

# BARC e-Update

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**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!

### EMBASSY SCIENCE FELLOW

**Dr. Allen Norrbom** (Systematic Entomology Laboratory) served as an Embassy Science Fellow in Bolivia during May. At the request of the International Services Section of the Animal and Plant Health Inspection Service (APHIS), he provided training to fruit fly identifiers working in the new National Fruit Fly Program, a joint effort of Servicio Nacional de Sanidad Agropecuaria y Inocuidad Alimentaria (SENASAG), Bolivia and APHIS which will survey the country's fruit production regions. Determining the distributions and host plants of the fruit fly pests in these areas is the first goal in developing area-wide management programs. The Embassy Science Fellows Program places federal scientists and technical experts at U.S. Embassies overseas to provide expertise and assist host countries on issues related to science and technology.

### BEST PAPER AWARD

**Dr. David H. Fleisher**, an Agricultural Engineer with the Crop Systems and Global Change Laboratory, attended the annual international meeting of the American Society of Agricultural and Biological Engineers (ASABE) in Minneapolis. He presented a paper entitled 'Simulation of Potato Gas Exchange Using SPUDSIM' and received the "Information and Electrical Technologies Select Paper Award" in recognition of authorship

of an outstanding annual meeting paper. SPUDSIM (spudsimulator) is a potato growth and development model to be used by growers, scientists, and policy planners for enhanced management decisions and predictions of yield and related components. For more information contact:

[David.Fleisher@ars.usda.gov](mailto:David.Fleisher@ars.usda.gov).

### U.S. DRY BEAN INDUSTRY

In the last issue of the Michigan Bean Commission Newsletter, **Dr. Talo Pastor-Corrales** of the Soybean Genomics and Improvement Laboratory was cited for his research on soybean rust reaction on dry beans in South Africa and Brazil. The Newsletter stated: "The Michigan and U.S. Dry Bean Industry wishes to acknowledge Dr. Pastor-Corrales for his leadership and dedication in organizing this evaluation." Michigan is the second largest producer of dry beans in the United States and bean producers in Michigan and in other states have been worrying about the potential yield loss that soybean rust may have on dry bean production.



## Community Interest...

### JUNIOR SCIENTIST STUDENT INTERN PROGRAM

This coming school year BARC is hosting students from all three of the Science and Technology High Schools that are located in Prince Georges County which includes: Charles H. Flowers, Eleanor Roosevelt and Oxon Hill High Schools. The student internship takes place during the 2007 - 08 school year and provides opportunities for these students to work with our scientific, technical and administrative staff members in a laboratory setting. The experience involves challenging work assignments which leads to science fair projects and posters, as well as increased academic opportunities and possibly future career choices with the Agricultural Research Service. There are thirty - six students of diverse backgrounds and superior academic achievements that will receive mentoring guidance from several of the best and brightest members of BARC's scientific workforce. The program is coordinated **Ms. Jenny Allen** of our Office of Outreach, Diversity and Equal Opportunity ([Jenny.Allen@ars.usda.gov](mailto:Jenny.Allen@ars.usda.gov)).

### EMERALD ASH BORER



Two entomologists with the Maryland Department of Agriculture (MDA) will be using ash trees at BARC to examine the spread of the Emerald Ash Borer (EAB). The trees will be girdled and serve as trap trees for any borers in the area; the girdled trees would then be cut down and taken apart in the fall to monitor for any borer activity. The site will be used for follow-up monitoring over the next several years. For more information contact Ms. Susan Bentz at [Susan.Bentz@ars.usda.gov](mailto:Susan.Bentz@ars.usda.gov). Also, the U.S. Forest Service is raising awareness of the threat and conducting an EAB risk assessment of Federal facilities in this region. (For more information contact: [David.Prevar@ars.usda.gov](mailto:David.Prevar@ars.usda.gov))

# Looking for a Partner

Our Environmental Microbial Safety Laboratory has an on-going monitoring program at the Little Cove Creek in southern Pennsylvania. The objectives of this program are two-fold: to study fate and transport of water-borne contaminants, with particular emphasis on *E. coli* (an indicator of fecal contamination), and to validate watershed-scale models predicting impact of animal agriculture on water quality. This watershed is primarily grazing dairy cattle. There are currently six sampling sites along the Creek. Because of the distance, we could use assistance with sample collection and transport to a convenient location. Our goal is to conduct a 12 month monitoring study with weekly sampling (minimum). In addition, we could use assistance with a more detailed description of the land uses and management. It would also be possible to 'share' the collected samples if there is interest in monitoring nutrient movement in the watershed. For more information, please contact Dan Shelton: 301-504-6582; [dan.shelton@ars.usda.gov](mailto:dan.shelton@ars.usda.gov)

## On the Research Side...

### CACAO AGROFORESTRY SYSTEMS IN BRAZIL



Scientists in our Sustainable Perennial Crops Laboratory (SPCL) are collaborating with the State University of Santa Cruz, Bahia, Brazil on many areas of sustainable cacao production. Cacao trees are the source of chocolate. This collaboration

has resulted in the successful funding from the Dutch Buffer Stock (450,000 euros) to carry out research on "Improving the Efficiency of Cacao Agroforestry Systems in Bahia, Brazil." (Dutch Buffer Stock is a fund created by the Dutch Ministry of Agriculture, Nature and Food Quality to promote the sustainable development of the cocoa sector.) This funding will help to assess the impact of cocoa production within the cabruca production system (agroforestry) of the Brazilian Atlantic Rain Forest to improve ecosystem sustainability. **Dr. Virupax Baligar** of SPCL has been invited by the State University of Santa Cruz to serve on the Oversight Committee for this project. For more information contact: [VC.Baligar@ars.usda.gov](mailto:VC.Baligar@ars.usda.gov).

### CONFERENCE REPORT AVAILABLE

The report from the **Biofuels and Water Quality: Meeting the Challenge & Protecting the Environment** Conference held at BARC in early April is now available at the Mid-Atlantic Regional Water Program website: <http://www.mawaterquality.org/biofuels>.

### YUCCA PHYLLODY

A new disease, yucca phyllody, was recently identified in Texas. Buckley's yucca (*Yucca constricta* Buckl.) is a native flowering perennial plant widely distributed in Texas and northeast Mexico. It is also grown as an ornamental plant in its native range as well as other dry regions in the U.S. and Mexico. In 2006, during an extended drought in Uvalde County in southwestern Texas, Buckley's yucca plants sporadically exhibited phyllody, an abnormal bud proliferation on the inflorescence (see photograph). The symptoms resembled those caused by phytoplasmal infection. Phytoplasma are organisms that lack a cell nucleus and a cell wall. As a group they are known to cause over 600 plant diseases. Plant to plant transmission of phytoplasmas is by insect vectors. **Dr. Ing-Ming Lee** (Molecular Plant Pathology Laboratory at BARC), in cooperation with **Dr. M. C. Black** of Texas A&M University Agricultural Research and Extension Center, Uvalde, Texas, found that an aster yellows phytoplasma (*Candidatus Phytoplasma asteris*) strain was associated with this new disease. (Contact Dr. Ing-Ming Lee at [leeim@ba.ars.usda.gov](mailto:leeim@ba.ars.usda.gov))



## Mark Your Calendar!

### BELTSVILLE AREA DISTINGUISHED LECTURE SERIES

*This seminar is open to the public*



**Dr. Otto Doering**, Professor of Agricultural Economics, Purdue University

**Date:** Wednesday, October 17, 2007

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

**Place:** Building 003 Auditorium, BARC-West

**Title:** "From Biofuels to the Agricultural Landscape: Where Are We Headed?"

**September 19-21** – BARC will be hosting the 2007 Mid Atlantic Composting & Compost Use Conference in cooperation with the Mid Atlantic Composting Association and the Mid-Atlantic Regional Water Program. The theme of the 2007 Conference is generation and use of locally-produced, annually renewable, bio-based performance oriented compost products for stormwater and erosion control for sustainable, low impact development. Information will be presented on qualifying for LEED credits for use of compost in various sustainable landscaping projects. For registration information contact: **Dr. John Bouwkamp** ([jbouwkam@umd.edu](mailto:jbouwkam@umd.edu)) or **Dr. Patricia Millner** ([pat.millner@ars.usda.gov](mailto:pat.millner@ars.usda.gov)).

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