



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



OCTOBER 2024

MONTHLY RESEARCH HIGHLIGHTS

For More Information: Dr. Yulin Jia, Research Leader/Center Director
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- **Technology Transfer**
- ✓ **Interactions with the Research Community**

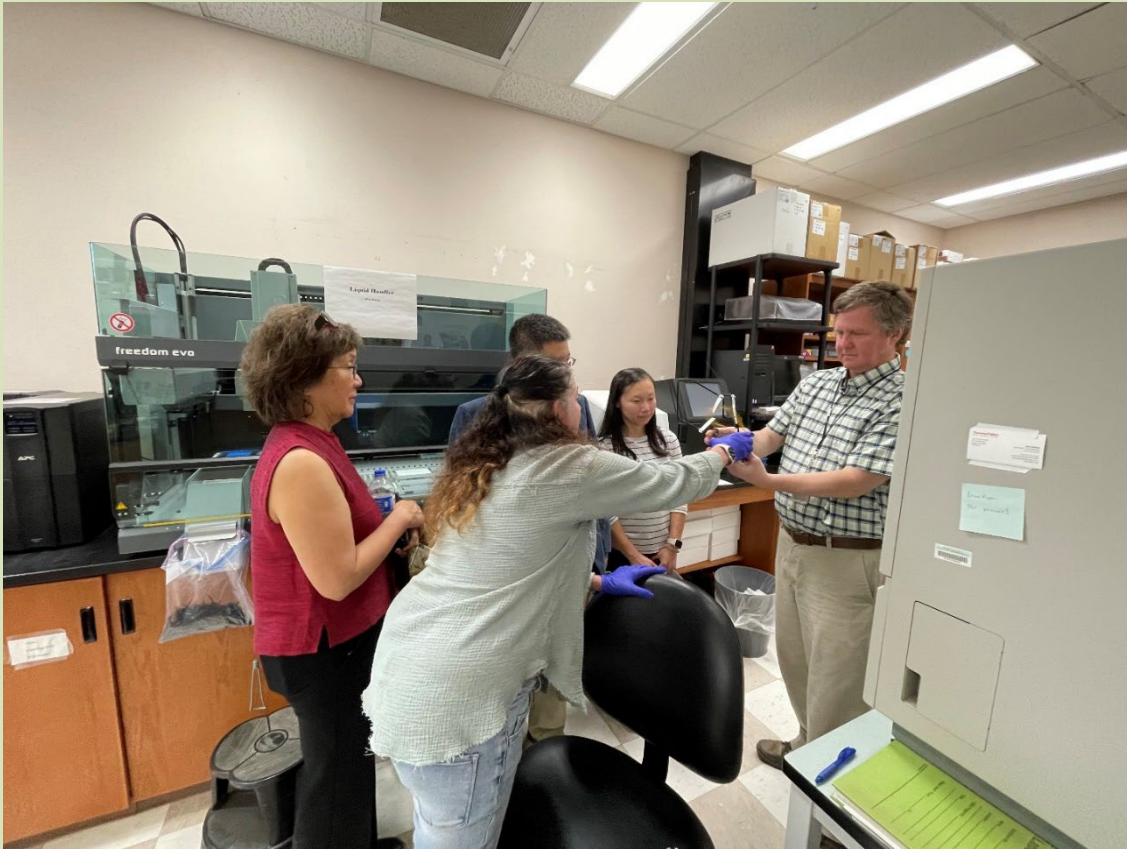
On October 1, 2024, Dr. Yulin Jia presented a virtual talk entitled "Impacts of multiple dry downs on rice yield, processing grain quality traits and greenhouse gases" at the NARO-JIRCAS-FFTC 2024 Symposium on Control of Greenhouse Gases Emissions and Rice Heavy Metals Absorption through Paddy Field Water Management. Dr. Jia presented an update on mitigation of greenhouse gas emissions in rice production through management, genetics, and microbiome approaches as a part of a U.S.-Japan bilateral climate research collaboration.

On October 24, 2024, DB NRRC represented USDA ARS among the various partners at the Wisconsin Tribal Conservation Advisory Council (WTCAC) board meeting which covering crucial topics such as climate change adaptation, resource management, and updates from key environmental and agricultural organizations. Dr. Yulin Jia and Dr. Rodrigo Pedrozo presented the USDA ARS Dale Bumpers National Rice Research Center's ongoing efforts to support US rice industry. They highlighted the Center's potential role in assisting Northern Indian tribes in managing disease challenges in wild rice (*Zizania palustris* L.), particularly by applying research insights to improve disease resilience. Dr. Pedrozo provided an update on the current situation the tribes are facing with wild rice, specifically noting the impact of leaf diseases such as Brown Spot, which poses a significant threat to crop health. Their presentation emphasized collaboration possibilities to integrate scientific advancements into sustainable disease management strategies for wild rice cultivation, aiming to protect this culturally and ecologically valuable crop.



Drone photo of wild rice (*Zizania palustris* L.) grown in a 200-acre lake, showing plants discolored with Brown Spot. Photo taken by Nathan Podany, hydrologist from the Sokaogon Chippewa Tribes.

On October 30, 2024, Drs. Fukagama, Pletch, and Sun from USDA-ARS Beltsville Human Nutrition Research Center (BHNRC) visited DB NRRC. Dr. Fukagama gave an overview of BHNRC and their research expertise/interests to spawn ways to collaborate with DBNRRC followed a roundtable discussion with virtual audiences, Dr. Julie Thomas, Research Geneticist, University of Arkansas at Fayetteville, National Program Leader Dr. Jack Okamuro, and Dr. Steve Boue, Research Chemist of Food Processing and Sensory Quality Research, New Orleans, LA.



Dr. Jeremy Edwards and Melissa Jia showed visitors the genomic core facility at DB NRRC.

✓ **Rice Germplasm Distributed**

During the month of October, 132 rice genetic stocks were shipped to researchers in the United Arab Emirates, Canada, and the United States.

• **Stakeholder Interactions**

On October 3, 2024, Drs. Shannon Pinson, Jeremy Edwards, and Georgia Eizenga hosted Mr. Eric McCrory and Mr. Dan Vollmer, with Product Strategy & Research at the Boston Beer Company, who were accompanied by Dr. Scott Lafontaine, food chemist at the University of Arkansas, Fayetteville, specializing in the chemical drivers of aroma, taste, and mouthfeel which define food and beverage quality. The DB NRRC conducted a rice taste testing to

provide visitors with firsthand experience in the wide range of cooked rice textures, flavors, and colors available in commercial rice varieties today, and DB NRRC scientists learned from the visitors what factors currently limit the use of rice as an adjunct starch in craft beer brewing, and how those factors differ from those that limit the brewing of malted rice.



On October 31, 2024, Dr. Yulin Jia discussed with Keith Glover, CEO of Producer Rice Mill, Inc who reported extremely low head rice yield in Arkansas. Dr. Yulin Jia shared an update of how DB NRRC research on fissure resistance and genetic markers developed by DB NRRC can be used to incorporate fissure resistance into elite rice breeding materials which may help to improve head rice yield. A plan to identify genes for fissure resistance is being discussed among scientists of ARS, Rice Tec, Inc, and UA.

Education and Outreach

On October 31, 2024, DB NRRC staff held their annual Fall Harvest team building. The staff supplied pizzas from Larry's pizza in Stuttgart, Arkansas, as well as various desserts for the event. During the event, Dr. Yulin Jia presented awards to the support staff for their extra efforts in support of the USDA and DB NRRC missions. He also presented Dr. Shannon Pinson with a service award for her 35 years of service with the USDA. The award presentation was followed by fellowship activities, arranged by Ms. Quynh Grunden and Ms. Jacqueline Hughes, where the staff engaged in games of tug-o-war, lime relay, ring toss and air pong. Those who were victories during the games received candy, chocolate, or chips as prizes.



See the web version of all DBNRRC research highlights at: <https://www.ars.usda.gov/southeast-area/stuttgart-ar/dale-bumpers-national-rice-research-center/docs/monthly-research-highlights/>