Executive Summary – 2016 W6 State Reports on Germplasm Use

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California (Dan Parfitt)

- Plant germplasm was used by 342 organizations and individuals in California during 2016, an average number.
- 15% of orders used in education
- 2% used for archaeobotanical research
- 27% used by private plant breeding companies
- 6% used for disease testing by state/federal clean stock programs
- 21% used in academic research – genome studies, etc.

Colorado (Mark Brick)

Each year the National Plant Germplasm system provides between 1600 and 3000 plant germplasm accessions to numerous scientists and stakeholders. These accessions come from all of the plant introduction stations in the US and Puerto Rico. This germplasm has made profound changes to crop, horticultural and plant systems in Colorado by supporting major breeding programs in wheat (Colorado State University, Limagrain, Agri-Pro, and others), barley (Anheuser Busch and Coors), dry edible beans (Colorado State University), maize (Pioneer, Monsanto) and numerous small breeding programs such as watermelon, cantaloupe, forage grasses, and turf grass. In addition, the ability to obtain heirloom varieties for backyard gardening, unique germplasm for research in plant biochemistry or produce unique phytochemicals, or just to improve the beauty of our landscapes makes the contribution of the germplasm system invaluable to our society and the contribution it makes to our food security and economy.

Idaho (Joe Kuhl)

In 2016, 5,709 accessions representing 32 genera and 73 species were requested in Idaho from the National Plant Germplasm System. There were a total of 107 orders from Idaho in 2016, higher than 73 orders placed in 2015 and 80 orders in 2014. Overall this represents a 34% increase in the total number of orders compared to 2015. Orders were evenly divided among state, federal and private groups, 37, 35, and 35 orders, respectively. The major user groups (assessed by the number of accessions requested) in 2016 were USDA scientists (primarily based in Aberdeen, Idaho) (68% of total accessions) and state entities (20% of total accessions), together accounting for ~88% of the total accessions requested. The top two private requests were from companies, J.R. Simplot with 369 *Solanum* accessions and Monsanto, Wheat Technologies Center with 136 *Triticum* accessions.

Montana (Jack Martin)

Nevada (Melinda Yerka)

- NPGS germplasm has contributed to plant chemistry and ecology research needed to support the state's food industry and conservation efforts.
- The NPGS system has provided educators and private citizens with access to crop plant resources for small business development and teaching that they otherwise would not have had access to.

New Mexico (Ian Ray)

Oregon (Shawn Mehlenbacher)

Utah (Kevin Jensen)

- NPGS germplasm is used to enhance biological science education from Kindergarten to K12 and is a critical component of the Science, Technology, and Education program.
- Many NPGS collections have been and continue to be used in the development of new grasses, legumes, and forbs for semi-arid and arid rangelands and pastures. Many of these grasses and legumes are seeded on BLM and private land directly after fire reducing erosion and annual weed invasion, while increasing biodiversity and forage availability. There economic impact is in the millions.

Washington (Carol Miles)

- Research impacts – material from NPGS was used by university-based, USDA, and private researchers for information of use in ethnobotany, archaeology, and plant genetics, as well as for work leading to improvement in the yield, quality, adaptability, and pest resistance of field and fruit crops.
- Economic impacts – NPGS was the source of plant material used for commercial nursery and seed propagation/distribution in Washington including taxa unavailable or difficult to find from other sources used in developing new high value alternative crops for commercial growers both large and small; of particular note is the interest in apple cultivars for commercial production of hard cider which has seen great expansion in recent years.

Alaska, Arizona, Hawaii, and Wyoming (No State rep)