

JESSICA GWYN DAVIS

Professor and Extension Soil Specialist, Department of Soil & Crop Sciences
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ACADEMIC TRAINING:

B.S. 1983 Cornell University – Agronomy and International Agriculture
M.S. 1984 Texas Tech University - Soil Science
Ph.D. 1989 Texas A&M University - Soil Science

PROFESSIONAL POSITIONS:

Professor and Extension Soil Specialist, Department of Soil & Crop Sciences,
Colorado State University, 2001-present
Affiliate Faculty, School of Plant Science and Horticulture, Hawassa University,
Ethiopia, 2012-present
Director, Institute for Livestock and the Environment, Colorado State University,
2008-2012
Deputy Director, USAID Collaborative Research Support Program on Adapting
Livestock Systems to Climate Change, 2010-2011
Associate Professor and Extension Soil Specialist, Department of Soil & Crop
Sciences, Colorado State University, 1995-2001
Assistant Professor, Department of Crop & Soil Sciences, Coastal Plain Experiment
Station, University of Georgia, 1989-1995
Junior Scientist, Tropical Soils Collaborative Research Support Program, U.S. Agency
for International Development, Niger, West Africa, 1986-1987
Instructor, Texas A&M University, 1985-1986

PUBLICATIONS AND PRESENTATIONS:

Journal Articles: 56
Book Chapters: 10
Proceedings: 57
Bulletins: 18
Extension Factsheets: 47
Newsletter Articles: 101
Abstracts: 164
Popular Articles: 8
Reports: 123+
Invited Presentations: 80+
Extension Presentations: 380+

GRANTS:

Received as PI: \$8,209,163
Received as co-PI: \$17,986,169
Total: \$26,195,332

HONORARY POSITIONS AND AWARDS:

- 1988, J. Fielding Reed Fellowship, Potash and Phosphate Institute.
- 1995, Distinguished Research Award, Sigma Xi, Tifton, GA branch.
- 1996, Educational Materials Awards Program, American Society of Agronomy, Division A-4 Extension Agronomy--display category.
- 1996, Certificate of Merit in Research, United States Department of Agriculture.
- 1998, Educational Materials Awards Program, American Society of Agronomy, Division A-4 Extension Agronomy--newsletter category.
- 1998, Visiting Scientist at the Agriculture and Agri-Food Canada, Lethbridge Research Centre in Alberta, Canada. Paid for by the Canada Alberta Beef Industry Development Fund.
- 1999, Novartis Crop Protection Recognition Award, American Society of Agronomy.
- 2000, F.A. Anderson Distinguished Service Award, Colorado State University Cooperative Extension.
- 2001, Certificate of Appreciation, United States Department of Agriculture Natural Resources Conservation Service.
- 2003, President, Western Society of Soil Science.
- 2004, Fellow, Soil Science Society of America.
- 2004, Fellow, American Society of Agronomy.
- 2004, Agronomic Extension Education Award, American Society of Agronomy.
- 2005, Fulbright Scholar in Environmental Sciences, Argentina and Uruguay.
- 2007, Educational Materials Awards Program, American Society of Agronomy, Division A-4 Extension Agronomy--poster category.
- 2009, Fellow, Soil and Water Conservation Society
- 2009, Educational Materials Awards Program, American Society of Agronomy, Division A-4 Extension Agronomy--video category.
- 2012, Educational Materials Awards Program, American Society of Agronomy. Category: Video.
- 2012, Educational Materials Awards Program, American Society of Agronomy. Category: Publication over 16 pages.
- 2012, Team Award, Colorado State University Cooperative Extension.

LEADERSHIP AND SERVICE POSITIONS (highlights):

- 1997-2001, Departmental Extension Coordinator.
- 1998-2000, Specialist representative to the Colorado Extension Director's Advisory Council.
- 1999, Chair, Division S-6 (Soil and Water Management and Conservation), Soil Science Society of America.
- 1999-2000 and 2004, Soil Science Society of America Board of Directors.
- 1999, President, Colorado Extension Specialists Association.
- 1999 and 2004, Review Panel, USDA-NRICGP Water Resources Assessment and Protection Program.
- 1999, Chair of College Committee, Five-Year Plan for Manure Management Teaching, Research, and Extension.
- 1999, Review Team Member, USDA-ARS Manure Management Research Programs.
- 2002-2003, President, Western Soil Science Society.

2002-2005, Executive Committee, National Curriculum on Livestock and Poultry Environmental Stewardship.
2002-2006, Associate Secretary, Division 3, Soil Use and Management, International Union of Soil Science.
2004-2005, Chair, University Committee to write CSU Concentrated Animal Feeding Operations Strategy (part of the strategic planning process).
2005, Chair, College Committee to develop Interdisciplinary Program in Organic Agriculture.
2005-2007, Associate Editor, Agronomy Journal.
2005-2007, Eastern Slope Director, Board of Directors, Soil and Water Conservation Society, Colorado Branch.
2012-2014, Global Agronomy Representative, Board of Directors, American Society of Agronomy.
2013-present, Departmental Coordinator of the Graduate Program, Dept. of Soil & Crop Sciences

GRADUATE STUDENTS:

Gene Weeks, MS, 1993, currently Research Associate at Univ. of Georgia
Isaurinda Bautista, MS, 1995, currently Research Scientist in Cape Verde
Brad Jakubowski, MS, 2001, currently graduate student at U. Nebraska
Greg Smith, MS, 2002, currently with a Soil Conservation District in CT
Orren Doss, MS, 2002, currently a stay-at-home father in Fort Collins, CO
Jami Daniel, MS, 2002, currently working for American Farmland Trust
Adriane Elliott, MS, 2004, currently Instructor at Colorado State University
Greg Vlaming, MS, 2004, currently Dir. of Grower Services, San Juan Bioenergy
Grant Johnson, MS, 2005, currently golf course assistant superintendent in CA
Ron Schierer, MS, 2005, currently USDA-NRCS area agronomist in CO
Curtis Cooper, PhD, 2006, currently EPA scientist in OK
Nichole Marcillac, PhD, 2007, currently with Whatcom Conservation District, WA
Michael Massey, MS, 2008, currently PhD student at Stanford University
Kjesten Rubke, MAg-PCMI, 2009, currently in sustainable ag education in CA
Dwi Widiastuti, MS, 2010, currently Research Scientist in Indonesia
Dan Goldhamer, MS, 2010, currently Research Associate in Horticulture at CSU
Tunsisa Hurisso, PhD, 2011, currently Post-doc at U. Wyoming

Current graduate students:

Abdulkariem Aljrbi, PhD, 2013
Mohamed Abulobaida, PhD, 2013
Rosalyn Barminski, MS, 2014
Laurie Rochardt, MAg-ExtEd, 2013
Helen Skiba, MAg-PCMI, 2013
Arina Sukor, PhD, 2015
Phasita Toonsiri, PhD, 2015
Natalie Yoder, MS, 2014
Molly Zimmerman, MAg-PCMI, 2015

TEACHING:

PSC101 (4 credits) Introduction to Physical Science (1992)*
ANEQ300-O (1 credit) Nutrient Management of Animal Waste (1996-1999)
SOCR792 Seminar (2001)
SOCR564 Soil Chemical Analysis (2001-2003)**
ANEQ448/SOCR448 (3 credits) Manure Management & the Environment (2002-2008)
ANEQ548/SOCR548 (3 credits) Issues in Manure Management (2004-2008)
SOCR171/HORT171 (3 credits) Environmental Issues in Agriculture (2006-2009)
SOCR345/HORT345 (2 credits) Diagnosis & Treatment in Organic Fields (2007)**
ANEQ300-W (1 credit) Equine Manure Management (2007-2010)
SOCR424/HORT424 (3 credits) Topics in Organic Agriculture (2008)**
SOCR475 (3 credits) Global Challenges in Plant & Soil Sciences (2010-present)**
SOCR481/CIVE481 Water & Wastewater Recycling (2010)**
SOCR350 Soil Fertility (2013-present)

*Taught at Abraham Baldwin Agricultural College in Tifton, GA. All other courses listed were taught at Colorado State University.

**team-taught

RECENT PUBLICATIONS:

1. Hurisso, T.T., J.G. Davis, J.E. Brummer, M.E. Stromberger, M.M. Mikha, M.R. Booher. 2013. Short-term nitrogen mineralization during transition from conventional to organic management is unchanged by composted dairy manure addition in perennial forage production system. *Organic Agriculture*. DOI 10.1007/s13165-013-0037-z
2. Hurisso, T.T., J.G. Davis, J.E. Brummer, M.E. Stromberger, M.M. Mikha, M.L. Haddix, M.R. Booher, and E.A. Paul. 2013. Rapid changes in microbial biomass and aggregate size distribution in response to changes in organic matter management in grass pasture. *Geoderma* 193-194: 68-75.
3. Yang, Y.-Y.; Gray, J. L.; Furlong, E. T.; Davis, J. G.; ReVello, R. C.; Borch, T. 2012. Steroid hormone runoff from agricultural test plots applied with municipal biosolids. *Environ. Sci. Technol.* 46:2746-2754.
4. David Ashcraft, Thomas Bass, David Colburn, Jessica Davis, John Deering, Michael Fisher, Robert Flynn, Sarah Lupis, Jay Norton, and Nicolette Schauer mann. 2012. *Livestock Mortality Composting for Large and Small Operations in the Semi-Arid West*. Montana State University; Bozeman, MT.
5. David Ashcraft, Thomas Bass, David Colburn, Jessica Davis, John Deering, Michael Fisher, Robert Flynn, Sarah Lupis, Jay Norton, and Nicolette Schauer mann. 2012. *Compostación de Ganado Muerto para Instalaciones Grandes y Pequeños en el Oeste Semiárido*. Montana State University; Bozeman, MT.
6. S.G. Lupis, K.J. Galles, J.M. Ham, J.J. Stratton, J.G. Davis, and N. Embertson. 2012. *Best Management Practices for Reducing Ammonia Emissions: Feedlot Pen Management*. Colorado State University Extension factsheet no. 1.631A.
7. S.G. Lupis, N. Embertson, and J.G. Davis. 2012. *Best Management Practices for Reducing Ammonia Emissions: Lagoon Covers*. Colorado State University Extension factsheet no. 1.631B.

8. S.G. Lupis, K.J. Galles, J.M. Ham, E. Westover, J.J. Stratton, J. Wagner, T. Engle, and J.G. Davis. 2012. Best Management Practices for Reducing Ammonia Emissions: Beef Cattle Nutrition. Colorado State University Extension factsheet no. 1.631C.
9. S.G. Lupis, J.G. Davis, and N. Embertson. 2012. Best Management Practices for Reducing Ammonia Emissions: Manure Application. Colorado State University Extension factsheet no. 1.631D.
10. Hurisso, T.T., J.G. Davis, J.E. Brummer, F.H. Stonaker, M.R. Booher, D.A. Goldhamer, M.E. Stromberger, and B.C. Kondratieff. 2011. Earthworm abundance and species composition in organic forage production systems of northern Colorado receiving different soil amendments. *Applied Soil Ecology* 47:45-50.
11. Brummer, J.E., Davis, J.G., and Booher, M.R. 2011. Fertilizing cool season grasses and grass/legume mixtures. Colorado State University Extension factsheet 0.522.
12. Kim, S.-C., J.G. Davis, C.C. Truman, J.C. Ascough II, and K. Carlson. 2010. Simulated rainfall study for transport of veterinary antibiotics – mass balance analysis. *J. Hazardous Materials* 175:836-843.
13. Massey, M.S., J.A. Ippolito, J.G. Davis, and R.E. Sheffield. 2010. Morphological characteristics of magnesium phosphates recovered from wastewater. *Bioresource Technol.* 10:877-885.
14. McKinney, C.W., K. A. Loftin, M. T. Meyer, J. G. Davis and A. Pruden. 2010. tet and sul Antibiotic Resistance Genes in Livestock Lagoons of Various Operation Type, Configuration, and Antibiotic Occurrence. *Environ Sci Technol.* 44:6102-6109.
15. Storteboom, H., M. Arabi, J. Davis, B. Crimi, and A. Pruden. 2010. Characterizing antibiotic resistance gene (ARG) profiles of pristine river and putative urban and agricultural source environments. *Environ. Sci. and Technol.* 44:1947-1953.
16. Yang Yun-Ya, Thomas Borch, Robert B. Young, Lawrence D. Goodridge, and Jessica G. Davis. 2010. Degradation kinetics of testosterone by manure-borne bacteria: Influence of temperature, pH, glucose amendments, and dissolved oxygen. *J. Environ. Qual.* 39:1-8.
17. Hepperly, P.R., K. Kpombrekou, and J.G. Davis. 2010. Organic Nitrogen Systems in the United States pp. 162-183 in Delgado, J.A. and R.F. Follett (eds.) *Advances in Nitrogen Management for Water Quality*.
18. Lupis, S., N. Embertson, and J. Davis. 2010. Best Management Practices for Reducing Ammonia Emissions. Colorado State University Extension factsheet 1.631.
19. Johnson, G.A., Y.L. Qian, and J.G. Davis. 2009. Topdressing Kentucky bluegrass with compost increases soil water content and improves turf quality during drought. *Compost Science and Utilization* 17:95-102.
20. Massey, M.S., J.G. Davis, J.A. Ippolito, and R.E. Sheffield. 2009. Effectiveness of recovered magnesium phosphates as fertilizers in neutral and slightly alkaline soils. *Agronomy Journal* 101:323-329.