

MINUTES
40th RICE CROP GERMLASM COMMITTEE MEETING

Monday, February 24, 2020
Perdido Beach Resort, Orange Beach, AL

The 40th Rice Crop Germplasm Committee meeting was held on Mon., February 24, 2020 in Orange Beach, Alabama. Members in attendance were Georgia Eizenga (Chair), Teresa De Leon, Anna McClung, Karen Moldenhauer, Jack Okamuro, Ed Redoña, Xueyan Sha, Paul Sanchez, Qiming Shao and Shane Zhou. Members joining via conference call were: Peter Bretting, Harold Bockelman, Gary Kinard and Martha Malapi-Wight. Members not present were Adam Famoso and Dante Tabien. Guests in attendance were Nick Bateman, Trevis Huggins, Nanyen Chou, Jagadusha Gouda, Melissa Jia, Yulin Jia, Joe Kepiro, Kent McKenzie, Santosh Sharma and Ted Wilson. The meeting was called to order. The minutes of the virtual 39th Rice Crop Germplasm Committee held on February 20, 2019 were approved by a motion from Xueyan Sha, seconded by Karen Moldenhauer, and supported by the other committee members.

Peter Bretting USDA/ARS Office of National Programs, reported on the status of the National Plant Germplasm System (NPGS) which highlighted the increase in accessions, distribution of accessions, NPGS budget and relatively flat budget when adjusted for inflation from 2010 to 2019. Key challenges are managing and expanding the NPGS to meet the increased demand for germplasm and associated information, developing/applying cryopreservation or in vitro preservation for clonal stocks, managing accessions with genetically engineered traits, and acquiring additional germplasm especially crop wild relatives. Lastly, with at least 1/3 plant genetic resource (PGR) managers eligible to retire in the next five years, a USDA/NIFA grant was used to discuss development of a training program on PGR management which will be delivered primarily through distance learning which included a survey published in *Crop Science* (2019) 59:2308-16 and a NIFA Higher Education Challenge grant was submitted to further develop the training materials. In the past year there were budget increases for coffee, citrus and industrial hemp.

Gary Kinard, USDA/ARS National Germplasm Resources Lab, reported currently there are four vacant positions in the lab, including a Botanist position, all of which they hope to fill in 2020. GRIN taxonomy continues to be improved and expanded to provide thorough coverage of wild relatives of all major and minor crops. The GRIN platform was migrated from in-house servers to the Microsoft Azure cloud in September 2019 and the group anticipates releasing a new version of the GRIN-Global public website in spring 2020. Proposals for the Plant Exploration and Exchange Program for FY2019 are due July 24, 2020 to Karen Williams.

Martha Malapi-Wight, USDA/APHIS Plant Germplasm Quarantine Program (PGQP) reported she has accepted a promotion within APHIS and the Director, Joseph Foster will manage the program until further notice. The *Poaceae* team continued validating the use of high-throughput sequencing (HTS) with the goal of introducing this technology as a routine diagnostic tool in PGQP. In 2019, the PGQP received 82 accessions, of which 74 flowered and produced seed. Of these, 38 were randomly selected for sequencing (HTS) and bioinformatic analysis revealed eight had viral strains closely related to the *O. sativa* or *O. rufipogon* endornavirus. A literature

survey indicated that there are no reports demonstrating endornaviruses induce disease, but it needs to be determined if these viruses are commonly found in the USA. The group is waiting for further guidance from the USDA-APHIS Plants for Planting Policy group as to the next step with these materials.

Harold Bockelman, Curator of the Small Grains Collection, reported 2,230 accessions (seed packets) have been distributed in 135 separate requests since January 2019. Currently there are 19,134 accessions in the *Oryza* collection with 18,922 being *O. sativa* accessions. Harold shared the “Crop Vulnerability Update for Rice” which was reviewed by the committee and edits were suggested for the slide. This report is used to set priorities for the NPGS and determine where the U.S. crop vulnerabilities are.

Trevis Huggins, USDA/ARS Dale Bumpers National Rice Research Center (DBNRRC), was introduced as the newly hired curator for the rice germplasm collection, thus an ex-officio member of the Rice CGC, replacing Dr. Wengui Yan who previously held the position. Trevis reported on growth of Genetic Stocks-*Oryza* (GSOR) collection which is part of the NPGS and distributed from the DBNRRC. From Jan. 2019 through Feb. 2020 there had been 130 shipments of 4,741 entries to locations within the USA and 16 shipments of 94 entries to nine countries outside the USA. Trevis recommended adding six new trait descriptors for rice, apiculus color, awn color, daylength sensitivity, leaf blade pubescence, shattering, and long sterile lemma, to GRIN-Global. Trevis reviewed the issues most often reported by those requesting seed as misclassified accessions, flowering time (daylength sensitivity), line purity, seed viability and redundant accessions. Lastly, he reported that the protocol for rejuvenating the accessions in the collection has been amended to include genotyping with 24 markers, 14 of which are trait specific. The markers were used to determine the species (*O. sativa* or *O. glaberrima*), subspecies (*indica* or *japonica*) and subpopulations (*aus*, *indica*, *aromatic*, *temperate japonica* or *tropical japonica*) and the genotypic similarity of accessions which had the same cultivar name. Other future plans include developing a detailed operations and management guides, genotyping all donated materials prior to acceptance, only using the winter nursery for photoperiod sensitive accessions, and incorporating high throughput phenotyping methods.

Committee members, Karen Moldenhauer and Rodante Tabien will retire this year, thus, Nick Bateman (extension entomologist, Arkansas) was recommended to complete Karen’s term and Omar Samonte (hybrid breeder, Texas) was recommended to complete Dante’s term. Also, the six-year terms for Xueyan Sha (Arkansas) and Teresa De Leon (California) will terminate in 2020. Both Sha and Teresa have agreed to serve another six-year term. A motion was made by Karen Moldenhauer to accept the aforementioned committee member changes and additional terms, the motion was seconded by Paul Sanchez and the motion was supported by all committee members.

A motion to amend the by-laws to allow the committee chair to serve an unlimited number of two-year terms was made by Karen Moldenhauer, the motion was seconded by Teresa De Leon and Paul Sanchez and the motion was supported by all committee members. Based on the committee recommendation on February 28, the current chair, Georgia Eizenga, circulated an email vote for the 2020-2022, chair. Georgia Eizenga was unanimously supported as the 2020-22 committee chair on March 11, 2020.

Karen Moldenhauer motioned to adjourn, Paul Sanchez seconded the motion, and the motion was supported by all members.

Appendix I. CGC members updated after February 24, 2020 business meeting with year term ends in parentheses.

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| <p>Dr. Georgia Eizenga, Chair (2024) USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Georgia.Eizenga@usda.gov</p> | <p>Dr. Nick Bateman (2022) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 nbateman@uaex.edu</p> |
| <p>Dr. Teresa De Leon (2026) California Cooperative Rice Research Foundation P.O. Box 306 Biggs, CA 95917-0306 Tdeleon@crrf.org</p> | <p>Dr. Adam Famoso (2022) H. Rouse Caffey Rice Research Station Louisiana State University 1373 Caffey Road Rayne, LA 70578 AFamoso@agcenter.lsu.edu</p> |
| <p>Dr. Edilberto (Ed) Redoña (2024) Delta Branch Experiment Station Mississippi State University 82 Stoneville Rd. P.O. Box 197 Stoneville, MS 38776 ed.redona@msstate.edu</p> | <p>Dr. Stanley (Omar) Samonte (2024) Texas A&M AgriLife Research Center 1509 Aggie Drive Beaumont, TX 77713 stanley.samonte@ag.tamu.edu</p> |
| <p>Dr. Paul Sanchez (2022) Lundberg Family Farms 5311 Midway P.O. Box 369 Richvale, CA 95974 psanchez@lundberg.com</p> | <p>Dr. Xueyan Sha (2026) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 xsha@uark.edu</p> |
| <p>Dr. Qiming Shao (2024) Nutrien Ag Solutions 676 County Rd 324 El Campo, TX 77437 qiming.shao@nutrien.com</p> | <p>Dr. Xin-Gen (Shane) Zhou (2024) Texas A&M AgriLife Research Center 1509 Aggie Drive Beaumont, TX 77713 xzhou@aesrg.tamu.edu</p> |
| <p>Dr. Harold Bockelman, Ex-officio USDA-ARS National Small Grains Collection 1691 S 2700 W Aberdeen, ID 83210 Harold.Bockelman@usda.gov</p> | <p>Dr. Peter K. Bretting, Ex-officio USDA-ARS, NPS Nat. Prog. Leader, Plant Germplasm and Genomes 5601 Sunnyside Avenue Beltsville, MD 20705-5139 Peter.Bretting@usda.gov</p> |
| <p>Dr. Joseph A. Foster, Ex-officio Supervisory Plant Pathologist USDA-APHIS Plant Germplasm Quarantine Program Bldg. 580, BARC-East Beltsville, MD 20705 joseph.a.foster@usda.gov</p> | <p>Dr. Trevis D. Huggins, Ex-officio USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Trevis.Huggins@usda.gov</p> |

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| <p>Dr. Gary Kinard, Ex-officio Research Leader USDA-ARS National Germplasm Resources Laboratory Beltsville, MD 20705 Gary.Kinard@usda.gov</p> | <p>Dr. Anna M. McClung, Ex-officio USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Anna.Mcclung@usda.gov</p> |
| <p>Dr. Jack Okamura, Ex-officio USDA-ARS, NPS Nat. Prog. Leader, Gen'l Biological Sci., Plant Physiology & Cotton 5601 Sunnyside Avenue Beltsville, MD 20705-5139 Jack.Okamura@usda.gov</p> | |