BARC e-Update

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Access past e-Updates at www.ars.usda.gov/ba/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!

BARC SCIENTIST RECEIVES PRESIDENTIAL RANK AWARD

Dr. Ronald Fayer of the Environmental Microbial Safety Laboratory was awarded the Distinguished Senior Professional Presidential Rank Award for his discoveries and contributions to the biology, epidemiology, and control of three major parasitic diseases of livestock and humans: coccidiosis, sarcocystosis, and cryptosporidiosis. Each year the President recognizes and celebrates a select group of career Senior Executives and Senior Professionals (research and staff scientists) with the Presidential Rank Award for exceptional long-term accomplishments. Winners of this prestigious award are strong leaders, professionals, and scientists who achieve results and consistently demonstrate strength, integrity, industry, and a commitment to excellence in public service.

2005 BEAN IMPROVEMENT COOPERATIVE AWARD RECIPIENT

Dr. Perry Cregan, Research Leader of the Soybean Genomics and Improvement Laboratory, was awarded the 2005 Frazier-Zaumeyer Distinguished Lectureship at the biennial Bean Improvement Cooperative (BIC) Meeting. This award recognizes Dr. Cregan for presenting the keynote opening address at this meeting and honors him for making outstanding and pioneering contributions to science which have led to the advance of bean research. BIC is a voluntary organization dedicated to the exchange of information and materials for the improvement of bean production worldwide. Current membership is approximately 300 with over 20 countries represented.

Community Interest

HOW TO VOLUNTEER FOR BHNRC STUDIES

The Beltsville Human Nutrition Research Center (BHNRC) periodically recruits volunteers to participate in a variety of studies. Through the generosity of these volunteers, the Center is able to accomplish its mission of defining the role of food and its components in optimizing human health. Even if the Center is not actively recruiting for a study, you can request to be entered into its volunteer database to be contacted about future studies. Each study is different: past studies have been as short as one day and others up to one year long, and for some, all food is provided by the Center for the duration of the study. Additional information about our Center and recruitment status is available at www.barc.usda.gov/bhnrc/.

TURKEY TALK!

When roasting a turkey, oven temperature should not be set any lower than 325°. A whole turkey should be cooked to 180°F. To check for doneness, insert a food thermometer in the thickest part of the inner thigh without touching the bone. For more facts on safe holiday meal preparation, please visit USDA/Food Safety and Inspection Service at www.fsis.usda.gov/Home/index.asp.

NEW TECHNIQUE FOR EMERGENCY IDENTIFICATION OF POISONOUS MUSHROOMS

BARC's **Dr. David Farr**, Systematic Botany & Mycology Laboratory, is the point person for several emergency rooms in the DC area for patients who have eaten potentially poisonous mushrooms. Until recently, it was necessary to transport the actual specimen to his office; it might arrive hours later, often moldy or melted into a gooey mess. Meanwhile, not knowing if the mushroom was poisonous or not, the patient, usually a child, would be treated by pumping the stomach. With the advent of digital cameras associated with cell phones, Dr. Farr can now receive a photograph of the mushroom in question from the doctor. Dr. Farr can then determine within minutes whether or not the fungus may be dangerous to the patient. The mushroom most commonly encountered in ERs in our area is the large and beautiful lawn mushroom, *Chlorophyllum molybdites*. Fortunately, this mushroom is relatively easy to identify based on macroscopic characters. Although causing nausea and vomiting, this species is not deadly poisonous, and any adverse reaction will pass within hours.

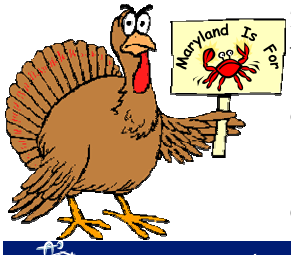
On the Research Side...

BEE RESEARCH

On October 20, 2005, The Food and Drug Administration (FDA) approved the use of TYLAN soluble (tylosin tartrate) for the control of American foulbrood disease of honey bees. The FDA reviewed extensive data submitted by BARC's Bee Research Laboratory to ensure the product met all necessary effectiveness, animal health, human food safety, and environmental standards. Members of the Bee Research Laboratory also worked closely with Elanco Animal Health in designing the label for the proper use of TYLAN in honey bee colonies. The approval of TYLAN offers the entire U.S. beekeeping industry an effective way of combating this devastating bacterial disease of honey bees.

EVALUATING THE EFFECTIVENESS OF RIPARIAN BUFFERS

A series of systematic studies of a riparian grass buffer zone by BARC scientists Dr. Jim Starr, Dr. Ali Sadeghi, and Dr. Yakov Pachepsky has shown that a specially designed field chamber has proven itself to be a good tool when used together with a computer model to evaluate how effectively riparian buffers filter out pollutants before they can reach streams or other bodies of water. After success with a prototype chamber in the laboratory, the scientists installed a field version of the chamber through which they were able to monitor the rates of lateral water flow and the loss of nitrate due to its breakdown by soil microbes. Scientists used the two-dimensional computer model "HYDRUS-2D" to simulate water flow and transport of chemicals within the riparian zone soil. The experimental chamber is essential for the accurate use of the growing number of computer models being developed to assess the effectiveness of riparian buffers.



Mark Your Calendar!

NINTH ANNUAL AGRICULTURE OUTLOOK AND POLICY CONFERENCE - Nov. 30

On November 30th BARC is hosting the Ninth Annual Agriculture Outlook and Policy Conference which is sponsored by the University of Maryland's Center for Agricultural and Natural Resource Policy. The conference will focus on "Winning Strategies for Maryland Agriculture." The most widely noticed threat is the continuing conversion of agricultural land to suburban development, but there are also challenges involving land, labor, energy and global competition that have to be met. Registration for the conference, which runs from 8:30 AM to 3:30 PM, is $25. For more information or to register, call 301.405.0057 or email LKoch@arec.umd.edu. Also, check out www.mdagnrpolicy.org/Conferences/conferences.htm.

PERCHLORATE STUDY

BARC scientists, Dr. Anthony V. Capuco of the Bovine Functional Genomics Laboratory, and Dr. Clifford Rice of the Environmental Management and By-Product Utilization Laboratory, along with teams of scientists from both labs, found that up to 83 percent of perchlorate fed to cows is metabolized by the rumen which can act as a biological filter, breaking down most perchlorate in feed. Public concern about perchlorate, an industrially used oxidant as well as a naturally occurring compound, has increased in recent years, especially after very low levels of perchlorate were found in milk. This study revealed that while perchlorate levels in the milk of cows fed various levels of perchlorate did increase slightly as consumption increased, the levels did not rise in direct proportion to the increased consumption.

Mark Your Calendar!

FARMING SYSTEMS PROJECT REVIEW - Nov. 17

On November 17th the Sustainable Agricultural Systems Laboratory will be undergoing a review of its Farming Systems Project (FSP). The general session (open to the public) begins at 9:30 AM in Auditorium of Building 307C, BARC-East. The FSP at BARC is a long-term comparison of seven cropping systems established in 1993 to: 1) study the basic biology and ecology of farming systems using a multidisciplinary, systems approach and 2) address farmer-defined management and production barriers to the development and adoption of sustainable cropping systems in the mid-Atlantic. The farming systems, which were designed by a team of farmers, extension agents and scientists, represent a continuum of production strategies from conventional to organic methods. They were designed to take advantage of regional resources and markets, such as rural and municipal organic wastes, and local demand for organic food and feed grains. The seven cropping systems were laid out in replicated research plots in 1996 after a three-year site variability assessment. Please visit the FSP site for more information on the project and its upcoming review.

FOOD & BIOBASED CAFETERIAWARE COMPOSTING FOR FEDERAL FACILITIES IN WDC - Dec. 8

A roundtable discussion on the implementation of food and biobased cafeteriaware composting for all federal facilities in the Washington, DC area will be held at BARC on December 8th from 8 AM to 4 PM in Bldg. 005, Rm. 021. This event is being coordinated by ARS and CSREES and is open to the public. For information, contact Patricia Millner: MillnerP@ba.ars.usda.gov.