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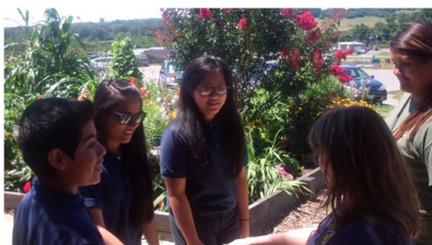
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## Discoveries at the Student Discovery Garden



Three middle-schoolers learn about plant research while visiting the Student Discovery Garden in Beltsville, MD.

The [Student Discovery Garden](#) in Beltsville, MD—under the leadership of the Beltsville Area Diversity Task Force—continues to reach out to students to

interest them in agricultural science. More than 300 students have visited the garden this year, including a group from the nearby Buck Lodge Middle School. This group participates in a program called “[Space-Medicine Summer Academy](#)” (SSA), which offers them an opportunity to interact with scientists doing research.

Please submit story ideas and national award items to Sue Kendall, [sue.kendall@ars.usda.gov](mailto:sue.kendall@ars.usda.gov), or call 301-504-1623.

Please submit photos for Photo Corner to Carol Nathan, [carol.nathan@ars.usda.gov](mailto:carol.nathan@ars.usda.gov), or call 301-504-1649.

Space and medicine aside, the SSA students have found much to interest them at the ARS Beltsville Agricultural Research Center, where the Student Discovery Garden is located. Agricultural Engineer **David Fleisher** and Research Soil Scientist **Dennis Timlin**, of the Crop Systems and Global Change Lab at Beltsville, have been providing seminars and opportunities to the group for the past 5 years. Three years ago, the Discovery Garden volunteers became involved, and this year, the students arrived in early June to plant their own microgreens. This was followed by educational activities with other scientists on plant anatomy, photosynthesis, food biochemistry, and hydroponics.

The session ended with a “Big Feast” that the students hosted for their mentors. It featured healthy (and less-healthy) foods, along with scientific explanations of the nutritional value of foods the students had prepared themselves, such as whole-grain bread and a salad made with their harvested microgreens. The student-led discussion included the impact of global warming on the Nation’s agricultural production and the possible role of genetically modified crops in agriculture sustainability.

What did the students say about the experience? Andres Gonzalez, age 13, enjoyed preparing such a nutritious meal and noted, “It meant so much to be able to actually grow the food for our Big Feast with the Student Discovery Garden staff.” Ananya Malcha, age 14, said, “I understand the science of food more, and I actually enjoy preparing and eating my meals more.” And Melody Lirazan, age 14, said, “I am learning so much about the biochemistry of food and about the many different ways that USDA scientists help Americans to grow nutritious food. The USDA Discovery Garden staff make it fun to learn how important food is for my health. Now, I want to begin a student internship in the field of nutritional biochemistry.” See [Photo Corner](#) for more.

Written by **Ann Simpkins**, Sustainable Perennial Crops Laboratory, Beltsville, MD. ❀

## Your Two Cents (Y2C)



[www.ars.usda.gov/yourtwocents](http://www.ars.usda.gov/yourtwocents)

Happy holiday season from [Y2C](#)! Whether you celebrate Thanksgiving with turkey or tofurkey, we hope it will be a warm and happy holiday weekend for you.

It's a busy time of year at headquarters. After you send us your annual reports, we mine them for a lot of information, starting with accomplishments that will go into the coming year's budget request. If you've been wondering what becomes of your 421s (or "progress reports" for those who may not be familiar with them), check out the [Explanatory Notes](#) from the FY14 budget to see if you recognize your research (you'll find accomplishments in the section titled "Status of Programs"). Your contribution—in the form of your 421—is crucial to getting the word out on the great things we do at ARS. Thanks for giving us so much to brag about! ❖

## Axon – the ARS Intranet



Calling all photographers! Please send your photos for use in Axon's "Photo of the Month" to [axon@ars.usda.gov](mailto:axon@ars.usda.gov) with a short caption. We

would love to highlight your research or the people who support it.

November is a great time to give thanks to coworkers on [StARS](#). You can give a "Shout-Out" to an individual—or to a team with the "Constellation" feature.

Haven't logged into Axon lately? It's easy!

Axon URL: <https://axon.ars.usda.gov>  
 Username: arsnetwork\firstname.lastname  
 Password: (same password as your email) ❖

## Ethics

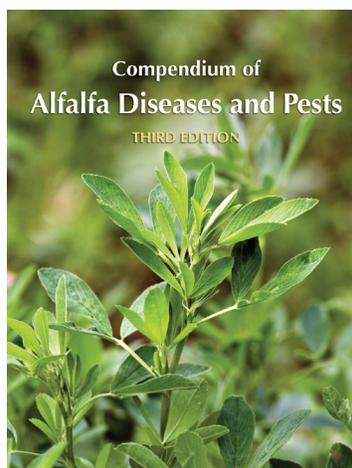
### Holiday Guidance

The end-of-year holiday season is traditionally a time of parties, receptions, and exchanging of gifts. But even during the holiday season, the Standards of Conduct apply. Are you allowed to give your supervisor a gift? Can you accept one? Can you attend a holiday party at your employee's home? To ensure that you don't unwittingly violate the standards, please look over the guidance posted [here](#). If you have any questions, please contact your ethics advisor. A list of Agency Ethics Contacts can be found [here](#). ❖



## Around ARS

### Updated Alfalfa Book



ARS Research Plant Pathologist **Debby Samac** of the Plant Science Research Unit in St. Paul, MN, is a coeditor of a new book, *Compendium of Alfalfa Diseases and Pests*, third edition, published by [APS Press](#). The book is a comprehensive diagnostic reference guide to the many diseases and insect pests that affect alfalfa,

one of our most important forage crops. The second edition was published in 1990 and has been out of print for about 10 years. The new edition includes 5 new diseases, new coverage of pests, and nearly 250 new color photographs. Samac and seven other ARS employees were among the authors, and nine ARS employees contributed photographs. Click [here](#) for more information about the book. ❖

## Open House for Apple Festival



Michael Glenn, AFRS Director and Research Leader, talks to students from C.W. Shipley Elementary School, Harpers Ferry, WV. He explained how plants get their energy to produce fruit and why photosynthesis is critical to life on Earth.

The ARS **Appalachian Fruit Research Station (AFRS)** in Kearneysville, WV, recently held two open houses for the public as part of the annual Mountain State Apple Harvest Festival. Staff members hosted several activities and displays to teach schoolchildren and other visitors about the research done at the Station and how it is helping to ensure tomorrow's food supply. See [Photo Corner](#) for more. ❀

## Bee Article in the Spotlight

A scientific article coauthored by ARS scientists at the Carl Hayden Bee Research Center in Tucson, AZ, was selected by the editors of *Applied and Environmental Microbiology* for inclusion in "Spotlight," a feature highlighting articles in the current issue that have been deemed of significant interest. This section follows the table of contents and includes short descriptions of four to six especially meritorious articles. The article, "Origin and Effect of Acetobacteraceae Alpha 2.2 in Honey Bee Larvae and Description of *Parasaccharibacter apium* gen. nov., sp. nov.," appears in the December 2014 issue (volume 80, issue 24), published online in November. The authors include **Kirk E. Anderson**, **Vanessa Corby-Harris**, and **Lucy A. Snyder**. ❀

## Foot-and-Mouth Article a Highlight

A paper coauthored by ARS scientists at the Plum Island Animal Disease Center in Orient Point, NY, received special recognition in the October 2014 issue of *Journal of Interferon & Cytokine Research* (volume 34, issue 10). The article, "Type III Interferon Protects Swine Against Foot-and-Mouth Disease," was designated as one of the issue's "Highlighted Articles." The journal allows complimentary 2-week access to these articles, which have been deemed to be of special importance. The authors include **Teresa de los Santos**, **Fayna Diaz San-Segundo**, and **Marvin Grubman** (retired). ❀

## Investing in Their Future

The **ARS Arid Land Agricultural Research Center (ALARC)** in Maricopa, AZ, received some nice recognition for its participation in a summer biotechnology internship program for local high school students. A new video produced by the Tempe Union High School District spotlights the program and some of the students' work performed at ALARC. Projects included research on equations for water infiltration in soils, nitrogen levels in cotton, lygus bug control, methods of measuring *E. coli* in food and water, and genetics of guayule, a natural rubber plant. The program is supported by a USDA-NIFA (National Institute of Food and Agriculture) grant to South Mountain Community College. To view the video, click [here](#). ❀

## Most Downloaded Article

Peter Vadas, Soil Scientist at the U.S. Dairy Forage Research Center, Madison, WI, received news that an invited review article he coauthored was downloaded 1,108 times in the first 4 months since publication, making it the most downloaded article so far this year in the *Journal of Dairy Science*. The article is titled "Enteric Methane in Dairy Cattle Production: Quantifying the Opportunities and Impact of Reducing Emissions." ❀

## Notable Awards

### USDA Secretary's Honor Awards



USDA Deputy Secretary Krysta Harden (front row, third from left) stands with ARS's Annual Resource Management Planning Process (ARMPs) Improvement Group, which received an award for outstanding efforts and resource savings. Photo: Bob Nichols.

A number of ARS employees were recognized at the [66th Annual USDA Secretary's Honor Awards Ceremony](#), held November 6 in the Jefferson Auditorium of the USDA South Building, Washington, DC. The theme this year was "Meeting the Challenges with New Opportunities." The most prestigious awards presented by USDA, the Secretary's Honor Awards Program recognizes noteworthy accomplishments that significantly contribute to the advancement of USDA's strategic goals, mission objectives, and overall management excellence.

Supervisory Research Chemist **Steven Lehotay**, Northeast Area, was a member of the National Residue Program Redesign Team, which received the Secretary's Honor Award for ensuring access to safe and nutritious food.

Research Molecular Biologist **James J. Giovannoni**, Northeast Area, was a member of the Tomato Genomics and Fruit Biology Group, which received the Secretary's Honor Award for increasing global food supply.

The Annual Resource Management Planning Process (ARMPs) Improvement Group received the Secretary's Honor Award for Management Excellence. ARS team members are **Christy Bailey, Sarah Bernhardt, Larry Chandler, Sharon Drumm, Andy Hammond, Susan Heiner, Carlean Horton, Darleen Nelson, Kim Parks, Dallas Rausch, Scott Rieland, Jeff Silverstein, Kay Simmons, Jill Stetka, Mike Strauss, Diane Strub, and Brenda Whitwell.**

Administrative Assistant **Marlene Coley** of the Jamie Whitten Delta States Research Center, Stoneville, MS, received the Secretary's Honor Award for Support Service.

Six ARS employees were honored with President's Volunteer Service Awards. **Lt. Col. Mike Bryant**, Midwest Area, received a Gold Award for 500 or more hours of service. **Tamara McKinney**, Administrative and Financial Management, and **Brian Scheffler** and **Jodi Scheffler**, Southeast Area, received Silver Awards for 250-499 hours of service. **Lynn Faulkner** and **Carrie Vanderspool**, Southeast Area, received Bronze Awards for 100-249 hours of service.

The 2013 Presidential Rank Award Finalists were National Program Leader **Kevin Hackett**, Office of National Programs, and Research Molecular Biologist **Hyun Lillehoj**, Northeast Area.

See [Photo Corner](#) for more, and also check out the [USDA Flickr](#) site for even more photos of the event.



## DHS Exceptional Service Gold Medal Award



DHS Secretary Jeh Johnson (far left) and Deputy Secretary Alejandro Mayorkas (far right) stand with ARS scientists Teresa de los Santos and Luis Rodriguez (front row, third and fourth from left) and their fellow honorees at the DHS Secretary's awards ceremony. Photo: Barry Bahler.

ARS scientists **Luis Rodriguez**, **Teresa de los Santos**, and **Laszlo Zsak** were part of an interagency team that received the Exceptional Service Gold Medal Award from the Secretary of the Department of Homeland Security (DHS). The award was presented in a ceremony held October 23, 2014, at DAR Constitution Hall in Washington, DC. The team was honored for developing the Ad5 vaccine for foot-and-mouth (FMD) disease, a highly contagious viral disease of cattle, swine, and other cloven-hoofed animals. Research leading to this award was initiated by ARS scientist **Marvin Grubman**, now retired. Though the United States has not had an outbreak of FMD since 1929, the disease is still considered a serious threat to our Nation's economy and food supply. The vaccine is the first that can be manufactured in the United States. ❖

## ARS Scientists Honored at Tri-Societies Meeting

The [American Society of Agronomy](#) (ASA), the [Crop Science Society of America](#) (CSSA), and the [Soil Science Society of America](#) (SSSA) held their joint 2014 International Annual Meetings in Long Beach, CA, on November 2-5, during which the three societies honored their respective members for their contributions. Quite a few ARS scientists were among the honorees.

**Douglas Karlen** of Ames, IA, was presented with both the Environmental Quality Research Award from ASA and the Soil Science Research Award from SSSA. **Gerald Seiler** of Fargo, ND, received the Frank N. Meyer Medal for Plant Genetic Resources from CSSA.

ARS also has nine new Fellows of the Tri-Societies. **Dennis Corwin** from Riverside, CA, was selected as a Fellow of SSSA and ASA.

ASA selected as Fellows **Hari Krishnan** from Columbia, MO; **E. Raymond Hunt, Jr.** from Beltsville, MD; **James Ippolito** from Kimberly, ID; and **Ariel Szogi** from Florence, SC.

Adding to the ranks of its Fellows, SSSA selected **Martin Locke** from Oxford, MS; **Upendra Sainju** from Sidney, MT; and **Rodney Venterea** from St. Paul, MN.

CSSA selected **James Holland** of Raleigh, NC, as its newest Fellow.

Retirement hasn't ended awards for two of our scientists. **Ronald Follett** of Fort Collins, CO, was presented the Distinguished Service Award from SSSA, and **Ardell Halvorson**, also from Fort Collins, was presented the Werner L. Nelson Award for Diagnosis of Yield-Limiting Factors.

Two ARS scientists will take on critical leadership roles in two of the Tri-Societies next year. **Jean Steiner** of El Reno, OK, will serve as ASA's President, and **Michael Grusak** of Houston, TX, will serve as CSSA's President-elect.

Click [here](#) for more information about the 2014 Tri-Societies meeting and for a link to a pdf of the awards program, which has photos of the recipients.





# Photo Corner

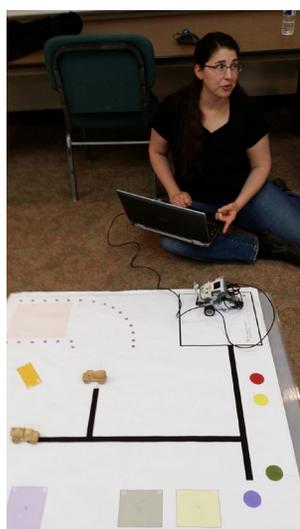
## Apple Harvest Festival

Here are some more scenes from the Open House at the ARS Appalachian Fruit Research Station, Kearneysville, WV, held in October 2014 as part of the Mountain State Apple Harvest Festival. See story in [Around ARS](#).

## Apple Harvest Festival



Biological Technician Chris Hott discusses studies on pheromones (chemical signals) of the brown marmorated stink bug, an invasive pest of many crops.



Research Agricultural Engineer Amy Tabb uses a small robot and toy trucks to demonstrate how robotics can be used in agriculture.

## Student Discovery Garden



Near the Student Discovery Garden at the Beltsville Agricultural Research Center, Biological Science Lab Technician Maria Hult (far left) and Geneticist Sue Mischke (far right) converse with students at the "Big Feast" celebration, where the students prepared a meal for their ARS mentors. See [story](#).

Safety Officer Glen Davis demonstrates the power of a scanning electron microscope to young students, who are looking at the unique features of orchard insects.



## Gold Medal for FMD Vaccine



Close-up of the Exceptional Service Gold Medal Award from the Secretary of the Department of Homeland Security (DHS), which was presented to three ARS scientists and their DHS colleagues for their work on a vaccine for foot-and-mouth disease. See story in [Notable Awards](#).



Support Scientist Tim Artlip explains techniques used to grow new apple trees.

### USDA Secretary's Honor Awards

In these photos, taken at the 66th Annual USDA Secretary's Honor Awards Ceremony on November 6, the ARS award recipients are pictured with USDA Secretary Tom Vilsack and USDA Deputy Secretary Krysta Harden. See story in [Notable Awards](#). Photos: Lance Cheung.



Lynn Faulkner, Southeast Area.



James Giovannoni, Northeast Area.



Lt. Col. Mike Bryant, Civil Air Patrol, Midwest Area.



Marlene Coley, Southeast Area.



Hyun Lillehoj, Northeast Area.

## Did You Know?



Smokey Bear has a home at the National Agricultural Library (NAL).

NAL Special Collections has an impressive 115 feet of [Smokey Bear history](#), including sound recordings like the Grateful Dead's Mickey Hart and B.B. King celebrating Smokey's 40th anniversary as a "spokesbear" for the U.S. Forest Service; films and video, like Smokey on "Hollywood Squares" and "Entertainment Tonight"; and commemorative baseball gloves, along with the more expected memos, posters, and letters.



But the stars of NAL's Smokey material are 19 original paintings by Virginia artist Rudolph Wendelin. The artwork is on public display for the first time in an exhibit at the [Chrysler Museum of Art](#) in Norfolk, VA, as part of

Smokey Bear's 70th anniversary campaigning against careless fire habits in the woods.

Wendelin wasn't the first to draw Smokey back when the bear was created in 1944. But he drew Smokey hundreds of times, serving as art consultant and "chief caretaker" from 1946 until his retirement from the Forest Service in 1973. Under Wendelin's hand, Smokey took on the humanized look by which he is best known today: grave expression, hands rather than paws, jeans, shovel, and sporting that emblematic ranger hat long before pop star Pharrell Williams made it his signature.

After retiring, Wendelin continued to produce Smokey Bear images, including these 19 oil and acrylic paintings, as artwork for calendars by the Vernon Company. In 2000, after Wendelin's death, the Forest Service purchased the paintings from his family and transferred them to NAL for proper conservation, meshing with the existing historic collection.

So if you suddenly came face to face with big brown eyes, a deep resonant voice, and the words "Only YOU..." would you be able to complete the iconic phrase by saying "Can Prevent Forest Fires"? More than 7 in 10 adults in the United States would recognize Smokey Bear and know his message, according to a 2011 Ad Council survey.

"Celebrating Smokey Bear: Rudy Wendelin and the Creation of an Icon," is at the [Chrysler Museum of Art](#), Norfolk, VA, through February 1, 2015.



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

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