**Minutes**

**2016 Sugarcane Crop Germplasm Committee Meeting**

**St. Pete Beach, FL**

**13 June 2016**

In attendance:

Jeff Hoy

Mike Irey

Sarif Islam

Dexter Fontenot

Andy Scott

Ken Gravois

Anna Hale

David Kuhn (via phone)

Dimitre Mollov

Jack Comstock

Martha Malapi-Wight

Hardev Sandhu

Herman Waguespack

Chris Laborde

Niranjan Baisakh

James Todd

Mike Grisham

Yong-Bao Pan

Charley Richard

Michael Pontiff

Collins Kimbeng

Jim Shine

Wayne Davidson

Ben LeGendre

Claudia Kaye

Per motioned, Jim seconded, motion carried to approve 2015 minutes

**Dimitre Mollov**: **Report of National Germplasm Resources Laboratory**. Three units at the laboratory (Plant Exploration, Plant Disease Research Unit (25% sugarcane, highest of all commodities), IT Unit (including GRIN Global). Per and Anna reported dissatisfaction with the search capabilities of the new GRIN system. Dimitre will pass along these concerns.

**David Kuhn, USDA-ARS Subtropical Horticulture Research Station: Status of USDA-ARS/SHRS World Sugarcane Collection.**  Current collection has ~1400 total accessions of sugarcane and related species. Only accessible world collection. Collection occupies ~10 acres, replanted every 3 years. Last replanted May 2014. Used to have a dedicated sugarcane technician, position has been vacant for a number of years. Personnel request submitted April 2016. GRIN Global has been purged of dead or restricted material, updated to reflect new acquisitions. Since 2012, staff has been greatly reduced. GRIN technician position finally filled (effective 26 June 2016). Tractor operator position has been sent to area office. None of these positions are sugarcane-specific. Since 2011, SHRS has had 9 interim research leaders, still have not advertised for a permanent RL. Result = chaos. Necessary staff include full-time dedicated sugarcane field technician, tractor driver, and temporary crew to fill in for two disabled field hands*. S. spontaneum* accessions number 450 (35% of accessions). Collection repotted 2013. Constant maintenance required to trim flowers. On-site backup collection in full-sun nursery and greenhouse. Additional backup at National Center for Genetic Resources in Ft. Collins, CO. 170 clones in tissue culture, 69 clones in cryopreservation (stopped shipment in July 2015 due to short-handedness at Ft. Collins). Dr. Comstock requested that clones in Beltsville that go through tissue culture be sent to Ft. Collins as well; Martha indicated they would be willing to send clones. Collins asked if clones had been regenerated from tissue culture. David referred him to Tomas. Attrition in the collection: Some clones are lost to cold weather and hurricanes. Many have been replaced. Last shipment (to Miami) had >90% germination. Both David and Tomas have visited collection in Coimbatore, and requested 125 clones in 2013. No response, not likely to get anything out of India. Indian government considers these accessions to be Indian property, which requires an act of legislation to release. Charley questioned why ISSCT still considers Coimbatore a world collection. Mike remarked that removing Coimbatore from the list of world collections would strengthen the position of the USDA collection. Dr. Comstock suggested speaking with Philippe Rott and Rob Gilbert to make this request. Charley motioned, Andy seconded that the CGC write a letter to ISSCT requesting that Coimbatore be removed from the list of functional world germplasm collections because it is not accessible nor functioning as intended. Charley motioned, Andy seconded amendment to original motion to have ASSCT and/or the CGC write the letter, and to include a request/recommendation for an additional site for the world collection. Motion (as amended) carried. Collection screened in 2013 for SCYLV, for orange rust in 2012. Negative for both diseases, which, according to Dr. Comstock, is due to a lack of disease pressure in Miami. Large numbers of accessions distributed throughout the US, and to foreign countries. Most recently, *Miscanthus* has been frequently requested. Ongoing work includes exchanges with Ecuador/Colombia, possible acquisition of germplasm from Puerto Rico.

**Dr. Martha Malapi-Wight, USDA-APHIS/PGQP: Sugarcane Importation and Quarantine Activities.** Joined APHIS six months ago, background in plant pathology. Presented Annual Report. Currently 94 clones in quarantine, 31 entered 2015-present. To date, 50% of current clones tested positive for ScYLV when entered into the program. Pathogen/virus-infected clones go through apical meristem tissue culture. Mother plants are kept throughout the quarantine process. Working with Dimitre Mollov to use next-generation sequencing (NGS) to detect viral pathogens. Additional virus detected (bacilliform virus) that is not currently targeted by PGQP in lab-based tests. About 20 clones being prepped for release in fall 2016. Martha is working to implement NGS as part of the regular screening process. Library prep is cheaper in-house, looking to purchase sequencing machine, hire molecular biologist (permanent position) and bioinformaticist. US Sugar’s importation of fuzz was successful (fuzz requested, passed through 3-month quarantine). Michael Mulligan, Joe Foster, Renee deVries were Chris Laborde’s contacts. Latest permit took approximately 5 months from request of permit to receiving fuzz. Jack commented that the high level of ScYLV infection in quarantine suggests a high level of infection worldwide/thanks to the PGQP for implementing testing/cleanup protocols.

**Niranjan Baisakh: report of CGC-funded research (Diversity, Bru1 analysis of accessions in world Collection).** 46 SSRs used to fingerprint 1482 accessions (targeting 10 basic chromosomes), including some accessions not present in Miami. Working on developing 300-clone diversity panel, importing (from Miami) to augment diversity present in Louisiana. Also screened ~1200 accessions for Bru1. 22% positive for Bru1. Some recombination noted, mostly in *spontaneum*.

**Dimitre Mollov: Sugarcane Virus work.** After 25 months, finally hired a technician. Currently working with Papua New Guinea, SRA (Australia) on a project to identify Ramu virus. Virus currently only in PNG, but vector is present in Australia. ScYLV occupies the majority of his time. Tissue culture is proving very effective at eliminating ScYLV, even when testing by NGS, which he considers the most sensitive. Currently preparing for production of polyclonal antibodies (for both ScYLV and mosaic). Mosaic viruses (sorghum/sugarcane) are ‘a mess’ with regard to the utility of current screening primers. Currently trying to sequence as many isolates as possible. Have received material from Colombia, Ecuador, CIRAD (source of multiple international isolates), South Africa, expecting material from Australia, elsewhere. Initial NGS data suggests a new Tombusviridae virus from South Africa. Initiating a collaboration with CIRAD for sequencing sugarcane mild mosaic virus. Antibodies from synthetic peptides are looking promising, are much easier to develop than traditional antibodies. Jeff Hoy commented on the status of yellow canopy syndrome. Current data suggests it may be a stress-induced virus.

**Chris Laborde: Fuzz importation.** 10% bleach solution appears not to have infected germination. Excess seedlings from germination were de-vitalized. Not written down anywhere, but each permitee is allowed 50,000 seed (viable, based on germination test) per year, 25,000 per permit. Fuzz can be stored in a quarantine freezer before sowing in quarantine greenhouse.

Mike G. motioned, Jack seconded motion to include James Todd on CGC committee. Motion carried.

Charlie asked when funding requests will come out. Anna thought they would be issued in March.

Ken motioned, Jim Shine seconded motion to adjourn. Motion carried.

Submitted,

Per McCord, Sugarcane CGC Secretary