STATE OF COLORADO

Annual Report for Calendar Year 2014 to the W-6 Technical Committee Compiled by Mark A. Brick, June 18, 2014

Orders for germplasm from the NPGS constituted delivery of accessions from both clonal repositories and Plant Introduction Stations. Three thousand two hundred and thirty five accessions were delivered in Colorado that constituted 50 orders. This represented a slight increase in orders from the previous year (2,719 in 2013). Orders were made from the following locations: COR, DAV, GEN, GSOR, MAY, NC7, NE 9, NSGC, NTSL, SOY, S9, and W6.

The following is a report of germplasm activities in Colorado during the 2011 calendar year from scientists that responded to a request for information.

1. Dr. Lee Panella, USDA/ARS, Fort Collins CO received 30 accessions of sugar beet to screen for beet curly top resistance. Twenty nine additional accessions were screened for reaction to Rhizoctonia. The resistant lines were used in a breeding program to enhance disease resistance for commercial production of sugar beets.

2. Joseph Saraceno, Biodome Industries Ltd., Wheatridge, CO received 6 *Fragaria* species. He reported that he received the material and is using the clones for crossing. No publications of germplasm releases were reported.

3. Dr. Walter Messier, Walter Messier, Evolutionary Genomics, Inc., Lafayette, CO received numerous accessions of *Glycine max* for research on a genomics project. The germplasm was used for genomics research. We germinated and grew seedlings that were used for isolation of DNA and total RNA. We then used these materials to identify genes that confer soybean cyst nematode resistance to cultivated soybean. No publications or releases were reported.

4. Natalie Yoder ,Colorado State University received 18 barley and 13 wheat accessions for a variety trial. No reports or releases of germplasm were reported.

5. Jolanta Menert, Busch Agricultural Resources LLC, Fort Collins, Colorado received 14 barley wheat accession for crossing. No other information was provided.

6. Judy Harrington, Fort Collins, CO received 8 accession of Brassica spp.. She reported that she plans to use the germplasm to compare traits and genetics of wild lines to those of domesticated and weedy lines to understand domestication as well as the origin of escaped weedy/invasive lineages.

7. Arlette Woodward, Twin Pines Farm, Penrose Colorado received 1 Allium accession to see how it would grow under hoop house conditions. It did very well. No other information provided.

8. Scott Root, Edible Planet, Pueblo, Colorado indicated that he did not receive the 12 Prunus accessions he ordered.

9. Chris Smith, University of Colorado, Department of Ecology and Evolutionary Biology, Boulder, Colorado received 3 helianthus accessions to study differences between wild and domesticated sunflower. No other information was provided.

10. Eric Johnson, Boulder, Colorado received 4 Malus accessions. He reported that he used the germplasm for educational purposes for long-term enrichment of apple gene pool in North America. He distributed about 30 seedlings of M. sieversii from seed received in 2013, and about 60 seedlings of M. sieversii from seed received in 2014. He also distributed about 5 *scions* of the seedlings of M. sieversii from seed received in 2013. Materials were distributed to the following states: AL, CO, MI, MS, SC, TN, VA, WI. No publications were reported, however, the offer to send seedlings and/or scions was made on the North American Fruit Explorers Facebook page as well as via a local gardeners listserv.

11. Dana Blumenthal, USDA-ARS Northern Plains Area, Crops Research Laboratory, Fort Collins, Colorado received numerous species and accessions to study of how climate of origin influences climate change responses in prairie and shrub steppe species (in collaboration with the BLM Seeds of Success program). A manuscript is currently in preparation, with submission planned for this year.

12. Sara Kammlade, Colorado State University, Department of Horticulture and Landscape Architecture, Fort Collins, Colorado received 6 Brassica species for organic trial gardens.

13. Brittany Barnett**,** USDA-ARS Soil-Plant-Nutrient Research Unit., Fort Collins, CO received on M. trunculata accession to examine root exudates and microbial DNA in the soil surrounding Medicago roots. No publications or releases were reported.

14. Mark Brick, Soil and Crop Sciences, Colorado State University, Fort Collins received 128 accessions of P. acutifolius to phenotype for molecular studies. Unfortunately the entire plots were lost due to hail and an early freeze. The study will be repeated in 2015.

No Publications to report.