

Kerry M. Clark

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Education

PhD. University of Missouri-Columbia. 2016. *Major:* Soil Science. *Dissertation:* Soil Quality in Organic Cropping Systems.

M.S. University of Missouri-Columbia. 1993. *Major:* Agronomy. *Thesis:* Legume-Cereal Intercrop Study: An evaluation of competitive and complementary effects of alternative crops in Missouri.

Peace Corps Training. Mali. 1986. Training in community development theory, appropriate technology, and commercial vegetable production.

B.S. University of Missouri-Columbia. 1986. *Major:* Agriculture Journalism.

Professional Experience

Program Manager for Smallholder Productivity. *USAID Innovation Lab for Soybean Value-Chain Research (SIL), University of Missouri Division of Applied Social Science.* 2013 to present. Member of a multi-disciplinary, multi-university team conducting research for development of soybean production systems in sub-Saharan Africa.

- Work with various governmental and private organizations to promote sustainability and productivity in smallholder agriculture in sub-Saharan Africa.
- Head the SIL mechanization team with the goal of increasing sustainable intensification through improved labor efficiency.
- Build cooperative research between SIL and the Savannah Agricultural Institute (SARI) in Ghana, and the Instituto de Investigação Agrária de Moçambique (IIAM) and the International Institute of Tropical Agriculture (IITA) in Mozambique.
- Develop and conduct extension education on soybean agronomy, soil fertility, seed inoculation, and soybean utilization.
- Work with development organizations to train staff and strengthen their soybean programs.
- Build collaborations and research partnerships with in-country USAID projects.
- Bridge work between social science and plant science through development and distribution of soybean success kits to smallholder farmers in Ghana and Mozambique.

Sustainable and Organic Cropping Systems Research. *University of Missouri.* 2012-present. Co-founder of the organic research program at University of Missouri. Manage multi-disciplinary teams to conduct research and extension in areas of agricultural sustainability such as soil quality, cover cropping, weed control, and environmental effects of organic cropping systems. Research and outreach responsibilities include:

- Development and co-teaching of an Organic Principles and Practices class and an Organic Research Internship in the MU Sustainable Agriculture program.
- Author grants to support funding of MU Organic Crops Research Program.
- Organize and conduct field days, including Organic Field Day and Soil Health Expo.
- Collaborate on sustainable and organic research practices with Extension, NRCS, ARS and other non-MU research partners.
- Train, educate and mentor graduate students and staff and supervise technical staff

- Conduct on-farm research with cooperating producers.
- Provide technical and research assistance to campus-based research projects
- Developed and conducted a statewide 16-workshop series on soil health in 2014 in collaboration with NRCS and ARS. Audience was 500 farmers.
- Breed cover crops in collaboration with the Noble Research Institute

Soil Scientist/Morphologist. 2007 to present. Private consultant for soil morphological evaluation of engineering properties and on-site wastewater effluent loading rates. State licensed by MO Department of Health and Senior Services. Conduct trainings for wastewater professionals and Department of Health regulatory staff.

Soybean Breeding Research Associate. *University of Missouri Plant Science Unit.* 1993 to 2012. Managed the soybean breeding and variety development field program with a goal of educating undergraduate and graduate students and providing product support for Missouri small seed sales businesses. Responsibilities supporting these goals included:

- Worked with UMC farms and centers and farmer-cooperators to obtain and maintain research locations.
- Ensured compliance with all regulatory processes and standards including regulated GMOs and chemical and pesticide handling.
- Collaborated with private breeding programs and USDA-ARS to conduct cooperative research.
- Worked with Missouri Crop Improvement Association and Missouri Foundation Seed to provide public cultivar releases.
- Coordinated winter nurseries, maintained communication with stations in Puerto Rico and Costa Rica and traveled to nurseries for supervision of planting, harvest and preparation of seed for chemical analysis.
- Spoke at grower field days and wrote progress reports for MU Research Centers' books and webpages.
- Trained graduate students in field breeding and experimental design methods.
- Chose parental material and cross-pollinated for new populations.

Community Development and Extension Agent. *Mali Public Health Agency and U.S. Peace Corps.* June 1986 to May 1989. Developed county-wide programs to improve agricultural and environmental sustainability through reduction of environmental degradation from deforestation and poor agricultural practices such as slash and burn. Designed and introduced various appropriate technologies to reduce drudgery and improve life quality for women. Introduced soil improvement techniques and high nutrition garden crops to community garden and advised commercial gardeners. Wrote and published a field manual of appropriate technology used by Peace Corps volunteers.

Service

Missouri Soil Health Consortium Member. 2013-2017.

United Way Ambassador for MU Ag. Expt. Station Labs, Farms and Centers. 2014-2015.

Founder and Chairman, American Society of Agronomy Tropical Legumes Community. 2016-2017.

Board of Directors. Missouri Smallflows Organization. 2012-2016.

Founder and Co-Director. US Soybean Breeder Technician Annual Meeting. 1999-2010.

Teaching Experience

Pedology (Soils 9422). *University of Missouri School of Natural Resources.* 2017. Advanced graduate level lecture and lab course on soil properties as found in the natural environment.

Genesis of Soil Landscapes (Soils 4320/7320). *University of Missouri School of Natural Resources.* 2016. Lecture and lab course on soil genesis, taxonomy and morphology.

Collegiate Soil Judging Team Coach. *University of Missouri.* 2013. Coached MU team to victory in regional team competition.

Plant Breeding. *University of Missouri Agronomy Department.* 1994 to 2012. Taught cross-pollination techniques for soybean to Plant Breeding class and to incoming graduate students.

Crop Physiology Lab Instructor. *University of Missouri Agronomy Department.* January 1992 to May 1992. Taught laboratory section of course on crop physiology to 17 B.S., M.S., and Ph.D. students.

Photojournalism Lab Instructor. *University of Missouri School of Journalism.* August 1985 to May 1986. Supervised photo lab and studio for Columbia Missourian newspaper and taught lab for Basic Press Photography.

Technical Trainer. *U.S. Peace Corps.* August 1987 to June 1989. Trained incoming Peace Corps workers in adult education theory and appropriate technology design and construction.

Crop Registrations

Registration of SS93-6012 and SS93-6181 Germplasm. *Journal of Plant Registrations* 3(1).

Registration of Magellan Soybean. *Crop Science* 38:892.

Registration of Mustang Soybean. *Crop Science* 37:1383.

Registration of Maverick Soybean. *Crop Science* 38:550.

Registration of Saline Soybean. *Crop Science* 34:1689.

Additional varieties released: SN94-4337 (branded),

MPV-457NRR, MPV-437NRR (RR licensed)

SN97-6946 (patented germplasm),

MAPR95-15348 (branded and public release)

Patriot (Public Variety)

Manuscripts

Clark, K.M., Boardman, D.L., Staples, J.S., Easterby, S., Reinbott, T.M., Kremer, R.J., Kitchen, N.R., Veum, K.S. 2017. Crop yield and soil organic carbon in conventional and no-till organic systems on a claypan soil. *Agronomy Journal*. 109(2):588-599. doi: 10.2134/agronj2016.06.0367.

Clark, K.M., R.J. Kremer, K.S. Veum, J.S. Staples, T.M. Reinbott. Timing of Corn Planting in Organic No-Till. *Agronomy Journal*. In submission.

Clark, K.M., R.J. Kremer, K.S. Veum, J.S. Staples, R. Massey, T.M. Reinbott. Effect of crop rotation on soil quality and the weed seedbank during the three year transition to certified organic production. In submission.

Clark, K.M., R.J. Kremer, K.S. Veum, J.S. Staples, T.M. Reinbott. Soil Quality under Organic No-Till. In submission.

Boardman, D.L., **K.M. Clark,** S. Easterby, N.R. Kitchen. Greenhouse Gas Emissions from Organic Management Practices. In submission.

- Scaboo, A., P. Chen, D. Sleper and **K. Clark**. 2010. Classical Breeding and Genetics of Soybean. *In: Genetics, Genomics and Breeding of Crop Plants*. K. Bilyeu, M.B. Ratnaparkhe and C. Kole (eds.). CRC Press. Boca Raton, FL.
- Brown, S., G. Yeckel, R. Heinz, **K. Clark**, D. Sleper and M. Mitchum. 2010. A high-throughput automated technique for counting females of *Heterodera glycines* using a fluorescence-based imaging system. *Journal of Nematology*. 42(3): 201-206.
- Pathan, S.M., T. Vuong, **K. Clark**, J.D. Lee, J. G. Shannon, C.A. Roberts, M.R. Ellersieck, J.W. Burton, P. B. Cregan, D. L. Hyten, H. Nguyen and D. A. Sleper. 2010. Mapping and confirmation of quantitative trait loci (QTL) for seed protein, oil content and seed weight in soybean. *Crop Science*. 53(3):765-774
- Clark, K.M.** and R.L. Myers. 1994. Intercrop performance of pearl millet, amaranth, cowpea, soybean, and guar in response to planting pattern and N fertilization. *Agronomy Journal* 86:1097-1102.
- Clark, K.M.**, W.C Bailey, and R.L. Myers, 1995. Alfalfa as a companion crop for control of *Lygus lineolaris* (Hemiptera: Miridae) in amaranth. *Journal of KS Entomological Society* 68(2):143-148.
- Clark, K.M.** 1992. Cultural practices and agronomic traits of Fonio (*Digitaria exilis*) and Bambara Groundnut (*Vigna subterranea*): Results of a survey of villages in Mali, West Africa. Brown Fellowship Monograph Series. University of Missouri College of Agriculture.

Abstracts

- Clark, K.M.**, D.L. Boardman, T.M. Reinbott, R.J. Kremer and J. Staples. 2015. Effects of Organic No-till and Winter Cover Crops on Soil Health and Yield on a Claypan Soil. American Society of Agronomy Annual Meeting. Long Beach, CA.
- Stacey, M., Y. Cui, R.E. Cahoon, H.T. Nguyen, K.J. Paddock, **K.M. Clark**, S. Sato, D.A. Sleper, J. Gillman, T.E. Clemente, G. Shannon, E.B. Cahoon and G. Stacey. 2014. Utility of Fast Neutron Mutagenesis in Soybean Functional Genomics. American Society of Agronomy Annual Meeting. Long Beach, CA.
- Clark, K.M.**, T.M. Reinbott and J. Staples. 2014. Improving Soil Health and Weed Control When Transitioning to Organic Production. American Society of Agronomy Annual Meeting. Long Beach, CA.
- Boardman, D.L. N.R. Kitchen and **K.M. Clark**. 2014. Greenhouse Gas Emissions from Corn and Wheat under Varying Organic Management Practices. American Society of Agronomy Annual Meeting. Long Beach, CA.
- Reinbott. T.M., L. Touzeau and **K.M. Clark**. 2014. Evaluation of Soil Quality in Vegetables Planted in Plastic Mulch Vs. No-till in Polyculture Cover Crop. American Society of Agronomy Annual Meeting. Long Beach, CA.
- Pathan, S., T. Vuong, **K. M. Clark**, J.D. Lee, J. G. Shannon, C.A. Roberts, H.T. Nguyen and D.A. Sleper. 2009. Identification of novel quantitative trait loci for soybean seed oil, protein, size and coat color using 1000 SSR and SNP markers. American Society of Agronomy Annual Meeting. Pittsburg, PA.
- Pathan, Md. S., **Kerry Clark**, Grover Shannon, Henry Nguyen, David Sleper. 2008. Development of value-added food-grade soybean for Missouri. 2008 Soybean Biotechnology Symposium, Columbia, MO.
- Clark, K.M.** and R.L. Myers. 1992. Yield response of alternative crops grown in intercrop. *Agronomy Abstracts*. American Society of Agronomy. Madison, WI.

Invited Seminars/Presentations

Soil Horizons and Water Movement. January 22, 2016. MO Land Improvement Contractor's Association Conference, Columbia, MO

Soil Health and Organic Blueberry Production. February 21, 2014. Missouri State Blueberry Conference, Springfield, MO

Soil Health and Organic Vegetable Production. January 10, 2014. Great Plains Vegetable Growers Conference, St. Joseph, MO

Soil Health for Extension Professionals. August 8, 2013. USDA-SARE and MU Soil Health Workshop, Columbia, MO

Soil Health for Malawi. October 18, 2013. Visiting Scholar Academy, University of Missouri Division of Applied Social Science, Columbia, MO

Active Carbon Testing and Soil Health. November 2, 2013. National Small Farm Conference, Columbia, MO

Soil Health for South Africa. August 21, 2013. Visiting Scholar Academy, University of Missouri Division of Applied Social Science, Columbia, MO

Growing Wildflowers and Increasing Diversity on an Organic Farm. June 29, 2013. Greyson Organic Field Day, Williamsburg, MO

Soil Health and Cover Crops for Conservation Horticulture. June 26, 2013. Lincoln University Conservation Agriculture Conference, Kansas City, MO.

Growing Organic Edamame in Missouri. February 10, 2011. Missouri Organic Association Conference, Springfield, MO.

Licenses

MO Pesticide Applicator's License
Class A Commercial Driver's License
MO DHSS Soil Morphologist License

Languages

Spanish (conversational), Bambara (fluent), French (passable), Portuguese (can meet and greet).