

Dr. Julie A. Howe

Current Title: Associate Professor & Soil Scientist

Appointment: 30% Teaching, 70% Research

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Education:

Ph.D., Soil Science, University of Wisconsin-Madison, 2004
M.S., Soil Chemistry, Texas A&M University, 1999
B.A., Bioenvironmental Sciences, Texas A&M University, 1995

Teaching Focus:

Soil Science (SCSC 301)
Soil Chemistry and Fertility (SCSC 627)

Research & Extension Focus:

My research program primarily focuses on soil chemistry with emphasis on the effects of land management on both inorganic and biological processes related to soil fertility. Research investigations are designed to provide results that can be applied, as well as answer basic research questions. One research focus has been to evaluate overall productivity and environmental sustainability of production practices, particularly associated with systems that rotate row crops with forage/hay systems. My role is to evaluate and compare these systems with conventional production systems with the goal of improving production systems economically and environmentally sustainable. I have been a PI on grants funding this type of research that total nearly \$1.3 million. Soil fertility studies are also a focus of my program. My past research has largely focused on peanuts with some work in soybean, turf, and corn.

Publications. Refereed journal publications – 21, Book chapters – 1, Other technical publications – 8

Professional Accomplishments (limit to bullet statements):

- Re-evaluated calcium fertility recommendations for larger seeded runner peanuts
- Developed method for carotenoid evaluation in crop/tissue
- Determined effects of agricultural management practices on soil carbon sequestration and greenhouse gas emissions from production system integrating row crops with forage grasses and grazing.
- Introduced more than 3000 students to the field of soil science through teaching and elementary education programs

Recent Publications (limit to 10 most recent):

Yang^{*}, R., J.A. Howe. Soil evaluation methods for calcium for peanut (*Arachis hypogaea* L.) production in the Coastal Plain. Peanut Science. *In press*

Gamble^{*}, A.V., **J.A. Howe**, D. Watts, W. Wood, and E. van Santen. 2014. Soil Organic Carbon Dynamics in a Sod-Based Rotation on Coastal Plain Soils. Soil Sci. Soc. Am. J. 78:1997-2008

- Flessner, M. L., G. R. Wehtje, J. S. McElroy, and **J. A. Howe**. 2014. Methiozolin sorption and mobility in sand-based root-zones. *Pest. Manag. Sci.* DOI 10.1002/ps.3896
- Gamble*, A.V., **J.A. Howe**, D.P. Delaney, E. van Santen, R.P. Yates. 2014. Iron chelates alleviate iron chlorosis in soybean on high pH soils. *Agronomy J.* 106:1251-1257.
- Prevatt, C., J. Novak, W. Prevatt, M.R. Worosz, K. Balkcom, W. Birdsong, B. Gamble, and **J. Howe**. 2013. A return-risk analysis of Southern row-crop enterprises and the sod-based rotation. *Journal of Agribusiness* 31:35-45.
- Hunolt, A.E., E.F. Brantley, **J. Howe**, A. Wright, and C.W. Wood. 2013. Comparison of native woody species for use as live stakes in streambank stabilization in the southeastern USA. *J Soil Water Conservation.* 68:384-391.
- Guertal, E.A. and **J.A. Howe**. 2012. Influence of phosphorus solubilizing compounds on soil P and P uptake by perennial ryegrass. *Biol. Fert. Soils.* DOI: 10.1007/s00374-012-0749-3
- Christian, K.J., A.N. Wright, J.L. Sibley, E.F. Brantley, **J.A. Howe**, M.P. Dougherty, and C.M. LeBleu. 2012. Effect of phosphorus concentration on growth of *Mulenbergia capillaris* in flooded and non-flooded conditions. *J. Environ. Hort.* 30:219-222
- Howe, J.A.**, R.J. Florence*, G. Harris, E. van Santen, J. Beasley, K.B. Balkcom, and J. Bostick. 2012. Effect of cultivar, irrigation, and soil calcium on runner peanut response to gypsum. *Agronomy J.* 104:1312-1320.
- Guertal, E.A. and **J.A. Howe**. 2012. Nitrate, ammonium, and urea leaching in hybrid bermudagrass as affected by N source. *Agronomy J.* 104:344-352.

Professional Memberships, Leadership Roles and Honors:

- Outstanding Mentoring Award, American Society of Agronomy, Soil Science Society of America, and Crop Science Society of America. 2016.
- Vice President, Southern Branch American Society of Agronomy, serving 2017-2018
- Early Career Research Award, Southern Branch American Society of Agronomy. 2015.
- Secretary/Treasurer of Southern Branch of the American Society of Agronomy, elected 2015-2016, served 2016-2017
- American Society of Brewing Chemists, 2015 to present
- Outstanding Editor, *Journal of Natural Sciences Education* (American Society of Agronomy), 2014
- Nominated for Baily Award at the American Peanut Research and Education Society (APRES) (outstanding presentation of the meeting) 2014.
- Roy*, M, P. Dang, C. Chen, J. Howe. Soluble Leaf Carbohydrates as Indicators of Drought-stress Response in Runner Peanuts. APRES. San Antonio, TX July 8-10, 2014.
- American Peanut Research and Education Society, 2013 to present
- Natural Sciences Education Outstanding Reviewer Award (American Society of Agronomy), 2012
- Crop Science Society of America, 2012 to present
- Associate Editor for *Journal of Natural Resources and Life Science Education*, 2012 to present
- Research Highlight: Howe, J.A., R.J. Florence*, G. Harris, E. van Santen, J. Beasley, K.B. Balkcom, and J. Bostick. Research Highlight: Effect of cultivar, irrigation, and soil calcium on runner peanut response to gypsum. ASA, Madison, WI. 2012.
- American Chemical Society, 2008-2009
- Science Highlight: Howe, J.A., R.H. Loeppert, V.J. DeRose, D. Hunter, and P. Bertch. Localization and speciation of chromium in subterranean clover using XRF, XANES, and EPR spectroscopy. National Synchrotron Light Source, Brookhaven National Laboratory, NY. In National Synchrotron Light Source 2004 Activity Report. Eds. L.M. Miller. 2-56. website: http://www.bnl.gov/isd/documents/29004/sh_geo_2.pdf 2004.
- American Society of Agronomy, 1996 to present
- Metcalfe Student Manuscript Contest, 2014 to present, chair 2015 to present
- Soil Science Society of America, 1996 to present
- Sigma Xi, 1995 to 2015