Red, White, and Hot!
Most people familiar with the College of Agriculture and Natural Resources know that our mission involves teaching, research, and outreach. And they probably assume—correctly—that most formal instruction takes place on the University of Maryland campus in College Park and that most non-formal educational outreach efforts occur in local Extension offices in Baltimore City and each Maryland county. What they may not know, however, is that much of the basic and applied research conducted by our faculty takes place not in campus laboratories, but at one of four off-campus research and education centers located across the state:

- Western Maryland Research and Education Center;
- Central Maryland Research and Education Center;
- Wye Research and Education Center; and
- Lower Eastern Shore Research and Education Center.

Together, these four centers include eight individual “facilities” covering more than 3,000 acres. They are “home” to nearly 100 faculty and staff, and provide many others with the land, equipment, and technology essential to their research.

Each research and education center offers something unique in terms of climate, soil, and other resources, and each attracts faculty with specific—although widely varied—interests. This issue of Momentum highlights a small handful of the projects and programs conducted by these faculty members. They are, as the saying goes, just the tip of the iceberg, but I think they’ll give you some understanding of the breadth, depth, and diversity of the work that goes on at these invaluable off-campus sites. And if you find your interest piqued, I encourage you to learn more by going to www.agresearch.umd.edu and clicking on “Research & Education Ctrs.”
Are You Looking for More?

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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

The proximity of the University of Maryland College of Agriculture and Natural Resources to Annapolis and Washington, DC, made it very appealing to me.

Amanda Dell
Tree Planting Celebrates Rich History, Promising Future

The University of Maryland College of Agriculture and Natural Resources (AGNR) and the Maryland Department of Natural Resources (DNR) Forest Service celebrated Arbor Day—and their long, intertwined history—on April 5 by planting an oak tree on the site of the original Maryland State Tree Nursery.

The land—located at the intersection of Route 1 and Lakeland Road in College Park—was donated by the university for the purpose of establishing the nursery in 1914. Thousands of trees were grown on the site for replanting in Maryland’s forests and along its roads before the nursery was relocated in 1950.

AGNR dean Dr. Cheng-i Wei and DNR secretary C. Ronald Franks marked the event by adding ceremonial shovels of mulch to the newly planted tree. They also committed themselves to building on the historic relationship of the college and the Forest Service by signing a cooperative agreement designed to foster internship opportunities for University of Maryland students at DNR, hiring of adjunct faculty from DNR by AGNR, and development of cooperative research and extension programming.

Joining in the celebration were Forest Service director Steve Koehn; Dr. Phyllis Johnson, director of USDA’s Beltsville Agricultural Research Center; descendents of former Maryland state foresters; and university faculty, staff, and students.

AGNR Turtle Tops Sun Story

The College of Agriculture and Natural Resources’ (AGNR) “Fear the Turtle” statue currently residing outside Symons Hall received top billing in an April 23 Baltimore Sun story. A total of 50 statues were created and installed on campus and around the local area in celebration of the university’s 150th anniversary. The AGNR statue, attired in overalls and a red baseball cap, reminds visitors of the university’s agricultural roots. Designed by AGNR alum John Nickerson, the 4.5-foot statue—“Out Standing in His Field”—will be auctioned off with the other plaster terrapins on October 19 to raise money for scholarships.

New Academic Department Announced

To better meet the needs of its students and stakeholders, the College of Agriculture and Natural Resources has established a Department of Environmental Science and Technology. This new department will be made up of several faculty and staff from the former Department of Biological Resources Engineering, along with some personnel from the Department of Natural Resource Sciences and Landscape Architecture, which has been renamed the Department of Plant Science and Landscape Architecture.

“These two new departments are more focused in their missions, and the expertise of their faculty is better coordinated,” says Dean Cheng-i Wei. “Therefore, they will better serve the needs of our students and, indeed, of all Marylanders.”

Dr. Frank Coale, former NRSL chair will head the new department while Dr. William Kenworthy serves as acting chair of Plant Science and Landscape Architecture. A national search for a permanent chair is being conducted this fall.

Magness Appointed Director of Development

Brian Magness has accepted the position of director of development and external relations for the College of Agriculture and Natural Resources. Formerly assistant director of development (see announcement in the summer 2005 issue of Momentum), Magness will now be responsible for the college’s overall fundraising activities, including those involving the Maryland 4-H Foundation and Veterinary Medicine.

“Brian’s efforts will be particularly important as the college moves toward its target goal of $10 million for the University of Maryland’s capital campaign,” says Dean Cheng-i Wei. “It is important that Brian be kept informed of fundraising opportunities that you may be aware of. If you have a working relationship with a private individual, corporation, or foundation partner, please contact Brian so that he can help build that relationship into support for our college.”

Magness can be reached at 301-405-7733 or bmagness@umd.edu
AGNR Honors Its Own

The Oscars it wasn’t, but six faculty and staff members were enthusiastically applauded by their peers at the College of Agriculture and Natural Resources (AGNR) 2006 Faculty and Staff Excellence Awards ceremony on May 17. The honorees posed with Dr. Nickolas Zimmerman (back right), chair of the AGNR Faculty Advisory Council, and Dean Cheng-i Wei (back left), who presented the awards.

The two staff members recognized for their outstanding work were (front, left to right): Kimberly Monahan, Biological Resources Engineering, on-campus staff award; and Deborah Ross, Maryland Cooperative Extension/east and west regions, off-campus staff award. The four faculty award recipients were (back, left to right): Dr. Richard Erdman, Animal and Avian Sciences, Dean Gordon Cairns award for distinguished creative work and teaching; Dr. Iqbal Hamza, Animal and Avian Sciences, junior faculty award; Dr. Robert Jackson, Nutrition and Food Science, Paul R. Poffenberger teaching and advising award; and Lynn Little, MCE/Washington County, director’s award for Extension.

Extension Specialist Receives Excellence in Teaching Award

Jonathan Kays recently received the University System of Maryland Regents’ Award for Excellence in Teaching—the first Maryland Cooperative Extension field faculty member to be so honored. Kays, a natural resources specialist, works at the college’s Western Maryland Research and Education Center, offering an array of educational programs for forest owners, homeowners, and other audiences. His goal is to help learners “manage forest resources in a way that meets their current needs but doesn’t detract from or degrade potential use by future generations.”

One of Kays’ longest-running ventures is the highly successful Coverts Project, conducted in cooperation with the Ruffed Grouse Society. Since 1990, the program—named for thickets that provide sheltering habitat for wildlife—has provided training to 360 woodland owners or managers and other environmentally concerned individuals. Dubbed “coverts cooperators,” participants learn how sound multiple-use forest management practices can improve wildlife habitats, while enhancing timber and fuelwood growth and other forest benefits and providing long-term financial returns. In exchange for free training, these individuals agree to share what they have learned with others. Other research and Extension programs developed by Kays include using biosolids to grow trees, deer damage management, natural resource income opportunities, and managing backyard forests. More detail on these programs are available on the Extension natural resources website: www.naturalresources.umd.edu.

Kays is shown here with University of Maryland President Dr. Dan Mote and AGNR Dean Dr. Cheng-i Wei.

Reducing Inflammation Naturally

Chronic inflammation has been associated with the risk of various age-related health problems, including cancer and cardiovascular diseases. It’s not surprising, therefore, that natural anti-inflammatory agents from edible products and by-products of agriculture and food processing industries are in high demand for their potential in reducing the risk of such ailments.

Dr. Liangli “Lucy” Yu in the Department of Nutrition and Food Science and Mark Joseph Mueller of Botanic Oil Innovations...
4-H Volunteer Recognized for Work with At-risk Kids

Kids in Somerset County have known for 50 years that Georganna S. Cottman is special. Now the whole nation knows. Cottman is one of 45 4-H volunteers from across the United States to be recognized recently for her outstanding work with children during after-school hours.

Described as caring and nurturing, Cottman has dedicated her life to working with children. She provides a safe, productive, and supportive after-school program for at-risk youth involving activities based on the 4-H youth development model. She takes participants on trips, teaches them public speaking skills, and nurtures their cognitive development. Former program participants have gone on to successful careers in such fields as medicine, law, management, carpentry, and accounting. Several of these individuals have stated that if it were not for 4-H and the skills they learned from Cottman, they would never have had the confidence to be successful.

Poultry Researchers Recognized

Two faculty members in the Department of Animal and Avian Sciences have been recognized for their poultry research contributions. Dr. Roselina Angel received the National Chicken Council’s Broiler Research Award for research with a strong economic impact on the broiler industry. Dr. Inma Estevez (shown below) received the Poultry Welfare Research Award at the 2006 Poultry Science Association annual meeting in recognition of her outstanding research on poultry welfare. She discussed her research dealing with behavior aspects of poultry reproduction and her experiences participating on poultry welfare committees at the 2006 National Poultry Breeder’s Roundtable in May.

Erin Hoel, a doctoral student working in the field of animal behavior under the direction of Estevez, also deserves kudos. She has received the Mabel Spencer Award from the University of Maryland Graduate School. The award consists of a $1,000 honorarium and remission of tuition for a deserving doctoral candidate with an outstanding graduate academic record and demonstrated potential to contribute to their field of study.

Veterinarian Receives Public Health Award

Dr. Katherine A. Feldman of the Virginia-Maryland Regional College of Veterinary Medicine, has been named a 2006 recipient of the prestigious national James H. Steele Veterinary Public Health Award, which recognizes outstanding contributions of current or recent former officers of CDC’s Epidemic Intelligence Service (EIS) in the investigation, control, or prevention of zoonotic diseases or other animal-related human health problems. A research associate and assistant director of the Center for Public and Corporate Veterinary Medicine at the Virginia-Maryland Regional College of Veterinary Medicine, Feldman served as an EIS officer from...
July 2000 through June 2002 with the Division of Vector-Borne Infectious Diseases in Fort Collins, Colorado. During this period and subsequently she carried out numerous epidemiologic investigations and other accomplishments of significant public health importance, including serving as principal investigator in a landmark epidemiological study of primary pneumonic tularemia in Martha’s Vineyard, MA. She also conducted an epidemiologic investigation of West Nile virus infection in New York City and tick-borne relapsing fever in Nevada; assisted the United Kingdom Ministry of Agriculture, Fisheries, and Food in the investigation and control of a national epidemic of foot-and-mouth disease; served as a consultant to the Ministry of Health in Mongolia for an outbreak of plague in that country; and conducted emergency room surveillance in New York City for possible bioterrorism events as part of the emergency response to the World Trade Center attacks of September 11.

Currently, Feldman teaches epidemiology and public health in the veterinary curriculum, and serves as a mentor and career counselor to veterinary students and graduate veterinarians interested in the field of public health.

Gemstone Team & Mentor Receive Awards

Dr. Frank J. Coale, professor and chair of the Department of Environmental Science and Technology, served as mentor to a group of undergraduate students who received the 2006 Outstanding Gemstone Team Thesis award.

The Gemstone Program is a unique interdisciplinary four-year research program for top University of Maryland undergraduate honors students of all majors. Under the direction of faculty mentors, teams of students spend three years designing, directing, and conducting significant research that explores the interdependence of science and technology with society. In their fourth year, each team writes a senior thesis, which they present to leaders in the field.

The team Coale mentored—the PhARM Team: Phosphorus Agricultural Runoff Management—wrote their award-winning thesis on “Protecting Surface Water Quality through Utilization of Industrial By-Products to Reduce Nutrient Transport in Sensitive Agriculture-Dominated Ecosystems.” Coale was named Outstanding Gemstone Mentor in recognition of the support and guidance he gave his students. The awards were presented at the 2006 Gemstone Citation Ceremony on May 19.

Food Scientist Appointed Acting JIFSAN Director

Dr. Jianghong Meng as been appointed acting director of the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), effective September 1, 2006. A professor in the Department of Nutrition and Food Science, Meng has had six years of internal grant support from JIFSAN and currently has a cooperative research project through JIFSAN with the Department of Natural Resources and Environment of the state of Victoria, Australia. He has also been awarded grants from the U.S. Department of Agriculture (USDA), the Maryland Agricultural Experiment Station and Maryland Industry Partnership, and several extramural granting organizations.

In 2005, Meng was appointed by the U.S. secretary of agriculture as a member of the National Advisory Committee on Microbiological Criteria for Foods (NAC-MCF) of the U.S. Department of Agriculture, Department of Health and Human Services, Department of Defense, and Department of Commerce. This committee provides scientific advice on public health issues relative to the safety and wholesomeness of the U.S. food supply.

A search committee will begin a national search for a permanent JIFSAN director soon. Dr. Maureen Storey, who Meng replaces as acting director, will continue as director of the Center for Food, Nutrition and Agriculture Policy (CFNAP).
Central Maryland Research and Education Center (CMREC)

CMREC is comprised of five facilities totaling more than 1,400 acres: Clarksville in Howard County; and Beltsville, Paint Branch Turfgrass, and Upper Marlboro—all in Prince George’s County.

The Clarksville facility serves as CMREC’s administrative “home” and site of the college’s Home and Garden Information Center. Herds of horses and dairy cattle provide subjects for research on issues involving nutrition, health reproduction, physiology, animal behavior, and nutrient management. Agronomic crop-related research, teaching, and Extension projects top the Beltsville facility’s agenda, while the development of tobacco alternatives—and alternative uses for tobacco—takes place at the Upper Marlboro facility. As its name suggests, work at the Paint Branch Turfgrass facility focuses on turfgrass, but researchers are also studying wildflowers and ornamental/native grasses there.
When someone says the word “tobacco” to you, what do you think of? Cigarettes, cigars, pipes, smoking? What about proteins? Or transgenic research?

No? Well, think again. College of Agriculture and Natural Resources researchers are investigating alternative uses for tobacco that could alter public perception of the historic crop while protecting the rural face of Maryland from urban sprawl.

For centuries, tobacco played a central role in the economic development of Maryland. At its production height during the early 1950’s, more than 50,000 acres of the crop were produced annually—primarily in five counties west of the Chesapeake Bay and south of a line between Washington, DC, and Annapolis. Tobacco was chewed, smoked with pipes, sniffed as snuff, and rolled into cigars and cigarettes. But as medical reports began linking tobacco use to lung cancer and pulmonary diseases, production of U.S. tobacco began to slowly decline.

As a plaintiff in a large class action suit, Maryland used money paid by tobacco companies to establish a buyout program for farmers who produced the crop. For 10 years, participating farmers receive $1 per pound for their average production during the years 1996-1998. In return, they agree not to produce tobacco for smoking purposes and to maintain their land in agriculture.
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Exploring the Alternatives

With the help of Extension educators, some tobacco farmers are trying their hand at growing alternative, niche-market crops, such as nursery/greenhouse products and field-grown cut flowers. But it's not a choice for everyone. “Tobacco was a high-value crop, frequently grossing farmers $2,500 or more per acre—a difficult figure to achieve with most other crops,” explains Dr. Robert Kratochvil, an associate professor and Extension agronomy specialist.

So he and several colleagues, including Dr. Martin Lo, professor and Extension food processing specialist; Dr. Brian Bequette, a protein and animal nutrition specialist; and Dr. William Bentley, a biotechnology and transgenic plants specialist from the Maryland Technology Enterprise Institute, are taking a look at another option: growing the same crop...for alternative uses.

Preliminary results by the team and others are promising, indicating two strong potential uses for tobacco. The first involves protein production. Tobacco contains very high-quality proteins, including an extraordinarily large amount (50 percent) of F1 or food grade protein. “What makes these proteins special is that they are odorless, tasteless, and colorless—characteristics that make them extremely desirable as human protein supplements,” says Lo. “They are comparable to soybean protein, better than milk protein (casein), and capable of being easily digested.” That may be why demand for F1 proteins is growing, fueled by the therapeutic nutrition industry that supplies protein supplements to hospitals and nursing homes.

The second potential use for Maryland tobacco involves transgenic research—the introduction of a gene from one plant or animal species into another species with the goal of producing the second species with a single added beneficial trait. Tobacco has long been one of the favored plant species for transgenic research and the potential offered by the therapeutic or medical protein industry makes the possibility of transgenic research in tobacco particularly exciting.

Although other crops, such as corn, are currently used for this purpose, tobacco has some advantages, according to Kratochvil. For example, as a self-pollinating species that is not used as a food crop, tobacco presents a drastically reduced potential for escape of genetically modified product into the food chain than does, say, a cross-pollinating crop like corn.

“Green Juice” Challenges

Producing and processing tobacco for protein isn’t without its challenges. First, more plants need to be grown per acre—100,000 versus the 6,000 grown for traditional purposes. This means that traditional transplantation techniques used for planting tobacco won’t work. Rather, some method of direct seeding is necessary. Kratochvil and his colleagues have successfully established their target population using a direct seeding technique called hydroseeding at the Upper Marlboro facility of the college’s Central Maryland Research and Education Center (CMREC). They also plan to explore another direct seeding approach using a tobacco bed seeder that broadcasts the tobacco seed as part of a blend with either fertilizer or lime.

But sowing the seed is just the first step. Other agronomic issues facing Kratochvil’s team are variety performance and management of weeds, diseases, insect pests, and nutrients.

Another—fairly complex—challenge to tobacco protein production involves harvesting and processing. Timing is critical, according to Kratochvil, because the greatest quality and yield of protein is realized from the harvest of fresh, green tobacco just prior to the flowering growth stage. And careful handling is key since the proteins are found in the juices of the plant and any bleeding from injured leaves reduces yield. Harvesting the tobacco like a hay crop seems to offer the best potential for minimizing leaf damage.
Protein production and transgenic research present exciting possibilities for Maryland tobacco.
For the past two years, Extension agricultural agents Caragh Fitzgerald and Bryan Butler have been examining various issues involving organic crop production at the Central Maryland Research and Education Center using a “high tunnel”—a sort of low-tech unheated greenhouse structure characterized by passive ventilation. “Organic crops are a viable option for producers who want to fill a specific niche,” says Fitzgerald. “Most are marketed directly to consumers and restaurants, and the demand is increasing, particularly in urban areas.”

And the benefits of a high tunnel are many, according to Butler. To begin with, it allows growers to plant and harvest crops three to four weeks ahead of the traditional schedule in the spring and later than usual in the fall. That means more crops can be produced in a single season…with the early and late harvests bringing higher prices than typical season crops. High tunnels also create a micro-climate that allows for improved crop quality. Because plants don’t get wet from above, the incidence of many diseases is reduced, and proper water management involving careful trickle irrigation can minimize problems caused by weeds and certain rotting diseases.

However, high tunnels aren’t maintenance free, Butler cautions. “They actually require an increase in both the level and amount of management necessary to grow a crop,” he says. The sides must be raised and lowered to regulate temperature and humidity, and plants must be irrigated regularly and fertigated as needed. Integrated pest management (IPM) is essential. He and Fitzgerald have found that the use of beneficial insects is very effective against some insect pests on some plants, but that there are limits, requiring the use of other strategies.

The pair share their findings on an ongoing basis with producers via published fact sheets, tours and meetings, and one-on-one interaction. —PT
Equine Research

Program Jumps to New Heights

When Dr. Amy Burk of the Animal and Avian Sciences Department toured the former swine facility at the Central Maryland Research and Education Center (CMREC) for the first time in 2003, she saw beyond the aging buildings and equipment and recognized the site’s potential as a state-of-the-art facility for equine research. Several years, thousands of dollars, and hours of labor by faculty, staff, students (and some spouses) later, the newly renovated and fully functional Equine Research Unit currently houses 16 Thoroughbred geldings atop a crest overlooking CMREC’s Dairy Unit and crop fields.

The unit is equipped with a 16-stall barn with a wash area and feed room; a 6-horse automated exerciser; an adjacent building for offices, data collection, and lab space; and 20 acres of fenced turnout pasture. “We’ve been able to create a great place to conduct applied equine nutrition research, although we’ve got a lot of work ahead of us if we’re truly going to maximize the potential of this research program and facility,” says Burk.

She and other faculty already have conducted studies on several issues of concern to Maryland’s horse industry, including the possible suitability of a new variety of reed canarygrass hay as an alternative to rust mite-susceptible timothy hay. Results of their first study on the voluntary intake and digestibility of reed canarygrass hay compared to timothy hay will be published in the Journal of Animal Science later this year.

Burk and her colleagues are currently developing pastures that will be rotationally grazed by the unit’s horses. Data collected will help horse farm operators improve pasture production, lower feed costs, improve the nutritional status and health of horses, and contribute to land stewardship by reducing negative environmental impacts. —AB
Wye Research and Education Center (WREC)

Located in Queen Anne’s County, WREC is the result of cooperation among the college, the Wye Institute, and the Wye Plantation that dates back nearly 40 years. The center was formally established in 1982 and today shares nearly 1,000 acres with the Wye and Aspen Institutes. Cattle breeding and herd improvement work involving the Wye angus herd began in 1954, followed by crop research in 1966. Other areas of research and educational outreach include integrated pest management; plant breeding and genetics; aquaculture; energy development, use, and conservation; and nutrient management and other water-quality issues.
At the Wye Research and Education Center (WREC) in Queenstown, a boiler fueled entirely by grass heats the center’s maintenance buildings and a greenhouse. This past winter, heat from the grass-fired boiler reduced fuel oil use by about 700 gallons.

But the grass, called switchgrass, is more than just a biofuel that could help farmers rely less on increasingly expensive fossil fuels. Switchgrass also has potential environmental benefits for the Chesapeake Bay and beyond...from the time it's planted until it's burned for heat.

Research associate Dr. Ken Staver has been investigating how switchgrass fits into Eastern Shore agricultural systems, from its production and role in riparian nutrient cycles to its eventual use as a home-grown fuel to supply farm heating needs. “I’m interested in how switchgrass could fit into the overall agricultural environmental picture,” Staver says. “For a long time switchgrass has been considered to have potential for use in buffer areas to scavenge nutrients lost from cropland before they reach the bay. But there also is growing interest in its potential to help on the atmospheric carbon dioxide problem. Higher fossil fuel costs now make switchgrass more economically viable as an on-farm fuel than when I started working with it back in the early 1990s.”

Switchgrass is a tall native grass that a number of farmers already plant to create wildlife habitat and reduce pollution from runoff. “Grasses grown in buffer areas near streams and rivers have long been considered to be effective for keeping cropland nutrients from running off into waterways,” says Staver. “Unlike most other grasses, switchgrass stands up well in the field during fall and winter, which improves its combustion characteristics, primarily as a result of leaching of most of the potassium out of the standing switchgrass. High potassium levels in grasses have always caused problems in grass-fired boilers, but by waiting until early spring to harvest, we can get around this problem with switchgrass.”
“Switchgrass has the potential to be an economic—and environmentally sound—energy source for Maryland farmers.”
While burning straw for heat has a long history in Europe, using grass as a biofuel has not been heavily studied in the United States. Researchers in the South, where switchgrass has been pushed for high yields, are studying large-scale use of switchgrass to create ethanol as a significant replacement for fossil fuel.

“The ethanol route probably is the most important from a national perspective since the big problem is a replacement for liquid transportation fuels,” says Staver. “The problem with ethanol production and electricity generation is that there isn’t much technology currently available for use at the farm scale. Even if there were, the cost would most likely be prohibitive.”

So Staver is focusing on a different application, one more appropriate for Maryland farmers. Switchgrass is cut and baled with typical hay-making equipment, and the bales are loaded directly into a boiler designed to burn cereal straw. This system can replace fossil fuel heating in plenty of places on farms: buildings, greenhouses, in dairies for heating hot water, grain drying and aquaculture systems. And as Staver explains, “It’s the only way to use switchgrass as a biofuel that is available now and on a scale that is appropriate for use on typical Maryland farms, given our land base and switchgrass production potential.”

Other than the boiler, the rest of the heating system is the same as conventional boiler systems, and according to Staver, has worked quite well so far. “The big drawback is that it’s a batch-fired system, which means more work than an oil- or propane-fired system where a thermostat controls fuel supply to the boiler,” he says. “But from a cost standpoint we may be getting to a point where farmers consider the extra work worthwhile, especially if they also get some incentives for protecting water quality and reducing carbon dioxide emissions.”

Another environmental benefit of switchgrass is that when used as a fuel, the net long-term output of carbon dioxide is less than with fossil fuels. But burning grass also can produce smoke. “Grass burning done poorly can be very bad in terms of air quality,” says Staver. “Grass is tricky because the surface area of the fuel is so great. We’ve had some problems getting the smoke output to acceptable levels. Lately I’ve been looking into trying to get it pelletized to help increase combustion efficiency. Pelletizing would also make boiler systems more convenient, since there are automated feed systems for pelletized fuel, like the wood pellet stoves that many people use in their homes. But despite quite a bit of interest, so far switchgrass has proven to be difficult to pelletize.”

Staver hopes that the rise in oil prices will turn more attention to renewable energy sources like switchgrass. “The total harvested energy content per acre of switchgrass is equivalent to that of 530 gallons of heating oil,” he says. “With a two- to three-dollars per-gallon cost for heating oil, the per-acre value of switchgrass is starting to look more attractive.

“Switchgrass has the potential to be an economic energy source for Maryland farmers and also help them meet increasing local demands for reduced nutrient losses, as well as contribute to solutions of national and global problems related to use of fossil fuels.”
Picture it: Cows and calves grazing quietly in the green fields of Maryland’s Eastern Shore, the sound of munching broken only by the occasional “swish” of a tail to keep the flies away. As attractive as it is, this scene is more than just another pretty Kodak moment. These cows and calves are part of a unique herd of Angus beef cattle owned by the University of Maryland Foundation and maintained by the Maryland Agricultural Experiment Station at the Wye Research and Education Center.

This Wye Angus herd, as it’s known, has an international reputation for its genetic integrity. As one of the few “closed” herds in the United States, it provides unique advantages in terms of conducting basic and applied beef cattle research. With its small genetic pool, individual animal variation is significantly reduced, which improves the interpretation of research results.

The herd owes its genetic purity—and resulting value—to the late Arthur A. Houghton Jr. Houghton and his farm manager, Jim Lingle, founded the herd in 1938 with 18 registered yearling heifers and 1 bull. No other females were ever introduced into the herd and male additions were limited to 19 bulls imported from the British Isles prior to 1958. Today’s 200 cows, 10 calves, and 5 bulls are descended from these animals and their progeny, which Houghton left to the university in 1979.

Among the research projects involving the current herd are those focusing on environmental issues. “Environmentally conscious consumers and breeders are increasingly looking at the issue of environmentally sensitive farming, says Dr. Reginal “Reggie” Harrell, acting associate director of the Maryland Agricultural Experiment Station. “Cattle can be farmed and still be environmentally benign to the local landscape and have minimal impact on local water quality.” Scientists also are investigating issues involving general animal health, yield-carcass weights, and the genetic markers associated with meat marbling and tenderness.

As part of the original gift agreement, the university offers animals deemed unnecessary for research needs to the general public. The 2006 sale was one of the best ever, according to Eddie Draper, program manager. Forty-seven animals (10 cow/calf pairs, 5 heifers, 3 pregnancies, and 29 bulls) as well as 33 frozen embryos were sold, grossing more than $185,000. Proceeds from each sale are reinvested in the program. —DDJ
As the oil refinery owned and operated by Motiva Enterprises LLC polluting the Delaware River? That was the question Lenwood Hall Jr. and Dennis T. Burton hoped to answer.

Following a suit by the Natural Resources Defense Council, the court ordered studies to determine the impact of effluent discharges by Motiva that exceeded legal limits—particularly the impact of polynuclear aromatic hydrocarbons (PAHs) present in the refinery’s effluent. Hall and Burton, both stationed at the Wye Research and Education Center, began investigating in 1999.

During a four-year series of complex, interrelated studies, the researchers tested the refinery’s effluent and intake canals, as well as selected Delaware River sites, for PAHs, metals, and other chemical pollutants; assessed the toxicity of sediment and the health of aquatic life living near the river bottom; “fingerprinted” PAHs in Motiva’s effluent to distinguish the refinery’s chemicals from those from other sources; and conducted long-term coring of the river sediment to determine the impact of past non-complying discharges. They then integrated and analyzed all study components to determine if Motiva-related PAHs are impacting water quality and aquatic life in the Delaware River.

“Our final conclusion was that the Delaware River study area in the vicinity of the Motiva Refinery displayed some degree of sediment contamination, chronic sediment toxicity, and impaired aquatic life,” says Hall. “However, these environmental effects did not appear to be related to excess discharges by Motiva.”

“Essentially,” adds Burton, “these effects were not particularly surprising for an urbanized/industrialized estuary and, as is common with these ecosystems elsewhere, the sources appear to be diverse and diffuse.”

The data generated from Hall and Burton’s investigation provides the background information needed to develop a long-term monitoring plan as required in Motiva’s operating permit. The published research results—“An Integrated Case Study for Evaluating the Impacts of an Oil Refinery Effluent on Aquatic Biota in the Delaware River”—also earned the team a 2005 Paper of the Year Award from the journal *Human and Ecological Risk Assessment (HERA)*. As one HERA editorial board member noted, “This whole issue is a great case study. It’s relatively rare to find an integrated report like this and it was well done.”—PT
Western Maryland Research and Education Center (WMREC)

Located on 492 acres in Washington County, WMREC serves Western Maryland’s diverse agricultural and natural resource base with research and outreach programs. Research activities focus on tree fruit; small fruits; integrated pest management (IPM); corn and small grain variety improvement trials; and pasture management, rotational grazing, and other best management practices for protecting and promoting water quality. Educational outreach programs are offered in a variety of subjects, including farm management, small ruminants, forestry and wildlife management, and alternative agricultural enterprises, such as wine production.
Red, White, and Hot:
Joe Fiola and
Maryland’s Wine
Industry
Bubble Over
by Marika Carley

If you ever have the opportunity to talk with Joe Fiola about grape growing and wine, be warned. His enthusiasm is so infectious, you’ll get the urge to run out and plant your own little vineyard. And you wouldn’t be alone.

“Things are going crazy in the grape industry,” says Dr. Fiola, viticulture and small fruit specialist at the Western Maryland Research and Education Center. “There are twenty-three wineries in Maryland today, almost double the amount just three years ago, plus four or five that will be ready to start operation in the next couple of months. Also, we’ve gone from 70,000 to 80,000 gallons of wine produced to 140,000 to 150,000 in the past three to four years.”

This is a huge turnaround from when Fiola arrived at the College of Agriculture and Natural Resources (AGNR) in 2001. “When people are considering growing grapes they look to support from the university, the government, and regulatory agencies,” he says. “Five years ago, that kind of support didn’t exist. There wasn’t a viticulture specialist at the university supporting the industry’s educational and research needs, and the state government wasn’t supporting the industry in financial and regulatory matters.”

Today the college is making the wine industry a priority and the state is contributing financial support for promotion, research, and outreach, including the hiring of an AGNR specialist in fruit pathology. Governor Robert
“We know we can grow top-quality grapes here.”

–Joe Fiola
Ehrlich created a task force that’s become the Governor’s Commission for Wine and Grapes—Fiola is a member—to assist the industry, and legislation passed this year to aid new wineries retail their wine has helped also. “The university and legislative support of the industry has really improved over the past few years and the governor has been very supportive,” says Fiola. “We’ve had some major breakthroughs.”

One of those breakthroughs is the ongoing “Vineyard Site Suitability Project” where Fiola in cooperation with the Maryland Department of Planning (MDP), is using GIS and GPS to map all Maryland counties to determine the best grape growing areas. Fiola and the Maryland Department of Agriculture (MDA) are also in the early stages of creating a regional nursery certification program for growing grape vines free of debilitating diseases. “When growers buy healthy vines they have a good chance of being profitable as quickly as possible,” says Fiola, whose Extension program is dedicated to helping new producers get off to the best start, achieve quick results, and turn a profit sooner. “Historically, it takes about three to four years to get a vineyard established and really start normal production,” he explains, “but between our planting density and training techniques, we’ve been able to help some commercial vineyards harvest grapes in their second year.”

Fiola, who received the 2006 Maryland Grape Growers Association “Veraison Award” for outstanding contributions to viticulture, tends four AGNR research vineyards around the state, each located in a different climatic region: the Piedmont (which includes Harford through Washington counties), Southern Maryland, and two areas of the Eastern Shore. This approach allows him to develop recommendations for varieties and cultural treatments appropriate to each area. “The biggest challenge in quality wine production,” Fiola explains, “is matching variety to location so that the grapes will fully ripen each season. It’s very difficult to make a good wine with underripe grapes.” That’s why in Southern and Eastern Shore Maryland, where the climate and growing conditions are distinct from the rest of the state—and the world—Fiola is experimenting with grape varieties from the southern parts of Italy, France, and Spain…grapes that aren’t being grown anywhere else in the United States.

Judging from all the accomplishments and activity, the Maryland wine industry is on a roll. Demand for grapes in the state is at an all-time high and there isn’t enough supply of fruit to meet demand. And Maryland wines have gained in prestige, winning top awards in both national and international competitions. Fiola, himself, has received four gold, seven silver, and five bronze medals from the American Wine Society’s Non-commercial Wine Competition for wines produced from grapes grown in the college’s research vineyards. In 2003, his 2002 “Linae” wine bested 800 wines for the title of Best of Show.

“We know we can grow top-quality grapes here,” Fiola says. “I’m not quite ready for 100 plus wineries yet, but I am very optimistic about the future of the Maryland grape and wine industry.” We’ll drink to that.
Forested lands across the United States are being broken into smaller and smaller parcels as city turns into suburbs turns into exurbs. At least two-thirds of forest landowners in the Mid-Atlantic region currently own 10 or fewer acres.

But these new small landowners have little access to professional natural resource assistance since forest stewardship programs in most states target forest landowners with larger properties. To address this information gap, Jonathan Kays, natural resources Extension specialist at the Western Maryland Research and Education Center, and colleagues from Pennsylvania and Virginia, have written *The Woods in Your Backyard: Learning to Create and Enhance Natural Areas Around Your Home.*

“Many landowners establish large lawns for aesthetic considerations, not understanding the impacts they have on wildlife, recreational opportunities, water quality, and the personal cost in time and money it takes to maintain their investment,” says Kays. “This publication provides a common-sense approach to managing existing natural areas and converting lawns into naturalized areas.”

He and his colleagues will use the manual to train volunteers from state Master Gardener programs and the forest wildlife volunteer program (Coverts Project) to teach others as part of their U.S. Fish and Wildlife- and USDA Forest Service-funded “The Woods in Your Backyard” project. The manual covers information on identifying interests in your land, getting to know your property, understanding ecological principles for forestry and wildlife, and putting your knowledge into practice. Both manual and workbook provide self-assessment worksheets and activities to help landowners make decisions that have a positive impact on wildlife, water resources, recreation opportunities, and forest health.

Publication printing is expected in September, followed by volunteer training and local educational opportunities. For more information on the Woods in Your Backyard project, check for updates at [http://www.naturalresources.umd.edu/woods.cfm.](http://www.naturalresources.umd.edu/woods.cfm.)—DDJ
When it comes to meat goats, performance means everything. But how do producers know which goats will grow better, produce the best meat, and resist parasites the best?

Extension sheep and goat specialist Susan Schoenian is conducting a pasture-based meat goat performance test at the Western Maryland Research and Education Center (WMREC) to help answer that question. “In a central performance test, animals from different herds are brought to one central location where their performance is recorded,” Schoenian explains. “The rationale is that observed differences are more likely due to genetic differences, which will be passed onto offspring, than to environmental differences, which will not be passed onto offspring. The goal is to identify genetic differences among animals.”

Forty-seven male goats consigned by breeders from seven states—Maryland, Pennsylvania, Virginia, West Virginia, Georgia, Tennessee, and Oklahoma—are currently grazing at WMREC, where they will remain until October 7. The only supplementation the goats will receive is free choice minerals. Every two weeks, Schoenian will determine the goats’ FAMACHA© eye anemia scores, body condition scores, and the need for deworming individual animals. She will weigh them every four weeks, and collect and analyze fecal samples three times. Towards the end of the testing period, she will determine the animals’ back fat and ribeye area using realtime ultrasound.

To follow the progress of the test, visit the web log at http://mdgoattest.blogspot.com/. For general information on sheep and goats, visit http://www.sheepandgoat.com. —PT
Lower Eastern Shore Research and Education Center (LESREC)

LESREC was established in 1947 and includes two facilities located in Wicomico County: Poplar Hill and Salisbury.

An agronomic research farm, Poplar Hill has been open to academic investigation since 1969. Studies focus on advanced breeding and screening trials involving soybean, corn, wheat, and barley, along with crop management and pesticide studies.

Research at the Salisbury facility addresses issues involving integrated pest management (IPM), pesticide efficacy, organic crop production, nutrient management, reduced tillage, irrigation practices, and minor crops/pesticide labeling (IR-4).
Tigger, Jenny Lind, and Blacktail Mountain. If you looked these terms up in an encyclopedia, you might find such descriptions as “stuffed tiger friend of Winnie the Pooh,” “the Swedish nightingale,” and “a Montana ski resort.” But they’re also examples of specialty melons currently being cultivated in the United States. Although still unfamiliar to most consumers, many of these distinctive melons have their roots in ancient history and are generating enthusiasm among 21st-century producers.

Melons have been important agricultural crops for thousands of years, says Extension agricultural agent Laura Hunsberger. They provided essential water to Kalahari Bushmen and flavorful variety to royal Egyptian diets. By the 1800s, a rainbow of melon varieties graced American gardens and farm fields. But, eventually, like such other popular staples as apples, peaches, and tomatoes, they were modified to meet the growing, harvesting, and transportation needs of 20th-century agribusiness. And that meant that many once-popular varieties faded from the marketplace.

But researchers like Hunsberger believe there’s a place for heirloom and other special melon varieties in today’s kitchen. At the suggestion of a grower in Western Maryland who can’t keep them on the shelf at farmers markets, she began growing several varieties organically last year at the college’s Lower Eastern Shore Research and Education Center (LESREC). “I’m interested in both innovative and unusual crops and in organic production, so it made sense to combine them,” she explains.

Jenny Lind and Tigger are among the varieties Hunsberger is growing. Described as one of the best-tasting melons of all time, Jenny Lind is a very old muskmelon that has sweet, green, juicy flesh. The vines have good disease resistance and are prolific. Tigger, which unsurprisingly is bright orange with yellow tiger-like stripes, is a very aromatic and tasty melon that originated in Armenia. It has a
sweet, white flesh with a citrus aftertaste and a perfume described best as a mix of ripe cantaloupe, pineapple, and a hint of jasmine. It's also much smaller than the melons most of us are used to seeing in the supermarket—about the size of a softball. “Such melons are described as mini-melons or personal melons because they make a perfect serving for one,” says Hunsberger.

Melons grow well in the sandy soils of Maryland’s Eastern Shore, so LESREC makes a perfect “laboratory” for Hunsberger’s research. And as with any organic crop production, insect and weed suppression are major elements of her work. “Last year, we used straw to suppress the weeds,” she recalls. “Unfortunately, the straw harbored squash bug populations, and there was just no way we could keep up with them.” So this year, she’s using black plastic mulch.

Hunsberger shares the results of her research with Maryland producers, who are often looking for new ways to diversify their farming operations and set themselves apart from their neighbors. “Incorporating value-added commodities to their product repertoire is a great way to increase profits,” she explains. “Even something as minor as adding a new variety or combining a few products together into a ‘package’ can attract new customers to a stand at a farmers market.”

Novel & Nutritious Snack

As unusual as they are, specialty melons are downright conventional compared to Hunsberger’s other research subject: edamame—edible soybeans often enjoyed salted and steamed in their pod. Actually, edamame is very common…if you live in Japan. According to Hunsberger, who has spent time there, it’s not uncommon to see people sitting at an outdoor table enjoying a drink and edamame, much as an American would snack on chips or pretzels with beer. As one online blogger posted, “edamame goes great with lager”—which may be why you can now find it on the menu at such large restaurant chains as Ruby Tuesday’s and McDonalds.

Hunsberger has been conducting variety trials for four or five years and is the only person in the United States currently growing edamame organically. She is investigating various weed suppression methods, including the use of mulch and clover planted between the soybeans, and harvesting techniques. Although she currently harvests the soybeans by hand, such an approach is much too labor intensive for a commercial operation.

Edamame may be too exotic for rural Maryland markets, but would likely find an audience in the diverse Baltimore-Washington urban corridor, where it can already be found frozen in some supermarkets. It also should appeal to health-conscious consumers.

“Edamame contains 38 percent protein and a four-ounce serving provides 11 grams of protein,” says Hunsberger. “It’s also rich in calcium, vitamin A, and phytoestrogens, which may reduce the incidence of such menopausal symptoms as hot flashes and night sweats.” And in addition to being consumed as a snack, edible soybeans also are processed into many types of protein-rich foods, including tofu; tempeh; soy milk, cheese, and ice cream; miso; and nutritional powders. And that, says Hunsberger, means great marketing opportunities for producers.
Watermelon is practically synonymous with summer—think beaches, picnics, and the Fourth of July. In 2002 Delaware and Maryland together produced 211 million pounds of watermelons for a total value of nearly $20 million in sales. Given those figures, you might think growing watermelons is, well, a piece of cake. Think again.

Plant diseases, including aggressive strains of wilt, present a real challenge to producers, especially with the phase-out of methyl bromide that began in 1987. The broad spectrum pesticide effectively killed the vast majority of soil organisms that could interfere with watermelon production…but it also damaged the ozone layer.

Dr. Kathryne Everts, associate professor and Extension specialist in vegetable plant pathology, studies diseases that affect commercial production of vegetables (including watermelons!) in the Mid-Atlantic region. Along with research associate, Dr. Xin-Gen Zhou, Everts has isolated a strain of watermelon-attacking Fusarium wilt that has not been found anywhere else in the world. They will present their discovery in a journal article and at the American Phytopathological Society meeting this fall.

Everts and Zhou have conducted field trials at the college’s Lower Eastern Shore Research and Education Center (LESREC) and obtained samples of infected watermelon throughout Maryland and Delaware. They are developing cover crop methods using a plant called hairy vetch to suppress the disease and contribute nitrogen to the soil.

“The watermelon is the second largest fresh market vegetable crop grown in Maryland, following sweet corn,” says Everts. “The importance of Fusarium management to Maryland and Delaware’s commercial vegetable industry is clear.”—DDJ

Ensuring the Safety of Specialty Crop Pest Protection

The habanero pepper grower in Maryland may not farm as many acres as the soybean farmer down the road, but his or her need for safe, effective pesticides is just as great. Luckily for specialty crops farmers in Maryland—and across the United States—a federally funded program established in 1963 supports the research necessary to provide them with safe and effective pest control tools. Specialty crops (including fruits, vegetables, nuts, herbs, flowers, turf, and ornamental landscape plants) are usually grown on a small number of acres, but are high in value. For large pesticide manufacturers, however, there is not much financial incentive to test pesticides for these crops.

To address this void, the Pest Management for Minor Crops Program, National Research Support Project-4 (IR-4), was created. IR-4 is a collaborative effort among land-grant universities, the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, commodity growers, and the crop protection industry.

One of 28 field research centers in the United States, the University of Maryland’s IR-4 center is located at the Lower Eastern Shore Research and Education Center in Salisbury, MD. Established in 2000, the IR-4 center conducts crop trials in compliance with good laboratory practices (GLP)—stringent EPA-mandated guidelines designed to assure the highest quality of field and laboratory research.

According to Marylee Ross, field research director for the Maryland IR-4 Center, “Food safety is of primary importance to IR-4. We prioritize products, test them on crops, send samples to the lab, and test for pesticide residue.” IR-4 assists with the registration of biologically based pest control products as well as registering and maintaining reduced risk products essential to integrated pest management (IPM) programs and systems. Between 1997 and 2005, the IR-4 program resulted in an estimated $12,589 billion in economic impact/loss avoidance expenses. —DDJ
Loyalty, appreciation, and even familial connections are not uncommon among alumni of the College of Agriculture and Natural Resources (AGNR). But few can claim the connections of William “Will” Godwin. A 1963 Extension Education graduate, Godwin is the grandson of Thomas B. Symons, who served as dean of agriculture, director of the Agricultural Experiment Station, and acting president of the University of Maryland. Godwin’s mother attended Maryland, as did one daughter, who graduated in 1995.

But when you talk with Godwin, you quickly realize that such facts only scratch the surface of the ties that bind him to the university. “My grandmother worked as a governess for the children of Maryland’s president, and that’s how my grandfather met her,” he reflects. Years later, Godwin’s mother worked for Harry Clifton “Curly” Byrd, another UM president.

Even the landscaping in front of Symons Hall, named for Godwin’s grandfather, recalls the family’s contributions in the form of two large boxwoods that flank the steps leading to the front door. “Those plants came from my grandfather’s front yard,” Godwin explains. “When they got too big for the yard, they were dug up and moved to campus.”

Godwin’s own college experience led to a long and productive career in agriculture. For many years he designed milking parlors and sold dairy equipment, helping farmers cut labor costs by 50 percent or more. More recently, the Hagerstown resident...
served as a registered sanitarian food service inspector in Washington County before retiring on July 31.

Godwin helped establish the Maryland Dairy Industry Association, served on the boards of the Maryland 4-H Foundation and the Dairy Practice Council, and was a member of the Pennsylvania Association of Milk, Food and Environmental Sanitarians and the National Mastitis Council. He’s the outgoing president of the Baltimore Conference, Central Atlantic States Association of Food and Drug Officials (CASA).

And as if career and family weren’t enough, Godwin has stayed connected to his alma mater throughout the years. He was president of the AGNR Alumni Chapter and served on two search committees. He was on a committee of five that established the campus-wide College Park Alumni Association as it exists today. The group wrote the bylaws for the association, taking their lead from other states, and established a meeting schedule—Saturday morning session, followed by lunch and attendance at a UM game.

While serving as president of the College Park Alumni Association in 1991-92, Godwin spearheaded the creation of the Affinity credit card, a Visa card that allows users to give back to the university every time they make a purchase. In recent years, use of the card has resulted in substantial income for the Terrapin Club and the Alumni Association.

Godwin also played a pivotal role in the establishment of the Riggs Alumni Center. He, Joan Patterson (then assistant alumni association director), and Virginia Norton, incoming president of the alumni association, were at a meeting listening to a speaker who asked the audience to think about what they needed on their respective campuses. “Joan and I immediately thought ‘alumni center’ and I drew a building idea on a paper napkin,” he recalls. “It took us years to get there, but we finally have a ‘home’ for alumni on campus.”

Godwin’s commitment has now achieved new heights with the establishment of an endowed scholarship in the College of Agriculture and Natural Resources.

“People need to understand that there’s a need to give back, especially now when government support for state schools is declining,” Godwin explains. In addition to giving back to the school that gave him his start, he says he’d love to see the scholarship—and others like it—make college possible for students who might someday make a real difference in the world—achieving something worthwhile that they wouldn’t have been able to without financial support. “That would be pretty special,” he says.

In addition to his agricultural activities, Godwin has been active in his church, St. John’s Episcopal Parish of Hagerstown, serving as Stephen Minister, MayFest co-chair, and in many leadership roles. He and his wife Sara Ann are passionate gardeners who lovingly tend their perennial border, “Flora Place.”—PT
The Experience of a Lifetime

LEAD Maryland is an agricultural leadership development program supported by the College of Agriculture and Natural Resources and many local agriculture agencies, businesses, and organizations. As a fellow in the program’s fourth class, April Hall ’99 shares this report from their recent trip to China.

In May, LEAD Maryland fellows enjoyed the trip of a lifetime, spending 12 days in China, where we visited farms and agricultural agencies, toured significant historical sites, and experienced China’s culture. The College of Agriculture and Natural Resources was well represented by both employees and alumni participants (some people are both): Kenny Bounds ’77, president of the LEAD Maryland Foundation and vice president/government affairs officer for Mid-Atlantic Farm Credit; class IV fellows Kevin Conover ’82, facility manager of the Central Maryland Research and Education Center-Beltville; April Hall, faculty Extension assistant for 4-H/livestock in Cecil County; John Rigdon ’77, Harford County farmer; Susan Harrison, executive director of the LEAD Maryland Foundation; and Jenny Rhodes, nutrient management advisor in Queen Anne’s County.

The fellows traveled to the cities of Beijing, Xian, Shanghai and the surrounding areas and to such agricultural sites as the Chinese Ministry of Agriculture, Chinese National Animal Breeding Stock and Import & Export Corporation (CABS), Beijing Agriculture Wholesale Market, Red Sun Indoor Organic Restaurant, Yinqiao Group Dairy Processing Plant, and Northwest Agriculture and Forestry Science-Technology University. We also had an opportunity to talk with representatives from McCormick, Purdue Farms, the Agriculture Trade Office of the U.S. Consulate General, American Embassy’s Agriculture Division, U.S. Soybean Association, and U.S. Feeds Grain Council located in China.

Participants learned a great idea from the visits and tours and also presented to college students and professors at the Northwest Agriculture and Forestry Science-Technology University about our involvement with Maryland agriculture. From observations, China is facing similar agricultural issues, including environmental concerns, food safety, and the younger generation leaving the farm for jobs in the city.

The group viewed an acrobatic and variety show and traditional Chinese dance, tasted lots of Chinese cuisine, and did some tea samplings. We experienced Chinese modes of transportation from the most rudimentary—walking on foot—to the most advanced—riding on the maglev magnetic train. We also rode on an overnight train, flew on China Air, took a river cruise, and rode in a surrey driven by a man on a bicycle. Final assessment was that China is extremely primitive in some ways, yet exceptionally advanced in others.

For more information about LEAD Maryland, go to http://www.leadmaryland.umd.edu/

UMCP AGNR alumni (L-R): John Rigdon, Kevin Conover, April Hall, and Kenny Bounds at the Yangling National Agriculture Development Zone Research Farm Green House in China. (Photo supplied by LEAD Maryland Foundation, Inc.)

AGNR employees (L-R): Jenny Rhodes, April Hall, Susan Harrison, and Kevin Conover at the Yangling National Agriculture Development Zone Research Farm Hydroponics Green House in China. (Photo supplied by LEAD Maryland Foundation, Inc.)
Friends and Family Celebrate at Annual Alumni Reunion

Nearly 225 alumni and friends of the College of Agriculture and Natural Resources gathered at the Samuel Riggs IV Alumni Center on a lovely April evening to celebrate accomplishments of AGNR students, alumni, and faculty. Prospective students who had been offered admissions for fall 2006 and their parents were guests of Dean Wei at the 39th annual reunion.

Maryland Department of Agriculture Deputy Secretary John Brooks ’70 and Delegate Paul Stull ’64 of Frederick County were on hand to congratulate the 2006 AGNR Alumni Award recipients.

In the photo above from left to right are: Deputy Secretary Brooks, Delegate Stull, Yang Tao (Biological Resources Engineering), Excellence in Research Award; Michelle Colby D.V.M. ’02 (MS, animal sciences veterinary medicine), Early Career Alumnus Award; Jon Traunfeld (Home and Garden Infomation Center), Excellence in Extension Award; Liangli “Lucy” Yu (Nutrition and Food Science), Excellence in Instruction Award; Jeffrey Moore (Nutrition and Food Science) Outstanding Graduate Student; Justin Lumpkin ’06, Outstanding Graduating Student, Institute of Applied Agriculture; Amanda Dell ’06 (General Agricultural Sciences), Outstanding Senior; Robert Fogle ’01, AGNR Alumni Chapter President; Shanna Bernstein ’06 (Nutrition and Food Science), Outstanding Senior; David A. Miller ’66 & ’72, Meritorious Service to Agriculture and Natural Resources; and Dr. Cheng-i Wei, dean.

For more photos of the reunion and awards program check out the collage at http://agnr.umd.edu/Alumni/Celebrations/index.cfm

Nearly 50 items were generously donated by alums and friends of the College of Agriculture and Natural Resources. Almost $3,000 was raised by generous buyers. (See list on page 38.) Proceeds will go to AGNR student clubs to help offset expenses for participation in professional and curriculum-related trips and conferences, as well as scholarship support.

Special thanks to Heather Hull Whitley ’97, chair, and her committee members: Dan ’91 and Mary Williams, John ’76 & ’81 and Kendra Wells ’76 & ’82, Wieda ’71 and Chuck ’71 Stoecker, and Karel Petraitis ’67.

Crow Gets Golden Calf

Roy Crow ’77, was recognized by Nationwide Insurance at the 2006 FAST (Farm Agent Sales Team) Track Conference for producing new Farm Bureau members. Roy earned the “Golden Calf Award” as Nationwide’s leading writer of new farm insurance in 2005. Additionally, he was the leader in insurance sales for Maryland and Delaware.
Roy is a fourth generation farmer in Kent County, MD. A dairy farmer for 23 years, he now farms 350 acres, growing corn, soybeans, and hay and raising 35 head of Angus beef cattle. He is a Kent County commissioner and past Kent County Farm Bureau board member.

150th Anniversary Celebrations Continue: A Look Back in Photos

Who said equine science and family studies aren’t related? Check out this 1950 photo taken at Belair Farm in Bowie, Maryland, as part of a study on identical twins. The two horses are Belair Bevin and Belair Churchill, and the young men are Ronald and Donald Guthrie and Alexander and William Blackhall. Anyone who can identify who is on the right and left will receive a special prize from the dean’s office. Call Gail Yeiser at 301-405-2434 if you know which set of (human) twins is which!

1957 marked the 70th anniversary of the Maryland State College, Division of the University of Maryland, in Princess Anne, Maryland. Founded in 1886, the first classes of this predecessor of the University of Maryland Eastern Shore were held in Olney, an old colonial dwelling “near the outskirts of town on the old unpaved road to Salisbury.”

Olney had been built by Ezekiel Haynie, a physician of Snow Hill in 1798 when George Washington was still alive. Early students came from the county “bearing such well known family names as Dennis, Gale, Maddox, Tilghman, and Waters.” The first dean was Robert A. Grigsby, who joined the faculty in 1913 and served as acting dean from 1936 to 1947. Linda M. Brown joined the faculty in 1912 and served for 45 years.

The first four-year students graduated in 1904. They were Clara Winters, Sarah Coard Davis, Harold Richardson, Annie Coard, Greenburg Howard, Julita Sevenson, William Hayman, Blanche Howard, and Anna Handy. Ralph Marsden and Jeanette Parker were instructors.

First graduating class from Maryland State College

Scholarships Recognize Retired Faculty

Friends of Dr. J. Lee Majeskie gathered at the Turf Valley Resort and Conference Center in December 2005 to honor (and surprise!) him after 30 years of service to the University of Maryland. They established two scholarships in recognition of Lee’s commitment to 4-H dairy youth programs and higher education.

The Lee Majeskie 4-H Youth Education Scholarship in the Maryland 4-H Foundation will support scholarships for 4-H youth and the Lee Majeskie Dairy Youth Education Scholarship in the College of Agriculture and Natural Resources will provide scholarships to students in Animal Sciences, with a preference given to dairy science majors.

Lee is pictured here (on the left) with Gene Iager of Maple Lawn Farm in Fulton, MD, on their way to Australia on a consulting trip with the Brown Swiss Association. (Lee does not plan a second career with the airline industry!) Since his retirement in January, Lee has also been to Mexico to teach dairy cattle evaluation and judge shows. He will be a consultant with the Department of Animal and Avian Sciences and coach the Maryland 4-H dairy judging teams this fall.

Lee and his wife, Judy, have moved to Centreville, MD, and remain active in dairy-related organizations and Terrapin Club activities.
Congratulations, Dr. Majeskie and best wishes in retirement.

Dr. Debra (Debbie) Bowman ’73 & ’98 retired from Maryland Cooperative Extension on May 1. Friends celebrated her career with a reception at the Howard County Fair Grounds and generously donated to the Edward M. Bowman Family Scholarship fund in honor of Debbie’s outstanding career with Maryland Cooperative Extension.

Debbie established the scholarship fund in memory of her father to support students enrolled in the Institute of Applied Agriculture who possess strong leadership skills and who have demonstrated enthusiasm for experiential learning. Debbie visited with 2006 IAA graduates and their guests at a luncheon prior to the AGNR graduation ceremony. She shared her educational background and her dad’s philosophy of applied, practical education, as well as his commitment to supporting his children as they pursued educational goals and opportunities.

Debbie and her husband, Craig Oliver, reside in Ocean Pines, MD, and can be seen at a variety of agricultural-, youth-, and university-related events.

For further information about AGNR Scholarships, or to make a donation, please contact Brian Magness ’89, director of development, at 301-405-7733 or bmagness@umd.edu

Terps On Parade!

Fifty Terp sculptures have been placed around campus and across the state and Mid-Atlantic region as part of the “Fear the Turtle, Cheer the Turtle” 150th Anniversary Celebration. The College of Agriculture and Natural Resources is represented in the collection of Terps by “Out Standing in His Field” located on the east side of Symons Hall facing U.S. Route 1.

The AGNR Alumni Board of Directors voted to financially support the design submitted by John Nickerson ’85, Agricultural Engineering, of Thurmont, MD. His design was selected by a campus committee and was in place right before Ag Day 2006. In his submission, Nickerson stated that “Out Standing in His Field” harkens back to the university’s agricultural heritage, as well as to the quality of our educational programs.

Nickerson worked for the Department of Agricultural Engineering and is a veteran of public art displays. He participated in the “Wilmington Wonderland,” creating a 36-inch snowman on a concrete base in 2005; he also designed and painted a 52-inch fiberglass apple as part of New York City’s “Big Apple Fest” in 2004 and a 50-inch seated panda for Washington DC’s “Pandamania” project the same year.

“Out Standing in His Field” is the ONLY Terp sponsored by an alumni chapter! The $4,000 sponsorship fee paid by the AGNR Alumni Chapter covered the cost of the actual Terp sculpture, along with a modest stipend to the artist. Sponsorship also allowed the AGNR Alumni Chapter to determine location of “Out Standing in His Field” until he is sold at an auction to support scholarships on October 19.

Contributions are still being accepted to support the AGNR Terp sculpture at the $150, $250, $500, and $1,000 levels. All those who contribute will be recognized in a framed commemorative photo to be displayed within the dean’s suite. Please make checks payable to AGNR Alumni Chapter and mail to Gail Yeiser, 0106 Symons Hall, College Park, MD 20742. For further information, call 301-405-2434.

On October 19 all 50 Terps will be auctioned, with proceeds going to support scholarships (see www. for auction details as they become available). The final location of “Out Standing in His Field” will be determined by the buyer. AGNR Alumni Chapter president, Robert Fogle ’01, would like to visit with interested potential buyers and/or form a syndicate to make sure that “Out Standing in His Field” stays within the AGNR family.

Alumni, students, faculty, and staff have gotten used to him being in front of Symons Hall and would like to have a say in his final location. Please contact Gail Yeiser at 301-405-2434 before October 1 regarding interest in bidding on “Out Standing in His Field” or being part of a syndicate.

Remember, it’s not over until the auctioneer’s hammer drops!

Be Part of the Parade!

You can be part of the “Fear the Turtle, Cheer the Turtle” campaign just be going to www.umd.edu and click “SEE ALL 50…” to reach the turtle sculpture website. There you can:
• Post your picture with Outstanding in His Field or any of the 50 Terps.

In Memoriam

The College of Agriculture and Natural Resources was saddened by the deaths this spring of Dr. Bernard “Pete” Twigg and Dr. John “Jack” Wysong. Complete obituaries will be printed in the next issue of Momentum. Sincere condolences are extended to family and friends.
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<td>Umbrella - Petal Pink Pattern</td>
<td>John &amp; Kathy Brooks</td>
<td>Judy Majeskie</td>
</tr>
<tr>
<td>Jewelry Case - Petal Pink Pattern</td>
<td>John &amp; Kathy Brooks</td>
<td>Judy Iager</td>
</tr>
<tr>
<td>Steve &amp; Barry’s Brand UM Leather Jacket</td>
<td>Dan &amp; Mary Williams</td>
<td>Doc Walker</td>
</tr>
<tr>
<td>Maple Lawn Farms Turkey</td>
<td>lager Family</td>
<td>John Wells</td>
</tr>
<tr>
<td>Lobster Dinner for Two at the Capitol Hill Club</td>
<td>Paul Weller</td>
<td>Robert Morris</td>
</tr>
<tr>
<td>Muppets Postage Stamp Collection</td>
<td>Kendra Wells</td>
<td>Eric Almquist</td>
</tr>
<tr>
<td>Gardening Box</td>
<td>Karel Petratis</td>
<td>Wen-pei Wei</td>
</tr>
<tr>
<td>Rooster Magazine Holder with Paper Goods</td>
<td>Karel Petratis</td>
<td>Wen-pei Wei</td>
</tr>
<tr>
<td>Youth Turtles Basket</td>
<td>Karel Petratis</td>
<td>Mina Walker</td>
</tr>
<tr>
<td>Sports Themed Basket</td>
<td>Karel Petratis</td>
<td>Michelle Weesner</td>
</tr>
<tr>
<td>Sports Beverages Basket</td>
<td>Karel Petratis</td>
<td>Terry Polm</td>
</tr>
<tr>
<td>Baby Items Basket</td>
<td>Karel Petratis</td>
<td>Judy Iager</td>
</tr>
<tr>
<td>Turtle Items Basket</td>
<td>Karel Petratis</td>
<td>Wen-pei Wei</td>
</tr>
<tr>
<td>Chicken Mugs Basket</td>
<td>Karel Petratis</td>
<td>Ruth Ridgeley</td>
</tr>
<tr>
<td>Barbecue Items Basket</td>
<td>Karel Petratis</td>
<td>Bonnie Remsberg</td>
</tr>
<tr>
<td>Gourmet Food Basket</td>
<td>Karel Petratis</td>
<td>Laura Downey</td>
</tr>
<tr>
<td>Garden Basket with Flower Puzzle</td>
<td>Karel Petratis</td>
<td>Laura Downey</td>
</tr>
<tr>
<td>Rooster Bread Box</td>
<td>Karel Petratis</td>
<td>David Almquist</td>
</tr>
<tr>
<td>Rooster Weathervane</td>
<td>Karel Petratis</td>
<td>Jim Learner</td>
</tr>
<tr>
<td>Cow Jacket &amp; Rooster Beanie</td>
<td>Karel Petratis</td>
<td>Eila Smart</td>
</tr>
<tr>
<td>Handcrafted Pen</td>
<td>Reggie Harrell</td>
<td>Mary Ellen Walmire</td>
</tr>
<tr>
<td>Original Watercolor of Symons Hall</td>
<td>Donna Aldridge</td>
<td>Mina Walker</td>
</tr>
<tr>
<td>Small Concrete Garden Turtle</td>
<td>Ella Smart</td>
<td>Diana Patton</td>
</tr>
<tr>
<td>Medium Concrete Garden Turtle</td>
<td>Ella Smart</td>
<td>Barbara Stiles</td>
</tr>
<tr>
<td>Official Emblem Quilted Red &amp; Black Tote</td>
<td>Ella Smart</td>
<td>Laurie Savage</td>
</tr>
<tr>
<td>Classic European Facial</td>
<td>About Faces Day Spa</td>
<td>Kathy Brooks</td>
</tr>
<tr>
<td>Final Four Women’s Basketball Autographed Program</td>
<td>Weida &amp; Chuck Stoecker</td>
<td>Mary Williams</td>
</tr>
<tr>
<td>Autographed photo of Q’welle Jackson</td>
<td>Weida &amp; Chuck Stoecker</td>
<td>Wesley Brown</td>
</tr>
<tr>
<td>Tractor made of nuts, bolts, washers &amp; screws</td>
<td>North Carroll High School FFA</td>
<td>Cheng-i Wei</td>
</tr>
<tr>
<td>Autographed Book</td>
<td>Tom McMillian</td>
<td>Charles Iager</td>
</tr>
<tr>
<td>Basket of Pampered Chef Items</td>
<td>Weida &amp; Chuck Stoecker</td>
<td>Wen-pei Wei</td>
</tr>
<tr>
<td>Hand Quilted UM Table Runner</td>
<td>Wenh-pei Wei</td>
<td>Bee Buckel</td>
</tr>
<tr>
<td>Crocheted Table Runner</td>
<td>Joan Doerr</td>
<td>Sheila Brown</td>
</tr>
<tr>
<td>150th Anniversary Book</td>
<td>Sheila Brown</td>
<td>Mina Walker</td>
</tr>
<tr>
<td>Stress Reduction Massage</td>
<td>Melissa Johnson</td>
<td>John Wells</td>
</tr>
<tr>
<td>2 Orioles Tickets for Detroit Tigers game</td>
<td>Gary Seibel</td>
<td>Wesley Brown</td>
</tr>
<tr>
<td>2 Orioles Tickets for New York Yankees game</td>
<td>Gary Seibel</td>
<td>Chip Whirley</td>
</tr>
<tr>
<td>2 Orioles Tickets for Oakland A’s game</td>
<td>Gary Seibel</td>
<td>Dick Byrne</td>
</tr>
<tr>
<td>2 Orioles Tickets for Seattle Mariners game</td>
<td>Gary Seibel</td>
<td>Amanda Brown</td>
</tr>
<tr>
<td>2 Orioles Tickets for Boston Red Sox game</td>
<td>Gary Seibel</td>
<td>Kendra Wells</td>
</tr>
<tr>
<td>Courtyard by Marriott-One Night’s Lodging w/ Breakfast</td>
<td>Weida &amp; Chuck Stoecker</td>
<td>Stuart Greene</td>
</tr>
<tr>
<td>Golf Package - Hollow Creek Golf Course</td>
<td>Bonnie Remsberg</td>
<td>Kathy Stiles</td>
</tr>
<tr>
<td>15 Geraniums</td>
<td>Carroll Shry</td>
<td>Judy Majeskie</td>
</tr>
</tbody>
</table>

Thank you to all donors & bidders. $3,000 raised to support AGNR student clubs & activities

Dates to Remember

**Academically Talented Program (ATP)**
For prospective students
Saturday, October 7 - By invitation
http://www.uga.umd.edu/admissions/visit/default.asp

**Visit Maryland Day**
For Seniors
Monday, October 9
http://www.uga.umd.edu/admissions/visit/default.asp

**AGNR ALUMNI CHAPTER ANNUAL MEETING**
Updates from Dean and Associate Deans, Program Directors
Board & Officer Elections
College Park, Thursday, October 12
5:30 p.m. light meal
followed by program & elections
Register for food count 301-405-2434

**Academically Talented Program (ATP)**
ATP for Transfer Students – by invitation
Saturday, November 4
http://www.uga.umd.edu/admissions/visit/default.asp

**Visit Maryland for Seniors**
Friday, November 10
http://www.uga.umd.edu/admissions/visit/default.asp
Deadline for Fall 2007 Applications
December 1, 2006
http://www.uga.umd.edu/admissions/visit/default.asp

**Homecoming Weekend**
October 20-21
Get the Scoop with AGNR
Learn about Maryland’s ice cream heritage at the pre-game Alumni Association festivities
http://www.alumniconnections.com/olc/pub/UMD/events/event_order.cgi?tmpl=events&event=2032662.0
Carin Cordelli, a student in the Department of Animal and Avian Sciences, has been selected as a Phillip Merrill Presidential Scholar for the 2006-2007 academic year.

The Merrill Presidential Scholars Program honors the University of Maryland's most successful seniors and the university faculty and K-12 teachers they identify as important mentors to them. The program also builds a community of scholars, faculty members, and K-12 teachers who recognize and celebrate the importance of teaching and mentoring the next generation.

With a GPA nearing 4.0, Cordelli is “an exemplary student” who “really embodies the spirit of the Merrill award,” says nominating faculty member Dr. Mark Varner. She reaches out and mentors the next generation of scholars in several ways. For example, she serves as a volunteer tutor in biology and algebra for students attending her former high school and works as a volunteer with youth in United States Pony Club activities, setting an important example to pre-high school students.

Cordelli also finds time to work with veterinarians in animal hospitals and to train and exercise horses for people during winter and summer breaks.
For more information on Academic Programs, contact:

Elizabeth Weiss
Assistant to the Dean
for Admissions and Recruitment
0112 Symons Hall
College Park, Maryland 20742
301-314-7222
eweiss@umd.edu

Visit Our Website
http://www.agnr.umd.edu/