

Rice Crop Germplasm Committee

The 25th meeting of the Rice Crop Germplasm Committee was held at 12:30 PM on June 14, 2005 at the University of Arkansas Division of Agriculture Rice Research and Extension Center, Stuttgart, AR. Members present were Karen Moldenhauer (Chair), James Correll, James Gibbons, Georgia Eizenga, Jim Oard, Dwight Kanter, Farmin Jodari, and Robert Fjellstrom. Ex-officio members present were Kay Simmons, and Neil Rutger. Other attendees included Wengui Yan, Fleet Lee, Ann Marie Thro, Christopher Deren, Billy Woodward, Anna McClung, Lorie Bernhardt, David Gealy, Donn Beighley, Scott Huber, Fernando Jose Re, Shannon Pinson, Donta Tabien, Jan Leach, Gordon Miller, Helen Miller, Arron Jackson, Clare Nelson, Jan Stephens, Yeshi Wamishe, Eduard Boza, Steve Linscomb, and Susan McCouch

Minutes of the 24rd meeting of the Rice Crop Germplasm Committee held on February 29, 2004 at the 30th Rice Technical Working Group Meeting, Rosedown Room, Double Tree Hotel, New Orleans, LA were approved as read. Jim Correll made the motion and Georgia Eizenga seconded to accept the minutes. Motion passed.

1. Crop Vulnerability Statement for Rice - Karen Moldenhauer, Rice Research and Extension Center, Stuttgart, AR. Copies of the Crop Vulnerability Statement were handed out. An up-to-date assessment of the degree of genetic uniformity of the "standing rice crop" in the United States was requested by the USDA National Plant Disease Recovery System for Homeland Security. This was prepared by the committee. Dr. Lee requested that seedling diseases be added to the list of high impact crop diseases, after bacterial panicle blight and before kernel smut in order of importance. He stated that seedling diseases limit early planting, often due to cold wet weather and they need to be considered because of the push to develop early season cultivars and their limited production. A motion was made by James Gibbons and seconded by Robert Fjellstrom to add the seedling diseases to the document. Motion passed.

2. Ventria Rice Grow out in North Carolina - Karen Moldenhauer handed out letters submitted to USDA/APHIS/Regulatory Analysis and Development Group from David Marshall, Research Leader, USDA/ARS/Plant Science Research Unit and Karen Moldenhauer Chair of Rice CGC in response to Docket No. 05-006-2 (Ventria Bioscience - GE rice). Concern that the Ventria grow out in North Carolina may be too close to the USDA/ARS rice quarantine grow out location. We as a group have worked hard to find a location, a cooperating group to grow out the back-log and future lines imported into the United States. Dave Marshall has done a fantastic job of handling the quarantine grow out with minimal support and the CGC commends him for his efforts. Steve Linscombe made the comment that he wants to express concern over the location of the Ventria Bioscience grow out, but if they have complied with all of the APHIS procedures and demonstrated safety and followed all of the recommendations then we should support them. We want the public to feel confident that when companies are following recommendations and regulations which are based on scientific data. Kay Simmons expressed concern that we need to be careful in our choice for the quarantine nursery and that it needs to be insulated from other rice so that cross contamination can be ruled out. Neil Rutger was concerned about the transport of *Bakanae* to North Carolina because the seed source for Ventria Bioscience has come from California. Jim Oard said they are following the guidelines established by law. Christopher Deren replied why did they not want to find a place to grow out the seed where there would not

be any risk. Jim Oard then stated that they have followed APHIS procedures, but that we would recommend a site farther away from the quarantine introduction site.

3. Status of the Rice Collection - Report submitted by Harold Bockelman and handed out to the attendees. He supplied a list of new PI numbers which have been assigned. There are 18,000 entries available in Aberdeen, ID but as many as 20,000 in the seed bank.

4. Rice Quarantine Grow Out North Carolina - Report submitted by David Marshall - 417 new accessions were released for production in Plymouth, NC. They have a two stage system for rice grow-outs. The first stage is growing newly introduced entries in the greenhouse in Raleigh, NC under quarantine procedures (hot water treatment - in vitro culture - transplanting) during the summer to early fall. This seed is then inspected and "officially released", thereby providing planting seed for direct drilling in the field in Plymouth the following spring. This process eliminated the bottleneck of transporting and transplanting to the field. David Marshall was also interested in knowing if there was any other information that he might be able to obtain from these lines while in the greenhouse. He would like the CGC to consider what markers etc might be good to get information on. It was suggested that he might sample leaf tissue for future DNA analysis. Kay Simmons said maybe the USDA/ARS could come up with added funding from emergency funds to help with this. Robert Fjellstrom suggested maybe he could come up with herbarium samples from the introductions. He said he would be glad to discuss preparing the samples with David Marshall. This is the only quarantine grow-out that we now officially have with USDA/ARS.

5. Genetic Stocks Report – Neil Rutger, Dale Bumpers National Rice Germplasm Center, Stuttgart, AR. Dr. Rutger passed out a handout on the Genetics Stocks - *Oryza* program (GSOR) which was established in August of 2003 at the DB NRRC. There are 19 entries in GSOR at present and a mapping population containing 355 lines included so far. Yulin Jia also added a lesion mimic mutant in December of 2004. A Cocodrie/MCR01 cross with 325 doubled haploid lines, by Qi Ren Chu of LSU will be the 2nd mapping population added to the GSOR upon manuscript approval. GSOR can be found at www.dbnrrc.ars.usda.gov/gsor/ on the Internet. Contributed seed will not be regenerated but stored and distributed as long as the original donation holds out. This web site is presently accessible through GRIN and perhaps it will be accessed through Gramene in the future. Also, the site is accessible through a Google search. Jim Oard asked if the RiceCAP populations could be put in the GSOR in the future. Except for Nipponbarre, the GSOR does not multiply seed sources for sending out at present. Jim suggested that the lines from the RiceCAP be considered for storage for a while in the future. Neil Rutger is not committing for perpetuating seed in the future only holding until seed runs out, not in perpetuity. There is a liaison committee for the GSOR which includes: Darrel Little, AR State Plant Board, Karen Moldenhauer, Fleet Lee, Harold Bockelman, Gary Pederson, Marty Sachs, Susan McCouch, Neil Rutger and Lorie Bernhardt. Neil also handed out the procedures for making donations to the GSOR which meet with Arkansas State Plant Board Quarantine procedures. It was suggested that a disclaimer be added when seed is sent out stating that all possible steps have been made to preclude disease.

6. Rejuvenation of the World Collection held at Aberdeen, ID. - Wengui Yan. There are 8,132 rice germplasm lines stored in the NSGC which have been there for 20 years or longer and need

to be rejuvenated. Many of these lines will no longer emerge when planted and require embryo rescue. Dr. Yan asked the question: Do we want to have these lines grown out so that they can be maintained in the world collection? If so he needs funds to do this. He can grow out 1,100 lines/year that need to be rejuvenated. Karen stated important to rejuvenate the 8,132 lines. Dr. Oard asked the frequency of requests for this germplasm. Over 60% had low emergence and this is of great concern. Discussion on whether this seed should be drill seeded or planted in greenhouse ensued- What is the nature of these lines? Breeding lines, indigenous materials? G. Eizenga made a motion to prioritize accessions and the support the necessary means to rejuvenate these 8132 lines. James Gibbons seconded the motion. Motion passed. Neil, Harold and Yan will prioritize. Dr. Yan may need more land at RREC and would appreciate suggestions on rejuvenation methods. Ft. Collins is emergency backup if seed is lost. ARS feels strongly about conservation of genetic resources. There is \$250,000 in the budget going through Washington for Stuttgart for genetic stocks. Hope it passes. Milling yield, sheath blight evaluations have been done, additional diseases and grain quality characterization of germplasm needs to be completed. Currently, 1400 new germplasm entries are waiting for a descriptive score for grain quality and disease. This is done by "begging" scientists to do it. Bockleman has money for wheat , but not rice.

7. Core Collection - Wengui Yan. Have done little to comprehensively understand collection, but with core have begun detailed work. Drs. McClung, Lee, Yan, Tai, Bernhardt with own funds and resources have begun work on quality, disease, cold tolerance, and insects with much effort. Discussion about number of markers for characterization of core. Dr. McCouch suggested could coordinate with the Generation Challenge Program (that involves the CG Centers, including IRRI). It would be good to use same 50 markers that they are using. The list of markers is on the web site. (This list was later given to Melissa Jia, DB NRRC Core Facility) If there is real substructure, 50 markers should be enough to see it. Motion by G. Eizenga to encourage Dr. Yan to use the 50 markers from the Generation Challenge Program for the Core Collection and obtain the 5 controls from IRRI. Second by Dr. Oard. Voted and passed.

Dr. Eizenga asked that if scientists had wild species in the US but were not yet in the Germplasm Bank to please get them to Dr. Bockleman.

Motion to adjourn at 2:45 PM.

Minutes submitted by James Gibbons and Karen Moldenhauer

Appendix I. CGC members as of Feb 29, 2004 with year term ends in parentheses.

| | |
|--|--|
| <p>Dr. Karen Moldenhauer, Chair (2010) Rice Research and Extension Center University Of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 kmolden@uark.edu rrec kmolden@futura.net</p> | <p>Dr. Farmin Jodari (2008) Rice Experiment Station P.O. Box 306 Biggs, CA 95917 fjodari@crrf.org</p> |
| <p>Dr. Dwight Kanter (2010) MAFES Delta Branch Experiment Station P.O. Box 197 Stoneville, MS 38776 dgkanter@DREC.MSSTATE.EDU</p> | <p>Dr. Jim Oard (2010) Louisiana State University M.B. Sturgis Hall Department Of Agronomy Baton Rouge, LA 70803 joard@agctr.lsu.edu</p> |
| <p>Dr. Fangming Xie (2006) RiceTec, Inc. PO Box 1305 Alvin, TX 77512 fxie@ricetec.com</p> | <p>Dr. Mo Way (2010) Texas Ag Exp. Stat. 1509 Aggie Drive Beaumont, TX 77713 moway@aesrg.tamu.edu</p> |
| <p>Dr. James Correll (2006) Plant Pathology Dept. University of Arkansas Fayetteville, AR 72701 jcorrell@comp.uark.edu</p> | <p>Dr. James Gibbons (2006) Rice Research and Extension Center University Of Arkansas 2900 Hwy 130 E Stuttgart, AR 72160 jgibbon@uark.edu</p> |
| <p>Dr. Georgia Eizenga (2006) Dale Bumpers National Rice Research Center PO Box 1090; 2890 Hwy 130 E Stuttgart, AR 72160 geizenga@spa.ars.usda.gov</p> | <p>Dr. Robert Fjellstrom (2008) USDA-ARS 1509 Aggie Drive Beaumont, TX 77713 r_fjellstrom@tamu.edu</p> |
| <p>Dr. Harold Bockelman, Ex-officio Ex-Officio USDA, ARS, PWA, NSGC PO Box 307 Aberdeen, ID 83210 nsgchb@sun.ars-grin.gov</p> | <p>David S. Marshall, Ex-Officio USDA, ARS, Plt Sci Res Unit 1419 Gardner Hall North Carolina State University Box 7616 Raleigh, NC 27695 david_marshall@ncsu.edu</p> |
| <p>Dr. Allan K. Stoner, Ex-officio Research Leader/CGC Coordinator USDA, ARS, BA, NGRL Bldg. 001, Room 127 BARC-WEST Beltsville, MD 20705 ngrlas@sun.ars-grin.gov</p> | <p>Dr. J. Neil Rutger, Ex-officio USDA, ARS, SPA Dale Bumpers National Rice Research Center PO Box 1090 Stuttgart, AR 72160 jnrtger@spa.ars.usda.gov</p> |
| <p>Dr. Kay Simmons, Ex-officio Grain Crops National Program Leader USDA, ARS, NPS, PS 5601 Sunnyside Avenue Beltsville, MD 20705 kws@ars.usda.gov</p> | <p>Mr. Mark A. Bohning, Ex-officio CGC Facilitator USDA, ARS, BA, NGRL Bldg. 003, 4th Floor Beltsville, MD 20705 dbmumb@sun.ars-grin.gov</p> |