

Rutledge – Onsite Wastewater Loading Rates





RÉSUMÉ

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Birth:

26 March 1935 - Gallatin, TN

Professional Registration/Certification:

State of Arkansas	Professional Soil Classifier
State of Texas	Geoscientist/Soil Science
ARCPACS	Certified Professional Soil Scientist
	Certified Professional Soil Classifier

EDUCATION:

B.S. in Agronomy; Tennessee Tech University, March 1958
M.S. in Soil Science/Pedology; University of Arkansas, June 1963
Ph.D. in Soil Science/Pedology; Ohio State University, March 1969

Professional Experience:

Professor of Pedology, Department of Crop, Soil, and Environmental Sciences (Agronomy), Univ. of Arkansas, Fayetteville, AR. Professor, Jul 77- present; Associate Professor, Jul 73 - Jun 77; Assistant Professor, Dec 68 - Jun 73
Assistant in Agronomy, Agronomy Department, Ohio State Univ., Columbus, OH. Jul 62 - Nov 68
Research Assistant, Department of Agronomy, University of Arkansas, Fayetteville, AR. Jul 58 - Jun 62
Soil Scientist, Soil Conservation Service, Cookeville, TN. Mar 58 - Jun 58
Soil Scientist Trainee, Soil Conservation Service, Sumerville, TN. May 57 - Sep 57

Research Interests:

The suitability of soils for various uses, especially onsite treatment of wastewaters
The genesis and classification of soils
Loess deposits as soil parent materials
The composition and interpretation of soil map units
Cultural (Anthropic) effects on soils
Soil management

Membership in Professional Societies:

American Quaternary Association
American Registry of Certified Professionals in Agronomy, Crops and Soils
American Society of Agronomy
Arkansas Association of Professional Soil Classifiers
Arkansas Public Health Association
Arkansas Society of Professional Sanitarians
Gamma Sigma Delta
International Union of Soil Science
Midwest Friends of the Pleistocene
Soil Science Society of America
Southcentral Friends of the Pleistocene

Honors and Awards:

Leadership, Arkansas Society of Professional Sanitarians, 1998
Fellow, American Society of Agronomy, 1992
Fellow, Soil Science Society of America, 1989
Merit Award: USDA, Soil Conservation Service, 1988
Merit Award: USDA, Soil Conservation Service, 1983
Certificate of Merit, Ark. Soc. Professional Sanitarians, 1981
Outstanding Teacher in Agriculture, Arkansas "Razorback," 1980
Outstanding Teacher in Agriculture, Alpha Zeta (AR ch.), 1979

Professional Leadership (selected):

Advisor, Individual Sewage Disposal Systems Advisory Committee, 2002 - Present
 Member, National Committee on Soil Taxonomy, 2000 - present
 Tour Leader, Water, Wind, Soils and People: An Eastern Arkansas Tour. American Quaternary Association, 25 - 28 May 2000
 Secretary, Individual Sewage Disposal Systems Advisor Committee, 1999 - 2002
 President, Arkansas Association of Professional Soil Classifiers, 1997-1998
 Chair, Soil Taxonomy Committee, Soil Science Society of America, 1998-1999
 Chair, Individual Sewage Disposal Advisory Committee, Ark. Department of Health, 1983-1999
 Board Member, Soil Science Society of America, 1992-1995
 Board Member, American Society of Agronomy, 1992-1995
 Chair, Southern Regional Information Exchange Group #22 (Soil Survey), National Cooperative Soil Survey, 1990-1992
 Tour Leader, Loess Deposits of Eastern Arkansas. Southcentral Friends of the Pleistocene, 1990
 Member, Fellows Selection Committee, Soil Science Society of America, 1989-1991
 Member, Committee for Nominations, Div. S-5, Soil Science Society of America, 1987-1989
 Member, Board of Appeals, American Registry of Certified Professionals in Agronomy, Crops and Soils. ASA, 1987
 Chair, Div. S-5, Soil Science Society of America, 1985-1986
 Board Member, American Registry of Certified Professionals in Agronomy, Crops and Soils, ASA, 1982-1985
 Associate Editor, Spatial Variabilities of Soils and Landforms, Soil Science Society of America Special Publ. No 28, 1989-1990
 Organizer and Editor, "Onsite and Clustered Wastewater Renovation" portion of workshop entitled "Utilization, Treatment and Disposal of Waste on Land," Soil Science Society of America, 1985-1986
 Host, National Soils Contest, Soil Science Society of America, 1982

SELECTED PUBLICATIONS:

- Owens, Phillip R. and E. Moye Rutledge. 2004. Morphology of soil. In Encyclopedia of Soils in the Environment. Elsevier (Accepted for publication).
- Owens, P.R., E.M. Rutledge, M.A. Gross, S.C. Osier and R.W. McNew. 2004. The response of effluent absorption rates to resting trenches of a serially loaded septic filter field. In On-Site Sewage Treatment. Proceedings of the Tenth National Symposium on Individual and Small Community Sewage Systems. ASAE. St. Joseph, MI (Accepted for publication).
- Owens, Phillip R., E. Moye Rutledge, S. Curtis Osier, and Mark A. Gross. 2001. The relationship of soils containing liquefaction features and redoximorphic features to perched seasonal water tables in the Lower Mississippi River Valley. p. 45-51. Quaternary International.
- Owens, P.R., E.M. Rutledge, M.A. Gross, S.C. Osier and R.W. McNew. 2001. Redoximorphic features associated with long-term occurrence of tree-water in an upland soil. In On-Site Sewage Treatment. Proceedings of the Ninth National Symposium on Individual and Small Community Sewage Systems. pp. 87-97. ASAE. St. Joseph, MI.
- Wolf, D.C., M.A. Gross, K.E. Earlywine, K.J. Davis, E.M. Rutledge. 1998. Renovation of Onsite Domestic Wastewater in a Poorly Drained Soil. pp. 320-325. In On-Site Wastewater Treatment, Proceedings of the 8th National Symposium on Individual and Small Community Sewage Systems. Am. Soc. Agri. Eng., St. Joseph, MI.
- Owens, P.R., E.M. Rutledge, C. Roark, M.A. Gross, D.C. Wolf, and R. McNew. 1997. Long-Term Effluent Absorption Rates of a Serially Loaded Septic Tank Filter Field. pp. 63-71. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA.
- Rutledge, E.M., P.R. Owens, R.L. Goff, M.A. Gross, T. Brumbelow, and D.C. Wolf. 1997. Performance of Septic Systems Designed for Effluent Storage Using Soil Morphology. pp. 150-160. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA. 1997.
- Rutledge, E.M., M.J. Guccione, H.W. Markewich, D.A. Wysocki and L.B. Ward. 1996. Loess Stratigraphy of the Lower Mississippi Valley. Engineering Geology. 45:167-183.
- Rutledge, E.M., B.J. Teppen, C.R. Mote, and D.C. Wolf. 1993. Designing septic tank filter fields based on effluent storage during climatic stress. J. Environ. Qual. 22:46-51.
- Teppen, B.J., E.M. Rutledge, D.C. Wolf, and M.A. Gross. 1992. Septic tank filter field designs for soils with perched aquic conditions. p. 279-287. In J.M. Kimble (ed.) Proc. of the Eighth International Soil Correlation Meeting (VIII ISCOM): Characterization, Classification and Utilization of Wet Soils. USDA, Soil Conservation Service. Lincoln, NE.

PUBLICATIONS FROM THE ARKANSAS ONSITE WASTEWATER RENOVATION RESEARCH PROJECT

16 April 2004

A. National and International Articles

- Owens, Phillip R. and E. Moye Rutledge, 2004. Morphology of soil, In Encyclopedia of Soils in the Environment. Elsevier (Accepted for publication).
- Owens, P.R., E. M. Rutledge, M.A. Gross, S.C. Osier and R.W. McNew. 2004. The response of effluent absorption rates to resting trenches of a serially loaded septic filter field. In On-Site Sewer Treatment. Proceedings of the Tenth National Symposium on Individual and Small Community Sewage Systems. ASAE. St. Joseph, MI (Accepted for publication).
- Owens, Phillip R., E. Moye Rutledge, S. Curtis Osier, and Mark A. Gross. 2001. The relationship of soils containing liquefaction features and redoximorphic features to perched seasonal water tables in the Lower Mississippi River Valley. p. 45-51. Quaternary International.
- Goff, R.L., M.A. Gross, J.T. Paul, and E. Moye Rutledge. 2001. Using drains between renovation trenches to lower a seasonal water table. In On-Site Sewer Treatment. Proceedings of the Ninth National Symposium on Individual and Small Community Sewage Systems. ASAE. St. Joseph, MI.
- Owens, P.R., E.M. Rutledge, M.A. Gross, S.C. Osier, and R.W. McNew. 2001. Redoximorphic features associated with long-term occurrence of free-water in an upland soil. p. 87-97. In On-Site Sewer Treatment. Proceedings of the Ninth National Symposium on Individual and Small Community Sewage Systems. ASAE. St. Joseph, MI.
- Owens, P.R., E.M. Rutledge, S.C. Osier, and M.A. Gross. 1998. Liquefaction features and soil morphology. Symposium 16, Paper No. 1326. CD-ROM Proceedings of the 16th World Congress of Soil Science. ISSS. Montpellier, France. 20-26 Aug. 1998.
- Gross, M.A., P.R. Owens, N.D. Dennis, A.K. Robinson, E.M. Rutledge. 1998. Sizing Onsite Wastewater Treatment Systems Using Soil Characteristics as Compared to the Percolation Test. pp. 52-59. In On-Site Wastewater Treatment, Proceedings of the 8th National Symposium on Individual and Small Community Sewage Systems. Am. Soc. Agri. Eng., St. Joseph, MI.
- Wolf, D.C., M.A. Gross, K.E. Earlywine, K.J. Davis, E.M. Rutledge. 1998. Renovation of Onsite Domestic Wastewater in a Poorly Drained Soil. pp. 320-325. In On-Site Wastewater Treatment, Proceedings of the 8th National Symposium on Individual and Small Community Sewage Systems. Am. Soc. Agri. Eng., St. Joseph, MI.
- Gross, M.A., K.A. Peetz, K. Hearne, and E.M. Rutledge. 1997. A Laboratory Study of Distribution Box Performance in Septic Tank - Soil Absorption Systems. pp. 11-22. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA. 1997.
- Gross, M.A., E.M. Rutledge, D.C. Wolf, and C. Bomblat. 1997. Maintenance of Low Pressure Septic Tank Effluent Distribution Systems. pp 47-53. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA. 1997.
- Owens, P.R., E.M. Rutledge, C. Roark, M.A. Gross, D.C. Wolf, and R. McNew. 1997. Long-Term Effluent Absorption Rates of a Serially Loaded Septic Tank Filter Field. pp. 63-71. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA. 1997.
- Rutledge, E.M., P.R. Owens, R.L. Goff, M.A. Gross, T. Brumbelow, and D.C. Wolf. 1997. Performance of Septic Systems Designed for Effluent Storage Using Soil Morphology. pp 150-160. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM, West Conshohocken, PA. 1997.
- Nichols, D.J., D.C. Wolf, M.A. Gross, and E.M. Rutledge. 1997. Renovation of Septic Effluent in a Stratified Sand Filter. pp. 235 - 247. In M.S. Bedinger, J.S. Fleming, and I. Johnson, Editors, Site Characterization and Design of On-Site Septic Systems, ASTM STP 1324. ASTM. West Conshohocken, PA. 1997.
- Gross, M.A., R. Burson, and A. Brown. 1995. Sand filtration of constructed wetland effluent. In K.L. Campbell (ed.) Versatility of wetlands in the agricultural landscape. Am. Soc. Agric. Eng., St. Joseph, MI.
- Bomblat, C., D.C. Wolf, M.A. Gross, E.M. Rutledge, and E.E. Gbur. 1994. Field performance of conventional and low pressure distribution septic systems. p. 444-453. In On-Site Wastewater Treatment: Proc. of the Seventh International Symposium on Individual and Small Community Sewage Systems. Am. Soc. Agric. Eng., St. Joseph, MI.
- Rutledge, E.M., D.C. Wolf, M.A. Gross, T. Brumbelow, and R.L. Goff. 1994. Technology transfer of on-site wastewater information within Arkansas. p. 100-104. In On-Site Wastewater Treatment: Proc. of the Seventh International Symposium on Individual and Small Community Sewage Systems. Am. Soc. Agric. Eng., St. Joseph, MI.
- Jones, L.A., E.M. Rutledge, H.D. Scott, D.C. Wolf, and B.J. Teppen. 1993. Effects of two earthworm species on movement of septic tank effluent through soil columns. J. Environ. Qual. 22:52-57.
- Rutledge, E.M., B.J. Teppen, C.R. Mote, and D.C. Wolf. 1993. Designing septic tank filter fields based on effluent storage during climatic stress. J. Environ. Qual. 22:46-51.
- Teppen, B.J., E.M. Rutledge, D.C. Wolf, and M.A. Gross. 1992. Septic tank filter field designs for soils with perched aquic conditions. p. 279-287. In J.M. Kimble (ed.) Proc. of the Eighth International Soil Correlation Meeting (VIII ISCOM): Characterization, Classification and Utilization of Wet Soils. USDA, Soil Conservation Service. Lincoln, NE.
- Gross, M.A., and D.T. Mitchell. 1990. Virus removal by sand filtration of septic tank effluent. J. Environ. Eng. 116:711-720.
- Gross, M.A., E.M. Rutledge, D.C. Wolf, K.E. Earlywine, and J.B. Matthews. 1990. Onsite treatment for reuse of domestic septic tank effluent in an artificially drained soil. p. 95-100. Proc. Conserv 90. Phoenix, AZ. 12-16 Aug. 1990.

- Gross, M., S. Neal, R. Muldoon, and B. Ederington. 1990. A comparison of pressurized and gravity distribution systems for wastewater treatment. *Proc. Ark. Acad. Sci.* 44:53 55.
- Earlywine, K.E., J.W. Jones, D.K. Shoemaker, and C.L. Griffis. 1988. Experimental groundwater drawdown using a curtain drain on a Henry soil in Jefferson County, Arkansas. *Onsite Wastewater Treatment*. Vol. 5, pp. 319-328, ASAE.
- Jones, L.A. 1988. Influence of septic tank effluent on earthworm survival. ASAE International Summer Meetings, Publ. 88 2071 (microfiche). *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Shoemaker, D.K., C.L. Griffis, and E.M. Rutledge. 1988. A mathematical study of time to failure for individual septic systems having seasonal water tables. *Appl. Eng. Agric.* 4:142 148. *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Bailey, R.F., E.M. Rutledge, J.W. House, D.D. Harmon, C.R. Bell, C.R. Mote, and W.E. Hastings. 1987. Long term performance of a pressure dosed septic tank filter field. p. 253 263. In *On Site Wastewater Treatment: Proc. of the Fifth National Symposium on Individual and Small Community Sewage Systems*, *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Rutledge, E.M., C.L. Griffis, C.R. Mote, C.R. Bell, D.K. Shoemaker, and N.L. Glover. 1987. Climate as a factor in siting septic tank filter fields. p. 375 383. In *On Site Wastewater Treatment: Proc. of the Fifth Natl. Symposium on Individual and Small Community Sewage Systems*. *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Shoemaker, D.K., C.L. Griffis, D.T. Mitchell, J.W. House, and E.M. Rutledge. 1987. A mathematical model to predict orifice plugging in a low pressure distribution system. In *On Site Wastewater Treatment: Proc. of the Fifth National Symposium on Individual and Small Community Sewage Systems*, *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Wilson, G.V., H.D. Scott, and D.B. Marx. 1987. Spatial hydraulic response of a subsurface effluent line source. *J. Water Pollut. Control Fed.* 59:944 949.
- Mote, C.R., and C.L. Griffis. 1986. On site domestic wastewater renovation system designs to overcome soil limitations. p. 129 138. In E.C.A. Runge (ed.) *Utilization, treatment, and disposal of waste on land*. *Soil Sci. Soc. Am., Madison, WI.*
- Rutledge, E.M., editor, 1986. Small flows: Onsite and clustered systems. In E.C.A. Runge (ed.) *Committee. Utilization, Treatment and Disposal of Waste on Land*. *Soil Sci. Soc. Am., Madison, WI.*
- Rutledge, E.M. and D.C. Wolf. 1986. Onsite and clustered wastewater renovation by soil treatment: An overview. p. 87 88. In E.C. A. Runge (ed.) *Utilization, treatment, and disposal of waste on land*. *Soil Sci. Soc. Am., Madison, WI.*
- Wilson, G.V., H.D. Scott, and L.D. Wills. 1986. Two dimensional modeling of perched groundwater mounds. p. 309-326. In *Proc. of National Water Well Assoc., Characterization and Monitoring of the Vadose (Unsaturated) Zone Conference*. Denver, CO.
- Ashworth, R., and D.T. Mitchell. 1985. Delineating groundwater contamination by household wastewater. In *Proc. of the Second International Conference on Groundwater Quality Research*, Tulsa, OK. March, 1984.
- Mitchell, D.T. 1985. Septic tank effluent treatment by sand filtration. *Fifth Northwest On Site Wastewater Treatment Short Course*, Seattle, WA, September, 1985.
- Gross, M., and D.T. Mitchell. 1984. Biological virus removal from household septic tank effluent. p. 295-304. In *Proc. of the Fourth National Symposium on Individual and Small Community Sewage Systems*. *Am. Soc. Agric. Eng. St. Joseph, MI.*
- Hathaway, R.J., and D.T. Mitchell. 1984. Sand filtration of septic tank effluent for all seasons disposal by irrigation. p. 343-350. In *Proc. of the Fourth National Symposium on Individual and Small Community Sewage Systems*. *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Hirsch, M.S., and E.M. Rutledge. 1983. An analysis of time series data with autocorrelated errors. p. 677-679. In *Proc. of the Eighth SAS User's Group International Conference*. New Orleans, LA.
- Hirsch, M.S., E.M. Rutledge, C.R. Mote, and D.T. Mitchell. 1983. Variability in total organic carbon within a septic tank system. p. 29-36. In *Proc. of the 1982 Southeastern On Site Sewage Conference*. North Carolina Div. of Health Services and North Carolina State University Soil Sci. Dep., Raleigh, NC.
- Mitchell, D. 1983. Nonuniform distribution by septic tank systems. p. 37-45. In *Proc. of the 1982 Southeastern On Site Sewage Conference*. North Carolina Div. of Health Services and North Carolina State University Soil Sci. Dep. Raleigh, NC.
- Mote, C.R., R.D. Estes, and E.L. Rausch. 1983. Design and performance of PVC dosing siphons. *Trans. Am. Soc. Agric. Eng.* 26:809 813.
- Scott, H.D., D.B. Saulsberry, E.M. Rutledge, and C.R. Mote. 1983. Domestic waste disposal by evapotranspiration. p. 86-89. In *Proc. of the 1982 Southeastern On Site Sewage Conference*. North Carolina Div. of Health Services and North Carolina State University Soil Sci. Dep., Raleigh, NC.
- Harper, M.D., M.S. Hirsch, C.R. Mote, E.M. Rutledge, D.T. Mitchell, and H.D. Scott. 1982. Performance of three modified septic tank filter fields. p. 187-196. In *Proc. of the Third National Symposium on Individual and Small Community Sewage Treatment*. *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Mitchell, D.T., C.R. Mote, and E.M. Rutledge. 1982. Soil column comparison of aerobically pretreated wastewater to septic tank effluent. p. 266-272. In *Proc. of the Third National Symposium on Individual and Small Community Sewage Treatment*. *Am. Soc. Agric. Eng., St. Joseph, MI.*
- Mote, C.R., J.W. Pote, E.M. Rutledge, H.D. Scott, and D.T. Mitchell. 1982. A computerized design and simulation model for pressure distribution systems in sloping septic tank filter fields. p. 288-300. In *Proc. of the Third National Symposium on Individual and Small Community Sewage Treatment*. *Am. Soc. Agric. Eng., St. Joseph, MI.*

- Rutledge, E.M., C.R. Mote, P.S. Stafford, D.T. Mitchell, H.D. Scott, and M.D. Harper. 1982. Designing septic tank filter fields in soils with hydraulically limiting subsurface horizons. p. 85-92. In Proc. of the Third National Symposium on Individual and Small Community Sewage Treatment. Am. Soc. Agric. Eng., St. Joseph, MI.
- Scherer, B.P., and D.T. Mitchell. 1982. Individual household surface disposal of treated wastewater without chlorination. p. 207-214. Proc. of the Third National Symposium on Individual and Small Community Sewage Treatment. Am. Soc. Agric. Eng., St. Joseph, MI.
- Ransom, M.D., W.W. Phillips, and E.M. Rutledge. 1981. Suitability for septic tank filter fields and taxonomic composition of three soil mapping units in Arkansas. Soil Sci. Soc. Amer. J. 45:357-361.

B. Local and State Publications:

- Owens, Phillip R. and E. Moyer Rutledge. 2003. Phosphorus best management practices -protecting water quality: septic drain field design & maintenance. Southern Regional Extension & Research Information Exchange Group (SERA-IEG 17).
- Rutledge, E. Moyer and Mark A. Gross. 1996. Arkansas On-Site Wastewater Renovation Projects. AR Water Res. Cent. Pub. MSC 215, p. 23-24, Fayetteville, AR.
- Owens, Phillip R., Mark A. Gross, and E. Moyer Rutledge, 1996. Response of a septic tank filter field to resting. Proceedings of the Eleventh Annual On-Site Wastewater Treatment Conference: Minimizing Impacts, Maximizing Resource Potential. Raleigh, NC p. 73. (Invited).
- Rutledge, E.M., M.A. Gross and P.R. Owens. 1996. Septic tank filter fields: Stress-period loading as a design factor. Proceedings of the Eleventh Annual On-Site Wastewater Treatment Conference: Minimizing Impacts, Maximizing Resource Potential. Raleigh, NC. pp. 69-70. (Invited).
- Gross, M.A., D.C. Wolf and E.M. Rutledge. 1996. Overview of the Arkansas on-site domestic wastewater renovation research project. Proceedings of the Arkansas Water Resources Center 1996 Research Conference; Diversity of Arkansas Water Resource Center Research. Pub. by the Arkansas Water Resources Center. Fayetteville, AR.
- Rutledge, E.M., 1995. Work in progress: On-site treatment of household wastewater. Arkansas Farm Research. Vol. 43, No. 5, p. 3.
- Gross, M.A., J. Hestir, D.C. Wolf, and E.M. Rutledge. 1991. Using viruses to examine soil treatment of septic tank effluent. Proc. Ark. Acad. Sci. 45:29-32.
- Gross, M.A. 1990. Virus reduction by the Stanford onsite wastewater treatment system. Pub. No. 146, Arkansas Water Resources Research Center, Fayetteville, AR.
- Gross, M.A. 1987. Assessment of effects of household chemicals upon individual septic tank performance. Pub. No. 131, Arkansas Water Resource Research Center, Fayetteville, AR.
- Mote, C.R., C.L. Griffis, J.W. Pote, M.D. Harper, E.M. Rutledge, and D.K. Shoemaker. 1987. Serially loaded seepage trench performance of a Captina soil. Ark. Agri. Exp. Stn. Rpt. Ser. 303. Fayetteville. 16 p.
- Rutledge, E.M., C. Griffis, D. Mitchell, and D.C. Wolf. 1986. Arkansas onsite domestic wastewater renovation project report. A report to the Individual Sewage Disposal System Advisory Committee. 50 p.
- Mote, C.R. 1984. Pressurized distribution for on site domestic wastewater renovation systems. Ark. Agric. Exp. Stn., Bulletin 870.
- Rutledge, E.M., C.R. Mote, M.S. Hirsch, H.D. Scott, and D.T. Mitchell. 1983. Disposal of household wastewater in soils of high stone content (1977-1980). Pub. No. 99, Arkansas Water Resources Research Center, Fayetteville, AR.
- Rutledge, E.M., C.R. Mote, D.T. Mitchell, M.S. Hirsch, M.D. Harper, H.D. Scott, and C.L. Griffis. 1983. Disposal of household wastewater in soils of high stone content (1981-1983). Pub. No. 103, Arkansas Water Resources Research Center, Fayetteville, AR.
- Mote, C.R., R.D. Estes, and E.L. Rausch. 1982. Automatic dosing siphons for loading septic tank filter fields. Ark. Agric. Exp. Stn., Report Series 271.
- Mote, C.R., and J.W. Pote. 1982. Computer design and simulation of systems for pressure distribution of septic tank effluent in sloping filter fields. Ark. Agric. Exp. Stn., Report Series 273.
- Saulsberry, D.B., H.D. Scott, E.M. Rutledge, C.M. Hitt. 1982. Performance of an evapotranspiration system in on site wastewater disposal. Ark. Agric. Exp. Stn., Bulletin 857.
- Mote, C.R., E.L. Rausch, J.W. Pote, and R.D. Estes. 1981. Design of systems for pressure distribution of septic tank effluent in sloping filter fields. Ark. Agric. Exp. Stn., Report Series 257.
- Rutledge, E.M. 1981. Alternatives for on site wastewater renovation adjacent to Beaver Lake. Proceedings of operation stormwater conference in Arkansas on problems of urban run off 1980-81. p. 153-178. In Lois Imhoff and Carolyn Delille (eds.), Pub. by League of Women Voters of Arkansas, Little Rock.

C. Abstracts

- Moore, J.W., E.M. Rutledge and M. Savin. 2003. Overview of soil treatment of septic tank effluent in Arkansas. In Agronomy Abstracts. p. 276. American Society of Agronomy, Madison, WI.

- Rutledge, E.Moye, Phillip R. Owens and Van Brahana. 2002. Relic Redoximorphic Features in the Soils of the Eastern Lowlands of Arkansas. In Agronomy Abstracts, American Society of Agronomy, Madison, WI.
- Rutledge, E.M., M.A. Gross, H.M. Wilks, K.A. Roark, M.A. Steele, P.R. Owens, and S.C. Osier. 1999. Septic Tank Effluent Renovation Under Gravity and Under Pressure Dosed Trenches. In Agronomy Abstracts, American Society of Agronomy, Madison, WI. p. 214.
- Osier, S.C., M.A. Gross, D.A. Wysocki, E.M. Rutledge, P.R. Owens and A.K. Robinson. 1997. Relic Redoximorphic Features in a Fragiuult. In Agronomy Abstracts. American Society of Agronomy, Madison, WI.
- Gross, M.A., K.A. Peetz, K. Hearne, and E.M. Rutledge. 1997. A Laboratory Study of Distribution Box Performance in Septic Tank - Soil Absorption Systems. ASTM Abstracts, Symposium On-Site Characterization and Design of On-Site Septic Systems. New Orleans, LA. January 15-19, 1997. p. 3.
- Gross, M.A., E.M. Rutledge, D.C. Wolf, and C. Bomblat. 1997. Maintenance of Low Pressure Septic Tank Effluent Distribution Systems. ASTM Abstracts, Symposium On-Site Characterization and Design of On-Site Septic Systems. New Orleans, LA. January 15-19, 1997. p. 6.
- Owens, P.R., E.M. Rutledge, C. Roark, M.A. Gross, D.C. Wolf, and R. McNew. 1997. Long-Term Effluent Absorption Rates of a Serially Loaded Septic Tank Filter Field. ASTM Abstracts, Symposium On-Site Characterization and Design of On-Site Septic Systems. New Orleans, LA. January 15-19, 1997. p. 8
- Rutledge, E.M., P.R. Owens, R.L. Goff, M.A. Gross, T. Brumbelow, and D.C. Wolf. 1997. Performance of Septic Systems Designed for Effluent Storage Using Soil Morphology. ASTM Abstracts, Symposium On-Site Characterization and Design of On-Site Septic Systems. New Orleans, LA. January 15-19, 1997. p. 16.
- Nichols, D.J., D.C. Wolf, M.A. Gross, and E.M. Rutledge. 1997. Renovation of Septic Effluent in a Stratified Sand Filter. ASTM Abstracts, Symposium On-Site Characterization and Design of On-Site Septic Systems. New Orleans, LA. January 15-19, 1997. p. 25.
- Osier, S.C., M.A. Gross, D.A. Wysocki, E.M. Rutledge, P.R. Owens and A.K. Robinson. 1997. Relic Redoximorphiic Features in a Fragiuult. In Agronomy Abstracts. American Society of Agronomy, Madison, WI.
- Rutledge, E. Moye and Mark. A. Gross. 1996. Arkansas On-Site Wastewater Renovation Projects. AR Water Res. Cent. Pub. MSC-215, p. 23-24, Fayetteville, AR.
- Owens, Phillip R., Mark A. Gross, and E. Moye Rutledge, 1996. Response of a Septic Tank Filter Field to Resting. Proceedings of the Eleventh Annual On-Site Wastewater Treatment Conference: Minimizing Impacts, Maximizing Resource Potential. Raleigh, NC, p. 73. (Invited).
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