ARS & You

Research for the Growing World

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Please submit story ideas and national award items to Mina Chung, mina.chung@ars.usda.gov, or call 301-504-1653.

www.ars.usda.gov/yourtwocents

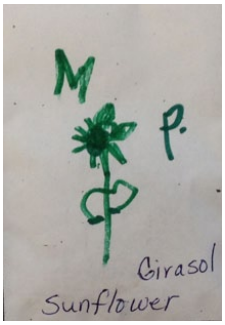
Your Two Cents (Y2C)

Y2C has now been "in business" for 3 years! Updated features to be unveiled in the coming weeks include a new and improved Handbook and User Agreement, which will explain the ins and outs of Y2C and make clear how *you* can get more involved. Ever wanted to get the "Most Likely To Succeed" honor in high school? You will be able to get the "Best Y2C Idea" honor in the annual Y2C Superlatives Challenge soon to be launched. Stay tuned for more details in an Agency-wide webinar that will explain the new functions and improvements to the site! ARS's organizational culture is one where work-life balance, diversity, and suggestions for process improvement are highly valued. We want to know what *you* are doing at your work centers that reflects those values. Did your office organize a community service project? Did you have a brown bag lunch featuring a guest speaker? The Cultural Transformation Team wants to hear from you. Please email us and let us know your plans or activities! And many thanks to those who have taken the time to share their Cultural Transformation (CT) activities, which will be included in ARS's monthly CT metrics report to the Department. Other improvements, such as the new ARS employee Intranet, are under way. Look for updates in future *ARS & You* issues! ✤

Keep It Simple—Last Call!

June is the final month of ARS's 3-month "Plain Writing Information Campaign." The "Introduction to Plain Language" course is available in your AgLearn "To Do" list, so please take the course if you haven't already done so. For more information, contact ARS's Plain Writing Coordinator, **Tara T. Weaver-Missick**, by email (tara.weavermissick@ars.usda.gov) or by phone (301-504-1663). ✤

Around ARS



Hand-illustrated seed packets.

On May 17, 2013, 28 pre-K students and 6 staff and parent helpers from Hartnell Child Development Center in Alisal, CA, visited the ARS U.S. Agricultural Research Station in Salinas, CA. The children got to experience three ARS research environments: laboratory, field, and greenhouse. Selecting from nine seed options, the children were taught how to plant their own seeds and then were able to take their plants home with them after the visit. Bugs—living and preserved—added to the fun and excitement. As a token of their appreciation, the children presented their ARS hosts with hand-decorated seed packets they had made before the visit. Inside the packets were seeds collected from sunflower plants grown at the children's center. ✤

Class of 2013 ARS research interns in Pullman, WA, and their mentors and Upward Bound directors.

Each year, the ARS units in **Pullman, WA**, host student interns during the month of July in support of Washington State University's Upward Bound Program, which assists underserved and first-generation students primarily in rural areas of the State. This year, all six ARS Pullman units will host an intern, who will be working side by side with their mentors and other scientists, post-docs, and doctoral students. Two ARS Pullman employees—Program Assistant **Kathleen Parker**, ARS Root Disease and Biological Control Research Unit, and Plant Geneticist **Ted Kisha**, ARS Plant Germplasm Introduction and Testing Research Unit—have helped make the internship program a success each year. ✤

Robin Ogden (left) helps a student reach inside a cow's rumen—one of a cow's four stomachs.

On May 9, 2013, Biological Science Laboratory Technician **Robin Ogden**, ARS Environmentally Integrated Dairy Management Research Unit, Marshfield, WI, spoke to a group of 17 students from D.C. Everest High School, Weston, WI. Ogden and student employee **Meridith Kruse** explained how a cow's digestive process differs from a human's. Cows have four stomachs. Students were given an opportunity to reach inside a cow's stomach. ✤

Geoff Brink speaks about his pasture research.

The ARS **U.S. Dairy Forage Research Center** (USDFRC) in Madison, WI, co-hosted a tour at its research farm inside the former Badger Army Ammunition Plant in Prairie du Sac, WI, on May 14, 2013. USDFRC scientists who participated in the event included Research Agronomist **Geoff Brink**, who presented information about his pasture research, and Research Plant Geneticist **Heathcliffe Riday**, who spoke about his forage legume breeding research. The 25 people in attendance included representatives of the Wisconsin Department of Natural Resources, the University of Wisconsin, and other local organizations. ✤

Future agricultural scientists at work.

On May 18, 2013, the ARS **U.S. Dairy Forage Research Center** in Madison, WI, reached out to 1,200 young people, their parents, and youth leaders during the Baraboo Circus Heritage Celebration—an annual event open to all organized youth groups in southern Wisconsin and neighboring States. The exhibit highlighted how farmers are scientists and encouraged students to consider careers in agriculture. There were hands-on activities, such as pouring water through different soils to demonstrate different drainage rates. ✤

On May 3, 2013, the **National Agricultural Library** hosted the 2013 University of Maryland Nutrition and Food Science Research Day. **Melanie Gardner**, NAL Acting Associate Director for Information Products, Beltsville, MD, provided the opening remarks. **John Milner**, Director, ARS Beltsville Human Nutrition Research Center, Beltsville, MD, gave the keynote address. This year's event, with an attendance of 130, included 56 graduate-level posters that were judged by scientists from USDA, the Food and Drug Administration, the National Institutes of Health, and the University of Maryland. ✤

Notable Awards


Tommy Wheeler.

Research Leader **Tommy L. Wheeler**, ARS U.S. Meat Animal Research Center, Clay Center, NE, recently received the Distinguished Research Award from the American Meat Science Association (AMSA) for his outstanding career-long research accomplishments with significant and beneficial impact on the meat industry. He was recognized at the AMSA Reciprocal Meat Conference on June 18 in Auburn, AL. ✤


Joyce Loper.

On May 30, 2013, Research Plant Pathologist **Joyce Loper**, ARS Horticultural Crops Research Unit, Corvallis, OR, received the E.C. Stakman Award from the University of Minnesota Department of Plant Pathology for outstanding achievements in plant pathology research, international development, outreach, and/or teaching. As part of the award presentation, Loper presented the E.C. Stakman Lecture, "Genomics-Guided Discovery of Traits of *Pseudomonas* spp. Contributing to Biological Control of Plant Disease." ✤

Annual Recognition Program and Award Recipients

The 2012 awards were presented in a ceremony on June 11 in the Building 003 Auditorium, ARS Beltsville Agricultural Research Center, Beltsville, MD.

Distinguished Senior Research Scientist

Ronald J. Nachman, Southern Plains Area, College Station, TX, for pioneering research on the development of novel, environmentally friendly pest control based on insect neuropeptide hormones.

Herbert L. Rothbart Outstanding Early Career Research Scientist

Steven B. Cannon, Midwest Area, Ames, IA, for distinguished research and leadership in genomics of legume crops.

Area Senior Research Scientists

Frederic T. Barrows, Pacific West Area, Aberdeen, ID, for propelling ARS to global prominence in sustainable aquaculture feeds research through his dynamic leadership, technical expertise, and vision.

Franck E. Dayan, Mid South Area, University, MS, for his scientific leadership and sustained research productivity on the mode of action of natural products and on their development as natural herbicides.

Stewart M. Gray, North Atlantic Area, Ithaca, NY, for outstanding research on the insect transmission of plant viruses, plant virus epidemiology, and plant virus disease management.

Mark C. Jenkins, Beltsville Area, Beltsville, MD, for scientific excellence and innovative methodology in combating parasitic diseases in commercial poultry.

R. Richard Lowrance, South Atlantic Area, Tifton, GA, for national leadership characterizing the ecosystem services provided by riparian buffers and wetlands in agricultural landscapes.

Kerry O'Donnell, Midwest Area, Peoria, IL, for pioneering research that revolutionized the understanding of genetic, ecological, and phenotypic diversity among fungal pathogens of major significance to agricultural production and food safety.

Tommy L. Wheeler, Northern Plains Area, Clay Center, NE, for outstanding research contributions enabling the livestock and red meat industries to improve the quality and safety of meat.

Area Early Career Research Scientists

Anthony R. Buda, North Atlantic Area, University Park, PA, for innovative and effective research on stream hydrology and water movement in soils to support the development of novel practices to protect water quality.

Kimberly L. Cook, Mid South Area, Bowling Green, KY, for creative research program investigating fastidious microbial populations important to human, animal, and environmental health.

Karen R. Harris-Shultz, South Atlantic Area, Tifton, GA, for innovative research to identify specific regions of a plant genome responsible for disease resistance and other desirable traits.

Robert R. Kula, Beltsville Area, Beltsville, MD, for outstanding research in the systematics of braconid wasps important to biological control programs.

Daniel N. Moriasi, Southern Plains Area, El Reno, OK, for demonstrating exceptional productivity, originality, and impact in advancing hydrologic science, and for developing field- and watershed-scale models.

David R. Rudell, Pacific West Area, Wenatchee, WA, for outstanding metabolomic research contributing to knowledge of climacteric fruit ripening, physiological disorders, and edible quality.

Kevin Welch, Northern Plains Area, Logan, UT, for novel scientific investigations into the toxicology of mixtures of multiple plant toxins, and for teamwork with other members of the research unit and collaborators.

Technology Transfer Awards

Outstanding Efforts Awards were presented to the following individuals and teams:

VSH Breeding Group, for the enhanced utilization of honey bees possessing Varroa sensitive hygiene traits for the purpose of protecting the production of the national food supply. Team members: **Bob G. Danka**, Mid South Area, Baton Rouge, LA; **Jeff Harris**, formerly with Mid South Area, Baton Rouge, LA; **John R. Harbo** (retired), Mid South Area, Baton Rouge, LA; and Suki Glenn and Tom Glenn, Glenn Apiaries, Fallbrook, CA.

Virtual Grower Development Group, for the development of virtual grower decision support software program and the transfer of technology via Web site, CD distribution, training sessions, and instructional videos. Team members: **Jonathan M. Frantz** and **Bryon A. Hand**, Midwest Area, Toledo, OH; Deanna Bobak, University of Toledo, Toledo, OH; Erik Runkle, Michigan State University, East Lansing, MI; and Lee Buckingham, Oregon State University, Corvallis, OR.

Superior Efforts Awards were presented to the following individuals and teams:

Jorge A. Delgado, Northern Plains Area, Fort Collins, CO, for outstanding leadership in developing and transferring tools that improve nitrogen management and reduce nitrogen losses to the environment, contributing to natural resource conservation.

Trellis and Production Systems Development Team, for the partnership between USDA-ARS and Trellis Growing Systems, LLC, for the development and technology transfer of commercial rotating cross-arm trellis and cane training systems for blackberry production. Team members: **Fumiomi Takeda**, North Atlantic Area, Kearneysville, WV, and Richard Barnes, Trellis Growing Systems, LLC, Fort Wayne, IN.

Novel Tractor-Drawn Machine (Poultry Litter Subsurfer) Group, for the development of the Poultry Litter Subsurfer, a novel tractor-drawn machine that applies dry poultry litter below the surface of pasture/no-till systems. Team members: **Daniel H. Pote** and **Stephen M. Haller,** Southern Plains Area, Booneville, AR.

Ecologically-based Invasive Plant Management (EBIPM) of Invasive Annual Grasses Project Team, for ecologically based invasive plant management (EPIBM) of invasive annual grasses. Team members: **Roger L. Sheley** and **Brenda Smith**, Pacific West Area, Burns, OR; **Stuart P. Hardegree**, Pacific West Area, Boise, ID; **Thomas A. Monaco**, Northern Plains Area, Logan, UT; and Ryan Steineckert, Oregon State University, Hines, OR.

A **Sustained Effort Technology Transfer Award**, **Outstanding Efforts Award** was presented to the **International Soil Water Management Research Team** for outstanding technology transfer of soil water sensing and measurement technology and tools for environmental and water management to conserve water, protect the environment, and enhance water management. Team members: **Steven R. Evett**, **Robert C. Schwartz**, and **Joaquin J. Casanova**, Southern Plains Area, Bushland, TX; **Robert J. Lascano** and **Mathew G. Pelletier**, Southern Plains Area, Lubbock, TX; **Timothy R. Green**, Northern

Plains Area, Fort Collins, CO; **Mark S. Seyfried**, Pacific West Area, Boise, ID; **Sally D. Logsdon**, Midwest Area, Ames, IA; and Lee K. Heng and Minh-Long Nguyen, Joint FAO/IAEA Division on Nuclear Techniques in Food and Agriculture, Vienna, Austria.

A **Sustained Effort Technology Transfer Award**, **Superior Efforts Award** was presented to the **Tick-borne Pathogen Control Team** for outstanding technology transfer in support of controlling a re-emergent exotic disease (Babesiosis) in U.S. livestock through provision of modern diagnostics and chemotherapeutics. Team members: **Donald P. Knowles**, **Lowell S. Kappmeyer**, **Glen A. Scoles**, and **Massaro Ueti**, Pacific West Area, Pullman, WA.

T.W. Edminster Research Associate Award

Lance E. Cadle-Davidson, North Atlantic Area, Geneva, NY, for the outstanding proposal "Clonal Ren4: a novel and durable haustorial resistance gene."

Administrator's Outreach, Diversity, and Equal Opportunity Awards

The **Supervisory/Managerial Category** award was presented to **M. Alma Solis**, Beltsville Area, Beltsville, MD, for outstanding effort in supporting women of color in the Systematic Entomology Laboratory and underrepresented students in science.

The **Non-Supervisory/Non-Managerial Category** award was presented to **Carolee T. Bull**, Pacific West Area, Salinas, CA, for innovative program development and outstanding mentoring provided to minority and woman undergraduate researchers in the Salinas Valley of California.

Excellence in Information Award

The Plant Hardiness Zone Map (PHZM) Team for exemplary service and creativity in developing and delivering the innovative 2012 USDA Plant Hardiness Zone Map to a highly diverse clientele through digital GIS technology. Team members: **Gary A. Rich**, OCIO, Beltsville, MD; **David E. James**, Midwest Area, Ames, IA; **Janet (Kim) Kaplan**, Information Staff, Beltsville, MD; **Jody Shuart**, Information Staff, Beltsville, MD; and **Bruce C. Vandenberg**, Northern Plains Area, Fort Collins, CO.

Office Professional of the Year

Amber K. Whittaker, Northern Plains Area, Logan, UT, for excellence in organizational achievement, skill advancement, cost savings, and consistent flow of administrative operations while displaying a positive and professional attitude.

Administrative and Financial Management (AFM) Support Awards for Excellence

The **AFM Gold Award for Excellence** was presented to **Perry A. Rainosek**, Southern Plains Area, Houston, TX, for recognition of administrative excellence and for supporting ARS locations facing administrative support challenges.

The **AFM Silver Award for Excellence** was presented to **Michael Greene** (retired), South Atlantic Area, Miami, FL, for reducing the electrical consumption and cost to the Subtropical Horticulture Research Station, Miami, FL, by 33% in 1 year using low- and no-cost measures.

The **AFM Bronze Award for Excellence** was presented to **Caroline S. Ingles**, formerly with Administrative and Financial Management, Beltsville, MD, for the effective development, modification, and implementation of various training courses/programs to increase program effectiveness, support supervisors and managers, and foster cultural transformation in the agency.

Did You Know?

Honey bees are in trouble, and that means the berries, nuts, fruits and vegetables—the foods that put flavor in our diet—could be in trouble, too. Commercial production of these tasty crops depends on pollination by honey bees.

Beginning every February, almost 2 million colonies of honey bees are trucked across the country, starting the year in the almond orchards of California and then working their way north to finish with apples and cherries in Washington and blueberries in Maine.

But these days, we are losing managed honey bee colonies like never before.

Beekeepers expect some winter losses. But what used to be a 10-15 percent loss each winter has risen to about 30 percent. When parasitic varroa mites came to this country in the 1990s, colony losses went up to 15-20 percent. In 2006, Colony Collapse Disorder came on the scene, and losses started topping 30 percent.

This year, the annual winter survey of managed bee colony losses—done by the University of Maryland, the Bee Informed Partnership and ARS—reported that overall losses were 31.1 percent, just slightly higher than the previous 6-year average loss of 30.5 percent.

It is not that honey bees will disappear completely, but many beekeepers have said that 30-percent losses will make their businesses economically unsustainable. With fewer colonies available to contract for pollination, consumers could end up paying more for many foods.

So what's causing these losses? That's the question that ARS and other researchers have been trying to answer.

They know now it is not just one cause. They expect it is a combination of factors: pathogens and parasites, poor nutrition, narrow genetics and/or pesticides.

Some claim pesticides are the likely culprit, but no pattern showing pesticide residues from any one pesticide or pesticide class has been found in honey bees. ARS scientists are now trying to determine if there are sublethal effects that might either be weakening the honey bee or causing already-weakened colonies to die off.

Cell phones have been another popular villain for honey bee losses. Not only has no evidence ever been found linking cell phones or cell phone towers to widespread honey bee losses, but in the rural locations where most honey bee colonies are kept, cell phone coverage is often not available.

*Written by **Kim Kaplan**, ARS Information Staff.*

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