

August 2017

**USDA-ARS
Dale Bumpers National Rice Research Center Highlights
Stuttgart, Arkansas**

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1. Recently Accepted Publications – n/a

2. Technology Transfer

a. Formal Events:

To Non-research Stakeholders

To Research Community

On Aug 14-15 2017, DBNRRC scientist Dr. Jinyoung Barnaby gave an invited talk at the 34th Mid-Atlantic Plant Molecular Biology Society meeting in Laurel, MD. Attendance included 150-200 USDA scientists and University professors including post-docs, grad and undergrad students. Dr. Barnaby's presentation was entitled "Genome wide association study dissecting genetic architecture of grain physicochemical traits in rice".

b. Informal Contacts

On August 4, 2017, the DBNRRC at Stuttgart, AR hosted 10 Uruguayan farmers and technicians who were visiting the Arkansas rice-growing region to gain a deeper understanding of sustainable crop rotations, irrigation methods, and herbicide technologies used in the region. Dr. Anna McClung presented an overview of the current research being conducted by DBNRRC scientist. Dr. Jai Rohila demonstrated a field research project focused on genetic improvement of water use efficiency and yield in rice varieties targeted for 'alternating wetting and drying' irrigation systems, and Dr. David Gealy demonstrated field plots of a genetic mapping population comprised of inbred rice lines that potentially can suppress weeds while also producing high yields.



On August 9, 2017, DBNRRC scientists at Stuttgart, AR discussed and demonstrated their current rice research with 17 Brazilian farmers and specialists visiting the center. Topics included reducing arsenic through water management by Dr. Shannon Pinson, fighting weeds using weed-suppressive rice by Dr. David Gealy, and genetic improvement of water use efficiency and yield for 'alternating wetting and drying' irrigation systems by Dr. Jai Rohila.



On August 16, 2017, DBNRRC scientist Dr. David Gealy at Stuttgart, AR discussed current weed physiology research and other rice research ongoing at DBNRRC with consultant Max Hackworth, AgTech Services, Paragould, AR and Fred Trudwig and Dan Hartnett of Aceto Agricultural Chemicals Corp., Pt. Washington, NY.

c. Germplasm Exchanged:

During August, 620 rice accessions from the Genetics Stocks *Oryza* (GSOR) collection were distributed to researchers in the US, Canada and Taiwan.

3. Education and Outreach

From August 1, 2017 to August 31, 2017, Dr. Yulin Jia provided new knowledge on rice genetics and blast disease resistance to two University researchers to develop multi-institutional grant proposals to discover innovative methods to manage rice blast disease under current flood culture and alternative wetting and drying.

DBNRRC scientists had three displays as part of the University of Arkansas RiceExpo 2017 (field day) held on August 4, 2017 with approximately 800 people in attendance. The displays were entitled "IPM Management for Southern Organic Rice", "Genetic Discoveries in the USDA Collection of World Rice Varieties for Tolerance to Cold, Heat and Reduced Water Stress" and "High Value, Specialty Rice Varieties" presented by Drs. Anna McClung, Georgia Eizenga and Ming-Hsuan Chen's lab group, respectively. A short video of Hmong immigrants growing rice from the USDA germplasm collection at the Mequon Nature Preserve in Wisconsin was shown.



Dr. Jinyoung Barnaby hosted a 3-day visit by a high school student from Richard Montgomery High School, Rockville, MD. From Aug 16-18, the student participated in measuring metabolic compounds from rice grains using GC-MS to unravel the biochemical mechanisms of how elevated CO₂ affects protein contents in rice. This training was to provide the student with insight into agricultural science careers.



New Significant Research Collaborations

n/a