AGNR Faces the Challenges of the Bay
Cheng-i Wei
Dean & Director

The College of Agriculture and Natural Resources and agricultural community in general prides itself in being good stewards, “the first environmentalists,” in regard to the land and water that we call home. But the reality is that we need to be better and better and with ever-evolving technologies there are more ways to measure the status of the Bay’s health as well as the progress we are making in improving that health.

To say that the challenges are complicated might be the understatement of three centuries; but, we are making progress and will continue our commitment to identify and meet these challenges. As we began the “story ideas” session for this issue of Momentum, we came to realize that this single issue could only give a cursory glimpse of how AGNR has been responding and meeting/beating the challenges facing our Bay as they relate to our agricultural, residential and commercial communities. Indeed, as the feature stories were identified, the list grew and grew, and along with the editors, I agreed that future issues of Momentum would periodically feature the Bay and the dynamic work that AGNR’s faculty, staff and students are doing to improve its health. So, while you read this issue, please keep in mind that we acknowledge that it is not a complete or comprehensive summary of all the projects and programs that AGNR is involved with related to improving the health of the Bay and Maryland’s waterways and soils.

AGNR is a leader across disciplines within our own college and certainly across campus in looking and dealing with Bay issues in an integrated, multi-disciplinary way combining the scientific, economic and policy implications related to residential, commercial and agricultural communities.

We are proud to take leadership roles even when those leadership roles have put a bull’s-eye on our backs as scientists and policy resources. We embrace the challenge that the many facets of the Bay and its health presents to this generation of highly talented and passionate professionals, setting the stage for many more to continue the work and remain vigilant as good progress is made in restoring the Bay to a healthier treasure for all our citizens and visitors to Maryland.

While the topics of our feature stories are rather heavy and somewhat serious, I also draw your attention to some of the fun and many accomplishments enjoyed by AGNR faculty, staff and students. I invite you to visit with me at upcoming events across the state as we enjoy the summer months after the long and challenging winter! As always, AGNR is resilient, focused, creative and committed to continuing the hard work to meet the challenges facing our communities while also celebrating our successes based on good science and sound decision making.

Enjoy this first glimpse of how AGNR is dealing with the Chesapeake Bay as one of America’s treasures that we have the honor of calling OUR BAY!
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With more than 17 million people—and counting—residing in the Chesapeake Bay watershed, the nation’s largest estuary is struggling to remain a treasure, a place where people can earn a livelihood, commune with nature or sit down and enjoy its bounty, whacking a mallet into an abundance of blue crabs dusted in Old-Bay seasoning.
Getting straight to the problem, Dr. Cheng-I Wei, dean of the College of Agriculture and Natural Resources, says, “The Bay is polluted.”

Dr. Wei, who has served as dean for the past eight years, points to a list of causes for the Bay’s ills, from “flush toilets, washing machines and dishwashers” to “the conversion of farmland into paved parking lots and other urban sprawl.” Farmers also share the blame with the over use of fertilizers and highly phosphorous chicken excrement filtering into the 150 rivers and streams that drain into the 200-mile-long Bay.

“The problem is created by everybody and we need to sit down and agree what needs to be done,” Dr. Wei says. “Science can only do so much, there’s also policy” to be drafted and getting lawmakers and the rest of the public on board.

On the science side, according to the latest report card, issued in July by the University of Maryland’s Center for Environmental Science, the Bay’s health is a C—a slight improvement from the D+ received the previous year. Scientists look at factors such as water clarity, dissolved oxygen, the amount of algae, nitrogen and phosphorous in the water, the abundance of underwater grasses and the populations at the bottom of the Bay.

Researchers say the assault comes from air, land and water with the worst being too much nitrogen and phosphorus from fertilizers, wastewater and vehicle emissions fueling an unnaturally high algae growth that blocks sunlight needed by underwater grasses. Additional problems are unleashed when algae becomes decomposed by bacteria that in turn robs oxygen from fish, crabs and oysters. Development, which causes forests to be lost, removes the Bay’s natural air and water filters and it’s estimated that construction sites can contribute 10 to 20 times more sediment pollution per acre than farmlands, according to the Maryland Department of Natural Resources.

Dr. Wei says the College is confronting the Bay’s problems with a three-point strategy, starting with identifying the problem, developing solutions and finally educating the public.

“There’s a lot of good research going on,” he says, focusing on both urban dwellers and farmers. “For example, in the Master Gardener program we’re talking about using native plants (in landscaping) so you don’t need to be fertilizing ... we’re working with chicken farmers and the feed they use for their flocks so that they don’t produce as much phosphorus in the excrement,” referring to the use of the enzyme Phytase in poultry feed.

Research is producing results

One of the tools the College has been developing and implementing to improve the Bay’s health is the cover crop program that encourages farmers to plant their fields with a winter crop to reduce excessive nitrate from leaching into groundwater and eventually entering the Bay. Farmers are paid on a sliding scale between $25 and $100 per acre, based on the best management
practices and is funded through the Chesapeake Bay Restoration Fee, or “flush tax” and Chesapeake Bay Trust Fund.

“It’s really a very popular program and is exceeding the state’s expectations,” says Dr. Russell Brinsfield, director of the Wye Research and Education Center near Queenstown, where nationally recognized research is being conducted on a daily basis.

The work is also personal for Dr. Brinsfield who lives on the Nanacoke River and operates a farm in addition to his career with the College. “I spent my life on that river, crabbing, fishing and hunting, so my connection with the Bay and agriculture goes way back; it’s clear to me that it’s declined.” He recalls that as a boy when he crabbed near the Choptank River Bridge he complained to his father about getting his feet tangled in all the underwater sea grasses. “Dad would say that without that grass there would be no crabs. You see it now—there’s no grass and no crabs.”

Despite some major hurdles, Dr. Brinsfield is pleased with the direction of the College. “I think we can always do more, but in the last decade we have really seriously turned to saving the Bay. The numbers of people whose focus is on” that mission “is pretty impressive” whether it’s the research at his center, or realigning curriculum to include a focus on the environment.

“The college is moving in the right direction and its role will always be evolving ... the more we learn, the more we’re going to be able to keep the Bay healthy,” Dr. Brinsfield says.

One of his concerns, however, is a population move into the watershed resulting in the disappearance of forests and farmland. “It will be harder” to make Bay progress “than if it had stayed agriculture. It will be an ever increasing challenge to us as scientists.”

Getting the public and lawmakers on board with the cover crop project wasn’t too difficult, he says, because “the Bay is the center point of the state; we’re defined by the Bay.” However, he sees a wane in the enthusiasm to clean up the Bay in recent years, blaming the downturn in the economy. “Taxing people to save the Bay is one thing when the economy is doing well, but when pocketbooks aren’t as full, you get a little blowback.”

Nonetheless, “I am optimistic,” he says. “I have to be because I love agriculture and I love the Bay.”

Dairy farmer Ed Fry, who serves on the board of directors at the Harry R. Hughes Center for Agro-Ecology, is one of the farmers Dr. Brinsfield works with. “I believe all of us want to do the right thing for the environment (but) it’s been very challenging,” Fry says.
One of the challenges is how to handle animal wastes and Fry, who has testified at hearings in Annapolis, says, “I’ve said more than once that the new regulations are trying to drive animal agriculture out of the watershed.” He says that “it’s research that drives the regulations” and hopes that no one ends up with “unintended consequences” in attempts to save the Bay. “It gets more challenging as the regulations change. I’m not saying the science is bad,” but cautions that those drafting regulations not get blindsided by politics or a rush to get immediate results.

“I’ve had a good working relationship” with the College, “and a long standing relationship,” Fry says. “I think they’re trying to do the best they can, but again, there are challenges.”

Research ripples into education

Karen Aspinwall, a Family and Consumer Sciences educator in Cecil County for the University of Maryland Extension, has been working with a water quality education program that was funded with a grant from the Environmental Protection Agency. The main goal is to increase the number of residents actively monitoring their drinking water and maintaining their wells. At the same time it’s also a chance to bring home the point of how everything depends on something else.

“In many parts of Maryland, people feel disconnected from the Bay,” Aspinwall says. “They’re far from the Bay and don’t realize” that what they do has an affect. “We’re trying to promote that in the watershed, everyone is connected.”
In addition to Cecil County, in Kent and Montgomery counties residents have also taken part in the drinking water clinics and the response has been gratifying. “Every clinic was filled and there were some with waiting lists,” Aspinwall says.

Extension works with all ages and she is particularly enthused with youth summer camps that are related to water quality. She says “the programs are designed to allow campers to explore local water habitats and plant and animal communities through hands-on investigations while making connections to human impacts, personal behaviors and positive citizen action.” A total 186 youth aged 9-12 have participated in these camps since 2009 and funding this year has helped to further expand the program’s reach to include a summer camp, serving youngsters in two low-income communities.

Also as a way to engage youth, Talbot County’s Extension office is working with a program funded by the U.S. Department of Agriculture and the National Institute of Food and Agriculture that in part focuses on social science research into the attitudes and behavior of residents concerning water quality.

“We’ve already surveyed farmers to see what they know,” says Thomas Hutson, senior agent for 4-H youth development, “Now we’re getting kids involved surveying residents.” Additionally, there is a “Stream Waders” program where kids will be sent to certain areas to take sediment samples to be turned over to researchers for examination. A public symposium in which the youth will have a role, talking about what they learned, is also in the works.

“It’s rare for 4-H to work with research,” which adds to his excitement for the program. “I love trying to get kids interested in science,” says the man who taught the subject for 13 years and before that worked at the National Zoo using his zoology degree. Hutson is equally thrilled that money is available to hire a part-time program assistant, Nicole Barth, to work on Chesapeake Bay and water quality education.

“Protecting the environment is my number one priority,” he says, believing that engaging people will go a long way towards achieving that. “With more than 17 million people living in the Bay watershed, research can help landowners develop Best Management Practices, but education is the only way you’re going to reach all of those 17 million.”
Making Cents out of Sensors... Makes Sense

By Becky Brashear
Making cents out of sensors makes sense ... and so does the research that University of Maryland’s Dr. John D. Lea-Cox and his team are doing with impacts on the Chesapeake Bay.

But it doesn’t stop there. The SCRI-MINDS project, led by Lea-Cox focuses on managing irrigation and nutrition via distributed sensing. The team is making sense out of best management practices – making sense out of sensors. Making sense out of what’s too much and what’s too little. Making sense out of what’s too soon and what’s too late. Making sense out of what helps the Chesapeake Bay and what doesn’t. They’re making sense out of wireless sensors now being used on nine commercial grower operations in Maryland, Ohio and Georgia, tracking moisture and nutrient levels in nursery, greenhouse and field growers’ crops.

And like the restaurant business, growers are turning over more crops than ever in a growing season. And the best part of all ... it’s reducing water runoff and nutrient leaching into the Chesapeake Bay.

“It’s like in a restaurant where money is made by turning tables over two, three, four times a night,” said Lea-Cox, who came to the University system 16 years ago as a nutrient management specialist. “If a grower can turn over his crop in valuable space time after time after time, it’s more money for him.

“Time, turnover and quality product ... that’s what it’s all about,” he continued. “You turn tables ... you turn crops. You grow to increase quality ... to increase the number 1 grades for a better financial return. If you increase the quality of plants, increase production, and increase the farmer’s time management, it’s a win-win all around. The numbers are astounding ... one grower has seen an increased profitability by $1 per square foot.”

Lea-Cox said many commercial nursery/greenhouse growers are growing 300 to 400 different plant species ... “in anyone’s lifetime it would be difficult to get the kind of precision irrigation and nutrient management without the tools we now have to work with. “What our team has done is focus more on farms as a unit of production and how efficiently they are using nutrients and resources.”

And what they’ve learned over the years is that “if you want to change current practices, then you have to change people practices and attitudes ... give them the tools to assess the efficiency of their own practices.”

Lea-Cox likes to refer to these applications as “Smart Farms. Research studies ... they say you should do this, you should do that ... but most farmers are pretty smart with what they are doing and try to be as efficient as possible. Time is their biggest constraint in the course of a day.

“Farmers/growers have a lot on their plate ... from a business perspective they have a lot of other areas to factor in on in the course of a day ... things like labor, machinery, equipment ... things that take time,” Lea-Cox added. And when it comes to irrigating in the commercial operations, the farmer/grower simply does not have the time to ride around for three or four hours looking at his crop, trying to decide to irrigate or not.
“They need clear, easy, understandable, efficient information in an efficient way ... how they can get their information quickly, how they look at what information is given to them, make effective decisions and move on with their day,” he said. The software is accessible from anywhere ... even from 30,000 feet in the air by a Delta airline pilot who is “growing” his retirement using this innovative system.

The newly developed and released sensors, along with the specialized software, are showing positive results. “The relatively flawless deployment of this advanced irrigation monitoring and control system has allowed us to achieve significant reductions in water use that are impossible to achieve without this technology,” Lea-Cox says on his www.smart-farms.net website.

“We have also seen that in some cases the cropping cycle can be drastically shortened, while crop/flower quality is improved. This can have a major economic impact on greenhouses and nurseries. This is possible because the system combines precision irrigation strategies with decision-support provided by a range of moisture sensors and models for various species.”

Lea-Cox said sensors, placed in field operations for tree growers, shrub growers, container nurseries, greenhouse growers, can have plants in containers ranging from one to 45 gallons. “With this tool development, it cuts across all production methods. The primary focus is simple to answer ... ‘do I need to irrigate each day’ ... “it’s either yes or no.” But the problem is that most growers make the wrong decision when answering that question ... sometimes growers irrigate when they don’t need, or they don’t irrigate when they need to.

“For field, container and greenhouse growers, the most damage is under the soil ... many farmers have Best Management Practices in place, already using grass buffer strips between rows of trees and shrubs. Most are not using the old conventional huge water cannons and have instead gone to drip irrigation.”

He said that if a farmer just applied herbicides and “we get a lot of rain, all of that soil and application runoff can be caught in the grass buffers ... it's trapped in the field and kept from running off to area streams and water resource areas like the Chesapeake Bay.

“Research has seen overload with irrigation practices ... it’s training and educating growers in reduced applications of what farmers once thought were needed. It’s difficult to judge if plants need irrigation ... but if the plants are wilted, then it’s too late really to irrigate ... at that point, plants are not likely to grow for a few days to a week ... stress is a harmful mechanism.”

Lea-Cox said it’s difficult to water when plants are in distress ... water management /irrigation management is to keep nutrients out of the Bay ... not add to it. “If the grower increases
irrigation when it’s not needed, then the risk of nutrient leaching out of pots and growing systems increases. With decreasing water times and only doing it when needed is of benefit to all.

“If a grower doesn’t have a good handle on managing irrigation, there’s a good chance that a good job of nutrient management is not effective either.

“That’s where pot sensors in different species is of value ... the inserted sensors transmit information from the modes to supply water over time. The sensors provide information about their own specific crops and the farmer starts learning about watering and avoiding plant stress issues.”

He explained that within five minutes of a grower sitting at his computer, he can look at his different species and decide if he needs to irrigate or not.

“Most growers are field growers, and it’s difficult to tell how much water is in the soil ... it could be dry on top and moist 12 inches down.”

Because of the time element, most growers simply default to an irrigation system on a timer. When that’s the case, Lea-Cox said, “no decisions are being made ... they simply apply water by a time clock ... and that’s where often times you get leaching and overwatering occurs.” Hence, impacts on the Chesapeake Bay and other tributaries.

“It’s interesting how these growers are learning ... never before have we been able to provide this kind of information because there were only so many tools at their disposal,” he said. Now with these new tools we are able to provide that information to the farmer on his desktop.”

He explains that with pre-set points of 25 to 26 percent moisture levels programmed into the computer, the nodes communicate to the system as when to start irrigating ... and then it switches off when that percentage point is reached. “It’s a smart way, so that you may only irrigate 10, 15, 20 or 30 seconds. A little bit water at a time so that it has time to filter through the pot. ... we call it pulse irrigation systems. The sensors are in the middle of the pot ... if all’s okay with the pre-determined moisture level, then the modes go to sleep ... if it gets below the desired levels, then the irrigation system kicks on again.

“Precise precision irrigation ... the beauty is that the research not only shows a decrease in over watering and nutrient leaching, but the growth rate is phenomenal. Keeping the plants stress free and constant in its watering ... the growing curve is exceptional ... keeping the plants happy and content.”

Lea-Cox added that economists are now working with the growers. “The case studies and results are still out, but it puts everything in a much more manageable mode ... it cuts down
management time, and if you can cut that amount of time for a grower, it’s amazing how much it can cut in other areas in a positive way.

Whether working with nine growers or 900, Lea-Cox and his team want to provide services for the industry ... it’s more added value. “We’re being smart about it ... but we need to engage the private industry to achieve even greater levels. We’ve developed the tools, developing the research and infuse new technology into operations.

“Over time, the farmer makes strategic investments ... deciding if the investment is worth the cost. “He’ll likely ask ‘am I doing a better job? Has this increased production? Am I producing a quality product?’

“He’ll start to make decisions and translate that to other parts of production,” Lea-Cox said. “The beauty is that once the base system is there, it’s a matter of adding more nodes. It’s a toolbox that we’ve never had before.

“It’s educating the farmers and convincing them that a little investment ends up saving a lot, whether in soil sensors or buying and applying chemicals ... the goal is to keep it out of the Bay ... whether a field farmer, a container operation or greenhouse production.

“It’s a long-term program ... Rome wasn’t built in a day ... we’re working with growers to help them build their bottom lines ... they are smart ... and when they realize and can save here and there, and put more time back in their lives, it’s a good thing.”
If you ask three farmers what is precision agriculture, you’ll probably get three different answers. Some will say GPS guidance and steering while others will talk about variable-rate seeding options and another may mention crop yield monitors on combines. And really, they are all correct – precision ag is about as broad as, well, the term agriculture.
According to Wikipedia, precision ag “is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops... with the goal of optimizing returns on inputs while preserving resources.”

For Dr. Joshua McGrath, it’s just “old-school agronomy.” By using technology, farmers can improve production through basic seed to soil contact or precisely knowing their fields – how much seed, water and nutrients are needed and when. Which means precision ag is one more tool for Maryland farmers in protecting the Chesapeake Bay.
Dr. McGrath, associate professor in the Department of Environmental Science & Technology, is leading the University of Maryland’s precision ag research through the Laboratory for Agriculture and Environmental Studies (LAES), which focuses on soil fertility, nutrient management and water quality. Unlike many of his colleagues, Dr. McGrath’s research is done not in a lab or test field, but directly with the farmers in their full-scale fields.

One of Dr. McGrath’s research projects has been studying the GreenSeeker technology to apply the correct amount of fertilizer to the plants in the field based on precisely what the plant tells you it needs. “Nitrogen requirements vary across a field and from year to year. GreenSeeker and tools like this are the first opportunity we’ve had to take a serious look at adjusting to the spatial and temporal variability and actually apply the correct rate.”

The GreenSeeker is attached to the booms of a sprayer, and scans the chlorophyll levels of the plants, then uses an algorithm (developed with the help of Virginia Tech) to determine the application rate, which changes every second. The readings are then measured and recorded in a hand held system that allows the farmer to integrate it with harvest yield readings. The goal is to reduce the nitrogen application rate by 20% in corn and 10% in wheat, yet maintain the same yield.

“It’s a simple idea, really, but it requires a lot of data and extra work to make sure it’s accurate,” says Dr. McGrath.

One of those farmers in Dr. McGrath’s trials is David Hill of Rocky-Moment UM Mount Farms in Kennedyville. Hill received the GreenSeeker as part of a grant with the Chester River Association (CRA). “When they [CRA] approached me about using the technology, I told them I would only participate if Josh was involved. Working with the University and researchers is critical in helping to refine the technology to make sure it works every time.”

As with any research effort, there is trial and error. But in his third year, Hill is already seeing some results. “In one of the fields where we used it, I’m averaging 211-215 bushels of corn on dry land. And I used less nitrogen on that field than I have in the past which means a few
extra dollars in my pockets."

Hans Schmidt of Sudlersville also agrees that he couldn’t have figured out the GreenSeeker without the help of Dr. McGrath. “It’s a great partnership. Josh understands the science behind the plant growth and how it connects with the algorithms while I understand the practical application.”

Schmidt has been using the GreenSeeker for two years, on about half of his 2,000 acres of wheat and corn. Last year’s drought made it tough to get some accurate data, but he is confident this year will be better at measuring the impact and comparing the sprayer application with the harvest yields.

Schmidt has been using other precision ag techniques, such as AutoSteer (a guidance system that minimizes overlap) and variable rate seeding, for a few years now. “I am really starting to see how the technology can work together to help my farming practice, especially in making sure I’m not over-applying fertilizers, which not only helps the Chesapeake Bay, but helps my bottom line.” But he’ll admit it has been a big learning curve.

Dr. McGrath recognized Schmidt was not alone in his thoughts. So three years ago McGrath worked with Extension from Maryland and neighboring states to create the Mid-Atlantic Precision Ag Equipment Day. Held in August, this year’s event had more than 250 participants learning how to maximize profits and increase efficiency.

“Working with Extension is so important in the research that I do. They are really the boots on the ground and have the best relationship with the farmers,” explains McGrath.

Queen Anne’s county Ag Educator Jenny Rhodes was one of many that helped plan the Precision Ag Day. “This was a great event because of the wide range of speakers - top researchers in the field of precision ag, equipment dealers and a farmer panel of folks actually using the technology. The farmer panel definitely received the most positive feedback from the attendees.”

Rhodes sees this event getting larger in the next few years. “As regulations continue to expand, farmers are looking for new ideas on best managing their farms. With evolving research and better technology, precision ag can be a useful tool, not only for maximizing profits, but for efficiently managing the nutrients farmers use to grow their crops.”

Dr. McGrath agrees, saying “what is called precision ag today will just be called agriculture 10 years from now; very similar to the 1930s when you were either a farmer or a mechanized farmer.” And he sees a lot of opportunities for land grant universities such as University of Maryland to be leaders.

“While equipment dealers may be helping to steer the industry towards precision ag, most of them aren’t agronomists. It’s the research and development in ag departments and engineering programs across the U.S. that are going to help create a vision for something new,” says Dr. McGrath.

So while you may get several answers as to what precision agriculture really is, most can agree on one answer - precision ag is the future in farming and helping to protect the Chesapeake Bay.
If the idea of working with waste – yes, as in, manure – grosses you out, then Stephanie Lansing’s lab in the University of Maryland’s Department of Environmental Science and Technology (ENST) isn’t the place for you. In fact, when the assistant professor is accepting applications for undergraduate and graduate students to help with her research projects, one of the primary qualifications listed is: “Must be comfortable working with waste.”
Yet, Lansing never has any shortage of interested students. "More would like to work with me than I have positions open," says Lansing, Ph.D. "It’s a good problem to have."

Of course, it’s not the waste itself but the process of turning it into something useful and potentially profitable that attracts students – and Lansing herself – to a subject matter most might turn up their noses at. Lansing says she first became interested in the concept of transforming waste into a valuable resource while serving in the Peace Corps as an environmental educator in Belize. "It was there that I really witnessed the lack of waste treatment," says Lansing. "I just started to think about waste, its impact on the environment, and how it wasn’t being addressed many places in the world."

Here in Maryland specifically, Lansing’s research focuses largely on finding affordable ways to bring anaerobic digesters to dairy farms in the Chesapeake Bay watershed. Anaerobic digestion is a process which uses animal, human or plant waste materials to create renewable energy in the form of methane.
‘biogas’ which can be used for heat or electricity. The technique also results in an improved fertilizer while reducing water pollution, greenhouse gas emissions and odor.

At her research site located at the Beltsville Agricultural Research Center just north of the College Park campus, Lansing’s anaerobic digesters look like nothing more than large black tubes lined with brightly-colored plastic bags. Yet it’s inside those air-tight plastic bags where the magic happens. In the oxygen-free environment, microbes break down manure funneled into the tubes and vastly reduce pathogens like E. coli or salmonella: “Stuff we don’t want getting into the Bay,” explains Lansing. The result is not only a cleaner, less-polluted and less-offensive-smelling fertilizer for fields, but a supply of biogas that farmers can use to heat their homes or generate electricity. “The whole idea is to make waste less of a burden for farmers, to treat it safely and give them more options for utilizing their waste as a resource” says Lansing.

Currently in the United States, anaerobic digesters are only common on large-scale and heavily industrialized dairy farms with an average cost of more than $1 million. Because 94% of Maryland dairies have less than 200 cows, the technology is simply inaccessible to small and medium-scale dairy farmers throughout the state.

Low-cost anaerobic digesters are common in many developing countries, particularly in Latin America. In fact, Lansing spent nearly two years setting up a system in Costa Rica just before accepting her post at the University of Maryland. While the process she used in Costa Rica is easier to replicate during the summer months in Maryland, winter is a different story. “Microbes don’t like cold weather,” says Lansing. “Heating mechanisms and insulation increase costs so we’re constantly trying to find ways to keep a low-cost system.”

In addition to working with dairy farmers, Lansing is also researching how anaerobic digestion can benefit poultry farmers along the Eastern Shore, but admits it’s a bit more complicated. “With dairy manure it’s a little bit more straight-forward. With digesting poultry litter, we run into ammonia toxicity issues and it needs to be monitored more closely because of the ammonia created,” says Lansing. Still, she says anaerobic digesters can help poultry farmers meet nutrient management regulations while also producing energy from their waste materials.

Lansing’s work also involves quite a bit of international research. One of her current projects involves treating human waste in Haiti – where less than one-third of the population has access to sanitation facilities – by combining anaerobic digesters with a highly-advanced system called microbial fuel cells. The project is being funded by the U.S. Agency for International Development (USAID), the Gates Foundation and the Naval Research Lab, among other sources.

Being passionate about – well, poo – makes her the butt of jokes occasionally and often causes eyebrow raises in response to her description of what she does for a living, but Lansing wouldn’t have it any other way. Her enthusiasm for creating value out of something seemingly offensive yet unavoidable is infectious among her students. “We are able to treat waste as a resource instead of something to throw away,” says Freddy Witarsa, a graduate student who has been working in Lansing’s lab since the fall of 2010. Witarsa moved to Maryland after completing his bachelor’s degree at Drake University in Iowa specifically to work with Lansing. Born in Indonesia, Witarsa’s goal is work on waste management issues in his home country after completing his graduate degree from UMD. “I feel that it’s a badge of honor that I’m working with waste,” says Witarsa. “I know most people don’t see it that way but I always say ‘I’m going to be doing my dream job – working with poop.’”
The College of Agriculture and Natural Resources at the University of Maryland is pleased to announce Dr. Stephen Wright as the new Associate Dean/Associate Director of University of Maryland Extension (UME). Wright began his new post with UME on January 30.

Wright comes to Maryland from The Ohio State University where he held the position of Regional Director and Associate Department Chair of Extension. In this role, Wright had oversight of 29 counties, worked collaboratively with Extension employees, numerous advisory committee members, volunteer stakeholders, public officials and other community leaders.

“As the national Extension system commemorates its 100th anniversary this year, the College of AGNR is pleased to welcome someone with Dr. Wright’s experience to lead University of Maryland Extension into another successful 100 years,” says Cheng-i Wei, Dean of the College of AGNR.

In accepting this position, Wright is truly returning to his roots, both at the university and in the state of Maryland. A native of Baltimore, he earned an undergraduate degree in geography, a master’s in urban studies and a Ph.D. in agricultural and extension education from UMD.

“I had always hoped that someday I would make it back to my home state,” says Wright. “To take the passion I have for Extension and to channel that energy and passion into improving programs in the state of Maryland is a feeling I can’t express. It’s a wonderful opportunity for me.”

Wright will take over the reins at UME from Dr. Daniel Kugler who has served as Acting Associate Dean/Associate Director since August of 2012, following the departure of Dr. Nick Place.
When it comes to dairy judging, Maryland 4-H is known as quite the powerhouse, churning out teams that perform consistently well at state, regional and national competitions. Last October the Maryland 4-H dairy judging team netted its 31st national championship since 1919 at the World Dairy Expo in Madison, Wisconsin. The team from Maryland has taken home first place at the World Dairy Expo three out of the last five years.

“We have a lot of support at the state, county and farm level for this program and it’s neat to see because we do have quite a tradition of doing very well in this contest,” said Kiera Finucane, coordinator of dairy and beef Extension activities for the University of Maryland.

Smart Choice is the result of two years of research and pilot-testing that took place in seven states and rolled out last fall through a series of educator and consumer workshops held throughout the country. Through these workshops, participants learn how to analyze what they need and want from health care providers, compare plans, calculate how health insurance will affect their financial budgets, and ultimately, apply the information and knowledge gained to make a smart choice.

“Smart Choice is not about pushing consumers to select any one specific plan,” said Bonnie Braun, Ph.D., co-leader of the team of University of Maryland Extension experts that developed Smart Choice. "It’s designed to help people gain a set of skills so that they can choose a plan that best fits their family’s needs and then use that plan efficiently once enrolled."

Braun and her team started developing this program in 2011 when they realized there was nothing else like it available for consumers. With health insurance currently in the public spotlight, Smart Choice seeks to capitalize on this teachable moment by helping Americans take control of their personal and family financial health needs.

Consumers around the country can take advantage of this groundbreaking program. For more information, visit www.extension.umd.edu/insure.
UMD Nutrition Educators Help Citizens Deal with Food Stamp Cuts

On November 1, 47 million people across the country saw cuts to their benefits under the Supplemental Nutrition Assistance Program (SNAP) — formerly known as food stamps — due to the expiration of the American Recovery and Reinvestment Act of 2009. Nearly 800,000 of those affected were Maryland citizens.

Since the cuts took place, nutrition educators with the Food Supplement Nutrition Education (FSNE) Program administered through University of Maryland Extension have been helping residents across the state adjust to the reduction in benefits without sacrificing healthy food choices.

Extension educators are teaming up with the organization Share Our Strength to provide grocery store tours throughout the state. During the tours, nutrition educators teach participants how to compare food labels, develop a budget and shopping list, and prepare low-cost, healthy meals. After completing the tour, par-
AGNR Partners with Hunger U to Combat Global Food Crisis

The College of AGNR brought the fight against global hunger to the College Park campus in October by partnering with the Hunger U tour. Hunger U is a special project of the Farm Journal Foundation’s Farmers Feeding the World effort that enlists students to join in the conversation about global hunger issues and the essential role modern agriculture has to play in solving them. The Hunger U tour bus is a mobile classroom with interactive displays that travels to college campuses around the country. When the Hunger U campaign originally reached out to the College of AGNR, Associate Dean Leon Slaughter thought it would be an excellent supplement to work students and faculty in the College are already doing to combat global food issues. “It is already a challenge to feed our current population, so we need to educate people that world hunger needs to be solved,” Slaughter said. “When you go to the grocery store and see there is an abundance of food, I hope people realize other places aren’t so lucky.”

Participants are provided $10 in free groceries courtesy of Share Our Strength. “Food stamps were never designed to be all of a family’s food dollars. They were designed to be a supplement but for a lot of people it is their whole food budget so they do stretch it really far,” said FSNE Director Lisa Lachenmayr.

FSNE – which encompasses more than 40 Extension professionals throughout the state -- is also directing residents to other forms of assistance to help stretch their food stamp dollars. For instance, educators are encouraging parents to inquire about free breakfast and reduced price lunch programs at their children’s schools, find out if they qualify for the federal Women, Infant and Children (WIC) program, or get in touch with local food banks.

“Most people will sacrifice food before they sacrifice money for bills like utilities and mortgages so the more resources we can provide for them the better,” said Lachenmayr.

In the final version of the Farm Bill, Congress approved further cuts to SNAP amounting to roughly $800 million per year. As a result, Lachenmayr and her FSNE colleagues know their services will continue to be in high demand down the road in a state where the number of food stamp recipients has more than
Terps Take Top Prize in Collegiate Turf Bowl

A team of four students from the University of Maryland earned first prize in the Golf Course Superintendents Association of America’s (GCSAA) Collegiate Turf Bowl held Thursday, February 6 in Orlando, Florida.

Student teams from across the country compete in this national contest that tests their knowledge and skills related to turf grass, agronomy, business management, environmental management, communication and leadership.

The University of Maryland has participated annually in the Collegiate Turf Bowl since the competition began 20 years ago. Despite consistently placing in the top ten and taking home third prize last year, this is the Terps’ first championship.

The winning team from the University of Maryland includes three students studying golf course management through the Institute for Applied Agriculture (IAA): Brian Hogan, Matthew Park and Brent Waite. Ryan Higgins, a turf and golf course management student in the Department of Plant Science and Landscape Architecture, rounds out the foursome. IAA lecturer Dr. Kevin Mathias serves as the team’s advisor.

As part of the competition, the students had to identify certain types of turf grass, weeds and insects, write an essay and complete a written test. They were awarded $4,000 for their first place finish.

Students from the University of Maryland Department of Plant Science and Landscape Architecture were awarded first prize in the first-ever Sustainable Growth Challenge organized by the Maryland Sustainable Growth Commission. From a pool of 12 university teams throughout the state, the group of Terps was chosen to present before a jury of planners and state agency officials in December in Annapolis.

Their winning submission entitled “Design and Planning for Sea Level Change and Stormwater Issues on Maryland’s Eastern Shore” addresses challenges faced by the town of Oxford. Located on the Tred Avon River and surrounded on three sides by water, Oxford is predicted to grapple with sea-level rise and storm surges in the near future. The team of Terps suggested redesigning an existing park, creating wetlands and sketching efficient evacuation routes as some potential solutions to the town’s water woes.

UMD students involved in the competition include Nancy Britt, Robyn Edwards, Amy Marin, Adriana Méndez, Elisabeth Walker and Travis Wierengo. Dr. Victoria Chanse, assistant professor in the university’s PSLA Department, served as the team’s faculty advisor.
Soil Judging Team Looks to Repeat as National Champions

On Friday, October 25, the University of Maryland Soil Judging Team placed second in the Northeast Regional Soil Competition held near Frederick, qualifying the team members for a chance to defend the national championship they brought home in the spring of 2013.

The University of Maryland entered two teams in the regional competition among a field of twelve from six universities including Delaware Valley College, Pennsylvania State University, the University of Rhode Island, Richard Stockton College of NJ, and Wilmington College of Ohio. In addition to Maryland’s A Team finishing in second place, the Maryland B Team was close behind in fourth place. UMD also had three students place among the top ten in the individual portion of the competition.

Maryland, Penn State and URI will represent the northeast region in the National Collegiate Soils competition next spring to be hosted by Delaware Valley College in Doylestown Pennsylvania, where more than twenty teams representing seven regions from across the country are expected to participate.

Members of the UMD soil judging team advancing to the national competition include John Desmond (Environmental Science & Technology), Jaclyn Fiola (Plant Science), Sara Mack (Environmental Science & Policy), Keegan Rankin (Environmental Science & Technology), Jessica Rupprecht (Environmental Science & Policy), Christopher Seitz (Environmental Science & Technology) and Tyler Witkowski (Environmental Science & Technology). Graduate assistant Chris Palardy serves as the team’s assistant coach while ENST Professor Martin Rabenhorst, PhD, is the head coach.

French Agricultural Program Encourages Cultural Analysis and Lasting Friendships

Postcards, photographs, and souvenirs help tell the story of a study abroad experience. But what if the best part of a trip was not something you could take home with you—the people you met?

For Tim Von Thun, a senior Agricultural Science and Technology major, the best part of his summer trip to Angers, France, was the new friendships he made, which have continued beyond his brief study abroad trip.

Von Thun attended the Ecole Supérieure d’Agriculture (ESA) in Angers this summer as part of a month-long study abroad experience. Students take classes in English and travel to farms to learn about different agricultural practices in the country. Thirty-five Stu...
For the third straight year, the Central Maryland Research and Education Center welcomed dozens of incoming freshman from the College Park Scholars program for an annual service day. From harvesting grapes to planting trees and erecting signs in the orchard, the new crop of Terps were hard at work at the College of AGNR’s Upper Marlboro research facility. While the service project helped researchers at the facility prepare for the fall, it also gave students a first-hand look at agriculture in Maryland and how the College of AGNR serves citizens throughout the state.

Scholars Serve on the Farm

Students from the University of Maryland, Texas A&M, University of Wyoming, Illinois State University, University of Wisconsin and University of Minnesota participated in the summer program.

Von Thun said that his peers had diverse backgrounds and interests, ranging from people who had never set foot on a farm before to “people who grow 5,000 acres of cotton in Texas.” Von Thun, whose family operates a fruit and vegetable farm in New Jersey, enjoyed talking to his peers about their agricultural experiences.

“In Maryland we know one kind of agriculture,” Von Thun said. “Being able to talk to people from Texas and the Midwest about their experience with agriculture opened my eyes to things.”
Laboring Around the Clock

While most Terps were likely spending the final days of summer lounging and relaxing before the start of the fall semester, a group of students from the College of Agriculture and Natural Resources (AGNR) was working around the clock throughout the 11 days of the Maryland State Fair in Timonium. Six animal science students interning at the state fair birthing center were charged with watching over expectant animals and helping to bring their babies into the world—all in front of crowds of onlookers.

“I was so excited to get to have this internship,” says junior animal science major Cara Murray. “We’re here from the crack of dawn until well after the sun goes down but the time flies.”

Murray and the rest of the birthing center team were on call throughout the fair and had to be ready at a moment’s notice night or day to oversee animals in labor. When they weren’t assisting with live births, the students showed off piglets, newborn calves and just-hatched chicks and fielded questions from fairgoers.

“I just love interacting with the public and being able to answer their questions and share some things,” says senior Meghan O’Donnell. “They have some great questions. Honestly, I don’t always have the answers but I try to find them.”
While hanging out with a herd of dairy cows inside a barn for 11 straight days might not seem like a dream job to many, a group of students from the University of Maryland’s College of Agriculture and Natural Resources (AGNR) saw it as an opportunity to promote something they’re passionate about. 

“A lot of people don’t know where their milk comes from,” says junior animal science major Lance Brody. “To be able to teach people about where their food comes from is really fun and feels really important.”

Throughout the Maryland State Fair in Timonium, Brody and four other students from the College of AGNR spent their days showing off UMD’s very own dairy herd to fairgoers. Normally housed at the university’s research facility in Clarksville, the dairy cows are transported to the state fair each year to participate in milking demonstrations and help educate the public about agriculture and dairy production.

Each year fairgoers are invited to help name one of the herd’s newest calves. This year’s participant was born the first morning of the fair and was a popular attraction inside the Cow Palace. The 100-pound “little one” was ultimately named Clarabelle by passersby who took time to cast a vote.

UMD Dairy Herd Draws Crowds at State Fair
Blue skies and unseasonably warm temperatures helped drive a steady stream of visitors to the 2013 College of Agriculture and Natural Resources (AGNR) Open House on Saturday, October 5. Nearly 4,000 are estimated to have attended the event – the largest crowd ever since the College first began hosting the Open House at the Central Maryland Research and Education Center’s Clarksville Facility in 2006.

Visitors took delight in hay rides, pumpkin-decorating, apple-tasting, bird-watching, rock-climbing, petting cows, chickens and horses, as well as more than 60 exhibits on topics ranging from battling obesity to treating rainwater runoff to heating your home with wood. The College of AGNR hosts the free Open House each year to invite the public to learn more about the College’s work to fulfill its mission of serving the state through academics, research and Extension.

“We were fortunate to have a beautiful day – although hot for October – and such a good turnout for our Open House,” says Cheng-i Wei, Dean of the College of AGNR. “I’m sure that anyone who attended learned something new about the College of AGNR.”
Dr. Sonny Ramaswamy, director of the U.S. Department of Agriculture’s National Institute of Food and Agriculture (NIFA), spent a day in November with faculty, students and staff from the University of Maryland’s College of Agriculture and Natural Resources.

Ramaswamy took time out of his schedule to talk to faculty members about important issues facing the agricultural sector today and to answer questions about how his organization is handling uncertainties surrounding the budget and the passage of the farm bill still being debated in Congress.

Several AGNR researchers presented brief updates on projects funded through grants awarded by NIFA. NIFA continues to be a major funding source for researchers within the College of AGNR.
AGNR Celebrates December Graduates

More than 100 students gathered inside the University of Maryland’s Memorial Chapel on December 22nd for the College of Agriculture and Natural Resources’ winter commencement ceremony. This group of graduates from the College of AGNR included 70 receiving undergraduate degrees, 25 receiving master’s degrees and 19 earning a Ph.D.

Among a talented pool of students, two were selected to deliver speeches to the graduating class:

Junchao “Michael” Lu is a 2+2 transfer student who majored in food science. A native of Liaocheng, China, Michael completed his degree here at the University of Maryland following two years of study at Northwest Agriculture and Forestry University in China with dual degrees conferred. During his time at UMD, Michael worked as a student employee in the College of AGNR’s International Programs Office and served as an undergraduate research assistant in a laboratory in the Department of Nutrition and Food Science. After graduation, Michael plans to work as a student technician at the Joint Institute for Food Safety and Applied Nutrition and to attend graduate school in the fall of 2014.

Sarah Katz-Hyman completed a double major in Environmental Science and Policy and Broadcast Journalism. While at the University of Maryland, Sarah served as the President of the Terrapin Trail Club, a sustainability advisor with the campus Office of Sustainability, a T.A. for the ENSP program, and a Radio DJ at WMUC 88.1 FM College Park. After graduation she hopes to work in environmental communication and education and dreams of one day having her own science show.

In addressing the new grads, Dean Cheng-i Wei reflected on the recent passing of Nelson Mandela and his belief that “education is the most powerful weapon which you can use to change the world.”

“While we often think of weapons as instruments of injury, the dictionary also describes weapons as a ‘means of gaining an advantage,’” said Dean Wei. “Your education is indeed a powerful weapon that I know you will use as a tool for gaining advantage not just for yourself but to improve our nation and the world.”

Sarah Katz-Hyman

Junchao “Michael” Lu
Bringing New Life to an Endangered Species of Wild Horse

The birth of a Przewalski’s horse—the first in the world to be born via artificial insemination—is giving the once decimated species new hope. The filly was born July 27 at the Smithsonian Conservation Biology Institute (SCBI) in Front Royal, Virginia. Leading the team of scientists behind this breakthrough birth is reproductive physiologist Budhan Pukazhenthi (above), who received his Master’s and Ph.D. from the Department of Animal and Avian Sciences at the University of Maryland.

Przewalski’s horses are rare and endangered wild horses native to Mongolia. They were declared extinct in the wild in the 1960s, but have since been reintroduced to Mongolia, China, and Kazakhstan. There are an estimated 1,500 Przewalski’s horses in the world, most of which live in captivity.

The foal was born to a mare named Anne, a first-time mother who was raised at SCBI. Although Anne’s pregnancy lasted 340 days, her filly’s birth was a process nearly seven years in the making.

“After all these years of persevering, I can honestly say I was elated to receive the call informing me that the foal had been born,” says Pukazhenthi. “I couldn’t wait to see her! This is a major accomplishment, and we hope our success will stimulate more interest in studying and conserving endangered equids around the world.”
Charlie lager Honored

Friends and family turned out to congratulate Charles E. lager, Jr. ‘65 at the University of Maryland Alumni Awards gala on October 25, 2013 at the Samuel Riggs IV Alumni Center. Charles was recognized as AGNR’s Outstanding Alumnus and was one of 13 alumni recognized by their academic home at the gala. Charles celebrated the support of his family, fraternity brothers and agricultural and campus community in accepting this recognition.

Charles, Charlie or Chuck – depending on when you met him - is a fourth-generation farmer in Howard County, Md. Maple Lawn Farms is family-owned and operated and supplies milk and fresh turkeys to the D.C. area. He and his wife, Judy ‘64, regularly host students, faculty and dignitaries from around the world at their renowned farmstead. He is the chairman of the Maryland 4-H Foundation and president of the Maryland Dairy Shrine. He is a former Future Farmers of America and 4-H All-Star club member, leader and volunteer, and he previously served as president of the Maryland Holstein Association. Charles served several terms on the AGNR Alumni Chapter Board of Directors and is a past Director of the Alpha Gamma Rho Fraternity’s Alumni Board. In 2011, Charles and Judy received the Spirit of Maryland Award from the University of Maryland Alumni Association. They have endowed College of Agriculture and Natural Resources, Maryland 4-H Foundation and National Dairy Shrine scholarships in their name. The lagers were featured in Terp magazine for their leadership gift for Campus Farm revitalization project. Their three grown sons are involved in the agricultural industry and their seven grandchildren are active in the Maryland 4-H program with several different animal projects.

Memorable Marylanders

Richard Raymond Angus, Extension specialist emeritus, 4-H & Youth, died November 14, 2013, in his native Minnesota at the age of 82. Born December 27, 1930, in Farmington, MN, he was a 1947 graduate of Farmington High School and received his B.S. at the University of Minnesota, St. Paul in 1953.

He started his career in Rochester, MN, with the Extension Service. From 1963 to 1965 he was a Peace Corp coordinator for the National 4-H Council in Uruguay. Upon his return until his retirement in 1993, he was assistant professor in 4-H at the University of Maryland. During that time, he also completed his masters and doctorate degrees. Dr. Angus served as state 4-H specialist and served as state 4-H program leader for 10 years.

He was an Extension specialist emeritus from 1993 to 2012. He was also national president of the Junior Vegetable Growers Association and Epsilon Sigma Phi, and “Big Chief” of Maryland 4-H All Stars. In 2003, Dr. Angus was inducted into the National 4-H Hall of Fame and is also a member of the Maryland 4-H Hall of Fame. He served on the Prince George’s County 4-H fair board and was treasurer. He was a member of the Patuxent River 4-H Center board of directors, Mary-
land 4-H All Star executive board, Maryland 4-H Foundation Founder’s Club and was executive director of the R.N. Wills Fair 4-H Spring Show.

He was active in the Rotary Club of College Park since 1972 and was a past district governor of Rotary. He received numerous awards and recognitions throughout his career for his dedication and generosity.

He is survived by his sister Mary Siebenaler of Vermillion; brothers Alyn (Carmen) Angus of Fairmont, MN, and Bernard Angus (Mark Karels) of Milbank, SD; nephews Steven (Cathy) Angus, Warren Angus, Raymond Siebenaler, George (Kathy) Siebenaler, Edward (Linda) Siebenaler, Howard (Lori) Siebenaler, and Ben (Kathy) Siebenaler; also grandnieces and grandnephews.

A funeral service was held at St. John the Baptist Catholic Church, Vermillion, MN, and a celebration of life was held December 15 at the Memorial Chapel at the University of Maryland followed by a time of fellowship at the Memorial Chapel at the University of Maryland.

Memorial contributions may be made to the Maryland Angus Association and the Montgomery County Farm Bureau. He also served as treasurer of the Maryland Pollied Hereford Association.

A supporter of 4-H, Dr. Buric spent time judging lambs at the Howard County Fair and the Maryland Sheep and Wool Festival, and graded beef carcasses for the 4-H at Mount Airy Locker. He also served as treasurer of the Howard County 4-H livestock committee.

After retiring from the University of Maryland in 1983, he worked with his son, John David, on their cattle farm business, Buric Angus Beef, selling locally raised beef to local customers.

He was preceded in death by his wife, Rose Matilda Loss Buric, and is survived by his five children, John David, Diane, Tom, Julie and Nick, and seven grandchildren.

Surviving are his wife of 58 years, Constance G. Skidmore Clark; sons, Michael William Clark and wife, Valorie, of Bel Air and Mark Patrick Clark of Edgewood; daughters, Alice Faye Petz and husband, Brian, of Abingdon, Amy Kathleen Andrews and husband, Jeremy, of Bel Air and Sherrie Clark Stump and husband, Ian, of Bel Air; 12 grandchildren, Michelle Ballard, Thomas Clark, Daniel Petz, Erin Nizer, Ashley Petz, Joshua Petz, Sean Perdue, Jeremy Andrews, Emily Petz, Harley Andrews, Taylor Stump and Grayson Stump; and seven great-grandchildren, Bradley Nizer, Brooke Petz, Kyle Petz, Graham Nizer, Claire Nizer, Harper Petz and Bristol Ballard.

Memorial donations may be made to HCEAC and sent to Harford County 4-H, P.O. Box 663, Forest Hill, MD 21050.

JOHN WILLIAM “BILL” CLARK, long-time 4-H Extension agent, died on August 17, 2013, at his home in Bel Air. He was 82. Born in Brooklyn, NY, he played varsity basketball for Tygart Valley High School in Mill Creek, WV. He served in the U.S. Navy during the Korean War as a tail gunner. He obtained his B.S. and M.S. in agriculture from West Virginia University.

He retired after 35 years of service from the Cooperative Extension Service from Maryland and West Virginia counties and joined the Kunkel’s Auto Parts family. He was a devoted member, volunteer and trustee of the First Presbyterian Church. Volunteering in the community was of the utmost importance, including the Town of Bel Air Beautification Committee and Appearance and Preservation Committee, an Electoral Judge for Harford County and the Town of Bel Air and a judge at the state and county fair.

As a 4-H agent he was most proud of his success with the Harford County 4-H camp. His many affiliations included the Susquehanna Beekeepers Association, West Virginia University Alumni, American Legion and a faithful member of the McDonalds Breakfast Club. He was a fan of the Orioles, Ravens, Colts and IronBirds. He loved animals, trains, history, hunting, jokes and walking. He was a beekeeper at heart and a gardener by trade.

Surviving are his wife of 58 years, Constance G. Skidmore Clark; sons, Michael William Clark and wife, Valorie, of Bel Air and Mark Patrick Clark of Edgewood; daughters, Alice Faye Petz and husband, Brian, of Abingdon, Amy Kathleen Andrews and husband, Jeremy, of Bel Air and Sherrie Clark Stump and husband, Ian, of Bel Air; 12 grandchildren, Michelle Ballard, Thomas Clark, Daniel Petz, Erin Nizer, Ashley Petz, Joshua Petz, Sean Perdue, Jeremy Andrews, Emily Petz, Harley Andrews, Taylor Stump and Grayson Stump; and seven great-grandchildren, Bradley Nizer, Brooke Petz, Kyle Petz, Graham Nizer, Claire Nizer, Harper Petz and Bristol Ballard.

Memorial donations may be made to HCEAC and sent to Harford County 4-H, P.O. Box 663, Forest Hill, MD 21050.

EDWARD HALL COVELL, JR., a local, state and national agribusiness leader died on November 22, 2013, in Tow-
son. He was 92.

He was the founder of the Willis and Covell Company, a farm supply store and was president of Bayshore Food, Inc., a poultry firm. He graduated from Centreville High School in 1939 and attended Goldey College of Business and the University of Maryland majoring in agronomy. He served in the Marine Corps in World War II and married Elizabeth “Betsy” M. Mumma while they were both attending the University of Maryland.

His career included working at the Southern States Cooperative store in Baltimore before founding the Willis and Covell Company in Denton where he served as president until 1958 when it merged with J. McKenny Willis and Sons, Inc., a large Easton agribusiness.

Mr. Covell served on the National Broiler Council including three terms as chairman. In 1961 he was appointed by the Kennedy administration to the National Broiler Advisory Committee. In 1962 he became the president of Bayshore Foods, Inc. of Easter. He was active in the American Feed Association. He was instrumental in the establishment of the Maryland Agriculture Commission and was a member of the Governor’s Task Force on Agriculture which eventually created the Maryland Department of Agriculture in 1972.

In 1982 he started The Covell Company, serving as a governmental and industry liaison. He went on to serve six years as a director of the Baltimore Branch of the Federal Reserve Bank. He also served the Richmond Branch of the Federal Reserve Bank.

He was the recipient of the Delmarva Distinguished Citizen of the Year in 1966; the Workhorse of the Year award from the Southeastern Poultry and Egg Association in 1972 and the Outstanding Leadership award from the National Broiler Council in 1973. In 1998 he was inducted into the Poultry Hall of Fame and in 1999 was recognized by the AGNR Alumni Chapter for Meritorious Service to Agriculture and Natural Resources. He held several leadership positions in the Delmarva Poultry Industry, Inc. and travelled around the world representing U.S. agriculture.

He was preceded in death by his first wife and a brother. He is survived by his wife, Joyce, two sons, Richard of Easton and Edward H. “Ned” of Salisbury, daughter Linda C. Reilly of St. Michaels and stepdaughter, Jill Baer of Towson.

Memorial donations may be made to the National Boy Scouts of America Foundation, 1325 W. Walnut Lane Irving, Texas 75015 or the Talbot Hospice Foundation 586 Cynwood Drive, Easton, MD 21601 or a charity of your choice.

**Col. J. Logan Schutz**, died on June 7, 2013, in Silver Spring. He was 97. A 1938 graduate of the University of Maryland with a B.S. in agricultural economics and a 1940 graduate with a M.S. in agriculture, Retired Army Colonel J. Logan Schutz was a World War II Veteran who served 24 years in the U.S. Army as an officer and a trusted advisor to Generals and leaders. As the U.S. Aide de Camp for General Wilson, Theatre Commander of the Mediterranean, Colonel Schutz met several world leaders including Winston Churchill and General Eisenhower. His final assignment was as the Commander of the 8th Cavalry in Korea on the DMZ where he could look across the border at Korean artillery.

Col. Schutz took early retirement from the Army to accept the job of Director of Alumni Affairs at the University of Maryland in 1964, retiring in 1981 after 17 years. He was the Alumni Director Emeritus on the Alumni Board of Governors. He received numerous awards recognizing his passion and commitment to the University, including the Ralph Tyser Medallion Award recipient and the first-ever University of Maryland Veterans Alumni Award.

A proud Omicron Delta Kappa past president, Sigma Nu president and SGA officer, Col. Schutz was a great friend of the University of Maryland, leaving behind a strong legacy of leadership, devotion and commitment.

He is survived by his wife of 65 years, Louise, and children Logan (Cheryl), Fred (Laura) and Marian (Ted); and grandchildren, Amy (Ferris), Allison (Steve), Ted and Matt. A memorial service was held at St. Andrews Episcopal Church in College Park, MD, on June 21, 2013. Memorial donations be made to the University of Maryland Veterans Fund, 8400 Baltimore Ave., #200, College Park, MD 20740 Attn: Jim Rychner.

**George Stevens**, professor emeritus, died May 28, 2013, in Silver Spring, MD.

Dr. Stevens was a professor emeritus with the Department of Agriculture Economics at the University of Maryland College Park. He was a World War II veteran who served in the U.S. Army and was awarded the bronze star and the European Theatre Ribbon with five battle stars for campaigns throughout Europe.

He was the beloved husband of the late Margaret McKee Stevens; father of Irene and Mary Ellen (Timothy) Stevens; grandfather of Evan and Ryan. He was preceded in death by four siblings.

Memorial contributions may be made to the American Cancer Society, 801 Roeder Road, Suite 800, Silver Spring, MD 20910 or the Democratic National Committee at my démocrats.org/page/contribute/donate-to-help-démocrats-today.
OUTSTANDING PHOTO
BY EDWIN REMSBERG
**AGNR Open House**

**AGNR at the Central Maryland Research and Education Center Clarksville Facility, 4240 Folly Quarter Road, Ellicott City**

10 a.m.-3 p.m. Saturday, October 11, 2014

This is a great opportunity for the general public to learn about all the components of the College of Agriculture and Natural Resources – academics, research and outreach – through fun, family-oriented educational activities and exhibits. Farm tours, pumpkin painting and cutting edge research presentations round out the nearly 60 ongoing activities. Free and open to the public.

**AGNR at the Maryland State Fair**

for the 11 Best Days of Summer

AUGUST 22–SEPTEMBER 1, 2014, TIMONIUM

Featuring:
- AGNR Dairy Cattle
- U-Learn Farm – family educational activity center in the Cow Palace ~ AGNR, Maryland 4-H Foundation, Maryland Agricultural Education Foundation, Maryland State Fair and several commodity groups collaborate to provide hands-on activities throughout the fair.
- AGNR joins Maryland Department of Agriculture in the Farm and Garden Building near York Road
- AGNR students assist with the Birthing Center
- Showcase for Maryland 4-H Youth Development programs and projects to share exhibits in the 4-H Building, Cow Palace, Livestock Pavilion, Horse Ring and Animal World
- Dean’s Awards for Excellence in 4-H Showmanship for all species on exhibit

**Upcoming Dates and Special Events**

**HOPE TO SEE YOU THERE!**

**Homecoming – Ag-toberfest**

AGNR Tailgate at the Campus Farm
Saturday, October 18, 2014
3 hours before kick-off

Watch AGNR’s Facebook page for details about the 2014 Ag-toberfest. Contact Gail Yeiser at gyeiser@umd.edu or 301-405-2434 for sponsorship opportunities. http://www.facebook.com/pages/University-of-Maryland-AGNR-Alumni-Chapter/115419941422