

NRSP-6 TAC 2012 MINUTES

NRSP6 TAC meeting hosted by Texas A&M University, College Station, TX
April 17-18, 2012

Creighton Miller, Chair, NRSP-6 TAC '12
David Holm, Vice-Chair, NRSP-6 TAC '12
Walter De Jong, Acting Secretary, NRSP-6 TAC '12

The meeting was called to order by Chair Miller at 8:30 a.m.

ATTENDANCE

Present: Richard L. Lindroth, John Bamberg, Walter De Jong, Michelle Krucker, David Holm, Creighton Miller, Sarah Turner, Charles Brown, Craig Nessler, Jeff Koym and Douglas Scheuring.

On Conference Call: Peter Bretting, Benoit Bizimungu, David Spooner, Larry Chandler, Shelley Jansky, Gail Wisler

The meeting started with a welcome by Dr. Mark Hussey, Dean of the College of Agriculture and Life Sciences at TAMU. Hussey provided an overview of the college:

- It serves 7000 students, largest CALS in the nation
- Unlike most other CALS nationwide, which have been experiencing severe cuts, budget at TAMU has been fairly stable. Took a 12-15% cut last year, but expect level funding going forward

BUSINESS

Preliminaries

1. **There were no announcements**
2. **Minutes of the 2011 meeting were circulated, and approved unanimously.**
3. **There were no additions to agenda**
4. **Chair appointed Resolutions Committee: Brown and Nessler**
5. **Lead AA:**

Rick Lindroth, the Lead AA and Associate Dean of CALS at UW-Madison, summarized recent changes at UW and impact they would have on the potato genebank:

- a) There is a new Dean of CALS in Madison (Kathryn VandenBosch). She has initiated development of a new strategic plan for the college, to be completed before any restructuring occurs. Last year, CALS took a 17% budget cut. 28 (out

of 250) faculty in the college retired last year. Expect to be able to replace only four of the 28 in 2012.

- b) When restructuring occurs, Peninsular Ag Research Station might close. Closing is not a given, but is one of multiple budget-cutting measures that will be considered.
- c) At present, USDA-ARS is not prepared to transition genebank funding away from off-the-top hatch funding (i.e. NRSP-6)
- d) NRSP steering committee understands that potato genebank funding is unique (compared to other genebanks). It would like potato genebank to continue to make good-faith attempts to secure industry funding, as it has been doing the past few years. At this opportune moment - Michelle Krucker, a representative from Simplot – publicly announced that Simplot will donate 20K per year to the potato genebank.

Miller asked: if Peninsular Research Station closes, what would USDA-ARS do?

Larry Chandler response: USDA would work with UW to find a home for the potato genebank, wherever that might be. Bamberg added that all potato genebank employees are currently paid by USDA; UW no longer pays salary for any.

Craig Nessler noted that he served on the NRSP steering committee several years ago. Back then, there was concern about whether there was any industry buy-in for NRSP-6. The NRSP committee is unlikely to provide long-term funding for any NRSP without industry backing. That said – Nessler’s view is that the potato genebank should be funded by the federal government, as a matter of national food security. The next time NRSP-6 goes up for renewal, Nessler recommends that a few industry letters be included with the documentation.

6. Other regional AAs

None present.

7. Regional and ARS Technical Reports

Reports from David Holm, Creighton Miller, David Douches and Walter De Jong summarized usage of NRSP-6 germplasm for Western, Southern, Central and Northeastern regions, respectively, in 2011.

Local host Miller gave a powerpoint presentation overview of his breeding program. Texas has a large temperature gradient (north to south) and rainfall gradient (west to east), so the environment across the state is not uniform. From his base in College Station, it is 350 miles to his Weslaco trial site, 400 miles to Springlake, and 700 miles to Dalhart. Bottom line: lots of driving. He has an annual field day; about 50 people attend each year. Has recently been screening clones (~600) for tolerance to Zebra Chip symptoms.

Sarah Turner, graduate student of Miller, gave a short presentation on her MS research titled Effects of Bioactive Compounds From Different Potato Genotypes on Prostate Cancer Development in Athymic Nude Mice.

De Jong noted that demand for potato germplasm that had been well-characterized with genetic markers, e.g., the SolCAP germplasm panel, was expected to increase with time, as such populations permit investigators to map traits of interest to them without having to do any genotyping themselves. De Jong moved that potato genebank maintain approximately 250 genotyped potato clones (~ SolCAP germplasm panel) as a long-term resource for the breeding/genetics community. Motion passed unanimously.

Charles Brown distributed a report summarizing usage by USDA scientists. He has been working to develop high carotenoid tetraploid potatoes, using markers to identify clones with desired (recessive) zeaxanthin epoxidase allele. He now has 60 clones homozygous for this allele; they are high in zeaxanthin, and fry to a golden color without added sugar. Chuck is also looking for Solanum species that can serve as trap crops for potato cyst nematodes. Shelley Jansky has been looking for new PVY resistance genes. Found PVY resistance more prevalent in low-altitude species - perhaps aphids don't reach high altitudes, so resistance not needed? Shelley has also published some work on breaking dormancy in seed, has released some germplasm with an "M" designation for Madison, e.g. M7, a long russet that arose from bilateral sexual polyploidization, and M6, a chacoense line that has been selfed seven times, and is 90% homozygous for SolCAP SNPs.

8. AAFC Report

Benoit Bizimungu reported that AAFC will be restructuring, with the research branch merging with a yet-to-be-defined entity effective on July 1. The A-base funding that supports potato breeding was renewed last year and will continue for several more years regardless. Focus of current project is disease resistance/pesticide reduction. Using pinnatisectum/chacoense/other species to achieve this. Released four new varieties last year, all have NRSP-6 germplasm in them.

9. Industry perspective

Michele Krucker: Simplot is on track to commercialize several intragenic varieties, with reduced bruise, reduced acrylamide, and reduced cold sweetening.

10. NRSP-6 Annual Report

John Bamberg distributed a written report, and highlighted the following:

- a) Acquisition. He collected at new and old sites within USA last year. Old sites were known, based on molecular marker analyses, to be hot beds of diversity. Genebank also imported new clones from Spain, Columbia, Canada, and Peru.
- b) Preservation and Evaluation. Conducted many germination tests, and increased about 200 seed populations (routine activities at genebank). Wisconsin updated the greenhouses, which allows for better control of environment, and fruit set has improved as a result. Has been working with Aymeric Goyer to screen germplasm for folate levels: some bolivense accessions are good sources. Study of tuber greening under light in microdontum has shown the trait to be highly heritable. A study of allergenicity in potato was recently initiated.
- c) Classification. David Spooner reported that section Petota had 230 species when he began working 25 years ago; he has suggested, through a series of monographs, that the number should actually be reduced, to about 100 species. Spooner has also been testing value of taxonomy to predict disease resistance, using soft-rot as a test case.
- d) Distribution. The genebank distributed 6977 units of germplasm in 2011, spread across 197 domestic and 20 foreign requests. About half were for breeding/genetics, a quarter were for pathology, and a quarter for home gardeners.
- e) Staff reductions. Have lost ½ a position due to cuts.

Discussion of Tuber Distribution Policy. The genebank has been distributing tubers for the past several years. In the distant past, they did not, for fear of spreading disease. Should tuber distribution continue? Consensus of those present: yes, but make clear to recipients how tubers were produced. Formalize procedures for producing the tubers. Include a disclaimer with tubers sent out. Larry Chandler asked that a draft of the proposed policy be sent to National Program Staff for review.

Discussion of tuber import/discard policy. The technical committee has previously given Bamberg discretion to discard, or import any germplasm he deems appropriate. Would we like this to continue? Consensus: yes, but genebank should send out an email before discarding anything, giving users one year to request material before it disappears.

11. Collecting and taxonomy

David Spooner published “Taxonomy of Cultivated Potatoes” in 2011, which renames many cultivated potato species.

12. USDA/ARS administration

Peter Bretting: USDA budget was reduced 3.3% in FY2012, which led to some closures, especially in Alaska. Specific Cooperative Agreements were cut as a result, too. FY2013 budget – outlook unclear.

Gail Wisler: National Potato Council time-zone grant budget was cut about 30% this year.

13. APHIS/Quarantine report

Jorge Abad's written report was distributed.

14. Resolutions:

Resolutions were made thanking host JC Miller for excellent accommodations for the meeting, and for completing 25 years of service as the Southern Region Technical Representative for NRSP6.

15. Elect new officers and set next meeting location

Officers

Chair: David Holm

Vice-Chair: David Douches

Secretary: Charles Brown

Next Meeting Venue (2013, date to be determined) = Sturgeon Bay

Respectfully Submitted,

Walter De Jong