

Jeffrey D. Weidenhamer

Professor of Chemistry

Chair, Department of Chemistry, Geology & Physics

Ashland University / Ashland, OH 44805 / E-mail: jweiden@ashland.edu / Phone: 419-289-5281

EDUCATION

Ashland University, B.S. in Chemistry, 1979

The Ohio State University, M.S. in Agronomy, 1983

The University of South Florida, Ph.D. in Biology, 1987

Louisiana State University, M.S. in Analytical Chemistry, 1991

WORK AND RESEARCH EXPERIENCE

Current Position

Chair, Department of Chemistry, Geology & Physics, Ashland University, 2006 to present.

Professor of Chemistry, Ashland University, 1997 to present.

Previous Appointments

Director of Core Curriculum, Ashland University, 1998-2006.

Director of Environmental Science Program, Ashland University, 1996-1999.

Associate Professor of Chemistry, Ashland University, 1993-1997.

Assistant Professor of Chemistry, Ashland University, 1989-1993.

Postdoctoral Researcher (Area: Natural products chemistry, chemical ecology) with

Nikolaus Fischer, Department of Chemistry, Louisiana State University, 1987-89.

TEACHING

General Chemistry (CHEM 103-104)

Quantitative Analysis (CHEM 204)

Lead and Civilization (CHEM 250)

Instrumental Analysis (CHEM 420)

Science as a Cultural Force (CHEM/PHIL 350)

RESEARCH

Recent Grants Received

Weidenhamer, J. 2005-2008. RUI: Measurement of allelochemical dynamics in the rhizosphere.

Funded by the National Science Foundation, Division of Environmental Biology, Ecological Biology Cluster.

Weidenhamer, J. 2006. REU (Research Experiences for Undergraduates) Supplement to active award.

Funded by the National Science Foundation, Division of Environmental Biology, Ecological Biology Cluster.

Weidenhamer, J. 2000-2001. Course, Curriculum and Laboratory Improvement Adaptation and Implementation Grant

from the National Science Foundation, Division of Undergraduate Education. Drs. Michelle Jones-Wilson and Brian

Mohney were co-authors. AInstrumentation to enhance an investigative approach to chemistry. @ \$61,298,

matched by an equal amount by Ashland University for analytical instrumentation.

Invited Presentations

Weidenhamer, J. June 2008. Lead: An ancient but still present hazard. Chicago, Illinois Chapter of the American Chemical Society.

Weidenhamer, J. August 2008. Lead: Using a potent neurotoxin to teach environmental principles. Philadelphia, PA, National meeting of the American Chemical Society.

Weidenhamer, J. August 2008. Diffusive sampling of the rhizosphere using polydimethylsiloxane sorbents. Philadelphia, PA, National meeting of the American Chemical Society.

Weidenhamer, J. September 2008. Measurement of allelochemical dynamics and movement with polydimethylsiloxane sorbents. Saratoga Springs, NY, Fifth World Congress on the International Society of Allelopathy.

Weidenhamer, J. May 2007. Diffusive sampling methods for analysis of the rhizosphere. Invited platform presentation. Presented at the Europe meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Porto, Portugal.

Weidenhamer, J. 2005. Measurement of allelochemical dynamics in the rhizosphere. Part of a symposium on allelopathy at the August joint meeting of the Ecological Society of America and International Congress on Ecology in Montreal.

Weidenhamer, J. 2005. Measurement of allelochemical dynamics in the rhizosphere. Invited plenary lecture at the Fourth World Congress on Allelopathy, held at Charles Sturt University in Wagga Wagga, Australia.

Weidenhamer, J. 2005. Evaluation of the allelopathic potential of a mustard cover crop. Invited presentation, coauthored by Jeanne Durkalski and Warren Dick of Ohio State University. Presented at the Fourth World Congress on Allelopathy, held at Charles Sturt University in Wagga Wagga, Australia.

Weidenhamer, J. April 2004. Ecological weed management: Lessons from the Florida scrub. International Conference on the Theory and Practice of Ecological Agriculture, Nanchang, China.

Weidenhamer, J. April 2004. Allelopathic mechanisms and experimental methodology. International Symposium on Allelopathy Research and Application. Sanshui, China.

Weidenhamer, J. April 2002. Killing off the competition: Allelopathy in plant communities. Invited lecture, Department of Biological Sciences; Mississippi State University.

Weidenhamer, J. April 2001. Invited lecture on Chemical interference in plant communities, Williams College (MA).

Selected Publications

Over 30 publications on allelopathy and chemical education, including (* indicates undergraduate co-

author):

Yost, J.* and J. Weidenhamer. 2008. Accessible and total lead in low-cost jewelry items. *Integrated Environmental Assessment and Management*, 4:358-361.

Yost, J.* and J. Weidenhamer. 2008. Lead contamination of inexpensive plastic jewelry. *Science of the Total Environment*, 393:348-350.

Weidenhamer, J. 2008. "Allelopathic mechanisms and experimental methodology." Pp. 119-35 In: (R.S. Zeng, A.U. Mallik, and S.M. Luo, eds.) *Allelopathy in Sustainable Agriculture and Forestry* (New York: Springer Science and Business Media).

Loi, R.*, Solar, M. and J. Weidenhamer. 2007. Solid phase microextraction method for *in vivo* measurement of allelochemical uptake. *Journal of Chemical Ecology*, 34:70-75.

Weidenhamer, J. and M. Clement. 2007. Widespread lead contamination of imported low-cost jewelry in the US. *Chemosphere*, 67: 961-965.

Weidenhamer, J. 2007. New approaches for the analysis of allelochemicals in soil. *Allelopathy Journal*, 19(1): 135-142 (Invited review).

Weidenhamer, J. 2007. Circuit board analysis for lead by atomic absorption spectroscopy in a course for non-science majors. *Journal of Chemical Education*, 84:1165-1166. Featured on cover of July issue.

Weidenhamer, J. and M. Clement. 2007. Leaded electronic waste is a possible source material for lead-contaminated jewelry. *Chemosphere*, 69: 1111-1115.

Weidenhamer, J. and M. Clement. 2007. Evidence of recycling of lead battery waste into highly leaded jewelry. *Chemosphere*, 69:1670-1672.

Weidenhamer, J. 2006. Distinguishing allelopathy from resource competition: The role of density. Pp. 85-103 in *Allelopathy: A physiological process with ecological implications*, edited by Manuel Reigosa, Nuria Pedrol and Luís González, published by Springer. (Invited review chapter).

Weidenhamer, J. 2005. Biomimetic measurement of allelochemical dynamics in the rhizosphere. *Journal of Chemical Ecology*. 31(2): 221-236.

Weidenhamer, J. and J. Romeo. 2005. "Allelopathy as a mechanism for resisting invasion: The case of *Polygonella myriophylla*." Pp. 167-177 In: (Inderjit, ed.) *Invasive Plants: Ecological and Agricultural Aspects* (Switzerland: Birkhauser-Verlag AG).

Lane, N., J. Weidenhamer and J. Romeo. 2004. *Zapoteca formosa* (Mimosaceae): sulfur chemistry and

phytotoxicity. *Journal of Chemical Ecology* 30(2): 425-437.

Weidenhamer, J and J. Romeo. 2004. Allelochemicals of *polygonella myriophylla*: chemistry and soil degradation. *Journal of Chemical Ecology* 30(5): 1067-1082.

Weidenhamer, J. 2001. Chapter 2: Nuevas Metodologías para el Estudio de la Alelopatía. Pp 69–97. In: A.L. Anaya, F.J. Espinosa–García, and R. Cruz–Ortega, editors. Relaciones químicas entre organismos: aspectos básicos y perspectivas de su aplicación. Instituto de Ecología, UNAM y Plaza y Valdés, S.A. de C.V. México.

Delaney, K.R., Bissett, N., Weidenhamer, J., 1999, "A new species of *Carphephorus* (Asteraceae; Eupatorieae) from peninsular Florida", *The Botanical Explorer*, 1:1-15 (Rachel Lerebours* was acknowledged as a contributor to this work).

Romeo, J. and J. Weidenhamer. 1998. Bioassays for Allelopathy in Terrestrial Plants. Pp. 179-211 In K.F. Haynes and J.G. Millar (eds.), *Methods of Chemical Ecology, Volume 2: Bioassay Methods*. Kluwer Academic Publishers, Norvell, MA.

Weidenhamer, J.D. 1996. Distinguishing resource competition and chemical interference: Overcoming the methodological impasse. *Agronomy Journal*, 88(6):866-875.

Martin, J.* and J.D. Weidenhamer. 1995. Potassium deficiency increases thiophene production in *Tagetes erecta*. In *Phytochemicals and Health*, ed. D.L. Gustine and H.E. Flores. *Current Topics in Plant Physiology*, Vol. 15

Thijs, H.*, J.R. Shann and J.D. Weidenhamer. 1994. The effect of phytotoxins on competitive outcome in a model system. *Ecology*, 75(7):1959-1964.

Weidenhamer, J., F. Macias, N. Fischer and G. Williamson. 1993. Just how insoluble are monoterpenes? *Journal of Chemical Ecology*, 19(8):1827-1835.

Weidenhamer, J. and J. Romeo. 1989. Allelopathic properties of *Polygonella myriophylla*: Field evidence and bioassays. *Journal of Chemical Ecology*, 15(7):1957-1970.

Williamson, G. and J. Weidenhamer. 1990. Bacterial degradation of juglone: Evidence against Allelopathy? *Journal of Chemical Ecology*, 16(5):1739-1741.

Weidenhamer, J., D. Hartnett and J. Romeo. 1989. Density-dependent phytotoxicity: Distinguishing resource competition and allelopathic interference in plants. *Journal of Applied Ecology*, 26(2):613-624.

