



In this edition...

Your Two Cents

Around ARS

Photo Corner

Notable Awards

Did You Know?



www.ars.usda.gov/yourtwocents

Your Two Cents (Y2C)

Please continue to use *Your Two Cents* (Y2C) as your go-to source for the latest on the [FY 2012 budget](#), as well as important topics of interest in our agency affecting you and your colleagues. Y2C also is a forum where you can [share your ideas](#) on improving the way we do business and provide services to our stakeholders...or [read your coworkers' ideas](#). Check out this month's blog from **Larry Chandler**, ARS Midwest Area Director, on the [R3 Cultural Transformation](#) site; watch our first employee-submitted video by Agricultural Marketing and Information Specialist **Lori Bocher** in [ARS Starring You](#); and get some helpful personal and professional development training in the [Toolkit](#). You can also peruse our [Book Club](#) selection, download titles free of charge in [Books 24x7](#), and even catch an [interview](#) with a featured book author. Find *your* way to [Engage!](#)

CFC Magnet Mania



ARS Information Staff employees Anita Daniels and Nancy Vanatta scout out magnets.

Do you have magnets on your fridge or in your office? Have you seen the likes of nearly 2,000? Outreach Coordinator **Dianne Odland**, ARS Information Staff, whose cubicle and its adjoining vertical space are plastered with magnets from head to toe, has! Dianne's magnet collection began about a decade ago, when she started picking them up at conventions. The intent was to bring them back and share them as examples of effective (or ineffective) communication. Eventually, she started buying magnets, and people started bringing her magnets from their travels. She even started making her own magnets!

In honor of the National Capital Region's Combined Federal Campaign (CFC) efforts, and her impending retirement, she turned her work area into a "magnet store."

Please submit story ideas and national award items to Tara T. Weaver-Missick, tara.weavermissick@ars.usda.gov or call 301-504-1663.

What a blast! Everyone scouted out the goods ahead of time and showed up early to make sure they scored their favorites. The sale netted about \$150 for CFC. There are still lots of great magnets left if anyone is interested. They will remain on display the rest of December in the USDA George Washington Carver Center, Room 1-2232A, Beltsville, MD.

Around ARS

USHRL Researchers Ignite Students' Interest in Science



From left to right: students Brandon Jones, Brendan Arzino, Eugene Smith, and Ashley Brothers; ESE teacher Cathi Ferrara Costa; student Christina Gomez; Research Geneticist Randall Niedz, USHRL, Fort Pierce, FL.

Whoever said you have to be a rocket scientist to appreciate science never met the students from Indian River State College's Employment Institute Program. The 20 students in this program got a private tour from researchers at ARS' U.S. Horticultural Research Laboratory (USHRL), Fort Pierce, FL. Research Molecular Biologist **Robert Shatters**, Research Entomologist **Stephen Lapointe**, and Research Entomologist **Wayne Hunter** gave the students a tour of their individual labs. The students were intrigued, enthusiastic, and excited.

Some of the students said the highlight of the tour was "looking through the microscope to see the inside of a bug's stomach." They also enjoyed going through the sanitation sprayer that is used to sanitize people and clothing when they enter a greenhouse or the insectary and learning how one plant evolves to six.

These students now look at fruits, vegetables, citrus, and insects in a different way. They learned that plants, fruits,

vegetables, and trees get sick, too; and when they do, the researchers and technicians at USHRL work together to make them all well again. ❖

Partnering: It's the stuff powerful outreach is made of!

For nearly a decade, the **ARS Beltsville Agricultural Research Center (BARC)** and **Friends of Agricultural Research-Beltsville (FAR-B)**, a nonprofit organization that supports BARC research and programs, have collaborated to conduct science enrichment programs at a local elementary school in Beltsville, MD. This fall, for the third year in a row, they teamed up with the school to host a week-long visit by the Maryland Agricultural Education Foundation's Ag Products Mobile Science Lab.

Inside the Mobile Lab, retired science teachers skilled in making science "come alive" promoted the importance of agriculture in our daily lives and supervised experiments on kid-sized workbenches.

This year, the younger kids participated in an activity showing that pizzas come from the farm, not from the pizzeria. The older kids learned about egg inspection and tried their hand at weighing, measuring, candling, and inspecting eggs for freshness. The lessons were fun and highly engaging. The teachers reported that the kids talked about the program for days afterward.

FAR-B members, along with Outreach Coordinator **Dianne Odland** and Technical Information Specialist **Jay Green**, both with the ARS Information Staff, assisted with lab activities. ❖

Coming to a Theater Near You... "Introduction to Nematodes"

Research Molecular Biologist **Andrea Skantar**, ARS Nematology Laboratory, Beltsville, MD, is the co-author of a multimedia slide show about nematodes. Already in its second release and translated into Spanish, Portuguese, and Japanese (with others to come), "Introduction to Nematodes" is proving to be a valuable educational resource worldwide. "Introduction to Nematodes" is freely available as a QuickTime movie from several organizations, including the [Organization of Nematologists of Tropical America \(ONTA\)](http://www.ontaweb.org). To see the presentation, visit www.ontaweb.org and click on the link on the right. ❖



A student reaches into a cow stomach.



Wayne Coblentz gives lab tour.

research is conducted both in the laboratory and with research animals on the farm. ❖



Stephanie weeding plants.



Adam cleaning shade-house.

On November 15, 2011, 15 students from the Rosholt High School agriculture class visited the ARS U.S. Dairy Forage Research Center's Environmentally Integrated Dairy Management Research Unit in Marshfield and Stratford, WI.

Research Leader and Dairy Scientist **Wayne Coblentz**, along with Biological Science Lab Technician **Robin Ogden**, explained to the students how

As part of the Hancock County School District Special Needs Class Work Study Program, a group of young adults volunteer their time at the ARS Thad Cochran Southern Horticultural Laboratory in Poplarville, MS. These young adults come 1

day a week and help out in the lab's greenhouse complex. As anyone with a greenhouse knows, this is a real treat. The students' teacher, Mr. Kelsey Carroll, brings them to the ARS facility as part of their learning and vocational training. "Not only do the kids help us with greenhouse work, but they also teach us to appreciate the little things in life," says

Horticulturist **Donna Marshall**. She says, "Kelsey's Kids" have taught the ARS employees to smile, speak, and just



TJ sweeping greenhouse floor.

enjoy every day. "We are very fortunate and humbled to have these young adults come and work with us." ❖

Deployed War-Fighter Protection (DWFP) Research Program

The [Deployed War-Fighter Protection \(DWFP\)](#) research program review took place on November 29-December 2, 2011, at the USDA George Washington Carver Center, Beltsville, MD. Researchers from ARS laboratories in Florida, Mississippi, and Texas met with DWFP committee members to provide an overview of research being conducted to benefit U.S. military personnel. Presentations were also shared via webinar with researchers in other government agencies.

The Department of Defense invests \$3 million per year in USDA-ARS—specifically in ARS National Program for Veterinary, Medical, and Urban Entomology, led by ARS National Program Leader **Daniel Strickman**—to develop and refine solutions to problems caused by disease-carrying insects.

Established in 2004 and administered by the Armed Forces Pest Management Board, the DWFP research program is an initiative to develop and validate methods to protect U.S. military personnel deployed abroad from threats posed by disease-carrying insects. Hundreds of thousands of U.S. soldiers, sailors, airmen, and marines serving abroad are susceptible to malaria, dengue, and other serious illnesses. ❖

'Rainbow' Papaya Now Available in Costco Japan



Papaya tree.

On December 5, the first commercial shipment of transgenic 'Rainbow' papaya was sent from Hawaii to Japan. This was made possible just days after the Japanese Ministry of Health, Labour and

Welfare published their food safety approval of the papaya. Shipments of about 7,000 pounds will be made twice a week from Hawaii to Japan for sale at Costco Japan stores.

Within just a few years after the papaya ring spot virus was discovered in Puna in 1992, Hawaii's papaya industry suffered great devastation. In 1998, USDA released 'Rainbow,' a transgenic virus-resistant papaya cultivar developed jointly by ARS, the University of Hawaii, and Cornell University. The 'Rainbow' papaya is now widely planted in Hawaii and makes up most of the papaya shipped to the mainland. ❖



Photo Corner



Soil Scientist Mark Powell was appointed to serve on the Food and Agriculture Organization of the United Nations' task force.

Notable Awards

Three scientists were named to the ARS Science Hall of Fame on December 7—Zoologist **Ronald Fayer**, Soil Scientist **Ronald F. Follett**, and Agricultural Engineer Allen R. Dedrick (deceased). Fayer, with the ARS Environmental Microbial and Food Safety Laboratory in Beltsville, MD, was recognized for his scientific research leadership on parasites that infect animals and humans, particularly pathogens affecting food animals and food safety. Follett, with the ARS Soil Plant Nutrient Research Unit in Fort Collins, CO, was inducted for outstanding research contributions in the enhancement of soil, water, and air quality. Dedrick was recognized for national and international impact and leadership in the development and application of technology for efficient use of scarce water resources worldwide.

On December 6, Soil Scientist **Martin Shipitalo**, ARS North Appalachian Experimental Watershed (NAEW), Coshocton, OH, was presented the No-Till Educator/Researcher Award at the Annual Ohio No-Till Conference in Plain City, OH. ❖



Thomas Trout (left) receives his award.

Award by the U.S. Committee on Irrigation and Drainage (USCID). He was recognized for his distinguished service to USCID and to the irrigation profession. The award was presented at the USCID meeting on November 16, 2011, in San Diego, CA. ❖

Research Leader **Thomas Trout**, ARS Water Management Research Unit, Fort Collins, CO, was honored with the Merriam Improved Irrigation

Did You Know?

Americans enjoyed the first Hershey's milk chocolate bar in the 1900s, and M&Ms have been world-famous since 1941. But chocolate itself has been around for much longer, dating back to at least 1000 B.C. Cacao trees, which produce the beans that chocolate is made from, are believed to have originated more than 4,000 years ago in the Amazon. Today, consumers can enjoy an array of chocolate offerings—milk, dark and white chocolate, and many other added flavorings—including an endless assortment of other chocolate confections.

ARS scientists at the **Sustainable Perennial Crops Laboratory** and the **Systematic Mycology and Microbiology Laboratory** in Beltsville, MD, along with collaborators, are working to ensure our cocoa supply for the cacao-based consumer products we enjoy will be around for centuries to come. Worldwide demand for cacao exceeds production, and hundreds of thousands of small farmers and landholders throughout the tropics depend on cacao for their livelihoods. Cocoa and cocoa butter are also made from cacao. An estimated 70 percent of the world's cocoa is produced in West Africa.

Cacao trees (*Theobroma cacao*—Greek for “food of the gods”) are grown in tropical regions of the world like Peru. Cacao trees face major natural disease threats from fungal diseases such as black pod rot, frosty pod rot, and witches' broom that can wipe out up to 80 percent of the crop, and cause an estimated \$700 million in losses each year. ARS researchers are working to identify new cacao tree types that may be resistant to these diseases. Also, in their recent expedition to Peru, they found several promising natural fungi that could one day be used as a biological control against these devastating diseases.

The scientists and their collaborators have made other recent strides that may help protect this crop, and could result in new consumer products in the future. In 2010, ARS scientists and partners announced the preliminary release of the sequenced cacao tree genome, an achievement that will help sustain the supply of high-quality cocoa to the \$17 billion U.S. chocolate industry. The knowledge gained from this discovery will help breeders more precisely develop new varieties—using traditional and

high-tech methods—that are able to withstand droughts, diseases, and crop pests.

The team's most recent Peruvian discovery may reap huge rewards for chocolate lovers worldwide—cacao trees whose beans may one day result in unique, new complex flavorings. They will continue to look at these wild cacao varieties and gather flavor information on these trees.



Ideally, the result will be chocolates from different regions of the world with distinctively different flavors.

Enjoy the holidays with a cup of hot cocoa, and don't forget to thank an ARS scientist!

Written by **Tara T. Weaver-Missick**, ARS Information Staff.

