

Minutes: NCCC84 meeting December 10-11, 2012

Felix Navarro (WI), Chair; Dennis Halterman (WI), vice-chair; David Douches (MI), secretary

Monday December 10, 2012

Welcome and Announcements

Felix Navarro called the meeting to order at 1:10 pm and welcomed everyone to our new venue. Felix distributed the agenda and discussed the organization of the meeting (Z to A format for research discussions). Everyone introduced themselves. An attendance list was distributed for corrections and additions.

Shelley Jansky made an announcement that the UW-Madison Dept. of Horticulture is hiring a Breeder of Asexually Propagated Crops (mostly potato). January 15th closing date.

Additions or corrections to agenda or minutes

No additions to the agenda were made. No additions or corrections to the last year's minutes were made. Minutes were approved.

Comments from administrative advisor (Ken Grafton)

Ken approved holding the meeting. Ken is currently out of the country, so he was not present at the meeting. He communicated to Felix that there were no pressing matters to discuss.

NCCC84 renewal status (Shelley Jansky)

The 5-year project was renewed and our new name is NCCC215. The next renewal is due Sept 20th 2017. No major changes were made to the new objectives in the 5-year plan.

NRSP6 Update

Neither John Bamberg nor David Douches were present. Alfonso Del-Rio and Joe Coombs shared that there were no updates to report.

Breeding and Genetics Research reports: (were delayed momentarily due to power outlet and projector issues)

Wisconsin:

Jiwan Palta's group:

Kyle Rak – Genotype x Storage Environment Interaction and Stability for Potato Chip Color. Presented results that show that some WI breeding lines have stable chip color regardless of storage conditions used. Potatoes that have Type I stability in different storage conditions are the ones that should be targeted for selection.

Cynthia Zorrilla – Mapping QTL for Calcium and Tuber Quality in a Tetraploid Population. Presented results of SNP mapping in a population derived from a cross between Atlantic and Superior.

Justin Schabow - Evaluation of Calcium Uptake. Presented in progress research using the same Atlantic x Superior population with respect to calcium uptake.

Shelley Jansky's group:

Shelley Jansky – Provided an update on several research projects including: Diploid Breeding – she has found diploid hybrids with yields that are not significantly different than some tetraploid cultivars; Reciprocal Breeding – showed results of significantly different yield of some families when using the wild species as the female versus male parent; Overcoming Tuber Dormancy – 10 ppm treatment with GA of cut tubers appears to work best for most cultivars tested; Breeding for Scab Resistance – working on crossing resistant wild species hybrids with cultivars; National Verticillium Wilt Trial – presented results of the 2012 trial. Summaries of these projects were distributed to the attendees.

Sarah Braun – Breeding for Scab Resistance – presented results of SNP genotyping a diploid population from a cross between USW-4 (cultivar haploid) by *S. chacoense* clone 524-8 (homozygous).

Dennis Halterman's group:

Dennis Halterman – Discussed a project on cloning candidate *Ry* genes from *S. chacoense*.

Yu Chen – Provided an update on understanding the molecular basis of late blight resistance conferred by the RB gene. She is using diversity within RB sequences from wild potato species to identify hybrid RB proteins that confer resistance to a wider variety of *Phytophthora infestans* effectors and to identify critical parts of the RB protein that allow recognition of *P. infestans*.

Austin Meier – Discussed breeding work to combine late blight and early blight resistance into single clones. Identified three clones that have both resistances and is working to release them soon.

Amanda Gevens's group:

Amilcar Sanchez-Perez – presented results of oospore development with crosses between different mating types of *P. infestans* isolated from Wisconsin.

Amanda Gevens – gave an overview of the work this is ongoing in her laboratory, which includes work on pathogen diversity studies with *P. infestans* and *Streptomyces scabies* (common scab).

Paul Bethke's group:

Curtis Frederick – is a new student in Paul's lab who introduced himself and described his new project working on acrylamide reduction.

John Bamberg's group:

Alfonso Del Rio – presented a summary of their collection and research of potato (*fendleri* and *jamesii*) from the Southwest US. Frost tolerant selections evaluated in the Peruvian Altiplano.

North Dakota

Susie Thompson – deferred her presentation until Tuesday.

Nebraska

Alex Pavlista – deferred discussion of his germplasm until Tuesday. He gave a brief overview of his research on dryland production of potatoes. Dryland wheat and corn growers are looking for rotation crop possibilities.

Minnesota

Christian Thill – gave an overview of the research being done by two graduate students in his lab.

Michigan

David Douches's group:

Matt Zalke – Mapping of scab resistance in a population between Tundra and Kalkaska. Discussed the identification of QTL associated with scab resistance in this population.

Nathan Butler – Genome Editing in Potato Using TALEN Effectors. Introduced a new project to use TALENs to modify genomic DNA in planta.

Bishwo Ashikari - Genome-based Prediction of Antimicrobial Peptides from Potato and Assessment of Their Role in Disease Resistance. Bishwo discussed a new project to identify candidate antimicrobial proteins from potato and then testing using stable transgenics.

Salanat Mambetova– Discussed a project to introduce RB resistance for late blight into germplasm that has other sources of LB resistance.

This ended the breeding and genetics research presentations and the meeting was adjourned for the day at 5:58 pm.

Tuesday, December 11, 2012

The meeting was called to order at 8:10 am by Felix Navarro.

The results of the 2012 North Central Region Potato Variety Trial were presented by Christian Thill. He presented results of field trials of various clones in the trial. Christian commented that he would like to see a consensus among breeders in the NC region for rating for certain traits, such as scab symptoms. Shelley Jansky suggested that we upload the results of the trial to the NCCC215 website for easy access to members. Dave Holm noted that the Western region trial results are available on a USDA/ARS website.

Cultivar Development reports:

Wisconsin:

Felix Navarro presented results of the Wisconsin breeding program. He gave updates on Accumulator (W2324-1): a new short storage potato chipping variety with exceptional yield potential; Lelah (W2717-5): a new potato chipping variety with low sugars; french fry processing clones; fresh market russets; elite chipping clones; red and yellow flesh lines. Discussion included problems of selecting red lines in sandy soil, where silver scurf and color development are problems. A summary of the program was distributed to members electronically.

Colorado:

Dave Holm presented an overview of the Colorado breeding program and highlighted Crestone Russet (CO99053-3RU), CO99100-1RU, Masquerade (AC99329-7PW/Y), CO97226-2R/R, and other specialties. Some of their varieties are available through Burpee's.

North Dakota:

Suzie Thompson gave an update of the potato industry in North Dakota and the NDSU breeding program. New families being developed include 55% for late blight resistance, 38% for Colorado potato beetle resistance, 28% for chip processing, and 47% frozen processing. Some highlighted varieties included Dakota Trailblazer, ND8229-3, ND8068-5Russ, ND8229-3 x Dakota Trailblazer hybrids, ND4659-5R, ND8555-8R, ND6002-1R, ND7519-1, ND8304-2, and ND7799c-1.

Minnesota:

Christian Thill gave an overview of the breeding program and it's collaboration with the North Dakota breeding program. He highlighted some varieties and selections including MonDak Gold, MN15620, MN18747, Runestone Gold (MN02616R/Y), MN02467 (will be dropped due to hollow heart), MN02419, various red selections, MN99380-1Y, MN02696, MN02703, and a novelty potato MN07112WB-01. He also discussed briefly some research projects including GA treatment and row spacing, greenhouse pot size studies, and scab trials. A summary of the National scab trial results were presented to attendees.

Michigan:

Joe Coombs introduced the new breeder at Oregon State, Vidyasagar "Sagar" Sathuvalli and then provided an overview of the breeding program and a short description of some of their most promising varieties including chip processing MSJ126-9Y, MSL292-A, MSR127-2, MSR061-1, MSR169-8Y, MSL007-B; table stocks MSL211-3, MSQ440-2, Missaukee (MSJ461-1), MSQ176-5, MSM182, MSS544-1R, Michigan purple, Jacquiline Lee; yellow flesh MSM288-2Y and specialties Purple Haze, Spartan Splash, Colonial Purple, Raspberry, and Blackberry. Joe also discussed the results of on-farm screening of material for scab resistance.

Canada:

Benoit Bizimungu provided some results of the North Central varieties that he has screened. He also gave an update of the work being done in the breeding program. Information on selections can be found at <http://www.agr.gc.ca/potato-cultivars> He highlighted varieties AAC Alta Strong, ACC Alta Cloud, AAC Madam Blue, and Beljade. Benoit also discussed research involved in the rheological properties of potato and how starch composition changes during heating and cooling of potatoes.

New Business:

Venue and dates for 2013 NCCC215 meeting:

Christian Thill moved that the meeting be held on the 9th and 10th at the same venue (Holiday Inn Express and Suites, Rosemont, IL) and Felix seconded. The motion passed.

Election of New Officers:

Felix Navarro nominated Suzie Thompson as the Secretary for 2013. Alex Pavlista seconded. With no competition, Suzie was elected as Secretary for the NCCC215 meeting in 2013.

SCRI project update:

AJ Bussan discussed an effort in Wisconsin to bring fresh market growers into the process of selecting lines to move forward. He asked that any other groups interested in a similar process to contact him. He is also looking for expanded collaboration of state block grant projects across state lines.

Motion to adjourn by Felix Navarro and Alex Pavlista seconded. Meeting was adjourned at noon on Tuesday, December 11, 2012.