

MINUTES
38th RICE CROP GERMLASM COMMITTEE MEETING

Monday, February 19, 2018
The Westin Hotel, Long Beach, CA

The 38th meeting of the Rice Crop Germplasm Committee was held on Monday, February 19, 2018 in Long Beach, CA in conjunction with biennial 2018 Rice Technical Working Group meeting. Members in attendance were Georgia Eizenga (Chair), Harold Bockelman, Adam Famoso, Anna McClung, Jack Okamuro, Ed Redoña, Paul Sanchez, Xueyan Sha, Qiming Shao and Rodante (Dante) Tabien. Members participating via conference call were Gary Kinard, Martha Malapi-Wight and Karen Moldenhauer. Members not present were Peter Bretting and Jim Correll. Guests in attendance were Cynthia Andaya, Virgilio C. Andaya, Christian deGuzman, Teresa deLeon, Yulin Jia, David Gealy, Joe Kepiro and Eric Young. The meeting was called to order. The minutes of the 37th Rice Crop Germplasm Committee held on January 24, 2017 in Crowley, LA were approved by a motion from Karen Moldenhauer, seconded by Adam Famoso, and supported by the other committee members.

Jack Okamuro gave the report of the USDA/ARS Office of National Programs for Peter Bretting, on the status, prospects and challenges of the National Plant Germplasm System (NPGS) which highlighted key challenges of managing and expanding the NPGS to meet the increased demand for germplasm and associated information, training a new generation of plant genetic resource (PGR) managers with at least 1/3 being eligible to retire in the next five years, developing conservation methods for clonal germplasm, managing accessions with genetically engineered traits and acquiring additional crop wild relatives. A USDA/NIFA grant was secured to develop a PGR management training curriculum which could be delivered through distance learning. The development of a strategic plan envisioning what the NPGS would look like in 20 years was discussed.

Gary Kinard, USDA/ARS National Germplasm Resources Lab, reported that as of 2018 there were 587,205 active accessions listed in the Germplasm Resources Information Network (GRIN) which represent 15,720 species and 2,533 genera. The collection grows 1-2% per year. The GRIN-Global interface has been in place for two years and continues to be upgraded and improved. Currently, there is a need to adapt GRIN-Global to the smaller platforms including tablets and smart phones. The crop wild relatives page in GRIN-Global was redone and the problems addressed. John Wiersema, curator for GRIN-Taxonomy will retire this year and Melanie Schori will continue these responsibilities. Proposals for the Plant Exploration and Exchange Program for FY2019 are due July 20, 2018 to Karen Williams.

The implications of the US being party to the International Treaty and distribution of germplasm both domestically and internationally was discussed. GRIN-Global will need some restructuring to deal with distributions based on the International Treaty. Currently accessions obtained with an SMTA (standard material transfer agreement) are distributed with a SMTA. Also, there is a decision to include just 64 crops under the SMTA or the entire collection. Neither China nor Russia have ratified this treaty.

Georgia briefly reviewed the Crop Germplasm Committee (CGC) chairs webinar organized by Gary on Jan. 25, 2018. Presentations were made by Peter Bretting, Stephanie Greene (seed curator), Karen Williams, John Wiersema and Melanie Schori, and Hannes Dempewolf from the Crop Trust which includes the International Rice Research Institute (IRRI) and the other CGIAR centers.

Harold Bockelman, Curator of the Small Grains Collection, reported currently there are 19,081 accessions in the *Oryza* collection with 18,825 being *O. sativa* accessions. Eight *O. sativa* accessions were added to the collection this past year. A list of the 34 descriptors currently being used for rice in GRIN-Global was presented for discussion. Interest was expressed in updating the pedigree information feature which was originally developed by Ed Byrd but did not carry over from GRIN to GRIN-Global.

Martha Malapi-Wight, USDA/APHIS Plant Germplasm Quarantine Program (PGQP) reported that 87 accessions were imported from IRRI of which 79 were released from quarantine and shipped to the importer. The PGQP is implementing next generation sequencing (NGS) technologies for plant pest diagnostics. An Illumina NextSeq Platform was purchased, Dr. Bishwo Adhikari, a bioinformatics scientist, was hired, and Martha has been attending workshops on NGS technologies for plant pest diagnosis.

Anna McClung, USDA/ARS Dale Bumpers National Rice Research Center (DBNRRC) reported on the Genetic Stocks-*Oryza* (GSOR) which as part of the NPGS, included in GRIN-Global, and distributed from the DBNRRC. Since GSOR was initiated in 2004, 85,000 accessions have been distributed with over 9,000 in 2016 and 8,500 in 2017, thus GSOR is fulfilling the purpose for which it was established. Many of these distributions have been the Diversity Panels especially the Rice Diversity Panel 1 (RDP1), followed by the Rice Mini-Core (RMC) and Katy mutant population. Of the 1333 accessions included in the RDP2, 1291 are currently being distributed through GSOR and 42 are currently in quarantine grow-out in Fayetteville, AR after being re-imported from IRRI. The *Tropical Japonica* Core (TRJ core) collection consisting of about 700 accessions, should be available for distribution in 2021.

Anna made a presentation explaining the routine genotyping of the rice collection with 23 SSR markers which is now included as part of the rejuvenation process. Nearly 2,000 accessions have been genotyped to date. Based on current results, approximately 25% of the collection appears to be redundant. Due to two key vacancies, this routine rejuvenation will not be done in 2018.

There was a brief discussion of adding descriptors to GRIN based on molecular markers for blast genes and grain quality including aroma. Other suggested descriptors were arsenic accumulation and reduced water usage. A motion was made by Karen to have Anna, Harold and Georgia suggest possible descriptors to add to GRIN for the committee to review, seconded by Sha and supported by the committee members. Suggestions were made by the group to acquire the needed information for the rice crop vulnerability report which Harold and Georgia could use to complete the revised report template developed by Peter Bretting.

Several committee members terms will be completed in 2018, thus Georgia presented the following recommendations to the committee after contacting these members. Recommendations were to reappoint Jim Correll, Georgia Eizenga, Ed Redoña, Qiming Shao, and Dante Tabien for another six-year terms on the committee and Georgia as committee chair for a second two-year term. Teresa deLeon was recommended to complete the term of Farman Jodari who retired in 2017. A motion to approve these recommendations was made by Karen Moldenhauer, seconded by Anna McClung and supported by committee members present.

Paul Sanchez made the motion to adjourn, Dante Tabien seconded the motion, and the motion was supported by all members.

Appendix I. CGC members updated after February 24, 2018 business meeting with year term ends in parentheses.

<p>Dr. Georgia Eizenga, Chair (2024) USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Georgia.Eizenga@ars.usda.gov</p>	<p>Dr. James Correll (2024) Plant Pathology Dept. University of Arkansas Fayetteville, AR 72701 jcorrell@uark.edu</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. Teresa deLeon (2020) Calif. Coop. Rice Res. Foundation P.O. Box 306 Biggs, CA 95917-0306 Tdeleon@crrf.org</p>
<p>Dr. Karen Moldenhauer (2022) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 kmolden@uark.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. Paul Sanchez (2022) Lundberg Family Farms 5311 Midway P.O. Box 369 Richvale, CA 95974 psanchez@lundberg.com</p>	<p>Dr. Xueyan Sha (2020) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 xsha@uark.edu</p>
<p>Dr. Qiming Shao (2024) Crop Production Service 676 County Rd 324 El Campo, TX 77439 qiming.shao@cpsagu.com</p>	<p>Rodante (Dante) Tabien (2024) Texas Ag Exp. Station 1509 Aggie Drive Beaumont, TX 77713 retabien@ag.tamu.edu</p>
<p>Dr. Harold Bockelman, Ex-officio USDA-ARS National Small Grains Collection 1691 S 2700 W Aberdeen, ID 83210 Harold.Bockelman@ars.usda.gov</p>	<p>Dr. Gary Kinard, Ex-officio Research Leader USDA-ARS National Germplasm Resources Laboratory Beltsville, MD Gary.Kinard@ars.usda.gov</p>

<p>Dr. Martha Malapi-Wight, Ex-officio Lead Plant Pathologist - <i>Poaceae</i> Quarantine USDA-APHIS Plant Germplasm Quarantine Program Bldg. 580, BARC-East Beltsville, MD 20705 martha.malapi-wight@aphis.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@ars.usda.gov</p>
<p>Dr. Jack Okamuro, Ex-officio USDA-ARS, NPS Nat. Prog. Leader, Gen'l Biological Sci., Plant Physiology & Cotton 5601 Sunnyside Avenue Beltsville, MD 20705-5139 Jack.Okamura@ars.usda.gov</p>	<p>Peter Bretting, Ex-officio Add</p>