

## Caroline P. Gray

San Luis Valley Research Center  
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### Education

**M.S. Crop and Soil Environmental Sciences, Plant Breeding and Genetics**

Virginia Polytechnic Institute and State University, May 2001

Blacksburg, VA

*Thesis:* Inheritance of the Gene(s) Controlling Leaflet Shape in Soybean

Advisor: Glenn R. Buss

**B.S. Crop and Soil Environmental Sciences, Soils**

Virginia Polytechnic Institute and State University, May 1998

Blacksburg, VA

### Professional Experience

**Research Associate**, Potato Breeding and Selection Program, Department of Horticulture and Landscape Architecture, San Luis Valley Research Center Agricultural Experiment Station, Colorado State University, January 2011 – present

Assist the potato breeding and selection project leader to develop improved potato cultivars. Duties include all phases of field, greenhouse, and lab work including data collection and analysis. Oversee the production of limited generation seed stocks of advanced selections and new cultivars which includes micropropagation of stocks and subsequent greenhouse and field increase. Conduct evaluations for tuber quality, physiological characteristics, and disease reactions of potato clones. Cooperate with other faculty to conduct research and evaluations on selections for attributes related to disease resistance, nutrition and health, cultural and storage management, sensory and culinary qualities, and marketing or other special projects as directed. Supervise full-time and seasonal employees. Participate in grower meetings and assist the project leader to maintain liaison with all segments of the potato industry. Direct grower outreach activities including seed allocations of advanced selections, material transfer agreements, and maintaining contacts with the industry to facilitate feedback on performance of advanced selections. Facilitate and track applications for the North American Certified Seed Potato Health Certificates, import permits and phytosanitary certificates for domestic and international seed shipments. Assist the project leader in compiling data for Plant Variety Protection applications. Advise graduate students and other students (including science fair) with their research

projects. Work with SLVRC faculty and staff to maintain the potato program website and Facebook page.

**Program Technician II, Soybean Breeding and Genetics Program**

Crop, Soil and Environmental Sciences, Dale Bumpers College of Agriculture, Food and Life Sciences, University of Arkansas  
July 2007 – December 2010

Coordinated all field, greenhouse and seed lab operations, supervised graduate and undergraduate student assistants, organized seed preparation for planting, coordinated harvest operations, performed crosses, assisted in selection of elite lines, collected phenological and post-harvest data, analyzed seed samples for quality traits (seed size, seed quality, hilum color) analyzed seed samples for protein and oil content using a Foss Infratec 1241 grain analyzer, operated an Almaco small plot combine, organized all seed stored in Fayetteville, AR, cooperated with research staff at all of the U of A branch locations and other private and public breeding programs around the mid-south in collaborative research projects, assisted in teaching the Soybean Production and Advanced Plant Breeding classes, compiled and presented research at field days and professional meetings.

**Program Technician I, Soybean Breeding and Genetics Program**

Crop, Soil and Environmental Sciences, Dale Bumpers College of Agriculture, Food and Life Sciences, University of Arkansas  
December 2004 – July 2007

**Research Associate, Soybean Breeding Program**

Crop and Soil Environmental Science Dept., VPI&SU  
September 2001 – December 2004

Organized harvesting and planting operations, operated and maintained Wintersteiger plot combine and Vogel plant thresher, collect field data, performed crosses, assisted in plant selection, inoculated for soybean mosaic virus in the field and greenhouse, performed seed hardness analysis using the Instron texture analyzer, entered data using Microsoft Excel and Agrobase software, supervised graduate research assistants and technicians, processed, organized and inventoried seed harvested in Blacksburg and Warsaw, VA.

**Research Technician, Soybean and Small Grains Breeding Programs**

Crop and Soil Environmental Science Dept., VPI&SU  
July 2001 – September 2001

Assisted in harvesting operations, performed crosses, prepared seed for planting, and collected data in the field and greenhouse.

**Graduate Research Assistant, Soybean Breeding Program**

Crop and Soil Environmental Science Dept., VPI&SU

May 1998 - December 2000

Performed crosses, administered virus inoculations, prepared seed for planting, assisted in planting and harvesting operations, and collected, prepared and analyzed data using SAS.

**Teaching Assistant, Crop and Soil Environmental Science Dept., VPI&SU**

January 2000 – May 2000

Taught labs for Introduction to Crop and Soil Environmental Sciences, advised undergraduate students during office hours, and graded quizzes and tests.

**Student Research Assistant, Dr. A. Ozzie Abaye**

Crop and Soil Environmental Science Dept., VPI&SU

June 1997 – December 1997

Collected and prepared forage and crop samples, mapped roots and foliage. Performed extractable aluminum titration, CEC determination of exchangeable bases, and pH measurements. Assisted in data collection and compilation of graduate research projects.

**Professional Affiliations**

Potato Association of America (PAA)

**Conferences and Presentations**

Gray, C., D. Holm, and K. Zavislan. 2017. Best Practices for Outreach among Potato Breeders and the Industry for Evaluation of Advanced Selections. Potato Association of America 101<sup>st</sup> Annual Meeting, Fargo, ND, July 23-27, 2017.

Gray, C., D. Holm, S. Essah, S. Jayanty, and R. Davidson. 2014. Crestone Russet and Mercury Russet: Two New Russet Potato Cultivars from the Colorado Potato Breeding and Selection Program. Potato Association of America 98<sup>th</sup> Annual Meeting, Spokane, WA, July 27-31, 2014.

Gray, C., B. Cornelious, L. Mozzoni, J. Branson, and P. Chen. 2005. Waterlogging Tolerance of Commercial Soybean Varieties Grown in Arkansas. ASA-CSSA-SSSA 50<sup>th</sup> Annual Meeting, Salt Lake City, UT, November 6-10, 2005. P235.

Gray, C., B. Cornelious, L. Mozzoni, J. Branson, and P. Chen. 2005. Evaluation of Commercial Soybean Varieties Grown Extensively in Arkansas for Waterlogging Tolerance. American Society of Agronomy, Southern Regional Branch Meeting, San Antonio, TX, June 19-21, 2005.

## References

Dr. David G. Holm, current employer, Professor, Potato Breeding and Selection Program, Department of Horticulture and Landscape Architecture, Colorado State University, (719) 754-3594 ext. 14, david.holm@colostate.edu

Tyler Thompson, Research Center Manager, San Luis Valley Research Center, Colorado State University, (719) 754-3594 ext. 15, tyler.thompson@colostate.edu

Dr. Pengyin Chen, previous employer, Endowed Professor, Division of Plant Sciences, University of Missouri, (573) 379-5431, ChenPe@missouri.edu

Dr. Glenn R. Buss, former employer, Retired Professor, Emeritus, Soybean Breeding and Genetics, Crop and Soil Environmental Sciences, VPI&SU, (540) 552-0483, gbuss28440@aol.com