



ARS Employee Generosity is Paying Off!

The ARS Washington Metro Area Combined Federal Campaign (CFC) has raised more than \$100,000. The amount wouldn't be possible without the goodwill of so many ARS employees who either contributed directly or chose to participate in the many CFC-sponsored bake sales, brown-bag lunches, walks, and other fundraising events held over the past several weeks. If you are still contemplating a donation, there will now be more time to make one. The CFC fundraising campaign has been extended for all Federal employees to January 17. That means more time for future events and for checking out the eligible charities that are listed and searchable in the online CFC catalog. A quick look at the catalog (www.CFCNCA.org) shows that many of the charities perform vital services in the neighborhoods where we all live and work. Donations to the CFC are tax-deductible and you can target your donation to a favorite cause or specific charity. Please keep in mind that even a small contribution goes a long way. If you have any questions, contact your CFC key worker.



Y2C...New Changes for 2011

We are happy and appreciative of the sustained interest in "Your Two Cents" (Y2C). Please keep the ideas and comments coming (www.ars.usda.gov/yourtwocents)! Stay tuned for a new look and functionality. On the horizon for 2011 is a new Web site design and polling feature, and improved search functions to make it easier to find the information that concerns you. We will also be having another Web conference to introduce our new Focus Group members, update you on the "Your Two Cents First 100 Days" Initiative, and much more. Happy holidays!

Industry Leaders Help Carve the Future of Beef Animal Research



Members of the Nebraska Cattlemens Association tour USMARC facilities.

Industry leaders participated in a focus group at the ARS U.S. Meat Animal Research Center (USMARC) in Clay Center, NE, lead by ARS Center Director **John Pollak**. Key members representing various sectors of the beef industry included Michael Kelsey, Executive Vice President of the Nebraska Cattlemen's Association (NCA); Tom Field, Executive Director/Producer of the National Cattlemen's Beef Association (NCBA); John Maddux, Nebraska commercial composite producer; Chuck Folken, incoming NCA President; Ronnie Green, Vice Chancellor-University of Nebraska Lincoln; Jack Cowley, California commercial producer; Dave Nichols, Iowa seedstock producer and National Beef Cattle Evaluation Consortium industry council chair; Craig Huffhines, Executive Vice President of the American Hereford Association; Craig Uden, Darr Feedlot, Nebraska; and Bill Rishel, Nebraska seedstock producer and NCA President. Also part

of the group were two retired ARS USMARC employees **Larry Cundiff** (Research Geneticist) and **Tom Jenkins** (Animal Nutrition/Geneticist).

USMARC leaders and scientists presented information to the Focus Group concerning ongoing research programs taking place at the Center, as well opportunities and challenges faced by the Center in working to solve high-priority problems for the beef industry. The members had a discussion on the challenges facing industry, current technologies available to face those challenges, and the future role of USMARC in developing solutions to the challenges outlined. Action items were identified by the group, and continual dialogue will be established to improve information dissemination and technology transfer.

USDA Soil Lab Celebrates 75 Years of Innovative Research



Authur Cooper (Retired) former NSDL Research Leader.

ARS's National Soil Dynamics Laboratory (NSDL) marked its 75th anniversary on November 18, 2010, with a celebration of the unit's research accomplishments that have ranged from creation of a new soil science discipline to contributions to undersea cable communications technology. Originally known as the Farm Tillage Machinery Laboratory, the facility was built in 1935 on the campus of Auburn University. It is renowned for its 13 historic soil bins, each about the length of a football field. The laboratory was named an historic landmark in 1990 by the American Society of

Mechanical Engineers and the American Society of Agricultural Engineers.

During World War II, the laboratory was shared with the U.S. Army, which conducted research on traction of military equipment. Recent research activities have included collaboration with the Army on ways to convert garbage into pulp that can be used to improve soils and help establish native grasses in heavily used areas such as training grounds.

Current studies include work on how different farm management practices affect farm productivity and impact the soil's ability to store carbon from the atmosphere, thereby slowing increases in greenhousegases and reducing soil erosion and compaction.



ARS stakeholders and scientists from the ARS Arid-Land Agriculture Research Center (ALARC), Maricopa, AZ, met on November 4, 2010, for their annual Focus Group meeting. This yearly meeting is held to discuss current research projects and future problem-initiatives for the Center. Attendees included representatives from Bayer Crop Science; Cotton Incorporated; the Gila River Indian Irrigation & Drainage District; the University of Arizona's College of Agriculture and Life Sciences, Global Water Resources; the National Cotton Council; and two farmers. The group discussed several key topics, and created two new initiatives for future research priorities: bioenergy with oilseed crops irrigated with wastewater and a high throughput phenotyping center for characterizing plants in the field.

Around ARS



ARS Human nutrition exhibit at ADA.

ARS' Human Nutrition Research Program exhibited at the American Dietetic Association's (ADA) Food and Nutrition Conference & Expo in Boston, MA, on November 7–9, 2010. The highlight of this year's exhibit was a unique hands-on activity headed by scientists at ARS' Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston. The activity—facilitating excellent booth traffic—featured HNRCA research on the role of lutein in preventing age-related macular degeneration. Also popular were materials from our “What We Eat in America” survey and recent issues of *Agricultural Research Magazine* featuring our research on childhood obesity and chronic disease prevention. With nearly 70,000 members, ADA is the nation's largest organization of food and nutrition professionals. Over 10,000 attended this year's conference.

Leaders from the International Livestock Research Institute, Kenya Agricultural Research Institute, Kenya Medical Research Institute, and the Foreign Agricultural Service met on December 12–18 with a delegation led by **Steven Kappes**, ARS Deputy Administrator for Animal Production and Protection to further develop cooperative areas for research to support President Obama's “Feed the Future” Initiative addressing Global Food Security—consistent with ARS' animal health and production mission. The meeting took place in Kenya, Africa.



Photo Source: U.S. Department of Defense-U.S. Army.

Dan Strickman, ARS National Program Leader for Medical and Veterinary Entomology, and scientists from the ARS Invasive Insect Biocontrol and Behavior Laboratory, Beltsville, MD; the ARS Mosquito and Fly Research Unit, Gainesville, FL; the ARS Areawide Pest Management Research Unit, College Station, TX; the ARS Knippling-Bushland U.S. Livestock Insect Research Laboratory, Kerrville, TX; and the ARS Natural Products Utilization Research Unit, Oxford, MS, briefed the management board of the Deployed Warfighter Protection Program on November 29–December 2, 2010, in Gainesville, FL. The researchers discussed accomplishments and plans of ARS laboratories that receive Department of Defense funding to perform research on developing new tools to protect deployed military personnel from insect-transmitted diseases. These funds also support specific cooperative agreements to the University of Florida for overseas testing, for advanced toxicological research, and for the IR-4 Project to facilitate compound registration with the U.S. Environmental Protection Agency. Program accomplishments include the invention of a new class of public health pesticides, registration of a new public health pesticide, and establishment of a Web site for public health pesticides.

On November 3, 2010, the ARS Appalachian Farming Systems Research Center, Beaver, WV, hosted 16 chemistry majors and their professors from Concord University, Athens, WV, for an outreach event that featured lectures about the location's

chemistry-linked plant, animal, soil, and water research; lab tours; and discussion of ARS career opportunities. Increasing interaction between the University and ARS staff members is providing a foundation for collaborative research, introducing new options for those students wishing to pursue advanced degrees, and facilitating ARS access to highly qualified candidates, including minorities and women, for technical positions. A majority of the students were from the heart of Appalachia, and their new awareness of the ARS facility in Beaver and its mission to serve agricultural enterprises in that area is being transferred to family members and other associates in the students' residential communities.

An ARS leader was tapped by Department of Energy (DOE) Advanced Research Projects Agency-Energy (ARPA-E) for a major bioenergy workshop. **Don Ort**, Research Leader, ARS Global Change and Photosynthesis Research Unit, Urbana, IL, was one of three featured speakers at the DOE ARPA-E workshop "Light-to-Liquids: Improving Biological Energy Capture in Transportation Fuels," which was held on December 2–3 at the Booz Allen Hamilton offices in Arlington, VA. The workshop invitees represented thought leaders from distinct science and engineering communities tasked with developing new ideas and identifying practical approaches toward increasing light collection efficiency. ARPA-E leadership will use information gained from the workshop to develop new programs that target key roadblocks to the ARPA-E mission. Ort's talk was entitled, "What is the Maximum Efficiency that Photosynthesis Can Convert Solar Energy into Biomass?"

Foot-and-mouth disease (FMD) is considered one of the most devastating animal diseases of livestock because the FMD virus is extremely contagious. USDA-ARS FMD research by Veterinary Medical Officer **Jonathan Arzt**, Research Leader **Luis Rodriguez**, and Microbiologist **Juan Pacheco**, featured on the cover of the current edition of the journal *Veterinary Pathology*, answers some of the basic, yet long-standing mysteries regarding how FMD first invades and propagates in susceptible cattle. The image on the cover of the journal shows

the most important and decisive finding of the work: that in the earliest stage of infection, FMD infects the cells in the back of the throat of cattle. The scientists can now ask "Why are these cells susceptible to FMD and not other cells?" and "How can we block this initial event?" USDA-ARS scientists will use this information to herald a new approach to FMD control by developing vaccines and biotherapeutics to prevent these cells from being infected and blocking FMD infection and transmission.

A team of the world's leading influenza scientists, which included Veterinary Medical Officer **Amy Vincent**, ARS Virus and Prion Research Unit, National Animal Disease Center, Ames, IA; Center Director **David E. Swayne**, ARS Southeast Poultry Research Laboratory, Athens, GA; and Research Leader **David Suarez**, ARS Exotic and Emerging Avian Viral Diseases Research Unit, Athens, GA, met in Rome, Italy on November 16–17 to identify priorities for research and further actions to improve and coordinate global influenza surveillance and control. Scientists from over 30 countries and from several fields of expertise, including equine, swine, avian, and human influenza, shared their latest experiences, ideas, and research findings. The meeting in Rome was important for both animal and human health sectors—including national and international organizations. Experts from animal and public health agreed to collaborate on a landmark initiative to look at ways of predicting emerging threats by examining genetic sequences of viruses collected through global animal influenza surveillance. Organizations represented included the World Organization for Animal Health, the Food and Agriculture Organization of the United Nations, OFFLU (a new joint scientific worldwide network to support the veterinary services in the control of animal influenza), and the Centers for Disease Control and Prevention.

Alberto Pantoja's research is highlighted on this month's cover of the *American Journal of Potato Research*. Pantoja is Research Leader of the ARS Subarctic Agricultural Research Unit, Fairbanks, AK. The journal can be reviewed at <http://springerlink.com/content/k0782195u612/>.

Notable Awards



Elaine Champagne.

Elaine Champagne, Research Leader, ARS Food Processing and Sensory Quality Research, New Orleans, LA, received the “Lifetime Achievement Award” from the U.S. Rice Industry at the Rice Outlook Conference, which was held on December 8–10, in Biloxi, MS. She is

being recognized for more than a decade of service to improving the rice industry. Champagne recognized that changes in domestic policy and world trade would require the rice industry to develop new markets to remain a viable industry. She and her team conduct research to enable the rice industry to capture the full value of rice through value-added products. Through her leadership, a 2007 workshop on “Exploiting the Health-Beneficial Properties of the Rice Grain” focused on the nutritional benefits of brown rice and set the stage for the industry to seek a Food & Drug Administration (FDA) health claim for brown rice. Granted by FDA in 2008, the brown rice health claim has been invaluable in helping to inform consumers about the nutritional benefits of brown rice and has helped increase sales of brown rice.

On November 13, 2010, Biological Science Technician **Henry Graham** of the ARS Honey Bee Research Unit, Weslaco, TX, received the John G. Thomas Meritorious Service Award at the 2010 Texas Beekeepers Association Annual Meeting. This prestigious award is given to a non-commercial beekeeper, researcher, regulator, industry, or individual who has had a major impact on the Texas beekeeping industry. Graham is also the past recipient (2007) of the Jim Petty Memorial Award for Texas Beekeeper of the Year.

Research Geneticist **Kevin B. Jensen**, ARS Forage and Range Research Laboratory, Logan, UT, received the 2010 “Utah Governor’s Medal for Science and Technology” from The State of Utah Governor’s Office of Economic Development



Kevin Jensen.

for his significant contributions in the breeding and releasing of economically important rangeland and pasture grass germplasm used for the repair and renovation of disturbed rangeland landscapes, and increased productivity of pastures and rangelands in the western United States. He will be recognized on January 18, 2011, in Salt Lake City, UT.

The ARS National Center for Genetic Resources Preservation, in Fort Collins, CO, received the 2010 “U.S. Department of the Interior Partners in Conservation Award” from the U.S. Department of the Interior for the Center’s significant contributions to the Bureau of Land Management’s “Seeds of Success Program” to provide long-term preservation of seeds from native species collected through the program. The Center has worked with the program to raise awareness about the program and to facilitate the preservation of native plants.

Two graduate students collaborating with the ARS National Animal Disease Center (NADC) in Ames, IA, have received top honors in graduate student competitions. Dr. Benjamin Newcomer’s (Auburn University) presentation at the 2010 American Association of Veterinary Laboratory Diagnosticians Meeting was selected as best student presentation. His presentation was based on research supported in part by a Specific Cooperative Agreement between

Auburn University and the NADC, led by Research Microbiologists **Julia Ridpath** and **John Neill** with the ARS Ruminant Diseases and Immunology Research Unit, in Ames, IA. Dr. Newcomer received training and completed part of the research reported in his presentation at NADC.

In addition, Dr. John Richeson (University of Arkansas) was selected as an Emerging Scholar Award recipient, Southern Section, by the American Society of Animal Science (ASAS). His award will be presented at the upcoming ASAS Southern Section meeting in February 2011. As part of his collaboration with Julia Ridpath, Dr. Richeson also received training and completed part of the research reported in his presentation at NADC.

OrganizedWisdom, a physician-reviewed Web site established to help people find the most useful resources for any health or healthy living topic, recently selected two ARS National Agricultural Library Web sites as “Expert Curator” resources—the Healthy Meals Resource System Team Nutrition site (the training and technical assistance component of USDA’s Team Nutrition program), and the Food Safety Research Information Office site. Both Web sites satisfied the rigorous selection criteria OrganizedWisdom maintains, receiving approval by the site’s Medical Review Board for the Expert Curator ranking.

Did You Know?



The holiday poinsettia plants we purchase today are very different from the wild plants that originated in Mexico. Research performed over the past 70 years at the **ARS Beltsville Agricultural Research Center (BARC)** in Beltsville, MD, has significantly influenced this \$200+ million wholesale industry. Poinsettias are the number one potted plant in market value.

1920s – ARS scientists discovered that poinsettias require longer nights to induce flowering. When a poinsettia flowers, the upper leaves turn bright red and the center of the plant forms small yellow flowers.

1960s – Studies began on poinsettia lighting requirements and using growth regulators for improving commercial production. This research resulted in a production protocol that not only guaranteed when the poinsettia would “flower,” but resulted in development of a compact plant.

1970s – ARS researchers developed poinsettia breeding lines with significantly improved keeping quality. Before this research, poinsettia leaves would fall off the plant shortly after they were developed. This research resulted in the development of new poinsettia cultivars (i.e. ‘Ruff and Ready’) in which the leaves remained on the plant for the entire holiday season. ‘Ruff and Ready’ is still used as a parent for new poinsettia cultivars on the market today.

1990s – ARS scientists discovered that free-branching, dwarfed poinsettias, which produce the brilliant-red leaves favored by consumers, are due to infestation by a phytoplasma. Phytoplasmas are minute organisms, which usually cause diseases in plants. In this case, they induce the growth form, which is highly prized in poinsettias. This finding has also led the way to produce virus-free plants.

The new poinsettia colors, like pinks and yellows, and spotted types, are another outgrowth of the work done by ARS scientists on chimeras. Chimeras are plants with tissues that are genetically different than their parents. The basic science done by ARS scientists has enabled commercial breeders to produce new poinsettia color variations.

Adapted from information written by Rob Griesbach, Deputy Assistant Administrator, ARS Office of Technology Transfer.

Happy Holidays!

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