**Sugarcane Crop Germplasm Committee**

**Minutes of the Meeting held at the Wyndham BayPoint Resort, Panama City Beach, Florida**

**June 12, 2013**

**Attendants (arranged alphabetically):**

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| --- | --- | --- |
| Amador, Jose | Graugnard, David | McCord, Per |
| Baisakh, Niranjan | Grisham, Mike | Pan, Yong-Bao |
| Brumbly, Stevens | Hale, Anna | Parco, Arnold |
| Burner, Dave | Hernandez, Eddie | Perdomo, Raul |
| Chandra, Amaresh | Hoy, Jeff | Pontif, Michael |
| Chris, LaBorde | Irey, Mike | Richard, Charley |
| Comstock, Jack | Jackson, Windell | Scott, Andy |
| Davidson, Wayne | Keizerweerd, Amber | Todd, James |
| Flynn, Jeff | Kimbeng, Collins | Waguespack, Herman |
| Fontenot, Dexter | Legendre, Benjamin |  |

**Listening in by Teleconference:**

Tomas Ayala-Silva

Peter Bretting

Gary Kinard

Clarissa Maroon-Lango

Ruhui Li

Introductions, passed out sign in sheet

NPL Report - Peter Bretting:

* Highlight budget on page 2, have had recessions and sequestration which has cut funding by 7%. Looking ahead to FY2014, President's budget would increase funding 2% above 2012 which would restore cuts. For his group, would be an increase of $581K. House mark-up has 5.6% budget over 2013.
* Crop vulnerability statements:
	+ Until now, CGC crops have used their own formats for crop vulnerability statements.
	+ Now want a standard template so that they can compare and contrast across various CGCs (with Gail Volk).
	+ Proposed that the sugarcane one (from 1996) be updated and reviewed annually as part of CGC.
	+ Would serve as a way for the crop curators to communicate to the CGC the needs of the crop.
	+ Want up-to-date assessments for all crops on web. If additional information is needed, CGC can append to it with as many appendices as needed.

Introductions of New Breeders – Mike Grisham and Jack Comstock

* Houma: Dave Burner (former basic breeder in Houma, LA)
* Canal Point: Per McCord (post doc in alfalfa, from NC state; PhD in potato breeding)

Minutes from the 2012 meeting:

* Jack had a correction about the scientist working on rust in South Africa. She went to work in Beltsville, not Canal Point.
* Also, poty virus was misspelled on one page.
* Motion to approve by Mike Irey, seconded by Wayne Davidson. Approved.

Report on Sugarcane Quarantine and Related Research Activity at Beltsville – Clarissa Maroon-Lango (via phone).

* Major reorganization. Now in a different group (Field Operations).
* 127 clones in quarantine
* 25 clones have finished second round and are ready for release
* 46 have finished first round
* 5 more are in tissue culture due to infection (mostly from Pakistan).
* Have added real-time PCR for leaf scald (Hoy Lab), and this is working well.
* Have been trying to establish white leaf in tissue culture in order to maintain culture for positive controls. She should know in a week if it is successful.
* Since June of last year, they have transferred 103 clones to Tomas Ayala-Silva for Canal Point, the world collection, and a private collection.
* Have received requests and will need help from the CGC to prioritize requests (Brumbly, DaSilva, etc).
* Investing in robotics instead of hiring people. A liquid handling robot has been purchased and is in use.
* Working with Dr. David Ellis to develop a protocol for establishing a method to cryopreserve sugarcane. Since Dr. Ellis has left USDA, Dr. Maria Jenderek is taking his place and continuing work for cryopreservation. 34 clones have been sent to Dr. Jenderek at this time.
* Question from Dr. Hoy about seed transmissibility. Clarissa’s movement forward will depend on the discussion today.

Discussion of Genotype Database work for Louisiana and Florida Breeding Programs – Jeffrey Hoy

* Jeff Flynn- there is an opportunity for collaboration. Florida has released 13 new varieties and Kleentek is feeling overwhelmed making sure that what they expand is correct.
* Niranjan Baisakh has expressed an interest in developing a database. There is not one currently available but there is a fingerprinting database for Louisiana varieties.
* Jeff Hoy asked what would be included in the database. It seems like the main emphasis would be for variety ID. Released varieties would be the primary target.
* Mike Grisham pointed out that somebody would have to assume the role of owner of the technique, validation, etc. This would turn it into a service role, which is not the mission of ARS.
* Collins Kimbeng suggested getting a student from LSU to do the initial setup. Once it is set up, it must be maintained, and there will be costs involved.
* Jack Comstock says that when varieties are released there is fingerprint information included. He also reiterated Mike Grisham’s concerns that this is service-type work and it is a problem. There is also time and money involved.
* With appropriate support, Niranjan Baisakh could dedicate a technician to the project.
* Charley Richard suggested moving forward and not going backward.
* Yong-Bao Pan said a database for Louisiana varieties already exists. We will come back to this.

National Germplasm Research Laboratory (NGRL) Report – Gary Kinard

* 2013 report to PGOC, RTACs and CGCs.
* Struggling since the death of Mark Bohning.
* Please use Gary as a main contact for now
* Re-emphasized the importance of the vulnerability document.
* Ray Mock retired in January 2012 and NGRL is now moving forward to refill the position. Applications are currently under review. They are looking for a good obligate pathogen pathologist (but not specifically a sugarcane pathologist).
* GRIN global will be implemented by the end of the fiscal year. The staff is very busy getting up to speed. It will be an all-or-nothing change.

Sugarcane Bacilliform Virus – Ruhui Li

* They have seedling fuzz, and all was positive, which basically indicates the virus is integrated into the genome.
* Ruhui produced an expressed coat protein and will produce an antibody to trap particles to see if particles are present.
* They are also looking at a Southern blot approach to see if the SCBV is integrated or if there are particles.
* A multiplex PCR for general testing instead of doing individual tests is also being developed.
* Question: if SCBV is found, what will be done since it cannot be eliminated via tissue culture?
* Question: does SCBV cause disease? Jeff Flynn said Colombia has shown that SCBV causes disease.
* Questions on the sensitivity of multiplex testing for regulatory purposes.

Report on the Status of the World Collection – Tomas Ayala-Silva

* In March started a new 5-year project plan. Emphasis will be placed on adding *Miscanthus* to the project.
* 80 clones have been added to the sugarcane collection.
* Replanted entire collection last year.
* There are open positions in the unit. They have gone from nine to three people.
* Working with Fort Collins to get difficult to establish clones in cryopreservation.
* India request still pending.
* In cooperation with Canal Point, have screened entire collection for YLS. All were negative.
* Have also screened for brown and orange rust.
* Gave a breakdown of collection and distributions. Handout.
* Project: looked at sponts that were stored at Ft. Collins. Got 90 accessions and 50+ families. Did some characterization of the accessions and families. Looked at basic phenotype, disease ratings, sugar content, etc. About 20 seedlings from the fuzz at Fort Collins show promise as energy canes. Generally disease resistant.

New Topics:

* Stevens Brumbly is now at the University of North Texas.
	+ He is still working on bioplastics in sugarcane, and has successfully produced cane with leaves having up to 10% of their leaf weight in bioplastic.
	+ Has a multi-million dollar grant to develop a phenotyping system that is automated to some degree. It will use sophisticated imaging (light, NIR, etc).
	+ He will be importing varieties from Australia.
	+ Wants to get more involved with ASSCT.
	+ Wants to make some crosses with Australia varieties
	+ The current high plastic producing varieties are 10% less TCA. Promoters express in leaves and should not be in the sugar.
* Clarissa Maroon-Lango
	+ Current regulations that are in the works say that anything that has a noxious weed in its background cannot be crossed without a permit and the progeny will be considered noxious weeds. This describes sugarcane.
	+ Sugarcane is being used as an example of an exception.
	+ Anna Hale had a question because her permit allows hybrids of sponts to be planted.
	+ Clarissa Maroon-Lango wants a copy of Anna’s permit to use as an example.
	+ Clarissa Maroon-Lango said that sugarcane will not be written into the regulations because people in other crops would pitch a fit.

Update on 2011 Funded Project: Establishing the Likelihood of Seed Transmission of Sugarcane Pathogens – Jack Comstock, Jeff Hoy, Mike Grisham, Clarissa Maroon-Lango, and Anna L. Hale

* Mike Grisham explained that finding seed from infected parents was difficult.
* Jeff Hoy has three crosses from SCMV-infected plants. Seventy-five seedlings from one of the crosses were tested, and all were negative for SCMV.
* Infected plants don't often flower.
* A seed lot from Guatemala was obtained. Clarissa has seed from 3 crosses, but germination was low. They should have a germination rate that will give 500 seedlings, but are waiting to clear the greenhouses before planting.
* Have not heard back from Nils Berding about streak infected sources.
* Jack Comstock said that they have looked at YLS transmission, but cannot guarantee that the greenhouse was free of aphids. They did get some positives, but cannot rule out aphid transmission.
* Jack Comstock pointed out that the real issue is foreign exotic diseases.
* Jack Comstock also pointed out that infected plants don't often flower, and that proving a negative hard.
* Jeff Hoy said that they stalled out on efforts for leaf scald because the infected plants did not flower. He also re-iterated that risk is low.
* Jack Comstock and Jeff Hoy said that protocols could possibly be devised that would further minimize the risk of importing pathogens with fuzz.
* Other countries are not that concerned and they import fuzz.
* Jeff Hoy suggested that maybe visual surveys could be done.
* We are not after deregulation of fuzz but instead want a change in the permit conditions. There was a suggestion that we should propose a scheme that involves multiple visual inspections and isolation distances.
* A committee will be formed to formulate proposed guidelines (use current group and add Irey, Wendell, Andy Scott, etc).

Survey Regarding the Importation of Fuzz from Foreign Countries – What next? – Clarissa Maroon-Lango, Jack Comstock, Jeff Hoy, and Mike Grisham

* Survey of countries that import fuzz-completed
* Clarissa again emphasized prioritization of clones (40 from India, many from Brazil for Jorge). She asked, “What is the priority? Is it repository, commercial, etc.?” She won’t turn down stuff from India. Clarissa needs a list by July 15 to prioritize. Please send the list to Clarissa and then she will get with the CGC.

Back to genotype database:

* Florida has nobody to do the work.
* Yong-Bao Pan and Niranjan Baisakh have both done some of the work. Should we standardize?
* Question: We don’t want to take away from existing projects. Could we talk to Dr. Singh (sp?) at the disease testing lab?
* Dr. Hoy will talk to Dr. Singh.
* David Burner said that we should check into some private labs.
* It was proposed that Niranjan Baisakh and Yong-Bao Pan work together.
* Mike Irey volunteered to look for a commercial lab to do some fingerprinting.
* Windell will get the Louisiana group together and then bring it forward.

Nomination of Committee Members and Officers:

* Andy Scott added to the committee.
* Per McCord added to the committee.
* Stevens Brumbly added to the committee.
* Hardev Sandhu added to the committee.
* David Burner added to the committee.