

MINUTES
33rd RICE CROP GERMLASM COMMITTEE MEETING
WEDNESDAY, 30 JANUARY 2013
LSU, Baton Rouge, Louisiana

The 33rd meeting of the Rice Crop Germplasm Committee was held on Wednesday, 30 January 2013. Members in attendance were Karen Moldenhauer, Jim Oard, Qiming Shao, Wengui Yan, Anna McClung, Georgia Eizenga, Rodante (Dante) Tabien and Farman Jodari (Chair). Members participating via conference call were Clarissa Maroon-Lango, Peter Bretting, Harold Bockelman, Mark Bohning, Jack Okamura. Guests in attendance were Gregory Berger, Rolfe Bryant, Tim Walker, Steve Linscombe and Donn Beighley.

The meeting was called to order at 2:19 pm.

The minutes of the 32nd Rice Crop Germplasm Committee held 27 February 2012 in Hot Springs, Arkansas were approved by a motion from Karen, seconded by Dante, and supported by the other committee members.

Peter Bretting, National Program Leader (USDA/ARS/NPGS), reported on a modest increase in FY13 budget for the NPGS (National Plant Germplasm System), as well as concerns regarding the impact of fiscal cliff on this program. CRIS Project Plans for rice germplasm/genetics projects are currently under review including those in Arkansas, California and Idaho (Harold Bockelman). Projects are reviewed every 5 years beginning with a stakeholder meeting which began in Nov. 2011, several of these were on-line meetings and included NIFA (National Institute of Food and Agriculture), several other partners, Dan Upchurch (Southern Plains Area Director) and Erik Young (contract specialist).

Regarding international germplasm exchange, the Convention on Biodiversity (CBD) at the Conference of Parties (COP) adapted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization. The Senate Foreign Relations Committee (SFRC) held hearings on the FAO International Treaty but adjourned before voting. [This treaty is the reason why the CGIAR Centers require a signed standard material transfer agreement (SMTA) for plant genetic resources exchange.]

Secretary Vilsack reestablished National Genetic Resources Advisory Council (NGRAC) in 2012 through Sept. 30, 2013. The NGRAC was originally established as part of the 1990 Farm Bill and has been inactive since 1999. Karen Moldenhauer (University of Arkansas) is a current member of this council.

Farman Jodari reported on the virtual meeting of the CGC chairs held November 15, 2012. Revision of crop vulnerability reports for each of the 42 crops is emphasized. The target is for crop committees to update the vulnerability statement for each crop every 5 years.

The Office of National Programs set priorities for the area of genetic resources management. High priority areas included: acquisition, maintenance, regeneration, documentation, and data management. The medium priority area was distribution.

Plant exploration office is asking for inputs regarding germplasm needs. The GRIN-Global web site continues to expand with 20 Genebanks being transferred to GRIN-Global by Dec. 2013. Data on crop wild relatives will also be added to the GRIN taxonomy section this year.

Mark Bohning, National Germplasm Resources Lab, reported on GRIN-Global. Highlights include (a) free access to all countries in the world, (b) GRIN is Oracle based but GRIN-Global is not, (c) was launched in December 2011 and (d) Bioversity International is sponsoring training sessions on GRIN-Global. The GRIN-Global project is a cooperative effort between the Global Crop Diversity Trust (GCDDT), USDA-ARS and Bioversity International to develop a powerful, easy-to-use plant genetic information system that will be freely available to any country throughout the world.

Harold Bockelman (USDA/ARS NSGC) reported that there were only minor changes in the status or the size of USDA rice collection in 2013. There is a notable addition of taxonomy data to GRIN. A total of 2,123 accessions were distributed. The recent Brazilian introductions are currently not available for distribution. A SMTA will be required for distribution of these materials once they are available. Anna McClung (USDA/ARS/DBNRRRC) indicated that genetic stocks within GSOR, also require SMTA for distribution.

Clarissa Maroon-Lango (APHIS, PPQ) reported that the quarantine office released 199 Brazilian accessions obtained from Embrapa, as carryover from 2011 processing. An additional 82 accessions from Brazil were processed in 2012 and shipped to NSGC, Aberdeen, ID in January 2013. One accession IRGA417 failed to establish and will be repeated in 2013. Clarissa facilitated the importation of *Oryza schlecteri* clones for Rod Wing's laboratory. Despite all efforts and cooperation from Paul Sanchez no plants were established. Earlier attempts, however, were successful in establishing clones of *Leersia perrieri* and releasing to Rod Wing's laboratory. Clarissa also reported that PGQP has validated protocols for detection of *Xanthomonas oryzae*. A serological test have been sourced for rice yellow mottle virus from DSMZ in Germany.

A pest risk assessment (PRA) has been made available by PPQ office for a 30-day stakeholders consultation to change the rule regarding importation of rice from Argentina. There is no change at this time and there is still a long way to go. Steve Linscombe commented that the USA Rice Federation has requested the comment period be extended but it is questionable whether the extension will be granted.

Anna McClung (DBNRRRC) provided updates on the importation of the 'Rice Diversity Panel 2' (RDP2) from IRRI. The 1,400 lines that make up RDP2 have been received at Stuttgart are being fast-tracked through the quarantine process by using several different quarantine facilities. These lines are being genotyped on a High Density Rice Array (HDRA) composed of about 700,000 SNP markers, many of which were selected from resequencing data. The RDP1 has already been genotyped with the HDRA. Both the RDP1 and RDP2 are part of a large phenotyping effort coordinated by IRRI as part of the GRiSP (Global Rice Science Partnership)

program. An additional 3,000 rice accessions are being sequenced by the BGI (Beijing Genomics Institute) through collaborations with IRRI. This data will be publically available. It will take a database like iPlant to handle the sequencing data.

The Brazilian rice core collection, a total of 296 accessions, was introduced in 2011. Several of these lines will be included in the *tropical japonica* core being developed at the DBNRRC. The accessions in this collection will be genotyped but the method is yet to be decided. The lines were genotyped by the Brazilians but this data may or may not be available to us.

WenGui Yan (DBNRRC) commented that the Brazilian set was grown at Stuttgart in 2-row plots. There were 214 lines that produced more than 100 gm seed within a 2-row plot. Some accessions appeared to have a high yield potential. Five panicles were harvested from each accession.

Regarding the NSGC core set, WenGui reported that the basic research has been completed. Mike Grusak has evaluated the minicore for 12 mineral elements and Rolfe Bryant has completed a GWAS (genome-wide association mapping study) on protein content. Shannon Pinson in collaboration with David Salt has evaluated the core for the grain concentrations of 16 elements including arsenic.

Ongoing efforts include developing mapping populations from the extremes, mostly RIL (recombinant inbred line) populations. The extremes being looked at are kernel size, 1000-kernel weight, aromatic and waxy. The minicore is being resequenced by cooperators at the Chinese Academy of Sciences at a 1.5X coverage. The mini-core is being grown at three locations for conducting GWAS.

Farman Jodari introduced the next item on the agenda which was the PVP application process. He conveyed the concerns from several committee members and rice breeders as to whether the phenotypic descriptors in the Exhibit C of the application sufficiently distinguishes new rice varieties or some form of DNA testing would be more efficient. Earlier discussions with Ms. Robin Davis from the PVP office indicated that breeders input on this matter could be helpful and is welcomed. Discussions from members and participants followed, Jim Oard volunteered to send a letter to Ms. Davis expressing the committee's views after the approval of the committee via email. Another issue that was discussed was the excessive time required to obtain PVP approval, which is an average of 5 years.

Discussion regarding seed rice importation from Argentina followed. Steve Linscombe announced that a letter has been jointly written by Mo Way, Don Groth, and Steve Linscombe to USDA/APHIS, as a "response to the request for input concerning importation of seed rice into the U.S." Steve encouraged the Rice CGC committee to notify USDA/APHIS of their support of the letter, if the committee did support the letter. Discussions about the contents of the letter followed. Several members agreed with the concerns expressed in the letter that there is high risk in introducing blast and other disease into the USA if large volumes are imported without quarantine. The consensus was that 2-line or 3-line hybrid seed production in Argentina was the primary purpose for the importation request. WenGui Yan explained the current 2-line production system in Uruguay and Argentina.

Regarding disease introduction risks, Examples of blast, bakanae and bacterial leaf blight were mentioned by Steve and Farman. Gregory Berger noted there were similar concerns with races of stem rust disease in wheat.

Jim Oard made a motion to approve the above mentioned letter via email. Farman Jodari will follow up and notify members.

Due to retirement of Dwight Kanter, a committee member, Tim Walker was nominated as new member. Jim Oard made the motion to accept the nomination of Tim Walker. It was seconded by Georgia Eizenga and supported by all members.

Georgia Eizenga made the motion to adjourn. Karen Moldenhauer seconded. Motion was supported by all members.

UPDATE: An email was sent to all members on Feb 1, 2013, by Farman Jodari, for vote on the following motion: To approve the attached document “Response to USDA/APHIS Request for Input Concerning Importation of Seed Rice into the U.S.” represents the views of Rice Crop Germplasm Committee. All votes were received by Feb 5, 2013. Motion was passed by unanimous support. CGC voting results and original letter was forwarded to Dr. William Aley USDA/APHIS on Feb 8, 2013

Appendix I. CGC members as of Jan 30, 2013 with year term ends in parentheses.

<p>Dr. Farmin Jodari, Chair (2014) Calif. Coop. Rice Res. Foundation P.O. Box 306 Biggs, CA 95917-0306 fjodari@crrf.org</p>	<p>Dr. Georgia Eizenga (2018) USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Georgia.Eizenga@ars.usda.gov</p>
<p>Dr. Tim Walker (2016) Delta Branch Experiment Station 82 Stoneville Rd. P.O. Box 197 Stoneville, MS 38776 twalker@drec.msstate.edu</p>	<p>Dr. Jim Oard (2016) Louisiana State University M.B. Sturgis Hall Department of Agronomy Baton Rouge, LA 70803 Joard@agcenter.lsu.edu</p>
<p>Dr. Qiming Shao (2018) Bayer Crop Science 676 County Rd 324 El Campo, TX 77437 qiming.shao@bayer.com</p>	<p>Dr. M.O. Way (2016) Texas Ag Exp. Station 1509 Aggie Drive Beaumont, TX 77713 moway@aesrg.tamu.edu</p>
<p>Dr. James Correll (2018) Plant Pathology Dept. University of Arkansas Fayetteville, AR 72701 jcorrell@uark.edu</p>	<p>Dr. Xueyan Sha (2014) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 xsha@uark.edu</p>
<p>Dr. Karen Moldenhauer (2016) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 kmolden@uark.edu</p>	<p>Rodante (Dante) Tabien (2018) 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. 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>Mark Bohning, Ex-officio CGC Facilitator USDA-ARS National Germplasm Resources Room 400 10300 Baltimore Ave. Bldg. 003, BARC-West Beltsville, MD 20705-2350 Mark.Bohning@ars.usda.gov</p>	<p>Dr. Clarissa J. Maroon-Lango, Ex-officio Lead Plant Pathologist USDA, APHIS, PPQ, PHP, PSPI Plant Germplasm Quarantine Program (PGQP) Bldg. 580, BARC-East, Powder Mill Road Beltsville, MD 20705 Clarissa.J.Maroon-Lango@aphis.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@ars.usda.gov</p>	<p>Dr. Wengui Yan, Ex-officio USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Wengui.Yan@ars.usda.gov</p>