific Size Variations Provides Immunoprotection”—was developed by the late Dr. Sukanta K. Dutta and his graduate students, Drs. Biswajit Biswas and Ramesh Vemulapalli.

A professor in the department for many years, Dutta died in an automobile accident in June 2002. Biswas and Vemulapalli have gone on to successful careers in industry and academia, respectively.

Extension Educator Wins Veraison Award

Ben Beale, Extension educator in St. Mary’s County, received the Maryland Grape Growers’ Association (MGGA) “Veraison Award” at the annual meeting of the MGGA, Maryland Wineries Association, and University of Maryland Cooperative Extension in March. Beale was cited for his leadership of the rapidly growing grape and wine industry in Southern Maryland, including his hosting of successful new grower workshops, vineyard twilight meetings, annual field days, the groundbreaking Winery Cooperative in Leonardtown, and personal contact with new growers. He also was recognized for his significant contribution to the vineyard research effort at the Central Maryland Research and Education Center’s Upper Marlboro facility.

AGNR Recognizes Its Own

Ten faculty and staff in the College of Agriculture and Natural Resources (AGNR) were recognized by their colleagues at AGNR’s 2008 Spring Awards Convocation in May. Honorees were:

■ On-Campus Staff Excellence Award: Gail Yaiser, assistant to the dean for alumni and external relations.

■ Off-Campus Staff Excellence Award: David Muhleman, manager of facilities and management, Wye Research and Education Center.

■ Faculty Extension Assistant/Faculty Research Assistant Award: Dr. Betsey K. Walters, research associate and director, Center for Public and Corporate Veterinary Medicine.

■ On-Campus Junior Faculty Award: Dr. Xiaoping Zhu, assistant professor, Department of Veterinary Medicine.

■ Dean Gordon Cairns Award: Dr. Frederick Wheaton, professor, Department of Environmental Science and Technology, and director, Northeastern Regional Aquaculture Center.

■ MCE Extension Excellence Award: Kendra Wells, senior agent and Extension 4-H youth development specialist.

■ AGNR College Medallion of Excellence Award: Roscoe N. Whipp.

■ “Outstanding in His Field” Award: Jim Leith, Extension program assistant, Home and Garden Information Center.

■ On-Campus Junior Faculty Award: Shannon Potter Dill, senior agent and director, Talbot County Office, University of Maryland Cooperative Extension.
Once upon a time, reading, writing, and ‘rithmetic were the three “R’s” necessary to succeed in life. But those days are a thing of the past.

While such skills are still important, they form only part of the equation for success. Technological skills—particularly the ability to use computers and access information on the Internet—are critical in 21st century society. “The ability to navigate the information highway is an absolute essential,” says Lisa Dennis, 4-H educator and director of the Somerset County office of the University of Maryland Cooperative Extension (MCE). “Those who can’t will be left in the dust.”

But not all kids have the access to computer technology necessary to become familiar with its use. According to a National Telecommunications and Information Administration report published in 2000, urban households with incomes of $75,000 or higher are more than twenty times more likely to have Internet access than rural households at the lowest income levels. And the median family income in Somerset County was $17,979 that year, according to the Census Bureau.

So Dennis helped develop “Cyber Town at the Woodrow Wilson Community Center,” an after-school program for 8- to 12-year-old residents of the Crisfield Housing Authority. The goal: to help young people bridge the digital divide by using computers to build both their literacy and technology skills.

Dennis began by securing 20 computers and educational software with a grant from PowerUp and setting up a computer lab at the housing authority’s Woodrow Wilson Community Center. But establishing the facility was just the first step. She then organized the Somerset County Educational Intervention Team, which included business owners, teachers, youth, parents, community agency representatives, and MCE faculty and staff. Believing exposure was the answer to “fixing” the technology gap in

Cyber Town Program Builds Computer & Literacy Skills

By Pam Townsend
Crisfield, team members developed plans to expose youth to technology and teach them computer skills.

They soon discovered, however, that many students had limited reading skills, which hampered their ability to master computers. So the program was modified to build literacy through fun computer games that teach phonics, pronunciation, and vocabulary.

Dennis directs and supervises 4-H program assistant Edith H. Hull and volunteers, who run Cyber Town’s daily operations. More than 25 kids attend the computer lab daily from 3:30 to 6:30 p.m. They receive instruction in reading, help with homework, and assistance with research, and can engage in recreational options such as interactive computer games, e-pals, and basketball. And...they enjoy it!

"I like doing homework here because if Ms. Hull doesn’t know the answer she can always help us find it,” says 10-year-old Dezi. Thirteen-year-old Sharrif agrees. “Ms. Hull and the computer lab helped me get extra credit in school,” he explains. "I told one of my teachers that there was an animal called the Tasmian devil and he didn’t believe me but said he would give me extra credit if I came in with proof. Ms. Hull showed me how to do a Google search and then printed the information I found so I could get the extra credit. That was cool.”

Proof of Cyber Town’s impact isn’t limited to such subjective comments, however positive. Its success in improving participants’ reading comprehension was measured, with the first 45 participants completing an age-appropriate reading test when they entered the program and again after a year. The highest score that could be achieved on both tests was 100 percent. Descriptive statistics for the pre-test results include a mean of 52 percent and a standard deviation of 22 percent, indicating poor overall performance and a wide variation in test scores. Post-test results produced a mean score of 73 percent and a standard deviation of only 8 percent, indicating that program participants performed consistently well overall. What’s most exciting to Dennis is that the mean score increased 21 percentage points from the pre-test to the post-test, which suggests that Cyber Town is having a significant positive impact on the reading comprehension of participants.

In addition to improving their literacy skills, Cyber Town students also were reported to have fewer school office referrals than other youth, according to Billy Curtis, principal of the local elementary school. Teachers reported that 37 youth who attended the Cyber Town after-school program consistently turned in complete and accurate homework and showed a continual increase in their GPA’s over the nine-month grading period.

"The computer lab is an invaluable resource for our community," says Curtis. "The children who use it are more focused on their school work and take better pride in themselves and their community. It is also a resource for teachers; with the number of computers available, teachers can plan a lesson and have each child working along with the lesson.”

And while designed for children, Cyber Town has benefited parents as well. They’ve learned to write resumes, hunt for jobs online, surf the Internet, and email long-distance relatives they could not afford to call. Some have enrolled in college courses, found employment, or located housing.

In recognition of its value and importance to the community of Crisfield, Cyber Town was accepted as a National Program of Distinction by the United States Department of Agriculture in 2005 and is the 2007 Annie E. Casey national award winner. And as for its future...

"It would be great to see the computer lab survive as an integral part of the Crisfield community after the current grant runs out," says Dennis. "The service provided to the community as an after-school program is only one aspect of how the computer lab benefits Crisfield and Somerset County. It can be a resource for Crisfield as it changes from a maritime to recreational community and be an asset to farmers and small businesses or entrepreneurs who need access to technology and the Internet. It’s my hope that the town, county, and state will recognize this.”

Maryland’s other two CYFAR projects are located in Frederick and Garrett counties. Frederick’s project provides low-income children living in two public housing units access to computers and technology-based learning. Participants receive guidance in educational and homework computer-based efforts, along with informal instruction on software applications, educational computer games, and even web design.

The After-school Extension Enhancement Project in Garrett County offers programs at all seven of the county’s after-school sites to youth in kindergarten through 12th grade. Participants engage in various activities related to such themes as environmental education, agricultural literacy, and the 4-H curriculum.

For more information about any of Maryland’s three CYFAR projects, go to http://cyfar.umd.edu/infocus/
A wastewater treatment plant doesn’t appear on most university students’ must-see list. But for a group of Russian students studying water resources management in the United States and learning about pollution control efforts in the Chesapeake Bay watershed, it was an important tour stop. “I’ve never been in such places,” says Daria Kozlovskaya, one of nine students visiting from Moscow State University of Environmental Engineering (MSUEE) in Russia. “It was a perfect experience for me. It was very interesting to know that cleaning water is not an easy process.”

Chosen from a class of twenty, the young scholars arrived in Maryland for a close-up view of state-of-the-art treatment facilities and agricultural technologies. Here they met Drs. Richard A. Weismiller, Trish Steinhilber, and Robert Hill of the Department of Environmental Science and Technology (ENST), who have been teaching students through a weekly videoconference for the last four years. The students and their instructors learned first hand of American home life while staying in the homes of Drs. Hill, Steinhilber, and Weismiller.

“We’ve all traveled to MSUEE at various times to teach classes on soil and water science,” says Weismiller, who also serves as associate director for the College of Agriculture and Natural Resources’ (AGNR) International Programs in Agriculture and Natural Resources. “We thought it was time for them to see how some of the practices and technologies we’ve talked about work in the ‘real world.’”

Following an opening videoconference between University of Maryland President Daniel Mote and AGNR Dean Cheng-I Wei in College Park and MSUEE Rector Kozlov Dimitri in Moscow, the students got down to serious experiential learning.

In addition to their visit to water and wastewater treatment plants, which Steinhilber says will give them “a better frame of reference when they cover related concepts in classes,” the students toured a drinking water treatment plant, the college’s high-tech greenhouses, the U.S. Capitol, Smithsonian museums, and the Chesapeake Bay Foundation’s (CBF) Philip Merrill Environmental Center in Annapolis. A high point for students, the center uses green building features such as composting toilets, recycled building materials, and a green roof—sustainable practices the students had never seen in Russia.

“Two weeks ago I didn’t know that..."
Excellence in English

English language skills are in high demand because of the many U.S. companies doing business in Russia, as well as the growing number of Russian corporations interacting with them. The MSUEE students were therefore pleased to have an opportunity to practice their already proficient English skills.

Accompanied by their English language teacher, Anastasiya Kabanova, and MSUEE International Program Director Andrey Sorokin, they sat in on a fourth-year Russian language class taught by Dr. Cynthia Martin and met several University of Maryland students who had been born in Russia and emigrated with their families to the United States.

“I was surprised when I met students who are learning Russian language,” recalls Alesya Belyaeva. However, she and the others did not expect to—and did not—find an American student who could speak Russian as well as they speak English.

The students took dozens of photos of squirrels—eating peanuts, perched in trees, and just running around—trying to get as close as possible and seeing who could get the best shot. They were a novelty, student Artem Borodin explains, because squirrels in Russia stay in forests and don’t venture into urban areas.

Most of the students had never seen an ocean, and the sight of the Atlantic made a very strong impression. “Somebody said, ‘to see Paris and to die.’ I say, ‘to see the ocean and to die,’” says Olga Bezrukova, who along with many in the group, enjoyed running barefoot through the frigid February surf at Rehoboth.

Two famous sights the visitors did not see: New York City and its Statue of Liberty. Maybe on their next trip.
The Green Industry is big business in Maryland. With turfgrass being literally the greenest of all Green Industry crops, it comes as no surprise that the annual cost of growing and maintaining turf in Maryland now exceeds $1.5 billion!

But keeping grass green—and healthy—on both sides of the fence poses a variety of challenges to today’s turf managers. Golf course superintendents are being prodded by golfers to provide tournament-level playing conditions like those they see on TV—conditions that are difficult to achieve and at odds with the use of agronomic practices that promote turf health. And unprecedented demand for sports fields has fueled a behind-the-scenes tug-of-war between coaches and sports turf managers as to when a field is playable and when it is not.

On the home front, lawn care operators struggle to advise their clients on appropriate lawn reseeding timing and procedures as yet another drought or series of floods take their toll on Mid-Atlantic landscapes. And out in the open fields of the Maryland countryside, sod producers ponder the conflicting input from environmentalists who seek to limit the use of turf and yet another scientific study touting the excellent water-cleansing properties of turfgrass.

Faced with these diverse challenges, the Green Industry has come to rely on the University of Maryland’s Turfgrass Program for expert help—help that comes from the “Terp Turf Team,” which consists of five faculty members and four support staff in the College of Agriculture and Natural Resources’ Department of Plant Science and Landscape Architecture and Institute of Applied Agriculture, and the College of Chemical and Life Sciences’ Department of Entomology. While team members possess a wide spectrum of expertise, the program has become best known for its work in four areas: integrated turf pest management, turf selection, environmental turfgrass research, and turfgrass education.

Beginning with the Best

Choices, choices, and more choices. Whether you’re a homeowner or a golf course superintendent, you want the type of turf that best matches the geography, climate, and use patterns of the site being seeded. Fortunately, faculty with the university’s Turfgrass Research Program conduct extensive species and cultivar evaluation trials each year at the college’s Paint Branch Facility adjacent to the College Park campus. These trials are often in association with the National Turfgrass Evaluation Program, Virginia Tech, and/or commercial breeders.

“We evaluate more than 500 cultivars of the most important turfgrass species used in Maryland for home lawn, athletic field, and golf course conditions,” explains Dr. Tom Turner. “We even evaluate species not historically used in Maryland, such as Texas bluegrass, for possible use in this region.”

Turner and his colleagues screen cultivars primarily on the basis of disease resistance, environmental stress tolerance, reduced fertility requirements, and overall quality. “These evaluations are critical for determining which cultivars will do best in this difficult region with reduced inputs of pesticide, fertilizer, and water,” he explains. The results are used to produce an annually updated publication listing those turfgrass cultivars best suited for Maryland environmental conditions.

Tackling Turf Pests

Proper cultivar selection based on research conducted by Turner and his colleagues is generally considered the cornerstone of any successful
Additionally, we have identified numerous new and unusual weed and disease problems and have developed disease and weed emergence models.”

In complementary work, Dr. Paula Shrewsbury and her graduate students explore ecologically based methods to reduce the likelihood of pest insect outbreaks and create more sustainable managed turfgrass systems. One approach, referred to as conservation biological control, examines ways to manipulate turfgrass and its surrounding habitat to be more attractive to natural enemies of turfgrass pest insects.

“Recent studies have found that planting beds of ornamental flowers and grasses—called conservation strips—near the fairways of golf courses increased the abundance of natural enemies in those beds and in the nearby fairways,” Shrewsbury explains. “The ultimate impact was an increase in predation—and lower survival—of pest insects in fairways bordered by conservation strips compared to fairways without conservation strips nearby. Implementation of this practice should result in a need for fewer pesticide applications.”

**Tracking Pesticide Movement**

Because chemical pesticides are sometimes required to get the job done, Dr. Mark Carroll and his colleagues in the university’s Environmental Turfgrass Research Program examine processes that affect the fate and transport of chemicals applied to turf. “The primary thrust of this effort is to obtain improved estimates of the input parameters that are required to model the fate of chemicals applied to turf,” says Carroll. “Our research complements more applied turfgrass environmental research studies, while addressing ‘issues of confidence’ associated with the use of computer simulation models to predict the fate of chemicals applied to turf.”

Citing a specific example, Carroll adds: “Properly representing the amount of pesticide adsorbed to turfgrass thatch is a big area of concern right now, particularly in the regulatory community where models are frequently relied upon to provide environmental fate data that is needed for the registration of new pesticides. It’s important to get a good handle on pesticide adsorption to thatch because it has a dramatic impact on the movement of pesticides that are applied to turf. A complicating factor in estimating the adsorption of pesticides to thatch is that it depends on how old the thatch is and how the turf was managed.” To address this issue, Carroll’s group is working on a method to estimate the pesticide adsorption ability of thatch based on its mineral content.

**Training Professionals and Policy-makers of Today and Tomorrow**

Faculty in the college’s Turf Program share information with industry professionals in a variety of ways, including online fact sheets (mdturfcouncil.org), seminars, field tours, an annual turfgrass conference, and direct contact via site visits, email, and telephone. They also provide a disease diagnostic service to assist in problem solving and selection of pest management strategies. And as demand for continuing education grows, electronic training modules are being produced using state-of-the-art information technology, such as Blackboard and Centra software, that allows 24/7 access for turfgrass professionals to maintain and qualify for professional certifications.

Other college faculty focus their efforts on homeowners and policymakers. For example, Dr. Gary Felton of the Department of Environmental Science and Technology teaches Maryland Master Gardeners about environmentally sound turf care, and they, in turn, teach residents across the state. He also chairs the Urban Nutrient Management Work Group, an advisory group to the Maryland Department of Agriculture (MDA). This group, which includes representatives from MDA, University of Maryland Cooperative Extension, industry, local governments, Tributary Teams, and concerned citizens, provides counsel to the state on how to achieve urban-nutrient-related educational and nutrient load reduction goals.

Felton and colleague Dr. Tom Simpson, coordinator of Chesaapeake Bay agricultural programs, educate legislators and their staff, providing science-based information on current topics involving...
turf and, usually, fertilizer. “Our goal is to have science considered in governmental policy decisions,” says Felton. One of their notable recent policy accomplishments was the 2006 memorandum of understanding between the Chesapeake Bay states and the major vendors in the do-it-yourself (DIY) industry to reduce the amount of phosphorus in DIY fertilizer by 50 percent nationwide.

Back on campus, faculty in the college’s Turf Program prepare the next generation of turf professionals through both a four-year-program in the Department of Plant Science and Landscape Architecture and a two-year program in the Institute of Applied Agriculture. These programs provide students with the broad-based skills they need as practicing turfgrass professionals responsible for all types of turf-covered surfaces—from home lawns to golf courses and playing fields.

Courses stress an interdisciplinary science approach and integrate research results into “real world” turfgrass management programs. The use of new technologies and the impact of turfgrass management on the environment also are stressed. “Turfgrasses play an important role in purifying and protecting the environment,” explains Dr. Kevin Mathias. “So it’s critical that students learn how to integrate science and nature.”

This comprehensive and practical approach is reflected in the performance of University of Maryland teams at the Annual Collegiate Turf Bowl held at the national conference of the Golf Course Superintendents Association of America (GCSAA). The competition covers various areas of agronomic expertise such as turfgrass growth and development; turf identification; and weed, disease, and insect control; as well as business management and turfgrass mathematics. Maryland teams have placed in the top ten in six of the last seven years, with the 2008 team—comprised completely of two-year students and coached by Dr. Kevin Mathias—finishing seventh out of 92 university teams.

As good as Maryland’s Turf Program is, however, the college is taking strides to make it even better, combining resources from the Department of Plant Science and Landscape Architecture and the Institute of Applied Agriculture to develop new curricula for both two- and four-year turf students.

According to Mathias, these curricula—which will be submitted for approval in the fall of 2008—will offer a greater level of efficiency in teaching responsibilities and an ability to offer two majors: a golf course turf management major and a sports turf management major. The new curricula also will address financial and personnel management—two areas identified as a weakness in current post-secondary education programs by professional association surveys.

“Students will benefit from having greater expertise available to them as a result of combining faculty with different academic backgrounds and experiences, which should lead to increased interest and enrollment in both of our two- and four-year programs,” says Mathias. And that’s good news for the college, the turf industry, and ultimately all the rest of us.

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From Theoretical to “Real World”
Research Facility Key to Field Work

Without field work, many research projects would remain in the realm of the theoretical—of little use to the world at large. Fortunately, when it comes to turf, the College of Agriculture and Natural Resources has the Paint Branch Turfgrass Research Facility, where basic ideas are translated into results with practical implications.

Part of the college’s Central Maryland Research and Education Center, the facility occupies 35 acres on the northern edge of the University of Maryland, College Park. Under the direction of manager David Funk, it is used for both research and hands-on education of all aspects of turf management and science.

In 2007 alone more than 60 research studies were conducted on many of the thousands of individual turf plots that are maintained at the facility. In addition to the copious amount of research being performed by Maryland researchers, collaborative projects involving graduate students and scientists from other institutions are on the rise at the facility. Currently, scientists from the University of Vermont and the U.S. Department of Agriculture are involved in projects underway at the facility, and applied research studies being performed at the facility are being replicated at Mississippi State University, the University of Minnesota, and Oklahoma State University.
An Unlikely Test Subject

Eight steps are required to generate heme, making it a difficult process to control in the study of heme transport pathways, as Hamza learned when he first studied the question in bacteria and mice. So in a non-intuitive move, he chose a test subject that doesn’t make heme, but needs it to survive, that doesn’t even have blood, but shares a number of genes with humans—the C.

Bloodless Worm Sheds Light on Iron Deficiency Issues

By Ellen Ternes

Using a lowly bloodless worm, University of Maryland researchers have discovered an important clue to how iron carried in human blood is absorbed and transported into the body—a finding that could lead to the development of new ways to reduce iron deficiency, the world’s number one nutritional disorder.

With C. elegans, a common microscopic worm that lives in dirt, Dr. Iqbal Hamza of the Department of Animal and Avian Sciences and his research team identified previously unknown proteins that are key to transporting heme, the molecule that creates hemoglobin in blood and carries iron. It’s a critical step in understanding how our bodies process iron.

“The structure of hemoglobin has been crystallized over and over,” says Hamza, “but no one knows how the heme gets into the globin, or how humans absorb iron, which is mostly in the form of heme.”

To understand the underlying issues of nutritional and genetic causes of iron deficiency, we are looking at the molecules and mechanisms involved in heme absorption. Once you understand the transport of heme, you can more effectively deliver it to better absorb iron in the human intestine.

Heme is a critical molecule for health in all eukaryotes—organisms (including humans) whose cells are organized into complex structures enclosed in membranes. It makes blood red and binds to oxygen and other gases we need to survive. Created in the mitochondria, heme is toxic on its own. Hamza and his colleagues wanted to determine how heme gets carried between and within cells, where it is synthesized to form blood.
heme can kill *C. elegans*, a simple nematode. “We tried to understand how blood is formed in an animal that doesn’t have blood, that doesn’t turn red, but has globin,” Hamza explains.

*C. elegans* gets heme from the soil where it lives, consuming the molecule and transporting it into the intestine. “So now you have a master valve to control how much heme the animal sees and digests via its food,” Hamza explains.

*C. elegans* has several other benefits for studying heme transport. Hamza’s team could control the amount of heme the worms were eating. With only one valve controlling the heme transport, the scientists knew exactly where heme was entering the worm’s intestine, where, as in humans, it is absorbed. And *C. elegans* is transparent, so that under the microscope researchers could see the movement of the heme ingested by the worm.

### Genes and Iron Deficiency

The study revealed several findings—published in *Nature* online—that could lead to new treatment for iron deficiency. One was the discovery that genes are involved in heme transport. Hamza and his colleagues found that HRG-1 genes, which are common to humans and *C. elegans*, are important regulators of heme transport in the worm.

To test their findings in an animal that makes blood, Hamza’s team removed the HRG-1 gene in zebrafish. The fish developed bone and brain defects, much like birth defects. The gene removal also resulted in a severe form of anemia usually caused by iron deficiencies. When they substituted the zebrafish gene with the worm HRG-1 gene, the mutant fish returned to normal, indicating that the fish and worm genes are interchangeable, irrespective of the animal’s ability to make blood. They also found that too little or too much heme can kill *C. elegans*, a result that could help researchers find ways to treat people who suffer from iron deficiency caused by parasitic worms. “More than two billion people are infected with parasites,” says Hamza. “Hookworms eat a huge amount of hemoglobin and heme in their hosts. If we can simultaneously understand heme transport pathways in humans and worms, we can exploit heme transport genes to deliver drugs disguised as heme to selectively kill parasites but not harm the host.”
Alumni News

James (Jim) Stewart Lloyd, Jr. ’63 & ’77 is retired from the Carroll County Board of Education where he served as an agriculture teacher from 1972 to 1995. He also served in the U.S. Naval Reserves from 1963 to 1985 and retired as a lieutenant commander in 1985.

Lloyd volunteers his time as a past FFA advisor and assists at the Carroll County Fair as a member of the Grange. He is active in the St. Mary’s United Church of Christ in Silver Run and has participated in mission trips to the Gulf Coast. Jim has also attended the Judging School sponsored by the Maryland Association of Agricultural Fairs and Shows (MAAFAFS). He is a certified novice judge in farm and garden, crafts, woodworking, and herbs.

Beyond his volunteer work, Lloyd works part-time for CMI, Holland, MI, as a subcontractor for Lowe’s in Westminster, where he resides with his wife. They have three grown children living and eight grandchildren.

David A. Miller ’66 & ’72 received the 2008 Frederick County Advocate for Agriculture Award from the Frederick County Office of Economic Development, at the 2008 AgStavaganza held at the Gladhall Tractor Mart in Jefferson. The award recognizes those who have dedicated their time and energy for betterment of agriculture in the community through their volunteer time and service.

Miller is retired from the Frederick County Public School System after a 39-year career and currently works as a consultant for the Maryland Agricultural Education Foundation. In 2006 he was named Outstanding Alumnus by the College of Agriculture and Natural Resources.

Alfred Thiele, Jr. ’70 is a cost benefits analyst and serves as director of T.A. Associates in Falls Church, VA. He enjoys the work that he is doing in former Soviet countries.

Thieme is also a member of the Fairfax County Bonds Committee. He is a former board member of the Inter-American Development Bank (IADB), the oldest and largest regional bank in the world and the main source of multilateral financing for economic, social, and institutional development in Latin America and the Caribbean. His loans and grants help finance development projects and support strategies to reduce poverty, expand growth, increase trade and investment, promote regional integration, and foster private sector development and modernization.

Thieme has also published in the American Journal of Agricultural Economics. He resides in Full Church, VA.

Naomi Weinert Knight ’80, a 26-year educator currently at Harford Technical High School in Bel Air, MD, received the 2007 Outstanding Teacher Award from the National Association of Agricultural Educators (NAAE) at their annual conference in Las Vegas, NV. Knight was recognized for her dedication to excellence in teaching agriculture and promoting future leaders in agriculture.

A 1976 graduate of Catonsville High School in Frederick County, she was encouraged to continue her education by her agricultural science teacher and FFA advisor, David Simpson ’77. She earned her B.S. in Agriculture Education from the University of Maryland, College Park, under the direction of Dr. Elmer L. Cooper ’56 & ’65, teacher, educator, and academic advisor. Her teaching career began at Linganore High School for two years under the mentorship of Roy Walls ’87 and Jim Ferrant ’77 & ’86.

Knight began teaching at Harford Technical High School in 1982. Graduates of her program obtain a certificate of achievement from the Harford Veterinary Medical Association for their accomplishment in veterinary and laboratory assistance. Many of the local veterinarians volunteer their time and expertise in demonstrations and obtaining pertinent veterinary supplies, and partner in providing employment for her students. In her role as the agricultural sciences teacher, Knight also serves as the advisor for the Harford Tech FFA chapter which was selected as the outstanding vocational student organization by the Maryland State Department of Education for excellence in conducting leadership and community service activities.

Knight is married to George Knight of Woodbine Dairy Farm in Airville, PA. She and George have two children: Candice and Cameron.

R. Ken Sterling ’81 was presented with the J. Frank Gordy Sr. Delmarva Distinguished Citizen Award at the Delmarva Poultry Industry, Inc. (DPI) annual Booster Banquet. Gordy was one of the founders and the first executive secretary of DPI.

Sterling’s career path has included employment with a number of poultry-related firms, including Perdue, SmithKline Beecham, Pfizer Animal Health, Philbro Animal Health, and Elanco. In the mid-1980s he returned to Salisbury from a job in Virginia to work for Perdue. In the years since, he has been a sales representative and technical advisor for several companies that supply products and services to the chicken industry.

Sterling’s service to DPI has included serving as a fund drive and membership solicitor, a member of the DPI Board of Directors, and DPI president in 2001. He has also been a volunteer and chairman with the DPI Allied Industry Committee, which helps plan and operate the chicken capers games at the Delmarva Chicken Festival. He has been a leader in efforts to prevent avian influenza, including a stint as the quartermaster during the 2004 avian influenza challenge on Delmarva. He is currently serving as a top volunteer in DPI’s logistics team in the event of an emergency poultry disease on Delmarva.

Sterling is active as the Asbury United Methodist Church in Salisbury, where he has served in various leadership roles, including as a member of the board of trustees. His children have been involved in the Boy Scouts, and he is a scout volunteer. He has also been active in the Rotary Club of Salisbury.

Sterling is a native of Maryland’s Lower Eastern Shore and resides in Wicomico County with his wife, Frances, and their two children.

Rebecca Anne Waterworth ’83 & ’85 is currently a graduate student researcher in entomology at the University of California, Riverside. She was the recipient of the President’s Prize at the annual meeting of the Entomological Society of American (ESA) held in San Diego as the poster winner in the student competition.

Additionally, she was the winner of the Ph.D. student competition paper session at the annual meeting of the Pacific Branch of the Entomological Society of America, held in Napa, CA.

Waterworth is also a member of the UC Riverside Linnear Team – a competitive “Insect Jeopardy” team and the current Pacific Branch Champions of the ESA. Waterworth resides in Riverside, CA.

Alumni, Students, and Faculty Recognized at Celebration

The 41st Annual Alumni Reunion and Awards Celebration featured a special gift to all graduating seniors attending, as well as a successful silent auction with proceeds going to student clubs and scholarships. Over 200 alumni, faculty, staff, graduating students, family, and friends gathered at the Samuel Riggs IV Alumni Center.

In a night of celebration and recognition, Alumni Chapter President Eric Almquist ’96 noted that each graduating senior would receive a Maryland-specific copy of “Cap and Compass – life after school explained.”

Prior to the formal awards being presented, the Alumni Chapter recognized Dr. Ronald J. Seibel ’72 as an “Outstanding Student Advocate and Friend” for his commitment to developing student leadership through establishing the AGNR Student Ambassador program 20 years ago, as well as serving as advisor for the AGNR Student Council, Collegiate FFA, and Alpha Zeta – the honorary fraternity of agriculture.

Ray Bosmans ’73 & ’83 served as chairman of the awards committee and noted that in the student categories the pool of nominations was so exceptional that the committee voted to recognize two graduating seniors and two graduating students the 2-year, Institute of Applied Agriculture.

Further information on each award recipient can be found at http://agnr.umd.edu/Alumni/

Special Friends Welcomed as Honorary AGNR Alumni Members

Two special friends of AGNR were inducted as honorary members of the Alumni Chapter for their enthusiasm and support of AGNR. Karel C. Petraitis ’67 and Weida W. Stoecker ’71

Pictured above are the 2008 award recipients: Front row (left to right) Thea Nielsen ’08, Outstanding Graduating Senior; Daniel Reese ’08, Outstanding Graduate Student; Megan Baker ’08, Outstanding Graduating Senior; Jacob Smith ’07 (December), Outstanding Graduating Student from the Institute of Applied Agriculture; Samatha Schoor ’07 (December), Outstanding Graduating Student from the Institute of Applied Agriculture; and Cheng-Yi Wei, dean of the College of Agriculture and Natural Resources. Back row (left to right) Eric Connor ’89 & ’99, Outstanding Alumnus; Early Career; Liangji (Lucy) Yu, Excellence in Research; Jeff Semler, Excellence in Extension; Nancy Brenowitz Katz ’91 (M.S.), Excellence in Instruction; Bruce Berlage ’56, Mentorious Service to Agriculture and Natural Resources; and Eric Almquist ’96, president of the AGNR Alumni Chapter.
AGNR Alumni & Friends Email List Serve Being Established...Let Us Hear from You!

As everyone rolls into the busy summer season, it is great to keep in touch with you as we begin new professional and personal ventures. The AGNR email list serve will be launched this summer, yet we still enjoy hearing from you via snail mail and phone calls.

Please take a moment to share your latest news on the next page. You can also update us with any new contact information, notes of your comings and goings, and highlights of your professional endeavors by completing and mailing back the form, sending an email to agnralumnchap@umd.edu, or giving me a call at 301-405-2434.

Under the leadership of Dean Cheng-i Wei the College of Agriculture and Natural Resources is moving forward in many areas. Here are some upcoming events that we hope to see you at:

Maryland State Fair – August 21 – September 1 - The 11 Best Days of Summer!

AGNR will have exhibits in the Farm and Garden Building in partnership with the Maryland Department of Agriculture which serves as our host in the Farm and Garden Building. AGNR will also have a larger presence in the Cow Palace, as dairy cattle from the AGNR dairy herd will be part of an educational exhibit.

As always, Maryland Cooperative Extension will play a major role at the Fair through the 4-H shows, exhibits, and activities. The ever-popular birthing center will be managed by retired AGNR faculty member Dr. Tom Hartsock, with help from many students and alumni.

3rd Annual AGNR Alumni Tailgate – Saturday, September 20, “3 hours prior to kick off”

Annual Meeting of the AGNR Alumni Chapter
Dean Wei and Associate Deans for Academic Programs, Extension and research will provide update.

Following a light meal followed and brief business meeting will conclude the evening location t.b.a.

I look forward to hearing from you and seeing you at campus and events around the state and Mid-Atlantic region.

GO TERPS!!!

Gail Poffenberger Yeiser
Assistant to the Dean for Alumni and External Relations

were recognized for “embracing the mission of AGNR and enthusiastically giving of their time, talent, and resources to further AGNR alumni activities.” Stoeckers became active with the AGNR Alumni Chapter when her late husband, Chuck, joined the board. She is a regular at all chapter events and outreach activities, such as the MDA Open House. The Stoeckers and Petraitis became friends through the Young Republican Club on campus. Their friendship has continued through many Terp-related activities, including the AGNR reunions. Karel is famous for her ag-themed baskets at our silent auction and is always enthusiastically wanting to help AGNR! This year’s auction raised $3,450 which is used to help clubs in extra curricular activities.


THANK YOU FOR YOUR SUPPORT OF AGNR STUDENT CLUBS and SCHOLARSHIPS!


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A memorial service and celebration of the life of Dr. Bruce L. Gardner, long-time professor and chair, Department of Agricultural and Resource Economics, and former interim dean of the College of Agriculture and Natural Resources, was held on Friday, March 28, in the Memorial Chapel on campus. Family, friends, students, and colleagues from around the world gathered to share remembrances and pay tribute to Dr. Gardner.

Gardner, 65, died of multiple myeloma on March 14 at the University of Maryland Medical Center in Baltimore. The obituary prepared by his family follows a sampling of tributes made during the memorial service.

Friends Remembered...

C.D. Mob, Jr., president of the University of Maryland, shared a series of adjectives to describe Gardner: “caring, giving, trusting, unassuming brilliant, and a great citizen of the university.” Mote noted that Gardner served willingly, and it was that his sense of duty that allowed Mote to recruit him as interim dean for AGNR.

William E. Kirwan, chancellor of the University System of Maryland, noted that Gardner was in the first class of “distinguished professors” at College Park, a title that truly recognized exceptional academic excellence of campus faculty. Kirwan noted that “his like is rare and comes our way (or to any university) all too infrequently.” He added that “Dr. Gardner could speak in the most sophisticated terms to the highest levels of government and yet could walk into a field and engage a hardworking farmer in meaningful ways about the challenges faced by that farmer.”

Nariman Farvardin, provost of the University of Maryland, shared memories of his time as a dean with Gardner. Farvardin served as chairman of the search committee for the AGNR dean search and recalled that when he approached Gardner as a possible candidate, he was met with a warm, open smile and a straightforward, “not so interested.” Gardner’s priorities of family, research, and teaching were respected by the search committee, and his ability to balance his personal life while making great strides professionally was noted by his fellow deans, who described him as the “quintessential academic” and “one of the nicest guys in the room.” Farvardin compared him to E.F. Hutton, saying, “When Bruce spoke, we listened.”

Bruce L. Gardner. For further information, please contact Brian Magnus, AGNR development officer, at bmagnus@umd.edu or 301-405-7733.

Bruce Lynn Gardner
August 31, 1942 – March 14, 2008
(prepared by the Gardner family)

Born and raised on a dairy farm in Solon Mills, Illinois, Dr. Gardner was a farmer, a scholar, a baroque music aficionado, and a beloved husband, father, and grandfather.

Dr. Gardner received his Bachelor of Science degree in agricultural economics from the University of Illinois in 1964, and earned his Ph.D. in economics from the University of Chicago in 1968. He was a faculty member at the North Carolina State University, the Texas A&M University, and was a visiting Fellow at the University of Chicago before coming to the University of Maryland in 1981. In his quarter century at the University, Dr. Gardner’s academic research, dedication to mentoring, and leadership helped to shape and sustain the Agricultural Economics Department, where he served as both Chair and Director of Graduate Studies. Gardner was the initial director of the Agricultural and Resource Policy Center, and was interim Dean of the College of Agricultural and Natural Resources from 2003 to 2005. Dr. Gardner was appointed Distinguished University Professor in 1995.

In his career at the University of Maryland, Gardner has been active throughout his career, including several research projects involving agriculture in the state of Maryland. Dr. Gardner was active throughout his career with the American Agricultural Economics Association (AAEA), and served as president of the AAEA in 2001.

He is survived by his wife of 43 years, Mary Ann; his daughter, Sarah De Belen; his son, Matthew Gardner; two grand-children, Max and Alex De Belen; his mother, Jeannette Gardner; and three sisters: Nancy Cole, Jane Fry, and Ellen Ornberg. His brother, David Gardner, died in 2001. His father, Orben Gardner; and three sisters: Nancy Cole, Jane Fry, and Ellen Ornberg. His brother, David Gardner, died in 2001. His father, Orben Gardner; and three sisters: Nancy Cole, Jane Fry, and Ellen Ornberg. His brother, David Gardner, died in 2001. His father, Orben Gardner; and three sisters: Nancy Cole, Jane Fry, and Ellen Ornberg.

Dr. Gardner’s publications included dozens of journal articles and half a dozen books, most recently American Agriculture in the Twentieth Century. But his academic influence extended far beyond his own work; Dr. Gardner’s unusual combination of policy expertise, work ethic, and self-assumming nature inspired generations of students and faculty.

In addition to his academic work, Dr. Gardner assumed an active role in the development of agricultural policy at the state, national, and international levels. He helped shape the U.S. farm policy in two presidential administrations. He was appointed as a Senior Staff Economist in President Gerald Ford’s Council of Economic Advisers from 1975 to 1977, where he was heavily involved with economic analyses of grain trade issues with the Soviet Union. He was later chosen to be Assistant Secretary of Agriculture for Economics under President George H.W. Bush from 1989 to 1992. Dr. Gardner worked extensively on the 1990 Farm Bill and the Uruguay Round of GATT negotiations. He represented the Administration’s views on these issues to the Senate Agricultural Committee, and appeared formally before that committee on numerous occasions.

Upon his return to the University of Maryland in 1992, Dr. Gardner also became deeply involved, through the World Bank, U.S. AID and the International Food Policy Research Institute, in agricultural policy reforms in many countries. He participated in policy assessments and discussions with the governments of Ukraine, Moldova, Latvia, Poland, Hungary, Egypt, India, Albania, and most recently Russia. He also served on Dispute Resolution Panels under the U.S./Canada Free Trade and NAFTA Agreements.

Always maintaining an interest in the needs of domestic farmers, Dr. Gardner was involved in developing several research projects involving agriculture in the state of Maryland. Dr. Gardner was active throughout his career with the American Agricultural Economics Association (AAEA), and served as president of the AAEA in 2001.

For those seeking to honor the memory of Dr. Gardner with a charitable contribution, the family has requested that donations be made to: Washington Bach Consort, 1220 19th St. NW # 300, Washington, DC 20036. Please write in the memo line on the check, “In memory of Bruce Gardner.” For those wishing to contribute online, please go to www.bachconsort.org. In the comments field, write “In memory of Bruce Gardner.” Either way, all contributions with this designation will go to the Bruce Gardner fund for “general support of the WBC.”
Delbert Taylor Foster of Gaithersburg died Jan. 31, 2008, at his home. A native of Minneola, KS, Foster was born April 21, 1914, the son of the late James Walter Foster and Grace Louisa Adair Foster.

At the age of six, he moved to Iowa where his family raised purebred Hampshire hogs. In his youth he was an active 4-H member in Monro Count, IA, and served as the county’s 4-H president for a number of years.

Foster worked his way through college doing a variety of jobs at a boarding house, as well as clerking at J.C. Penney’s during holidays and Saturdays. He graduated in 1934 from Albia Junior College and from Iowa State University in 1937.

Foster’s career in agricultural Extension work with Iowa State and the University of Maryland spanned some 60 years. He started as a 4-H agent in Monro County, IA, and served as the county’s 4-H president for a number of years.

Foster received numerous awards in his career, including the USDA Superior Service Award in 1954, the first National Pride Award in 1976, the National Grassland Award in 1954 from the National Fertilizer Association, the USDA National County Agent Award in 1949, and the National Award for Management of County Office in 1977. He was the author of a variety of articles that appeared in such magazines as Successful Farm, USDA Extension Review, National Fertilizer, and Catholic Rural Life.

Foster and his wife were named Distinguished Citizens of the Year for the City of Gaithersburg in 1993 for their efforts in mobilizing the city to raise funds to build a new home for a family following Hurricane Andrew. In 2004 the Fosters were given Maryland Senior Citizen of the Year award.

Foster’s career included working with farmers and government and commercial landowners to control Johnsongrass, thistle, and shattercane.

Foster was a member of Epworth United Methodist Church in Gaithersburg, where he served as a member of the administrative board, Sunday school teacher, superintendent of the Church School, chairman of the Pastoral Relations Committee, and delgator to the District Conference and Council of Ministries. He was active in the Lions Club both in Iowa and Maryland, holding several leadership positions and receiving numerous recognitions. He was also a member of the George Washington Masonic Lodge and the Eastern Star.

Foster received numerous awards in his career, including the USDA Superior Service Award in 1954, the first National Pride Award in 1976, the National Grassland Award in 1954 from the National Fertilizer Association, the USDA National County Agent Award in 1949, and the National Award for Management of County Office in 1977. He was the author of a variety of articles that appeared in such magazines as Successful Farm, USDA Extension Review, National Fertilizer, and Catholic Rural Life.

Foster was preceded in death by his parents; his wife, the late Bernice Hollander Foster; his only child, Andrew. In 2004 the Fosters were named Distinguished Citizens of the Year for the City of Gaithersburg, a retirement community in Silver Spring, MD.

A service in celebration of Foster’s life was held on Tuesday, Feb. 5, at Epworth United Methodist Church in Gaithersburg, MD.

Rhoads received state and national recognition for educational programs on work simplification for homemakers, family finance, and clutter control. Her work with deaf and blind homemakers led to invitations to participate in state, regional, and national workshops. She also served on a “think tank” session at the National 4-H Center to develop plans for serving handicapped youth through 4-H programs.

Rhoads and her husband of 63 years, William J. Rhoads, a federal government retiree who worked at the Naval Surface Weapons Center in White Oak, MD, renovated the family barn into a home that was enjoyed by their family and many friends. This highlight of the couple’s life led to her writing a book, Country Carpen- ter, in 1991. In addition to her husband, Rhoads is survived by two sons, David M. Rhoads of Derwood, MD, and Richard W. Rhoads of North Laurel, MD, and four grandchildren. She is also survived by sisters Helen Louise Geiger, Mary Lambert, and Rae Hoffman.
Maryland 4-H Program as one who has continued to "carry their love and support for 4-H into their adult lives and recognize that life skills learned in 4-H led them to exemplary success in his or her personal and professional life." In 1987 she received the Dorothy Emerson 4-H Citizenship Award from the Maryland 4-H Program (named in honor of the first State Girls 4-H Club agent in Maryland) in recognition of her "sterling citizenship and a commitment to quality of life for all in the community, county, state, country, and the world."

Stabler and her husband of 46 years, W. Drew Stabler, operated Sunny Ridge Farm, a crop and livestock operation. They were named Master Farmers in 2004. The Master Farmer program is one of America’s oldest and longest-running agricultural honors programs co-sponsored by the American Agriculturist magazine and the Cooperative Extension programs of Delaware, Maryland, New Jersey, Pennsylvania, and West Virginia. The Stablers were recognized for their successes in progressive business management, responsible use of resources, and exemplary civic leadership. It was noted that "together they have filled many leadership roles in agriculture and community service and have served as spokespersons for agriculture in Washington, DC."

In addition to her husband, Stabler is survived by two daughters, Stacy Marie Stabler of New York and Tricia L. Stabler-Holland and husband, Carl L. Holland III, of Laytonsville; and one granddaughter, Morgan Drew Holland. She is also survived by three sisters, Roberta King of Centreville, Jean Legal of Clarksville, Susan Debnam of Chestertown. She was preceded in death by a brother, John Messer.

A Memorial Service was held March 1, at St. Paul United Methodist Church in Laytonville, with a luncheon following at the Montgomery County Agriculture Center.

Contributions may be made to St. Paul United Methodist Church, 21720 Laytonsville Road, P.O. Box 5006, Laytonsville, MD 20882.

Edgar P. Young, professor emeritus of animal science at the University of Maryland, died March 26 from complications associated with Parkinson’s disease. He was 80.

Young was born in Van Wert County, OH, and grew up on the 400-acre family-owned general livestock and grain farm in a rural area southeast of Fort Wayne, IN. He was active in FFA and earned his American Farmer degree. He served in the U.S. Army Counter-Intelligence Corps from 1951 to 1953. He earned his B.S., M.S., and Ph.D. degrees at The Ohio State University.

Young joined the faculty at the University of Maryland in 1958 as an assistant professor and served as chair of the Department of Animal Sciences from 1968 to 1982, when the department merged with the Department of Dairy Science.

Young’s passing left a legacy of research related to swine production and physiology, as well as service to the Maryland Pork Producers. His love of teaching earned him the prestigious Lindbeck Award for Teaching in 1963. More than 25 students earned advanced degrees under his tutelage, and he continued teaching part-time after his retirement.

A popular course, "Man, Culture and Animals," was offered as part of the University of Maryland’s Honors Program.

During his tenure as department chair, there was terrific growth in student enrollment. Enrollment in a newly established equine science program grew to 378 students taking 10 classes dealing with horses.

Young received numerous professional awards for his research and handled local arrangements for the 1974 national meeting of the American Association of Animal Science and the Second World Conference on Animal Product in 1968.

Young was awarded the Distinguished Alumni Award from The Ohio State University in 1976 and the Maryland Pork Producers presented him with its Annual Service Award in 1968 and 1990. He served a term as president of the Northeast Section of the American Society of Animal Science and received the association’s Distinguished Service Award in 1987.

Young published 26 bulletins and popular articles related to Extension education for pork producers. He was largely responsible for planning the University’s Swine Research Unit, which set a standard for both commercial and research operations nationally.
IAA Turf Bowl Team Places in Top Ten Nationwide

The Institute of Applied Agriculture (IAA) was the only two-year program to finish in the top ten at the 2008 National Turf Bowl competition held in February. The IAA team placed seventh out of 92 teams. Team members were Allen Harryman, Lucas Black, Kirk Warburton, and Chris Turner. They were advised by Dr. Kevin Mathias and graduate student Ray Pigali.

Youth Present Research Projects to Parents

Some 160 youth between the ages of 8 and 15 shared the results of their research projects with more than 350 friends and family at the Adventure in Science Parent Day on March 15. The young scientists displayed their projects and discussed their activities in 20 rooms at the National Institute of Standards and Technology in Gaithersburg, MD. Projects encompassed diverse subjects ranging from artificial blood, global warming, and sour milk to solar panel efficiency measurements and the effect of silver nanoparticles on aquatic organisms.

Outstanding Students Receive AGNR Scholarships

The Academic Programs Scholarship Committee of the College of Agriculture and Natural Resources is proud to announce the recipients of the scholarships listed below.

Undergraduate students:
- Thea Nielsen (double major in Agricultural and Resource Economics and Government and Politics) received the James and Patricia Miller Award of Excellence for Outstanding Senior for her high academic achievement and excellence in agriculture.
- Patricia Tung (Food Science) received the TIC Gums Scholarship as a result of her academic achievement, leadership, and participation in the Food Science Club, College Bowl, and Product Development Competition.
- Sara Meagher (Animal Sciences and Agricultural Science & Technology) received the Vansville Farmers Club Scholarship based on merit and her desire to become engaged in agriculture or an agriculturally related profession in Maryland.

Graduate students:
- Erin M. Sorrell (Animal Sciences doctoral student studying virology) received the Richard Davis Memorial Scholarship. She was chosen based on her academic achievement, leadership, and participation in the Food Science Club.
- Junhao Ma (doctoral student studying Nutrition) received the H. Palmer Hopkins Scholarship established by Charles and Ellen Coale, both of the Department of Environmental Science and Technology.

AGNR Team Takes Third in National Soils Contest

The University of Maryland soils team made yet another “final four” appearance at the National Collegiate Soils Contest (the “NCAA of Soils”), capturing third place in the overall competition. Two of Maryland’s four contestants finished within the top ten in individual scores; George Geatz placed eighth and Anastasia Vinnikova finished as overall high scoring individual. Other members of the team were Clint Gill and Vera Jaffe. All four competitors were coached by Dr. Martin Rabenhorst and graduate student Phil Zurheide, both of the Department of Environmental Science and Technology.