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www.ars.usda.gov/yourtwocents

Your Two Cents (Y2C)

This month, ARS Administrator **Chavonda Jacobs-Young** announced the launch of [Axon](#), the new ARS Intranet. [Axon](#) provides ARS and REE employees access to information and a launch pad to applications where they can find, access, and share information and resources. Think of [Axon](#) as a one-stop shop for all of the agency functions you currently use. We are looking forward to using [Axon](#) to increase employee communication and knowledge sharing across ARS. There are also additional features, like a calendar and news page, that will help reduce ARS-All email messages. We need your help to ensure that we continuously improve the ARS Intranet to provide content and information that is useful to all. After you've had a chance to use [Axon](#), please [email us](#) your suggestions. And check out the "shout out" that the Axon team got from Dr. Jacobs-Young when she placed the first peer recognition in our new informal award program [StARS](#), which can be found [here](#).

[Your Two Cents](#) is currently under construction while our programmer is working on all the site improvement suggestions you submitted. If you have trouble submitting ideas or comments, or if you don't see a response in a timely manner, please let us know via email at YourTwoCents@ars.usda.gov! ❀

Around ARS



Research Leader Rick Byler teaches a class during the 29th Annual Cotton Ginners School.

The ARS **Cotton Ginning Research Unit (CGRU)** in Stoneville, MS, hosted its 29th Annual Cotton Ginners School on June 3-5 to teach the latest technologies used in the ginning industry to students, including over 100 gin technicians and managers from across the Cotton Belt. CGRU works with Federal and State extension services, several land-grant universities, and cotton organizations such as the National Cotton Council, the National Cotton Ginners Association, and Cotton Incorporated. ❀

This May, the **National Agricultural Library (NAL)** hosted the third in a series of book exhibits highlighting materials from its own collections. The exhibit, "Preserving Our Culinary Heritage: Cookbooks of the National Agricultural Library," featured items from NAL's more than 2,000 cookbooks, cookeries, and culinary guides, some dating back to 1662. The exhibit also was included in an NAL Special Collections tour for the [Culinary Historians of Washington \(CHoW\)](#). ❀

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

ARS scientists contributed two chapters in a recent American Chemical Society Symposium Series edition entitled [Tropical and Subtropical Fruits: Flavors, Color, and Health Benefits](#). Research Associate **Shibu M. Poulouse** and Research Physiologist **Barbara Shukitt-Hale**, both at ARS's Jean Mayer Human Nutrition Research Center on Aging at Tufts University in Boston, MA, co-authored the chapter "Functional Role of Walnuts and Açai Fruits on Brain Health." Research Chemist **John Manthey**, at ARS's Citrus and Other Subtropical Products Research Unit in Fort Pierce, FL, co-authored the chapter "Issues Surrounding the Anti-Inflammatory Actions of the Citrus Polymethoxylated Flavones." For more about the publication, visit <http://pubs.acs.org/isbn/9780841228931?prevSearch=&searchHistoryKey>. ❀

The ARS **Plant Genetic Resources Conservation Unit** in Griffin, GA, participated as a tour stop in a day-long event on June 5 to celebrate the 35th anniversary of the Georgia Master Gardener Extension Volunteer (MGEV) program. More than 200 participants were expected at the event, which took place on the University of Georgia Griffin campus. The MGEV in Georgia is a volunteer training program designed to help University of Georgia Cooperative Extension staff transfer research-based information about gardening and related subjects to the public by training home gardeners. ❀

Research Geneticist **Victor Raboy**, at ARS's Small Grains and Potato Germplasm Research Unit in Aberdeen, ID, and Research Leader **Randall Nelson**, at ARS's Soybean/Maize Germplasm, Pathology, and Genetics Research Unit in Urbana, IL, are among the co-authors of a paper that appeared in the June 5 edition of [Nature](#). The paper was entitled "Increasing CO₂ Threatens Human Nutrition." ❀

Approximately 55 growers, industry representatives, students, and researchers attended a field day about canola production in northern Alabama held on May 29, 2014, at Riverbend Farms in Florence, AL. Research Soil Scientist **Dexter Watts** and Agricultural Economist **Leah Duzy** from ARS's National Soil Dynamics Laboratory in Auburn, AL, introduced the attendees to the agronomic benefits of growing canola and the economics of including canola in a conservation system. Producers also heard from representatives from Alabama A&M University, industry representatives, and local canola producers on topics ranging from the history of canola to marketing, processing, and distributing. ❀



Visitors learn about ARS research—and enjoy a tractor ride—at a field day in Tallahassee, FL. See [Photo Corner](#) for more.

Employees at the satellite laboratory of ARS's **Center for Medical, Agricultural, and Veterinary Entomology** in Tallahassee, FL, co-organized a field day on May 20, 2014, with Florida A&M University (FAMU) faculty and Extension agents. The field day was held at ARS and FAMU-Center for Viticulture Integrated Pest Management (IPM) field sites in Tallahassee, FL. The focus of this outreach activity was to demonstrate the use of refuge plants to attract and conserve beneficial insects (for example, hover flies, ladybeetles, and green lacewing) that in turn can control insect pests such as aphids, diamondback moth, and whiteflies in vegetable crops. Permanent displays of annual plants (sweet alyssum and Queen Anne's lace, for example) and perennial plants (blue mistflower and dotted horsemint, for example) as sources of beneficial species were presented to sustainable community garden growers, homeowners, FAMU middle-school and university students, scientists, researchers, and small-farm owners. Also presented were ongoing experimental studies on intercropping vegetable crops (such as kale, beans, peppers, and tomatoes) with refuge plants (such as sweet alyssum, buckwheat, and sunflower) to control insect pests in a sustainable manner. See [Photo Corner](#). ❀



A student touches catfish eggs. See [Photo Corner](#) for more.

The USDA/HSINP (Hispanic-Serving Institutions National Program) Future Scientists Program was held on May 15, 2014, at two ARS Stuttgart, AR, locations: the ARS Dale Bumpers Rice Research Center (DBNRR) and the ARS Harry K. Dupree

National Aquaculture Research Center (SNARC). The event was attended by students from several area schools. The students gave presentations and then participated in a question-and-answer panel with ARS scientists. They were then given a tour of the rice research paddies, rice greenhouses, aquaculture ponds, and aquaculture labs. Participating ARS scientists included Research Plant Physiologist **David Gealy**, Research Plant Geneticist **Georgia Eizenga**, Research Chemist **Rolfe Bryant**, SNARC Center Director **Carl Webster**, and Research Toxicologist **David Straus**. The program was designed to inform students and teachers about ARS research and to promote interest in the sciences among young people.

See [Photo Corner](#). ❀



What a dairy cow eats in a day.

Where does milk come from? Hundreds of young people and their adult leaders gained a better idea by viewing a display hosted by ARS's U.S. Dairy Forage Research Center (USDFRC) in Madison, WI, at the Baraboo Circus Heritage Days on May 17, 2014. This annual event attracts more than 1,000 people from southern Wisconsin and neighboring States. The display included fresh feed representing a dairy cow's diet for one day. USDFRC employees explained how cows take rough feeds, like silage and hay, and convert them into nutritious milk for humans. Also displayed were the many different byproduct feeds that cows consume, as well as a video clip of live rumen microbes under a microscope. The display was designed and staffed by Biological Science Lab Technicians **Mary Becker** and **Diane Amundson** and Agricultural Information Specialist **Lori Bocher**. ❀



Materials Engineer Nick Latona explains ARS research to students on Career Day at the ARS Eastern Regional Research Center.

ARS's **Eastern Regional Research Center (ERRC)** in Wyndmoor, PA, opened its doors to the public for two days this April to share exciting research going on at the Center with the community and to inspire a desire to pursue a career in science. On April 9, 2014, ERRC held its annual Career Day, hosting around 240 students, including members of the Veterans Upward Bound program, who participated for the first time this year, as well as students from Souderton High School, Central High School, W.B. Saul High School (the local agriculture school), and Abington High School. All of ERRC's six research units and the Core Technologies group participated. Then on April 10, 2014, the Center held its 23rd annual Future Scientist Day (FSD). The program's objective is to recognize students with Science Fair projects that relate to all aspects of ARS's research programs. Each year, the students (grades 6-12) with award-winning projects are invited to ERRC, along with their family members and teachers, to display their work. The students were greeted by Center Director **Sevim Erhan** and were presented their award certificates. After viewing demonstrations of ongoing research at ERRC, the students set up their award-winning science fair posters. Thanks to the enthusiastic support of ERRC staff and the community, Career Day and Future Scientist Day are truly Center-wide events. ❀

On May 17, 2014, Research Entomologist **Lisa Neven**, at the ARS Fruit and Vegetable Insect Research Unit in Wapato, WA, participated in the annual "Expanding Your Horizons" program held at Heritage University in Toppenish, WA. Co-sponsored by Heritage University and University of Washington's "GEAR UP" program, this annual event provides middle-school girls information on careers in STEM (science, technology, engineering, and mathematics). Neven presented a workshop on entomology and careers at ARS. The program this year drew more than 200 Yakima Valley middle-school girls. Read more at [Yakima Herald Republic](#). ❀



Boardman Tree Farm in Boardman, OR. See [Photo Corner](#) for more.

Thirty-six students from Evergreen State College in Olympia, WA, attended a bioenergy tour on the Boardman Tree Farm of Greenwood Resources in Boardman, OR, on May 12, 2014. The tour was sponsored by the ARS **Vegetable and Forage Crops Research Unit** in Prosser, WA, and Washington State University.

Presentations were given about the innovative approach of intercropping switchgrass within hybrid poplar for biomass production. See [Photo Corner](#). ❀



Fifth-graders from Los Padres School visit ARS in Salinas, CA.

Around 120 fifth-graders from Los Padres School, a largely Hispanic, underserved school in Salinas, CA, visited the ARS **Crop Improvement and Protection Research Unit** in Salinas on May 27, 2014. The students were enthusiastic about all the things they learned about science and agriculture, particularly agriculture in the Salinas Valley and California. Prior to the visit, ARS scientists at Salinas had worked with the four fifth-grade classes in their classrooms on four different occasions through winter and spring to complete a participatory plant biology exercise. The students learned to observe, formulate hypotheses, conduct an experiment, and collect and analyze data. ❀



Students learn how scientists use the greenhouse to conduct research.

“Adventures in Soil Science” is a weeklong program offered every spring to middle school students in Prince George’s County, MD, to help advance their scientific education. The program is sponsored by ARS **Beltsville Area’s Diversity Taskforce–Student Discovery Garden**, Prince George’s County 4-H, and University of Maryland’s Office of Sustainability. This year’s program, which ran from April 14 to April 27, 2014, used the Student Discovery Garden as a research field and the band “The Walking Sticks” to introduce soil forming factors with a sing-along. After a four-day crash course on discovering the fundamentals of soil science through music and exploring graphic analysis tools and environmental sensor technologies, the students showcased their newly acquired knowledge by displaying their posters and defending their own hypotheses at the 3rd Annual USA Science and Engineering Festival and Maryland Day 4-H. Hosting this program in Beltsville, MD, gave these students a rare opportunity to work with researchers to discover practical applications of science in agriculture. See [Photo Corner](#). ❀

Notable Awards

The Organization of Professional Employees of the U.S. Department of Agriculture (OPEDA), in partnership with Departmental Management (DM), hosted the 30th Annual Unsung Hero Award Program on May 7, 2014, on the Jamie L. Whitten Building Patio. This year's 15 Unsung Hero awards and 23 Honorable Mentions were selected from an unprecedented 200+ nominations. ARS employees were selected for two Unsung Hero awards and two Honorable Mentions this year.



Pat Bartling and Lloyd Billey. See [Photo Corner](#) for more.

Biological Science Laboratory Technician **Lloyd Billey**, at the ARS Animal Metabolism-Agricultural Chemicals Research Unit in Fargo, ND, received an Unsung Hero award for his exemplary service to ARS.

The benefits of the extra efforts he is known for were in evidence in his service as an exigent employee during the government shutdown last fall. He helped minimize several instances of infrastructural damage by alerting the appropriate personnel. He also ensured the integrity of ongoing research projects by logging in and processing critical survey samples. He has trained and supervised students and other employees and has helped coworkers in his own unit and in other units. He has served as chair and co-chair of the Combined Federal Campaign (CFC) in the Red River Valley's CFC campaign.

Agronomist **Patricia "Pat" Bartling**, at the ARS Agricultural Systems Research Unit in Fort Collins, CO, received an Unsung Hero award for supplying educational and scientific support to a national and international audience who uses the agricultural systems model RZWQM2 to address sustainable agricultural issues. She has assisted scientists in the United States, Canada, Portugal, and China, as well as many visiting foreign scientists. She has taught RZWQM2 to scientists at the China Agricultural University in Beijing, China. She has also developed and provided educational outreach programs in water management to high school students.

The two Honorable Mentions went to Supervisory General Engineer **Dennis Jones**, ARS National Animal Disease Center, Ames, IA, and Research Plant Physiologist **Steve Prior**, ARS National Soil Dynamics Laboratory, Auburn, AL. Jones was honored for his many contributions including initiating and implementing an Energy Savings Performance Contract to improve energy efficiency, installing a standby electrical generator for animal biocontainment facilities, and managing an engineering project for \$300 million+ of modernization construction to serve the Ames location. Prior was honored for his significant long-term contributions to his unit's Safety and Environmental Management System programs. He oversaw all hazardous waste disposal and safety operations concerning laboratory chemistry procedures, machine shop activities, and farm equipment operations. He currently serves as Safety Committee Chairperson and has held this position several times in the past. His unit has frequently been cited as the "role model" for ARS laboratory locations. See [Photo Corner](#). ❀



One of the commemorative stone benches dedicated to past ARS and FSIS employees in Athens, GA.

Six former ARS scientists and one former Food Safety and Inspection Service (FSIS) administrator were honored at an open house and bench dedication ceremony at USDA's Richard B. Russell Agricultural Research Center in Athens, GA, on May 22, 2014. Each was honored with a commemorative stone bench. The honorees were **William Patterson**, the first Director of the ARS Southeast Poultry Research Laboratory (SPRL) (1960-1972); **Charles Beard**, Director of the SPRL (1972-1993) and a 2005 [ARS Science Hall of Fame](#) inductee; **Harry Neufeld**, the first Director of the Russell Research Center (1969-1979); **David Zimmer**, Director of the Russell Research Center (1980-1989); Otis Hayes, the first Director of the FSIS laboratory in Athens (1974-1990); and [ARS Science Hall of Fame](#) inductees **Stuart Nelson** (inducted 2002) and **Nelson Cox** (inducted 2005). Read more at [Athens Banner-Herald](#). ❀

Two current and one retired ARS scientists were inducted as new Fellows of the [Institute of Food Technologists \(IFT\)](#) during its annual meeting on June 21-24 in New Orleans, LA—**Howard Zhang**, Director of ARS's Western Regional Research Center in Albany, CA; Research Chemist **Keshun Liu**, ARS Small Grains and Potato Germplasm Research Unit, Aberdeen, ID; and Research Leader **Anthony W. Kotula**, who retired from ARS's Meat Science Research Laboratory in Beltsville, MD, in 1992. ❀

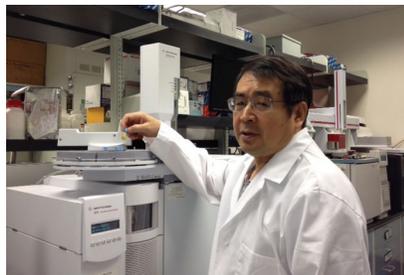


Steven Shackelford.

Research Food Technologist **Steven Shackelford**, at ARS's U.S. Meat Animal Research Center in Clay Center, NE, received the [American Meat Science Association \(AMSA\)](#)'s 2014 Distinguished Research Award. Sponsored by ConAgra Foods, Inc., the award was established in 1965 to recognize members with outstanding research contributions to the meat

industry. Shackelford was formally honored at a special awards banquet at the AMSA 67th Reciprocal Meat Conference on June 17 in Madison, WI. ❀

Research Chemist **Jinhe Bai**, ARS Citrus and Subtropical Products Research Unit, Fort Pierce, FL, received the Presidential Gold Medal Award from the [Florida State Horticultural Society](#)



Jinhe Bai.

[\(FSHS\)](#) for his contribution to Florida horticulture through his works published during the preceding 6-year period in the Handling and Processing Section of the *Proceedings of the Florida State Horticultural Society*. Bai was formally honored during the FSHS Annual Meeting on June 1-3 in Clearwater Beach, FL. ❀

A paper co-authored by Research Animal Physiologist **Susan Eicher**, at the ARS Livestock Behavior Research Unit in West Lafayette, IN, has been selected as one of "10 Best Food Animal Papers" of the previous year to be included in a presentation at this year's annual conference of the [American College of Veterinary Internal Medicine \(ACVIM\)](#), held on June 4-7 in Nashville, TN. Each year, an ACVIM panel selects and presents the 10 papers that "increase our understanding of the pathophysiology of disease or change the way we diagnose, treat, and control disease of food animals." Eicher's paper, "Effects of Rubber Flooring During the First 2 Lactations on Production, Locomotion, Hoof Health, Immune Functions, and Stress," was published in the June 2013 issue of the [Journal of Dairy Science](#). ❀

Research Leader **Craig Tucker** of the ARS Warmwater Aquaculture Research Unit, Stoneville, MS, is a co-author of an article recently honored as the 2013 Best Paper published in the *North American Journal of Aquaculture*. The paper, "Verification and Corresponding Economic Analysis of Fingerling to Stocker and Stocker to Growout Phases of a Modular System for the Farming of Channel Catfish, *Ictalurus punctatus*," was co-authored by L.R. Abramo, T.R. Hanson, J.A. Steeby, and S.K. Kingsbury, all with Mississippi State University. ❀



Photo Corner



Biological Science Laboratory Technician Lloyd Billey (far left, first row) and Agronomist Pat Bartling (third from the right, first row)—the two ARS employees who received a 2014 USDA Unsung Hero Award. (See story in [Notable Awards.](#))



Northern Plains Area Director Larry Chandler and Agronomist Pat Bartling—a 2014 USDA Unsung Hero Award winner—at the award ceremony on May 7, 2014. (See story in [Notable Awards.](#))



From left: OPEDA President Louis Iacchetti, Northern Plains Area Director Larry Chandler, Biological Science Laboratory Technician Lloyd Billey (a 2014 USDA Unsung Hero Award winner), Secretary Tom Vilsack, and Gregory L. Parham, Assistant Secretary for Administration. (See story in [Notable Awards.](#))



Second-graders on a tour at the ARS Southwestern Cotton Ginning Research Laboratory in Mesilla Park, NM, on June 3.



Second-graders on a tour at the ARS Southwestern Cotton Ginning Research Laboratory in Mesilla Park, NM, on June 3.



Visitors at a joint ARS and Florida A&M University field day in Tallahassee, FL. (See story in [Around ARS.](#))



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Evergreen State College students on a bioenergy tour on the Boardman Tree Farm in Boardman, OR. (See story in [Around ARS.](#))



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Plant Physiologist David Gealy answers questions at Student Research Presentation Day. (See story in [Around ARS.](#))



Graduate Research Assistant Brian W. Davis explains the value of cover crops in soil conservation to students. (See story in [Around ARS.](#))

Scenes from the Pacific West Area Leadership Conference this spring.

Visit <https://www.flickr.com/photos/ars-albany/sets/72157644498856506/> for more photos.



Pacific West Area Director Andrew Hammond.



Howard Zhang, Director, Western Regional Research Center.



Pacific West Area Leadership Conference participants.

Did You Know?



Scientist Donna Marshall-Shaw, left, explains to students the genetic engineering behind the apple varieties that we have today.

If you're a ninth-grader in the Poplarville, MS, school system, you're lucky to have an ARS lab in your town so you can learn about science first hand.

Students in the Poplarville High School STEM (science, technology, engineering, and mathematics) class who are studying plants and food visited the ARS Thad Cochran Southern Horticultural Laboratory in Poplarville on May 19, 2014. The students got to experience research up close, with working scientists doing the explaining.

Take the apple, for example. Scientist **Donna Marshall-Shaw** explained that the apples we buy in the grocery store are not the original apple. The apples we eat are actually the result of years of breeding to get just the right flavor, texture, and other desired qualities.

Along with plant breeding, the students learned about plant pathology—the fungi and other organisms that can cause apples and other fruits to spoil. Plant Pathology Technician **Melinda Butler** showed the students how these diseases damage plants. She grows fungal samples in the lab on oatmeal and V-8 juice so she can study them.

And speaking of pests, insects do more than their fair share of damage. Entomology Technician **Chris Werle** explained that many insects are not only useful but necessary. He displayed his insect collection so the students could identify insects that they had seen. Some pests were introduced accidentally from other countries. The reason that they are overpopulated here is that they have no natural enemies to keep their populations low.

Finally, the students heard from Scientist **Anthony Witcher** about blueberries, which are studied extensively at Poplarville. Blueberries only grow in certain types of soils, so scientists are developing new blueberries that can be grown across a wider variety of soils and climates.

The tour of the Poplarville lab gave the students a better understanding of the value of research, as well as the years of studies that go into developing the potatoes, grapes, tomatoes, and blueberries that they pick up in the store.

Written by **Donna Marshall-Shaw**, ARS Southern Horticultural Laboratory, and **Sean Adams**, ARS Information Staff.

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