

Katy Martin Rainey

Education

<u>Degree</u>	<u>Specialization</u>	<u>Institution</u>
Ph.D. 2005	Plant Breeding	Cornell University
Dissertation: Inheritance and Analysis of High Temperature Tolerance in Common Bean (<i>Phaseolus vulgaris</i> L.)		
B.S. 1998	Botany	University of Georgia

Research and teaching interests

Genetic improvement of crop plants to increase yield, value, and sustainability.

Professional appointments

- Assistant Professor, Crop and Soil Environmental Sciences, Virginia Tech, April 2005 to present. **80%** Research, **20%** Teaching
- Graduate Research Assistant, Field of Plant Breeding, Cornell University, 2000-2005
- Research Support Specialist, Plant Genome Mapping Lab, University of Georgia, 1999-2000

Refereed Journal Articles

- Chung, H., S. Hogan, L. Zhang, K. Rainey, K. Zhou. 2008. Characterization and Comparison of Antioxidant Properties and Bioactive Components of Virginia Soybeans. *Journal of Agricultural and Food Chemistry*. *In Press*.
- Rainey, K.M. and P.D. Griffiths. 2005. Differential response of common bean genotypes to high temperatures. *Journal of the American Society for Horticultural Science* 130: 18-23.
- Rainey, K.M. and P.D. Griffiths. 2005. Identification of heat tolerant *Phaseolus acutifolius* A. Gray plant introductions following exposure to high temperatures in a controlled environment. *Genetic Resources and Crop Evolution* 52: 117-120.
- Rainey, K.M. and P.D. Griffiths. 2005. Inheritance of heat tolerance during reproductive development in snap bean (*Phaseolus vulgaris* L.). *Journal of the American Society for Horticultural Science* 135: 700-706.
- Rainey, K.M. and P.D. Griffiths. 2005. Diallel analysis of yield components of snap bean exposed to two temperature stress environments. *Euphytica* 142: 43-53.
- J.K. Rong, Abbey C., Bowers J.E., Brubaker C.L., Chang C., Chee P.W., Delmonte T.A., Ding X.L., Garza J.J., Marler B.S., Park C.H., Pierce G.J., Rainey K.M., Rastogi V.K., Schulze S.R., Trolinder N.L., Wendel J.F., Wilkins T.A., Williams-Coplin T.D., Wing R.A., Wright R.J., Zhao X.P., Zhu L.H., and Paterson A.H. 2004. A 3347-locus genetic recombination map of sequence-

tagged sites reveals features of genome organization, transmission and evolution of cotton (*Gossypium*). Genetics 166: 389-417.

Grants (Total for all projects: \$721,774; Rainey portion: \$379,825)

Competitive

- Breeding Sulfonylurea Tolerant Soybeans Adapted to Virginia. 2006-2009. Virginia Agricultural Council. K.M. Rainey (100%). \$31,866
- Breeding Soybean Varieties Adapted to Virginia. 2006-2009. Virginia Soybean Board. K.M. Rainey(100%). \$28,000
- Support for the Soybean Breeding Program. 2005-2007. Virginia Soybean Board. S. Hodges and K.M. Rainey (100%). \$40,000
- Survey of Frogeye Leaf Spot (FLS) in Virginia, Evaluation of Resistance to FLS on Soybean Lines Adapted to Virginia, and Use of Marker-assisted Selection (MAS) for FLS Resistance in Soybean. 2008-2009. K.M. Rainey (100%) and L. Rosso. \$7,000
- Development of Low Lin Soybeans for Specialty Oil. 2007-2008. Virginia Department of Agriculture and Consumer Services Specialty Agriculture Research Grant Program. K.M. Rainey (75%) and K. Zhou (25%). \$19,000
- The Use of Genomics to Improve Soybean Meal Digestibility and Food Quality. 2006-2008. United Soybean Board. M.A. Saghai Maroof, and K.M. Rainey. Rainey portion: \$46,291
- Development of Low Phytate Soybeans Using Genomics. 2006-2008. United Soybean Board. M.A. Saghai Maroof, and K.M. Rainey. Rainey portion: \$27,668

Other sponsored research

- Improving Yield and Quality of Specialty Soybeans for the Soy-food Market. 2006-2009. Montague Farms. K.M. Rainey

Courses taught

- Plant Genetics (CSES 4984/5984)
- Plant Breeding and Genetics (CSES 4144)

Student advising

- Major professor: 1 MS and 1 Ph.D. students
- Committee member: 1 MS and 4 Ph.D. students
- Undergraduate students: 3

Diversity initiatives or contributions

- Multicultural Academic Opportunities Program (MAOP) advisor
- Engagement with Virginia State University

Outreach and professional service

- 3 field day presentations and tours

- 3 Virginia Seed Conference presentations
- 1 inservice training session
- 1 college, 3 departmental, and 4 societal committee memberships
- Served as an ARS reviewer