MINUTES
29th RICE CROP GERMPLASM COMMITTEE MEETING
Thursday, 4 February 2009
Stuttgart, Arkansas

The 29th meeting of the Rice Crop Germplasm Committee was held Thursday 4 February 2009 in Stuttgart, Arkansas. Members in attendance were Georgia Eizenga (Chair), James Correll, James Gibbons, Farmin Jodari, Dwight Kanter, Anna McClung, Karen Moldenhauer, Xueyan Sha, and Billie Woodruff. Members participating via conference call were Harold Bockelman, Mark Bohning, Clarissa Maroon-Lango, and Kay Simmons. Members absent were: Jim Oard and M.O. Way. Guests in attendance were Chris Deren, Bob Fjellstrom, Steve Linscombe, Wengui Yan, and Peter Bretting via conference call. (Having committee members available by conference call was an excellent experience and cost/time-saving for a 1.5-2.0 hr meeting.)

The minutes of the 28th Rice Crop Germplasm Committee held 18 February 2008 in San Diego, California were read and approved by a motion from James Gibbons and seconded by Karen Moldenhauer.

Peter Bretting, USDA/ARS National Program Coordinator for Plant Germplasm, reviewed the "Report from the Office of the National Program". Highlights of the discussion included that 2,217 rice accessions were included in the second shipment of accessions from the National Plant Germplasm System (NPGS) to the Svalbard Seed Vault (no rice accessions were in the first), a long term storage facility in the Arctic operated by the Norwegian government and Global Crop Diversity Trust; GRIN is being transformed into GRIN-Global that will link the world's plant genebanks, as part of a partnership with the Biodiversity and the Global Crop Diversity Trust; the National Plant Germplasm Coordination Committee was established to promote better recognition and utilization of the NPGS and facilitate coordination among ARS, CREES and SAES; and provide updates on the ongoing issues regarding international germplasm exchange both as part of the International Treaty for Plant Genetic Resources for Food and Agriculture and the Convention on Biodiversity. The SMTA being used by all the CGIAR centers is currently being considered by the Senate and is third/fourth on the list of environmental treaties that may be considered this year. Also, it was mentioned that this is the year to update the crop vulnerability reports and evaluation of needs should be part of this report. Staffing updates are John Wiersema has joined GRIN staff in the area of taxonomy and Gary Kinard replaced Allen Stoner as Research Leader for the Plant Germplasm Unit.

Kay Simmons (USDA/ARS NPS) reported that the genomic initiative in the National Plan was reviewed and renewed for the next five years. The plan includes expanding genomic resources for plants of economic importance and indexing the information.

Mark Bohning, USDA/ARS GRIN DBMU mentioned that as part of the GRIN-Global project all the taxonomic terms will be standardized using a plant ontology system, so one can compare across different plant species. The system will be scalable so it can fit on a desktop computer or on a mainframe for large collections. GRIN-Global will accommodate genetic marker data and link to genomic databases. The targeted completion date is 2010. Georgia will send to both

Mark and Harold the "Trait Ontology" terms used in Gramene with comparisons to GRIN and IRRI trait terminology that was developed as part of an NSF-funded grant.

Clarissa Moroon-Lango (APHIS, PPQ) reported that only 29 of the 500 Indonesian rice introductions stored at the National Center for Genetic Resources Preservation in Fort Collins, CO germinated and were transplanted to the greenhouse. In 2009, the remaining (approx. 500) Indonesian rice introductions will be processed. This low germination is probably due to the seed being poor quality and in storage for over a decade. Dr. Moroon-Lango was finally successful in bringing clonal rice through quarantine, seven of the ten *Oryza* species have cleared quarantine with two more pending. A RT-PCR assay to detect the rice *hoja blanca* virus was added to the roster of tests for clonal rice. Georgia complemented Clarissa for this strategic advancement in bringing *Oryza* species introductions through the quarantine process. Five Korean rice cultivars from the Rural Development Administration are being processed for research only. The entire PPQ staff was complemented for their efforts.

At a previous meeting, Clarissa asked for input regarding the accessions brought in by Bob Dilday from the Bangladesh Rice Research Institute (BRRI) that were in storage at Fort Collins, CO. Drs. Liakat Ali and Bishwajit Prasad, both former BRRI employees presently working with Georgia, went through the list of rice accessions and identified those which were photoperiod insensitive, had unique grain quality traits, aromatic rice, rain-fed rice (grown in the summer or aus season), or irrigated rice [grown in the dry (Jan.-May) or boro season]. The committee advised that the photoperiod insensitive lines be grown in the summer months and the photoperiod sensitive lines be grown in the fall when the days are shorter. This way the plants will mature faster and this will expedite the movement of these accessions through the quarantine process. Dr. Moroon-Lango was advised to finish the grow-out of the Indonesian accessions since this is nearly complete and then begin the quarantine grow-out of the Bangladeshi accessions.

Harold Bockelman reported that 68 *O. sativa* accessions received new PI numbers. This gives 18,429 *O. sativa* accessions and 247 *Oryza* species accessions for a total of 18,676 *Oryza* accessions in the USDA/ARS rice germplasm collection at this time. About 3,397 rice seed samples were shipped from Aberdeen, ID this past year which is typical for a given year. The number of international requests has increased more recently, especially China and India.

Wengui Yan and Anna McClung reported that a mini-core collection of 217 accessions was selected for in-depth genotyping and evaluating traits for which the NSGC core collection of 1,794 accessions, is too large. For the most part, the mini-core is a subset of the core collection with some key accessions added. The core collection has been genotyped with 75 SSR markers representing both genome-wide and targeted markers.

Wengui Yan reported 1,917 accessions that are part of the GRIN rice collection were grown-out, single panicles collected, and agronomic data collected. Scanned images of panicles are acquired by Harold Bockelman's group (NSGC). Data collected was days to heading, plant height, plant type, panicle type, awn type, and lodging. A set of 726 accessions were evaluated for bran color; kernel length, width, L/W ratio and weight; amylose and ASV. (Amylose and ASV are being done at Beaumont, TX.) Wengui acknowledged additional support for sheath

blight evaluation of the core collection from Peter Bretting (USDA/ARS NPS). Presently, the mini-core is being evaluated for kernel smut by Steve Brooks (DB NRRC) and Yan/McClung plan to collect biomass, yield components, and yield potential data in 2009 at Stuttgart and Beaumont.

Yan reported that the core collection is being screened for cold tolerance at the seeding stage. Farman Jodari indicated the temperate japonica accessions in the mini-core collection could be screened for cold tolerance at Biggs, CA using the new refrigerated greenhouse. Farman is also interested in determining the fertility of the selected lines under high temperature. Another suggestion was to screen the core collection for cold tolerance using the markers for seedling stage and late vegetative stage tolerance developed/reported by Tom Tai and Virgillo Andaya, former Tai post-doc, to identify additional accessions for more extensive evaluation.

In previous years, occasionally there were end-of-the-year monies available to characterize germplasm for specific traits. Most likely there will not be monies this fiscal year (2009) but it is good to have a prioritized list of traits ready if monies become available. Suggested evaluations were sheath blight, blast, ratooning ability, biomass and tillering capacity.

The topic of plant exploration was brought up but there were no suggestions of persons interested in collecting accessions. Copies of the request forms will be sent to the committee members and any interested parties. Contact Georgia or any committee member to get the information if you are interested in obtaining new germplasm.

The motion was made by James Gibbons to include Wengui Yan as an ex-official member of the Rice CGC because of his responsibility for increasing, rejuvenating and maintaining the accessions in the rice germplasm collection. This was seconded by Xueyan Sha and all members supported the motion.

A summary of the current rice panicle mite (RPM) situation was given by Anna McClung in Steve Brooks absence. RPM is considered a noxious pest and was first found in the greenhouse at Alvin, TX in 2007. Subsequently, RPM was found in the greenhouses at Beaumont, TX; Crowley, LA; Ithaca, NY and Stuttgart, AR and the greenhouses were quarantined. RPM was also found in fields in Louisiana and Arkansas in 2007 but not in 2008. James Gibbons and Karen Moldenhauer treated their greenhouse with methyl bromide per APHIS protocol but subsequent testing of the greenhouses in 2008 found some to be positive for RPM. Also, after most all USDA-ARS greenhouses were cleaned and went through a 30-day plant free period, the greenhouses were re-infested with RPM. In February 2009, RPM was found in nine greenhouses at Davis, CA. Most all quarantined greenhouses have/are going through a 30-day plant free period to eliminate the RPM. Phil Mason, a new APHIS staff officer will have this as one of primary responsibilities. Many questions are still unanswered.

Appendix I. CGC members as of Feb 5, 2009 with year term ends in parentheses.

Dr. Georgia Eizenga, Chair (2012) USDA-ARS Dale Bumpers National Rice Research Center 2890 Hwy 130 E Stuttgart, AR 72160 Georgia.Eizenga@ars.usda.gov	Dr. Farmin Jodari (2014) Calif. Coop. Rice Res. Foundation P.O. Box 306 Biggs, CA 95917-0306 fjodari@crrf.org
Dr. Dwight Kanter (2010) MAFES Delta Branch Experiment Station P.O. Box 197 Stoneville, MS 38776 dgkanter@drec.msstate.edu	Dr. Jim Oard (2010) Louisiana State University M.B. Sturgis Hall Department Of Agronomy Baton Rouge, LA 70803 Joard@agcenter.lsu.edu
Dr. Billie Woodruff (2012) RiceTec, Inc. PO Box 17396 Jonesboro, AR 72403 bwoodruff@ricetec.com	Dr. M.O. Way (2010) Texas Ag Exp. Station 1509 Aggie Drive Beaumont, TX 77713 moway@aesrg.tamu.edu
Dr. James Correll (2012) Plant Pathology Dept. University of Arkansas Fayetteville, AR 72701 jcorrell@uark.edu	Dr. James Gibbons (2012) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 jgibbon@uark.edu
Dr. Karen Moldenhauer (2010) Rice Research and Extension Center University of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 kmolden@uark.edu	Dr. Xueyan Sha (2014) Rice Research Station LSU Ag Center 1373 Caffey Road Rayne, LA 70578 XSha@agcenter.lsu.edu
Dr. Harold Bockelman, Ex-officio USDA-ARS National Small Grains Collection 1691 S 2700 W Aberdeen, ID 83210 Harold.Bockelman@ars.usda.gov	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
Mr. Mark A. 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	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
Dr. Kay Simmons, Ex-officio USDA-ARS, NPS Nat. Prog. Leader, Plant Genetics & Grain Crops 5601 Sunnyside Avenue Beltsville, MD 20705-5139 Kay.Simmons@ars.usda.gov	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