




March 2007

BARC is part of the USDA's Agricultural Research Service and encompasses programs at the Beltsville Agricultural Research Center; the U.S. National Arboretum in Washington, D.C.; and worksites in Chatsworth, New Jersey; Presque Isle, Maine; and McMinnville, Tennessee. BARC is the largest and most diversified agricultural research complex in the world. BARC's record of accomplishments and its ongoing programs have made it a world leader in agricultural research.

Blowing Our Own Horn!

SOCIETY FELLOW ELECTEE



Dr. Rosemarie Hammond, Research Plant Pathologist with BARC's Molecular Plant Pathology Laboratory, has been elected as a Fellow of the American Phytopathological Society in recognition of her distinguished contributions to plant pathology. She will receive the award at the Society's annual meeting in San Diego, CA. Dr. Hammond

began her career at BARC studying viroid structure/function relationships in the pioneering Plant Virology Laboratory – now the Molecular Plant Pathology Laboratory. She has continued research on viroids and initiated research on several plant virus diseases. She currently leads a research program that develops plant-virus based vector expression strategies to understand the molecular basis of, and to control, plant diseases, and for the production, in plants, of therapeutic reagents for control of animal diseases.

BEST ORIGINAL MANUSCRIPT

Dr. Richard Anderson, Research Chemist in BARC's Nutrient Requirements and Functions Laboratory, and co-authors received the Charles Ragus Award for best original research manuscript from the American College of Nutrition for the manuscript entitled "Whole cinnamon and aqueous extracts

ameliorate sucrose-induced blood pressure elevations in spontaneously hypertensive rats" (Journal American College of Nutrition 25:144-150, 2006). Co-authors were H.G. Preuss and B. Echard from the Georgetown Medical School and Marilyn Polansky of the Beltsville Human Nutrition Research Center. This team also won the award in 2002. This manuscript is part of a series of manuscripts demonstrating that water soluble polyphenol compounds found in cinnamon improve insulin sensitivity and related functions in cell culture, experimental animals and humans.

ARS SCIENTISTS OF THE YEAR AWARDEES

On March 6, the ARS scientists-of-the-year were recognized at a ceremony in D.C. **Dr. Walter Rawls** (retired) was recognized as BARC's Senior Research Scientist for research and international leadership in the development and application of soil hydraulic properties in agricultural hydrology. Before his retirement, Dr. Rawls was the Research Leader of the Hydrology and Remote Sensing Laboratory. **Dr. Douglas Bannerman** was named the Agency's Outstanding Early Career Research Scientist for his outstanding performance in the development of a highly productive and innovative research program that is defining the role of the immune response to intramammary infection in dairy cattle. Dr. Bannerman is a Research Biologist in the Bovine Functional Genomics Laboratory.

Community Interest...

LOCAL CITIZEN'S GROUP DOES WATERSHED CLEAN UP

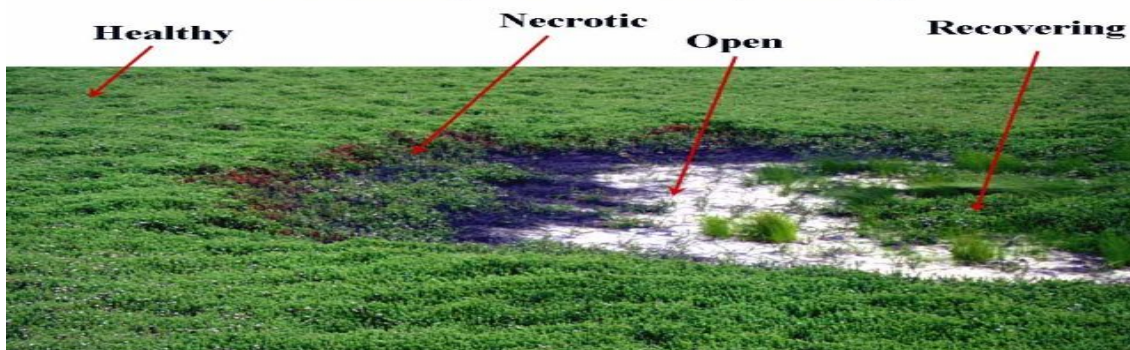


The year old Beaverdam Creek Watershed Group (BCWWG, www.beaverdamcreek.org) based in Greenbelt, Maryland, bagged up about 1,000 pounds of trash on Saturday, February 24th. **George Meyers**, a member of BARC's Research Support Services unit, assisted with the trash removal. The trash was collected from the roadside along Sunnyside Avenue at Indian Creek. Also Prince George's County Public Works removed mattresses and lumber. BARC would like to extend a big "thank you" to all of those who helped on this worthwhile project. **Glenn Welch**, Chair for BARC's Ecology Committee co-organized the cleanup. For more information, contact Glenn at Glenn@anri.barc.usda.gov.

FAIRY RING DISEASE INCREASES HOST GENETIC DIVERSITY IN CULTIVATED CRANBERRY

Cranberry is a long-lived, high-value, perennial fruit crop well known for its health benefits. Fairy ring is one of the serious fungal diseases that infect this crop. The pathogen causes vines to dieback in expanding rings and these rings persist for many years in cultivated beds. Each ring begins as a small area of dead and dying vines which expands outward from the center and can eventually affect entire beds. The rings also create an open area in the bed that over time fills back in. While characterizing the economic and long term impact of this disease, it was noted that vines that fill in the open areas often have reduced yield and variable fruit morphology. Since cultivars of cranberry are clonal (i.e. a single genotype) one would expect greater uniformity. To determine if this was due to a shift in cranberry genotype, plant samples were DNA fingerprinted from outside the fairy rings (healthy) and samples from the recovering areas inside the rings. Data showed a dramatic increase in genotypes of the samples from the disease-affected areas, with few if any matching the fingerprint of the original cultivar. It is believed that this shift in genotype contributes to the long-term crop loss due to establishment of self-seeded plants. It is proposed that the establishment of 'new' genotypes is promoted through the effect of a disease that opens the crop canopy. This is the first report of a pathogen impacting the genotypic makeup of a perennial crop. This work was done at the Rutgers University P.E. Marucci Blueberry and Cranberry Research Center at Chatsworth, N.J. **Dr. James Polashock**, James.Polashock@ars.usda.gov, is a BARC scientist assigned to this work site. **Dr. Peter Oudemans** was his Rutgers collaborator on the study.

Anatomy of a Fairy Ring



Mark Your Calendar!



BELTSVILLE AREA DISTINGUISHED LECTURE SERIES



This seminar is open to the public

Dr. Cynthia L. Baldwin, Professor, Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst, MA

Date: Wednesday, March 15, 2007

Time: 10:30 a.m. - 11:30 a.m.

Place: Building 003 Auditorium, BARC-West

Title: "Developing Veterinary Vaccines: The Role of the Immunological Toolkit"

BARC FIELD DAY

June 2, 2007, On Saturday, June 2, BARC will once again host a Field Day for the general public. The research laboratories at BARC will exhibit and explain current research projects. Tours of some of the field trail areas as well as the BARC dairy will be conducted. Field day is free and parking is available on-site. For more information, please call Sandra Martin at 301-504-8253 during business hours.



BIOFUELS AND WATER QUALITY CONFERENCE

April 4-5, BARC is co-organizing a Regional Science Forum for the Mid-Atlantic on Biofuels and Water Quality with the University of Maryland based Mid-Atlantic Regional Water Program. The conference will discuss a number of bioenergy strategies and potential impacts on water quality. The conference will convene in the auditorium of Building 003. For more information on the conference, contact Jake Vandevort at 301-405-5849 or jvandev@umd.edu. There is a \$25 registration fee.

ANNUAL BARC POSTER DAY

This event is open to the public

April 25, the Annual BARC Poster Day will be held all day at the National Visitors Center. Over 50 posters from newly hired and post doctoral scientists will be on exhibit. Additionally, students from Eleanor Roosevelt High School will also present posters on research being performed with BARC mentors. The student presentations are supported by FAR-B (Friends of Agricultural Research-Beltsville). FAR-B is a non-profit organization dedicated to promote research, educational and outreach programs. For more information, contact Ron Korcak, Associate Area Director, at Ron.Korcak@ars.usda.gov.

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