



September 2012

www.ars.usda.gov



As we enter the fall harvest season, we are reminded once again of the importance of ARS research to American agriculture. This year's drought throughout much of the country has been very difficult for farmers and ranchers who are struggling against scarce water resources.

The lack of rain has created many challenges, but there is no doubt that prior ARS research and technology development helped producers to better cope with the drought. Precision agriculture, new irrigation technology, and improved crop varieties are among many examples of ARS research results that are helping farmers and ranchers endure environmental hardships as well as meet the growing population's demand for food.

There are many other examples of how our scientists are helping to solve agricultural problems. This summer, for example, ARS scientists were asked to provide technical assistance and training to help control an outbreak of avian influenza in Mexico. This disease can cause major losses if left unchecked, and could also be a threat to U.S. poultry production.

The hard work and creativity of our employees continues to be recognized. For example, on September 12 Agriculture Secretary Vilsack presented Honor Awards to five ARS groups for scientific and administrative accomplishments. The Secretary honored ARS employees for research on corn genomics and animal diseases, and for establishing the AFM Business Service Centers, Your Two Cents, and the Office of Technology Transfer's Agricultural Technology Innovation Partnership program.

In May, the Federal Laboratory Consortium (FLC) announced its annual technology transfer awards, and ARS researchers were cited for their work on honey bees, greenhouse crop production, management of invasive grasses, and for support of the FLC. In late July, scientist Christina Swaggerty of College Station, Texas, was awarded a Presidential Early Career Award for Scientists and Engineers by President Obama for her food safety research accomplishments.

To help our scientists sustain their high level of research, we continue to invest in our infrastructure and research programs. ARS leaders are seeking to enhance our information technology capabilities to allow our scientists to better manage and interpret increasingly large and complex data files. We have begun that process by making year-end improvements in our network, and will continue to explore additional improvements as part of future budgets.

ARS continues to be uniquely positioned to help support American and global agriculture. The long-range nature of our work, and our ability to cooperate with outside investigators to leverage limited resources, puts us in a unique position to help farmers, ranchers, and our other customer stakeholders be productive.

Such service and value—past, present, and future—have been showcased and celebrated at multiple venues this summer. As part of USDA's continuing year-long recognition of its 150th birthday, ARS has celebrated centennial anniversaries at the Jornada Experimental Range in Las Cruces, New Mexico, the Northern Great Plains Research Laboratory in Mandan, North Dakota, and for rice improvement research in California. The Center for Medical, Agricultural and Veterinary Entomology in Gainesville, Florida, celebrated its 50th anniversary.

As I have said on many occasions, our success as a problem-solving agency depends on the high caliber of our employees. I am proud of all the accomplishments you have made and will continue to do everything possible to lead us forward in facing the challenges that lie ahead.

Sincerely,

Handwritten signature of Ed Knipling.

Ed Knipling

In This Issue:**Your Two Cents****Around ARS****Notable Awards****Did You Know?**

Please submit story ideas and national award items to Sean Adams, sean.adams@ars.usda.gov, or call 301-504-1617.



ARIS—short for Agricultural Research Information System—was upgraded in early August 2012 to replace aging servers and outdated software to improve stability and reliability. The upgrade was aimed at making the system more user friendly and should improve the system's ability to handle high-volume year-end usage with minimal interruption. ARIS is now up and running efficiently. ❖

The ARS Web site design and layout will be changing to meet USDA's new required Web style guidelines. Check out www.usda.gov! Now is a good time to begin cleaning and updating your staff, program, research and location Web pages as we prepare to move our content into the new Web content structure. Stay tuned for future updates! ❖

Your Two Cents (Y2C)

www.ars.usda.gov/yourtwocents

The [ARS Cultural Transformation](#) site has gone mobile! The site is now accessible in full functionality via tablets and Smartphones. Not to be outdone, [Your Two Cents](#) (Y2C) has also gone mobile, with the same accessibility via tablets and Smartphones. Your ARS voices can now be heard wherever or whenever the spirit moves you. And check out our "[ARS Starring You](#)" video of Liz Parker sharing her personal Cultural Transformation experience... and then record and submit your own! The agency needs to hear from you...so get out your video camera or phone and send in your recording, and we will take care of the editing. Click [here](#) to get started! ❖

Around ARS

ARS employees and family members walk in honor of Jim Blotsky.

On August 17, 2012, employees at the **ARS Fort Keogh Livestock and Range Research Laboratory**, Miles City, MT—in cooperation with the Montana Agricultural Experiment Station—walked all night at the American Cancer Society Relay for Life 2012 in Miles City. Team members have raised \$1,300 so far by selling homemade goodies, hosting a luncheon, putting together items for a silent auction, and collecting donations from co-workers, family members and friends. This year's event was particularly special, because team members walked in honor of Jim Blotsky, who passed away recently after a brave fight with cancer. Blotsky was the contract janitor at Fort Keogh for many years and had a smile on his face and a kind word for everyone up to the very end. ❖

Secretary of Agriculture **Tom Vilsack** has nominated ARS Senior Scientist **Bess Dawson-Hughes, M.D.**, at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA, to the first Board of Directors for NASA's new Center for Advancement of Science in Space. She will join an esteemed group of experts who will approve the research projects for completion on the International Space Station. She is the director of the Center's Bone Metabolism Laboratory. ❀



Bastille Day banquet at the Wolfskill Experimental Orchard, Winters, CA.

On Bastille Day, July 14, 2012, about 185 people attended the Winters Farm to School Bastille Day Feast, a fundraising event featuring a five-course, \$100-a-plate dinner served under the olive trees at the Wolfskill Experimental Orchard in Winters, CA. The banquet and auction raised \$20,000 to be used to provide local produce, especially fruits and nuts, to local public school children, especially those in the Winters school system. Horticulturist and Supervisory Research Leader **John Preece**, ARS National Clonal Germplasm Repository for Fruit and Nut Crops, Davis, CA, gave a talk about the collections at the Repository and their impact on the fruits and nuts we consume. ❀



From left: Neal Martin, Director of the ARS U.S. Dairy Forage Research Center; REE Deputy Under Secretary Ann Bartuska; Robert Matteri, Area Director, ARS Midwest Area; Research Leader Wayne Coblentz and Soil Scientist Bill Jokela.

On August 16, 2012, the **ARS U.S. Dairy Forage Research Center's** Environmentally Integrated Dairy Management Research Unit, Marshfield, WI, co-hosted an outreach event with its University of Wisconsin (UW)-Madison research collaborators. Named "The Marshfield Rededication: Building Together for the Next 100 Years of Agricultural Research," the event was both a facilities dedication for the ARS research unit and a centennial celebration for UW's Marshfield Agricultural Research Station. Wisconsin Senator Herbert Kohl gave the keynote address. REE Deputy Under Secretary Ann Bartuska and Robert Matteri, Area Director, ARS Midwest Area, also spoke. Around 140 people attended the afternoon program at the research farm 10 miles north of Marshfield, and more than 300 people attended the open house at the research farm. ❀

The **ARS Dairy Forage Research Center Farm** near Prairie du Sac, WI, hosted the 2012 North American Manure Expo on August 22, 2012. The event, which attracted nearly 1,000 people from 19 states and 4 countries, was organized by the Professional Nutrient Applicators Association of Wisconsin and the University of Wisconsin Extension Nutrient Management Team. The Center also hosted the Wisconsin Grazing Teaching and Technology Conference at its research farm on August 28, 2012. Forty grazing extension specialists, grazing coordinators and farmers attended the event. ❀

Notable Awards



Soumi Ray (left) and Tony Jin.

Research Scientist **Tony Jin**, ARS Residue Chemistry and Microbiological Predictive Research Unit, Wyndmoor, PA, is the proud mentor of a Rutgers University graduate student who recently won two prestigious awards. Jin guided Soumi Ray on her research developing a self-generating chlorine dioxide packaging material. For the

last 2 years, Ray has been working with Jin and other ARS scientists to develop this novel antimicrobial food packaging system. Her innovative work earned the First Place in Graduate Student Research Paper Competition in the 2012 Institute of Food Technologists Annual Meeting in Las Vegas, NV, June 2012. Ray also won the 2011 Daun Family Endowed Graduate Student Prize from Rutgers University's Department of Food Science for her cutting-edge research on chlorine dioxide-releasing packaging system. ❖

Research Chemist **Michael Tunick**, ARS Dairy and Functional Foods Research Unit, Wyndmoor, PA, has been selected as a Fellow of the American Chemical Society's Division of Agricultural and Food Chemistry in recognition of his outstanding research that led to the development of low-fat mozzarella cheese for the National School Lunch Program. ❖



Michael Tunick.

Research Molecular Biologist **John Lippolis**, ARS National Animal Disease Center, Ames, IA, was presented the West Agro, Inc. Award by the American Dairy Science Association during the American Society of Animal Science (ASAS) / American Dairy Science Association (ADSA) National Meeting, July 15-19, 2012, in Phoenix, AZ. Lippolis was recognized for his outstanding research of milk quality as affected by control of mastitis, management of milking, and milk production practices.

Also at the ASAS/ADSA National Meeting, Research Chemist **George Somkuti**, ARS Dairy and Functional Foods Research Unit, Wyndmoor, PA, received the 2012 Award of Honor in recognition of his outstanding service to the dairy industry and to ADSA. ❖



George Somkuti.

Research Biologist **Gary Peterson**, ARS Foreign Disease-Weed Science Research Unit, Fort Detrick, MD, recently received the 2012 American Phytopathological Society Outstanding Volunteer Award in recognition of his sustained commitment to the Society, as well as his continued efforts in furthering the advance of science related to regulatory plant pathology and crop security. ❖

2012 ARS Area Scientist of the Year Award Winners

All Area Senior Research Scientist winners will be nominated for the Distinguished Senior Research Scientist of the Year Award, and all Area Early Career Research Scientist winners will be nominated for the Herbert L. Rothbart Early Career Research Scientist Award. The 2012 ARS Area Scientist of the Year Awards will be presented in 2013.

Beltsville Area Senior Research Scientist

Mark Jenkins, Microbiologist, ARS Animal Parasitic Diseases Laboratory, Beltsville, MD, for scientific excellence and innovative methodology in combating parasitic diseases in commercial poultry.

Beltsville Area Early Career Research Scientist

Robert R. Kula, Research Entomologist, ARS Systematic Entomology Laboratory, Beltsville, MD, for outstanding research in the systematics of braconid wasps important to biological control programs.

Mid South Area Senior Research Scientist

Franck Dayan, Plant Physiologist, ARS Natural Products Utilization Research Unit, Oxford, MS, for scientific leadership and sustained research productivity on the mode of action of natural products and on their development as natural herbicides.

Mid South Area Early Career Research Scientist

Kim Cook, Research Microbiologist, ARS Animal Waste Management Research Unit, Bowling Green, KY, for creative research program investigating fastidious microbial populations important to human, animal and environmental health.

Midwest Area Senior Research Scientist

Kerry O'Donnell, Research Microbiologist, ARS Bacterial Foodborne Pathogens and Mycology Research Unit, Peoria, IL, for pioneering research that revolutionized understanding of genetic, ecological, and phenotypic diversity among fungal pathogens of major significance to agricultural production and food safety.

Midwest Area Early Career Research Scientist

Steven B. Cannon, Research Geneticist, ARS Corn Insects and Crop Genetics Research Unit, Ames, IA, for distinguished research and leadership in genomics of legume crops.

North Atlantic Area Senior Research Scientist

Stewart Gray, Research Plant Pathologist, ARS Biological Integrated Pest Management Research Unit, Ithaca, NY, for outstanding research on the insect transmission of plant viruses, plant virus epidemiology and plant virus disease management.

North Atlantic Area Early Career Research Scientist

Anthony R. Buda, Research Hydrologist, ARS Pasture Systems and Watershed Management Research Unit, University Park, PA, for innovative and effective research on stream hydrology and water movement in soils to support development of novel practices to protect water quality.

Northern Plains Area Senior Research Scientist

Tommy Wheeler, Research Leader and Food Technologist, ARS Meat Safety and Quality Research Unit, Clay Center, NE, for outstanding research contributions enabling the livestock and red meat industries to improve the quality and safety of meat.

Northern Plains Area Early Career Research Scientist

Kevin Welch, Research Toxicologist, ARS Poisonous Plant Research Laboratory, Logan, UT, for novel scientific investigations into the toxicology of mixtures of multiple plant toxins, and teamwork with other members of the research unit and with collaborators.

Pacific West Area Senior Research Scientist

Frederic T. Barrows, Research Physiologist, ARS Small Grains and Potato Research Facility, Aberdeen, ID, for propelling ARS to global prominence in sustainable aquaculture feeds research through his dynamic leadership, technical expertise, and vision.

Pacific West Area Early Career Research Scientist

David R. Rudell, Research Plant Physiologist, ARS Tree Fruit Research Laboratory, Wenatchee, WA, for outstanding metabolomic research contributing to knowledge of climacteric fruit ripening, physiological disorders and edible quality.

South Atlantic Area Senior Research Scientist

R. Richard Lowrance, Research Ecologist, ARS Southeast Watershed Research Laboratory, Tifton, GA, for national leadership charactering the ecosystem services provided by riparian buffers and wetlands in agricultural landscapes.

South Atlantic Area Early Career Research Scientist

Karen Harris-Shultz, Research Plant Geneticist, ARS Crop Genetics and Breeding Research Unit, Tifton, GA, for innovative research to identify specific regions of a plant genome responsible for disease resistance and other desirable traits.

Southern Plains Area Senior Research Scientist

Ron Nachman, Research Chemist, ARS Areawide Pest Management Research Unit, College Station, TX, for pioneering research on the development of novel, environmentally friendly pest control based on insect neuropeptide hormones.

Southern Plains Area Early Career Research Scientist

Daniel Moriasi, Research Hydrologist, ARS Great Plains Agroclimate and Natural Resources Research Unit, El Reno, OK, for demonstrating exceptional productivity, originality, and impact in advancing hydrologic science and developing field- and watershed-scale models. ❁

Did You Know?



Uninvited guests can ruin a festive cookout and other outdoor activities, especially if they happen to be those that bite you.

Mosquitoes are more than an aggravation to billions of people worldwide. They can transmit dreadful diseases like malaria, yellow fever and West Nile virus. That's one reason why ARS scientists are looking for new and effective repellents to ward off these party crashers.

Did you know that ARS scientists in Beltsville, MD, have isolated a compound from the Tauroniro tree of South America that deters mosquito biting? The compound also can be prepared from pine oil and has been shown to be more effective in preventing mosquito biting than the widely used repellent DEET.

A mosquito-repelling folk remedy handed down through generations has led ARS scientists in Oxford, MS, to the American beautyberry plant. Compounds isolated from crushed leaves of the plant have proven to be effective repellents.

Compounds from both pine oil and the American beautyberry also repel ticks. One species—the blacklegged tick—is the primary carrier of the bacteria that cause Lyme disease in humans. If left untreated, Lyme disease can lead to severe and chronic illness.

In addition to finding natural compounds that help prevent mosquito attacks, ARS scientists in Gainesville, FL, have collaborated with University of Florida researchers to develop a computer modeling program that analyzes chemical structures of selected compounds and predicts those that are likely to prevent mosquitoes from biting. This computer program may streamline the process of testing new active ingredients of repellents, leading to longer lasting products in the future.

So beware, bugs!

Written by Sandra Avant, ARS Information Staff.

Executive Editor

Sandy Miller Hays

Managing Editors

Sean Adams
Tara Weaver-Missick

Writer-Editor

Mina Chung

Designer-Editor

Carol Nathan

Contributors

Sean Adams
Diona Austill
Sandra Avant

Lori Bocher
Kathryn R. Clough
Tracy Havermann

Ed Knipling
John Preece
Tonja Socks Lee
Linda Neuenhahn
Jill Philpot
Peggy Tomasula