

## BIORESOURCE ENGINEERING

### OREGON STATE UNIVERSITY

**MOORE**, James A.  
Professor, Extension Specialist and Head  
Bioresource Engineering Dept.  
Oregon State University  
Corvallis, OR 97331-3906

Phone: 541/737-6299  
FAX: 541/737-2082  
mooreja@enr.orst.edu

#### **EDUCATION**

B.S., Agricultural Engineering, California State Polytechnic College, 1962  
M.S., Agricultural Engineering, University of Arizona, 1964  
Ph.D., Agricultural Engineering, University of Minnesota, 1975

#### **ACADEMIC POSITIONS**

Research and Teaching Assistant, University of Arizona, Department of Agricultural Engineering, Tucson, AZ, 1962-1964  
Junior Research Engineer, University of California, Department of Agricultural Engineering, Davis, CA, 1964-1968  
Instructor and Assistant Professor, University of Minnesota, Agricultural Engineering Department, St. Paul, MN, 1968-1979  
Associate Professor and Extension Agricultural Engineer, Oregon State University, Agricultural Engineering Department, Corvallis, OR, 1979-1985  
Acting Head, Oregon State University, Agricultural Engineering Department, Corvallis, OR, July 1, 1983 - September 1, 1984  
Professor and Extension Agricultural Engineer, Oregon State University, Agricultural Engineering Department, Corvallis, OR, 1985  
Visiting Scientist, New Zealand Agricultural Engineering Institute, Lincoln College, Canterbury, New Zealand. 1986-87  
Visiting Scientist, University of New South Wales, Kensington, NSW, Australia, 1993-94.  
Head, Oregon State University, Bioresource Engineering Dept., Corvallis, OR, 1996-2002.  
Professor Emeritus, Oregon State University, Bioengineering Dept., 2002

#### **FIELDS OF SPECIALIZATION**

Environmental Quality  
Modeling Bacterial Movement  
Livestock Waste Handling  
On Site Domestic Waste Systems  
Constructed Wetlands

## PROFESSIONAL ACTIVITIES

### International Assignments

Yemen 1982 - Served on a 6-week, 4-member team, to evaluate the use of sewage effluent for irrigation of crops - Sana's System  
Yemen 1985 - Served on a 5-week, 8-member team to develop preliminary plans for Extension demonstration and research experiment stations for the country.  
New Zealand 1986-87 - One-year sabbatical leave with New Zealand Agricultural Engineering Institute in Christchurch. Study was directed toward water quality.  
Taiwan 1988 - Two weeks visiting hog facilities and lecturing.  
Australia 1993-94 - One-year sabbatical leave with University of New South Wales, Sydney, Australia. Study was constructed wetlands.

### Registration

Professional Engineer #10823, State of Oregon

### Professional Societies

Soil Conservation Society of America  
American Society of Agricultural Engineers  
Council for Agricultural Science and Technology

### Professional Recognition

Phi Kappa Phi (Scholarship)  
Sigma Xi (Scientific Research Society)  
Epsilon Sigma Phi (National Honorary Extension Fraternity)  
Gamma Sigma Delta (National Honorary in Agriculture)  
Alpha Epsilon (National Honorary in Agricultural Engineering)

## AWARDS

The ASAE Blue Ribbon Award, 1983, Educational Aids Competition,  
Publications - Calculating the Fertilizer Value of Manure from Livestock Operations. J. A. Moore and T. L. Willrich  
The ASAE Blue Ribbon Award, 1984, Educational Aids Competition,  
publications - How to Calculate Manure Application Rates in the Pacific Northwest. R.E. Hermanson, J.A. Moore and C.F. Engle  
Burlingham Distinguished Professor of Agricultural Sciences, O S U - 1985  
Superior Service Award, USDA, 1985  
G. B. Gunlogson Countryside Engineering Award, ASAE, 1985  
Elected to grade of FELLOW, ASAE 1986  
Honor Award, Soil Conservation Society of America, Oregon Chapter,  
Outstanding Educational Program on Manure Management, 1990  
State Team Award, Epsilon Sigma Phi, Water Quality Management Team,  
Extension Service, 1992

Ferguson Distinguished Professor of Agricultural Sciences, Oregon State University, 1996.

## **PUBLICATIONS**

### Books

- "Animal Waste Management to Minimize Pollution," Agricultural Practices and Water Quality, Iowa State University Press, Chapter 20, November 1969, Ames, IA.
- Livestock Waste Facilities Handbook, Midwest Plan Service No. 18, Ames, IA, July 1975. Contributing Author.
- Agriculture and the Environment, American Society of Agricultural Engineers. 1984.
- Livestock Residue Management and Pollution Control. Agricultural Engineering 65(2):21-22, 1984. Contributing Author.
- Surface Transport of Microorganisms, J.A. Moore, Chapter 3 in Assessing Ecological Risks of Biotechnology, Butterworth-Heinemann Publishers. 1991.
- Geological and Groundwater Quality Considerations in Waste Management, J.A. Moore and J.D. Istok, Chapter 7, Agricultural Waste Management Field Manual, Soil Conservation Service. 1991.

### Technical Journals

- "Mechanical Removal of Wire Ties From Hay Bales," J.A. Moore and F. Wiersma, Transactions of the ASAE, 11(4):549, 1968.
- "Acceleration of Natural Drying of Poultry Manure Through Mechanical Agitation," J.A. Moore and S.A. Hart, presented at the Pacific Coast Region American Society of Agricultural Engineers, San Mateo, CA, April 10-11, 1968. Paper No. PC 68-121, 6 pp.
- "The Future of Animal Waste Management," J.A. Moore and D.B. Brooker, Agricultural Engineering, 51(7):414, July 1970.
- "Performance Finishing Yearlings in Confinement Housing," J.C. Meiske, R.D. Goodrich, R.L. Larson, J.A. Moore and E.R. Allred, J. Animal Science, 31:175, 1970.
- "Beef Confinement Systems-Oxidation Ditch," J.A. Moore, R.E. Larson, R.O. Hegg, and E.R. Allred, Transactions of the ASAE, 16(1):168-171, 1973.
- "Settling Solids in Animal Waste Slurries," J.A. Moore, R.O. Hegg, D.C. Scholz, and E. Strauman, Transactions of the ASAE, 18(4):694-698, 1975.
- "Operations of a Beef Oxidation Ditch With and Without Solids Removal," R.O. Hegg, J.A. Moore and R.E. Larson, Transactions of the ASAE, 22(2):377-380, 1979.
- "Minnesota Dairy Processing Plant Wastewater--Current Treatment and Alternative Costs," B.M. Buxton and J.A. Moore, Transactions of the ASAE, 22(3):664-670, 1979.
- "Effects of Rations on Beef Cattle Manure Handling Characteristics on Solid and Slatted Floors," J.A. Moore and R.O. Hegg, Transactions of the ASAE, 23(2):423-426, 1980.

## PUBLICATIONS (continued)

### Technical Journals (continued)

- "Manure Movement and Cattle Preference on Different Solid Sloping Floors,"  
J.A. Moore and R.E. Larson, Transactions of the ASAE, 23(4):964-967, 1980.
- "Mechanical Liquid-Solid Separation in Beef, Dairy and Swine Slurries," R.O.  
Hegg and R.E. Larson and J.A. Moore, Transactions of the ASAE, 24(1):159-163, 1981.
- "Bacterial Pollution from Agricultural Sources: A Review," J.A. Moore, S.R.  
Crane, M.E. Grismer, and J.R. Miner, Transactions of the ASAE, 26(3):858-866 & 872,  
1983.
- "Modeling Dairy Waste Management Systems' Influence on Coliform  
Concentration in Runoff," J.A. Moore, M.E. Grismer, S.R. Crane, and J.R. Miner,  
Transactions of the ASAE, 26(4):1194-1200, 1983.
- "A Study of the Pollution Potential of Land-Spread Septage." James A. Moore  
and G.R. Beehler. Published in Journal of Environmental Health. Volume 46, No. 4.  
January/February 1984.
- "Bacterial Pollution of Groundwater: A Review." Stuart R. Crane and James A.  
Moore. Published in Water, Air, and Soil Pollution. Volume 22, pp 67-83. 1984.
- "Livestock Residue Management and Pollution Control." C.B. Gilbertson, L.R.  
Shuyler, J.A. Moore, and J.R. Miner. Published in Agricultural Engineering, pp. 21-22.  
February 1984.
- "Calculating Required Dairy Manure Storage Volume." J.A. Moore and E.S.  
Baker. Transactions of the ASAE. 28(2): 547-550, 1985.
- "Ventilation for Rabbitries." J.A. Moore. The Journal of Applied Rabbit  
Research. Vol. 8(2); pp.54-56, 1985.
- "Economic Evaluation of Low Investment Swine Systems". L.D. Jacobson, V.R.  
Eidman and J.A. Moore. ASAE Paper No. 86-4035, ASAE Transactions, St. Joseph, MI.  
1986.
- "A Management Strategy to Reduce Bacterial Pollution in Shellfish Areas: A Case  
Study." Stuart R. Crane and James A. Moore. Environmental Management, Vol. 10, No. 1,  
pp. 41-51. 1986.
- "Modeling Enteric Bacterial Die-Off: A Review." S.R. Crane and J.A. Moore.  
Water, Air, and Soil Pollution. 27:411-439. 1986.
- "Resuspending Organisms from a Rangeland Stream Bottom." 1988. B.M.  
Sherer, J.R. Miner, J.A. Moore, and J.C. Buckhouse. Transactions of the ASAE, Vol. 31,  
No. 4, pp. 1217-1222.
- "Rangeland Cattle and Manure Placement: A Link to Water Quality." R.E.  
Larson, J.C. Buckhouse, J.A. Moore, and J.R. Miner. Academy of Science. 28:7-15,  
1988.
- "What Feeds the Weeds in Lake Ellesmere" J.A. Moore and D.N. Borrie, Soil  
and Water, Dept. of Scientific and Industrial Research, New Zealand. Spring 1988.

## PUBLICATIONS (continued)

### Technical Journals (continued)

- "Modeling Organism Movement in Various Livestock Manure Management Systems." May-June 1989. J.A. Moore, J.D. Smyth, E.S. Baker, J.R. Miner and D.C. Moffitt. Transactions of the ASAE, Vol. 32(3).
- "Will a Water Trough Reduce the Amount of Time Hay-fed Livestock Spend in the Stream (and therefore improve water quality)?" J.R. Miner, J.C. Buckhouse and J.A. Moore. Rangelands, Vol. 14(1). Feb. 1992.
- "Indicator Bacterial Survival in Stream Sediments" B.M. Sherer, J.R. Miner, J.A. Moore, and J.C. Buckhouse, Jl. of Environmental Quality, Vol. 21(4):591-595. 1992.
- "Microbial Ecology of Constructed Wetlands Used for Treating Pulp Mill Wastewater", K. Hatano, D.J. Frederick and J.A. Moore. Water Sci. Tech., Vol. 24(4): 233-239, 1994.
- "Wetland Treatment of Pulp Mill Wastewater", J.A. Moore, S.M. Skarda and R. Sherwood. Water Sci. Tech., Vol. 24(4): 241-247, 1994.
- "Water-Quality Benefits of Having Cattle Manure Deposited Away From Streams", R.E. Larsen, J.R. Miner, J.C. Buckhouse and J.A. Moore. Bioresource Technology, Vol. 48:113-118, 1994.
- "Variability of Treatment Performance in Constructed Wetlands", E. Kuehn and J.A. Moore. Water Sci. Tech., Vol. 32(3):241-250, 1995.
- "Nutrient Management Strategies", J.M. Hart, E.S. Marx, N.W. Christensen, and J.A. Moore. Journal of Dairy Science, Vol. 80,(19):2659-2666, 1997.
- "Manure Management System Design Strategies: How and Why", J.A. Moore and J.M. Hart. Journal of Dairy Science, Vol. 80(10):2655-2658, 1997.
- "More Animals, More Waste", J.R. Miner and J.A. Moore, Resource, Engineering and Technology for a Sustainable World, ASAE, October, 2000.

### Conference Proceedings

- "Pumping Manure Slurries," S.A. Hart, J.A. Moore and W.F. Hale, Proceedings, National Symposium, Management of Farm Animal Wastes, ASAE Publication No. SP-0366, May 1966.
- "Maceration for the Disposal of Dead Poultry," J.A. Moore and W.C. Fairbank, Proceedings, National Symposium, Management of Farm Animal Wastes, ASAE Publication No. SP-0366, May 1966.
- "Effect of Colored Light on Growth and Egg Production in the Japanese Quail," A.E. Woodard J.A. Moore and W.O. Wilson, Proceedings, 1967 Poultry Institute, Sponsored by the University of California.
- "Study of the Use of the Oxidation Ditch to Stabilize Beef Animal Manures in Cold Climate," J.A. Moore, R.E. Larson and E.R. Allred, Proceedings, Cornell University Conference, Animal Waste Management, Syracuse, NY, January 1969.
- "Problems of Farm Waste Disposal," Proceedings, 41st Annual Meeting of

Minnesota Farm Manager and Rural Appraisers Association, Minneapolis, MN, February 1969.

## **PUBLICATIONS** (continued)

### Conference Proceedings (continued)

- "Managing Livestock Wastes to Control Pollution," J.A. Moore. Proceedings, Annual Meeting of Minnesota Chapter Soil Conservation Society of America, Water Pollution by Nutrients Sources, Effects and Control, Water Resources Research Center Publication, University of Minnesota Pub. No. 13, June 1969
- "Engineering Aspects of Animal Waste Disposal in Minnesota," J.A. Moore. Proceedings, USDA Soil Conservation Service, Minneapolis, MN, September 30-October 2, 1970.
- "Beef Waste and the Oxidation Ditch - Today and Tomorrow," J.A. Moore and R.E. Larson, International Symposium on Livestock Wastes, Ohio State University, April 1971.
- "Waste Management Systems for Roofed Beef Confinement Facilities," J.A. Moore. Proceedings, Iowa State University Animal Waste Management Conference, Ames, IA, October 13-15, 1971.
- "Hydraulic Characteristics of Animal Waste," J.A. Moore. Proceedings, Midwest Livestock Waste Management Conference, Iowa State University, Ames, IA, November 27-28, 1973.
- "Treatment of Beef Waste by a Rotating Biological Contactor," J.A. Moore, R.O. Hegg and R.E. Larson, Proceedings, Sixth National Agricultural Waste Management Conference, Cornell University, New York, March 1974.
- "Waste Handling and Lagoon Management," J.A. Moore. Proceedings, Beef in Confinement Workshop, National Feed Ingredients Association, Des Moines, IA, April 1974.
- "Five-Year Beef Animal Environment Study in Minnesota," R.O. Hegg, R.E. Larson, J.A. Moore, J.C. Meiske, and R.D. Goodrich, Proceedings, International Livestock Environment Symposium, Lincoln, NE, April 1974.
- "Recycling Solids From an Aerated Beef Slurry for Feed," R.O. Hegg, R.E. Larson, J.A. Moore, R.D. Goodrich, and J.C. Meiske, Proceedings, 3rd International Symposium on Livestock Wastes, University of Illinois, Urbana-Champaign, IL, 1975.
- "Economic Implications of Waste Effluent Regulations for Minnesota Dairy Processing Plants," B.M. Buxton, S.J. Ziegler and J.A. Moore, Proceedings, 9th Annual Waste Management Conference, Syracuse, NY, April 28, 1977.
- "The Treatment and Disposal of Wastewater From Dairy Processing Plants," J.A. Moore and B.M. Buxton, Proceedings, 8th National Symposium on Food Processing Wastes, Seattle, WA, March 30-April 1, 1977.
- "Reevaluating Anaerobic Lagoon Loading Design Criteria," J.A. Moore, R.M. George and H.F. Mayes, International Symposium on Livestock Wastes, ASAE Publication No. SP-, April 1980.
- "Nitrogen Transformation and Losses From Animal Manures During Storage," J.A. Moore and G.R. Beehler, International Symposium on Livestock Wastes, ASAE Publication No. SP-, April 1980.

"Degree-Day Data for Use in Designing Anaerobic Lagoons for Livestock Wastes," H.F. Mayes, J.A. Moore and R.M. George, International Symposium on Livestock Wastes, ASAE Publication No. SP- , April 1980.

## **PUBLICATIONS** (continued)

### Conference Proceedings (continued)

- "Land Treatment of Septage," R.E. Machmeier and J.A. Moore, Individual Onsite Wastewater Systems: Proceedings of the Seventh National Conference, 1980.
- "Criteria for Selecting Manure Handling and Land Application Systems," J.A. Moore and R.K. White, Proceedings of the Second National Dairy Housing Conference, Madison, WI. 1983.
- "Reducing Bacterial Non-Point Pollution in Tillamook Bay, Tillamook, OR." J.A. Moore, Published in Proceedings of Non-Point Pollution Abatement Symposium, Marquette University, Milwaukee, WI, April 1985.
- "Wastewater Characteristics of a Flushing Dairy," J.A. Moore and J.R. Miner. Proceedings of the Fifth International Symposium on Agricultural Wastes, December 1985 at Chicago, IL.
- "Efficiency of Various Solid Separators". 1988. J.A. Moore. Environment and Housing for Livestock, Pig Research Institute, Taiwan.
- "New Ideas for Designing an Anaerobic Digester". 1988. J.A. Moore. Proceedings, Third International Conference on Environment and Housing for Livestock, Pig Research Institute, Taiwan. April 21 & 22.
- "Thinking of Labor in Animal Housing", J.A. Moore and M.J. Gamroth, Proceedings, Lower Columbia Dairy Shortcourse, Washington and Oregon Extension Service, Corvallis, OR. January 1989.
- "Flushing Freestall Alleys", J.A. Moore, Proceedings, Dairy Manure Management International Symposium, Northeast Regional Agricultural Engineering Service, Cornell University, Ithaca, NY. February 1989.
- "Dairy Manure Solid Separation", J.A. Moore, Proceedings, Dairy Manure Management International Symposium, Northeast Regional Agricultural Engineering Service, Cornell University, Ithaca, NY. February 1989.
- "Modeling Surface Transport of Microorganisms," J.A. Moore, Proceedings, Integration of Research and Predictive Model Development in Biotechnology Risk Assessment, EPA Research and Development, Prepared by Environmental Research Laboratory, Gulf Breeze, FL. November 1989.
- "Where Does the Nitrogen Go From Spread Manure", J.A. Moore, Proceedings, Lower Columbia Dairy Shortcourse, Washington and Oregon Extension Service, Corvallis, OR. January 1991.
- "Evaluation of Off-Stream Water Source to Reduce Impact of Winter Fed Range Cattle on Stream Water Quality," J.A. Moore, J.C. Buckhouse, and J.R. Miner, Proceedings, Nonpoint Source Pollution: The Unfinished Agenda for the Protection of our Water Quality, Report 78, Tacoma, WA, March 20-21, 1991.

"Movement of Nitrogen from Land Application of Dairy Manure on Pasture,"  
Shaun Kelly, J.A. Moore, M. Gamroth, and D. Myrold, Proceedings, Nonpoint Source  
Pollution: The Unfinished Agenda for the Protection of our Water Quality, Report 78,  
Tacoma, WA, March 20-21, 1991.

## **PUBLICATIONS** (continued)

### Conference Proceedings (continued)

- "Measuring Nitrogen Movement from Land Spread Dairy Manure," J.A. Moore,  
Shaun Kelly, M.J. Gamroth, Dave Myrold and Nancy Baumeister, Proceedings,  
Environmentally Sound Agriculture Conference, Orlando, FL, April 16-18, 1991.
- "Planning Dairy Waste Management Facilities," J.A. Moore, Proceedings,  
Planning Dairy Facilities Workshop, Fresno, CA, October 7-10, 1991, 7 pp.
- "Nitrogen Uptake and Losses in Western Oregon Pastures," M.J. Gamroth and J.A. Moore,  
Proceedings, 26th Annual Northwest Animal Nutrition Conference, pp. 217-224, 11/ 1991.
- "Nutrient Losses in Manure Management Systems," J.A. Moore and M.J.  
Gamroth, Proceedings, 1992 Northwest and Lower Columbia Dairy Shortcourses, January  
27-28, 1992, Blaine, WA.
- "Keeping Bacteria Out of the Bay -- The Tillamook Experience," J.A. Moore,  
R. Pederson, and J. Worledge, Proceedings, National Rural Clean Water Program  
Symposium, September 1992, Orlando, FL.
- "Wetland Treatment of Pulp and Paper Wastewater," J.A. Moore, S.M. Skarda and  
R. Sherwood, Proceedings, International Specialist Conference on Wetland Systems in  
Water Pollution Control, Sydney, Australia, November 1992.
- "Microbial Ecology of Constructed Wetlands Used for Treating Pulp Mill  
Wastewater", K. Hatano, D.J. Frederick and J.A. Moore, Proceedings, International  
Specialist Conference on Wetland Systems in Water Pollution Control, Sydney, Australia,  
November 1992.
- "Nutrient Utilization and Cropping", J.A. Moore and M.J. Gamroth, Proceedings, 1993 Western  
Large Herd Dairy Management Conference, Las Vegas, NV, April 22-24, 1993.
- "Pathways of Nitrogen Movement from Land Spread Manure", J.A. Moore and M.J.  
Gamroth, Proceedings of the Third International Dairy Housing Conference, Dairy  
Systems for the 21st Century, Orlando, FL, February 2-5, 1994.
- "An Evaluation of Off-Site Water Development and Fencing Configurations Designed to  
Ameliorate Water Quality Impacts by Livestock, J. Clawson, J. Buckhouse, R. Miner, and  
J. Moore. Proceedings of the Oregon Academy of Science. Volume XXX, Oregon State  
University, 1994.
- "Preliminary Results of Wetland for Treatment of Dairy Farm Wastewater", S. Skarda, J.A.  
Moore, S.F. Niswander and M.J. Gamroth. In Constructed Wetlands for Animal Waste  
Management Proceeding of a Workshop, April 1994, Purdue University, Lafayette, IN.
- "Flow Characteristics of Constructed Wetlands: Tracers Studies of the Hydraulic Regime",  
D.B. Stairs and J.A. Moore, Proceedings, 4th International Conference on



Wetland Systems for Water Pollution Control, Guanezhou, Peoples Republic of China, November, 1994.

"Decomposition of Cattail and Bulrush Plant Parts in a Constructed Wetland", A. Walz and J.A. Moore, Proceedings, 4th International Conference on Wetland Systems for Water Pollution Control, Guanezhou, Peoples Republic of China, November, 1994.

## **PUBLICATIONS** (continued)

### Conference Proceedings (continued)

"Calculating a Water Balance for a Constructed Wetland", N. Marsh, J.A. Moore, D. Roser and J. Bavor, Proceedings, 4th International Conference on Wetland Systems for Water Pollution Control, Guanezhou, China, November, 1994

"Variability of Treatment Performance in Constructed Wetlands", E. Kuehn and J.A. Moore, Proceedings, 4th International Conference on Wetland Systems for Water Pollution Control, Guanezhou, China, November, 1994

"Making the Most of Manure Nutrient Uptake with Grass", J.A. Moore and M.J. Gamroth. Proceedings of the 1995 Northwest and Lower Columbia Dairy Short courses, Oregon State and Washington State Universities, January 1995.

"Selecting and Building Manure Facilities for Your Dairy", J.A. Moore and M.J. Gamroth. Proceedings of the 1995 Northwest and Lower Columbia Dairy Shortcourses, Oregon State and Washington State Universities, January 1995.

"Treating Dairy Flush Water in a Constructed Wetland", J.A. Moore, M.J. Gamroth, S.M. Skarda, and S.F. Niswander, Proceedings, 7th International Symposium on Agricultural and Food Processing Wastes (ISAFPW95), Chicago, IL, June, 1995.

"Water Use on Oregon Dairy Farms", M.J. Gamroth and J.A. Moore, Proceedings, 7th International symposium on Agricultural and Food Processing Wastes (ISAFPW95), Chicago, IL, June 1995.

"Nutrient Removal in Intermittently-Loaded Constructed Wetland Biofilters Used for the Treatment of Primary-Settle Sewage", A. Heritage, J. Bavor & J.A. Moore. National Conference on Wetlands for Water Quality Control, James Cook University, Townsville, September 25-29, 1995.

"Treatment of Pulp Mill Effluent with a Constructed Wetland", S. F. Niswander and J. A. Moore. 1995 James A. Vomocil Water Quality Conference, Oregon State University, Corvallis, OR, February 1996.

"Whole Farm Nutrient Management: A Comparison of Two Dairies." J.A. Moore, J. Hart and M. Gamroth. Animal Production Systems and the Environment. International Conference on Odor, Water Quality, Nutrient Management and Socioeconomic Issues, Des Moines, Iowa. July 19-22, 1998.

"Suitability of a Treatment Wetland for Dairy Wastewaters", P.M. Geary and J.A. Moore. 6<sup>th</sup> International Conference on Wetland Systems for Water Pollution Control, Sau Paulo, Brazil. 1998.

"Livestock Waste Management Systems Re-evaluated", J.R. Miner and J.A. Moore, Proceedings, 2<sup>nd</sup> International Conference, Air Pollution from Agricultural Operations, ASAE, Des

Moines, Iowa, October 2000.

“Animal, Agricultural and Food Processing Wastes”, Proceedings of the 8<sup>th</sup> International Symposium, J.A. Moore, Editor, ASAE, Des Moines, Iowa, October 2000.

“Modeling Nitrogen Dynamics in Treatment Wetlands: The Use of Plant Efficiency Concepts”, D.M. Hicks and J.A. Moore, Proceedings, Research and Extension Regional Water Quality Conference 2002, Vancouver, Washington, February 2002.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others

- "Manure Grate Design for Dairy Barns," J.A. Moore, D.W. Bates, G.D. Marx, and M.C. Jacobson, Agricultural Extension Service Bulletin M-155, University of Minnesota, 1971.
- "Farm Animal-Waste Management," (J.R. Miner, ed.), North Central Regional Publication 206, Special Report 67, May 1971
- "Finishing Yearlings in Insulated Housing Equipped With an Oxidation Ditch Waste Disposal System," J.C. Meiske, R.L. Larson, R.O. Hegg, J.A. Moore and R.D. Goodrich, Minnesota Cattle Feeders' Report, University of Minnesota, 1972.
- "Feeding Value of Corn Reclaimed From the Oxidation Ditch and the Influence of Adding Water to Rations for Finishing Steers," J.C. Meiske, R.D. Goodrich, R.L. Larson, R.O. Hegg and J.A. Moore, Minnesota Cattle Feeders' Report, University of Minnesota, 1972.
- "Animal Waste Sample Preservation and Preparation," J.A. Moore, M.R. Overcash and T.B.S. Prakasm, Standardizing Properties and Analytical Methods Related to Animal Waste Management, ASAE Special Publication SP-0275, 1975.
- "Analyzing Physical and Chemical Properties of Solid Waste," J.A. Moore. Standardizing Properties and Analytical Methods Related to Animal Waste Management, ASAE Special Publication SP-0275, 1975.
- "The Anaerobic Digestion of Livestock Wastes to Produce Methane, 1964-June 1975, A Bibliography with Abstracts," J.A. Moore and G. Shadduck, published by the University of Minnesota, St. Paul, MN, 102 pp.
- "Energy Recovery Through Anaerobic Digestions of Animal Manures," J.A. Moore and M.P. Even, published in "Recovery of Energy From Farm Solid Waste and Timber Production Residue," prepared for Minnesota Pollution Control Agency by the Center for the Studies of the Physical Environment, University of Minnesota, 1975.
- "Influence of Monensin on Performance of Cattle Fed With and Without Shelter," J.C. Meiske, R.D. Goodrich, R.L. Larson and J.A. Moore, 1976 Research Report B-216, Minnesota Cattle Feeders' Report, University of Minnesota, St. Paul, MN, 1976.
- "Use of Agricultural Wastes in Minnesota," J.A. Moore. Published in Conference Summary-Update on Alternative Energy Sources, Technology and Applications for Minnesota, Bloomington, MN, April 27-28, 1976.
- "Preliminary Identification of Literature, Models and Data for Evaluating Rural

Nonpoint Nutrient, Sediment, and Pathogen Sources," J.A. Moore, C.A. Onstad, M.A. Otterby, H.L. Person, and D.B. Thompson, Joint Report by the Agricultural Engineering Department, University of Minnesota, St. Paul, MN and the Agricultural Research Service, USDA, North Central Soil Conservation Research Center, Morris, MN, May 1977.

"Implications of Water Quality Regulations for Minnesota Dairy Processing Plants," B.M. Buxton, J.A. Moore and S.J. Ziegler, Station Bulletin 520-1977, Agricultural Experiment Station, University of Minnesota, in cooperation with the Economic Research Service, U.S. Department of Agriculture, 1977.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others (continued)

- "Ammonia Volatilization From Animal Manures," J.A. Moore, G.R. Beehler and N.J. Horvath, Biomass Utilization in Minnesota, prepared by the Center for the Study of the Physical Environment, available from National Technical Information Service, Springfield, VA, 1977.
- "Waste Handling Alternatives for Farrowing Units," L.D. Jacobson and J.A. Moore, ASAE Paper No. 78-4013, ASAE, St. Joseph, MI.
- "Land Spreading Impacts," Water Research in Action, July/August 1978, Vol. 3, No. 2, Texas A & M University, College Station, TX.
- "Predicting Potential Nutrient and Pathogen Loss in Minnesota Agricultural Non-point Source Pollution," D.B. Thompson and J.A. Moore, Planning Section, MPCA, published by University of Minnesota, St. Paul, MN, 253 pp., 1978.
- "The Effects of Conservation Practices on Nutrient Loss," G.S. Johnson and J.A. Moore, Planning Section, MPCA, published by University of Minnesota, St. Paul, MN, 277 pp., 1978.
- "Planning a Dairy Waste Handling System." James A. Moore. Extension Circular 1007. Oregon State University Extension Service. April 1980.
- "Land Application of Sewage Sludge." James A. Moore. Fact Sheet 249. Oregon State University Extension Service. June 1980.
- "Fertilizing with Sewage Sludge." E. Hugh Gardner, D.D. Hemphill, V.V. Volk, J.A. Moore and T.L. Jackson. Fertilizer Guide 64. Oregon State University Extension Service. June 1981.
- "Calculating the Fertilizer Value of Manure from Livestock James A. Moore and Ted L. Willrich. EC 1094. Oregon State University Extension Service. January 1982.
- "Manure Management Practices to Reduce Water Pollution." James A. Moore and Ted L. Willrich. FS 281. Oregon State University Extension Service. April 1982.
- "Controlling Odors from Confined Animal Operations." James A. Moore and Ted L. Willrich. FS 282. Oregon State University Extension Service. 1982.
- "Selecting a Dairy Waste Management System for the Willamette Valley." James A. Moore and Ted L. Willrich. EC 1102. Oregon State University Extension Service. September 1982.
- "Selecting a Dairy Waste Management System for Eastern Oregon." James A. Moore and Ted L. Willrich. EC 1103. Oregon State University Extension Service.

September 1982.

"Selecting a Dairy Waste Management System for the Oregon Coast." James A. Moore and Ted L. Willrich. EC 1104. Oregon State University Extension Service. September 1982.

"Use of Sewage Effluent for Irrigation of Crops Sana's System, Stage One." L. Boersma, W.M. Harper, G.A. McFeters, J.A. Moore. Consortium for International Development, Tucson, Arizona and Corvallis, Oregon. Yemen Report 1982-1983, Project 052-Yemen. September 1982.

"Managing Storage Facilities for Livestock Manure." James A. Moore and Ted L. Willrich. EC 1108. Oregon State University Extension Service. October 1982.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others (continued)

"Evaluating Dairy Waste Management Systems' Influence on Fecal Coliform Concentration on Runoff." James A. Moore, Mark E. Grismer, Stuart R. Crane and J. Ronald Miner. Agricultural Experiment Station Bulletin 658. Oregon State University. November 1982.

"Producing and Utilizing Methane Gas from Dairy Manure -- Fact or Fiction?" James A. Moore. Proceedings of the 1983 Lower Columbia Dairy Short Course Sponsored in part by the Animal Science Department, Oregon State University, Corvallis, OR.

"Calf Environment Important." James A. Moore. Published in Dairy Life Northwest. Vol. II, No.(4)13 & 34. June-July 1983.

"How to Calculate Manure Application Rates in the Pacific Northwest." R.E. Hermanson, J.A. Moore and C.F. Engle. PNW 0239. Oregon State University Extension Service. July 1983.

"Manure System Costs Vary Greatly." James A. Moore. Published in Hoard's Dairyman, October 10, 1983.

"Why Ventilate Animal Buildings?" James A. Moore. FS 302. Oregon State University Extension Service. October 1983.

"Using a Heat Pump in Milking Parlors." James A. Moore. Proceedings of the 1985 Lower Columbia Dairy Short Course, Sponsored by Washington and Oregon State University Extension Services. January 1985.

"Basic Ventilation Considerations." James A. Moore. Special Report 731, 26th Annual Swine Day, Agricultural Experiment Station, Oregon State University, Corvallis. February 1985.

"Effective Utilization of Natural Ventilation." James A. Moore. Special Report 731, 26th Annual Swine Day, Agricultural Experiment Station, Oregon State University, Corvallis. February 1985.

"Remodeling Farrowing and Nursery Facilities." James A. Moore. Special Report 731, 26th Annual Swine Day, Agricultural Experiment Station, Oregon State University, Corvallis. February 1985.

"Troubleshooting Mechanical Ventilation Systems." James A. Moore. Oregon Farmer-Stockman, Pacific Edition, April 18, 1985.

- "Making the Most of your Manure System." James A. Moore. Proceedings of Lower Columbia Dairy Short Course. 1986.
- "Updating Your Potato Storage." James A. Moore. Potato Country, May 1986, pp. 25-26.
- "Dairy Waste Management Practices in High Rainfall Areas of the West." James A. Moore. ASAE Paper No. 86-4033, ASAE, St. Joseph, MI. 1986.
- "Basic Ventilation Considerations for Livestock or Poultry Housing." James A. Moore. Pacific Northwest Extension Publication (PNW 307), September 1986.
- "Troubleshooting a Mechanical Ventilation System for Livestock or Poultry Housing." James A. Moore. Pacific Northwest Extension Publication (PNW 308), September 1986.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others (continued)

- "Small Scale On-Site Sewage Treatment Workshop Workbook." James A. Moore, Visiting Professor at New Zealand Agricultural Engineering Institute, Christchurch, New Zealand. 156 pp. February 1987.
- "Phosphorus and Lake Ellesmere: Sources, Movement and Management Practices." J. A. Moore and D. N. Borrie. Report prepared for: North Canterbury Catchment Board and Regional Water Board, Christchurch, New Zealand. 32 pp. May 1987.
- "Designing Dairy Free Stalls." M. J. Gamroth and J. A. Moore. PNW 31, September 1987.
- "Modeling Surface Transport of Microorganisms". J.A. Moore, EPA Biotechnology Risk Assessment Workshop, Breckenridge, CO. January 11-15, 1988.
- "Evaluating Coliform Concentrations in Runoff from Various Animal Waste Management Systems." J.A. Moore, J. Smyth, S. Baker, and J.R. Miner. Special Report 817, Agricultural Experiment Station, Oregon State University, Corvallis, OR. 1988.
- "Water Quality Impacts of Alternative Rangeland Management Systems". J.A. Moore, J.C. Buckhouse and J.R. Miner. Final Report to CSRS, USDA, 85-CSRS-2-2718, 212 pp.1988 .
- "Obtaining Permits for Livestock Operations". J.A. Moore. Extension Circular 1273, Oregon State University. October 1988.
- "Hovers for Farrowing Buildings". G.J. Pirelli and J.A. Moore. Extension Circular 1275, Oregon State University. October 1988.
- "Calculating the Fertilizer Value of Manure from Livestock Operations". J.A. Moore and M.J. Gamroth. Extension Circular 1094, Oregon State University. January 1989.
- "Solving Tillamook Bay's Water Quality Problems," J.A. Moore, D.L. Stettler, J.C. Van Calcar and J.E. Jackson. Presented at Western Regional Water Quality Workshop, Soil Conservation Service and Oregon Agricultural Experiment Station, July 1989.
- "Here's More on Using Tires in Free Stalls." James A. Moore. Published in

- Hoard's Dairyman, August 10, 1989.
- "Why Do Septic Systems Fail?" Mancl, K. and J. A. Moore. Extension Circular 1340, Oregon State University, January 1990.
- "Holding Tanks." Mancl, K. and J. A. Moore. Extension Circular 1342, Oregon State University, January 1990.
- "Septic Tank Maintenance." Mancl, K. and J. A. Moore. Extension Circular 1343, Oregon State University, January 1990.
- "Demonstration of the Effectiveness of an Off-stream Water Source to Reduce the Water Quality Impact of Winter Fed Range Cattle in Central Oregon." J.A. Moore, J.C. Buckhouse, and J.R. Miner. Final Report to Governor's Watershed Enhancement Board, March 9, 1990.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others (continued)

- "Sludge, Slurry, and Compost: Management of Land Application." J.A. Moore, Contributing author, U.S. Congress, Office of Technology Assessment, Beneath the Bottom Line: Agricultural Approaches to Reduce Agrichemical Contamination of Groundwater, OTA-F-418, Washington, DC. Government Printing Office, November 1990.
- "Designing Dairy Free Stalls." M. Gamroth and J.A. Moore. Progressive Dairyman Vol. 4, No. 10, pp. 21-33. November 1990.
- "Manure Pits: Methane, Hydrogen Sulfide, Carbon Dioxide", J.A. Moore and V.A. Sullivan, Agricultural Safety, Vol. 5, 1990, Bioresource Engineering Department, Oregon State University, Corvallis, OR.
- "Calculating the Fertilizer Value of Manure from Livestock Operations". J.A. Moore and M.J. Gamroth. Extension Circular 1094, Oregon State University. Revised 1991.
- "Understanding Natural Wetlands". D. Smith and J.A. Moore, Extension Circular 1407, Oregon State University. April 1992.
- "Using Constructed Wetlands to Improve Water Quality". J.A. Moore, Extension Circular 1408, Oregon State University. April 1992.
- "Quantifying Losses of Nitrogen from Land-Applied Dairy Manures". D.D. Myrold, N.C. Baumeister and J.A. Moore. Final Technical Completion Report submitted to U.S. Department of Interior. WRRI, November 1992.
- "Impact of Waterer Location on the Bacterial Quality of Rangeland Streams". J.A. Moore, J.C. Buckhouse, and J.R. Miner. Completion report for CSRS Report 90-38300-5311. 1993.
- "Nutria: Trouble for Constructed Wetlands". Denise Ross and James A. Moore. Hortus Northwest: A Pacific Northwest Native Plant Directory & Journal. Issue 4. 1993. Canby, OR.
- "Constructed Wetlands Wastewater Treatment Systems: How do they work?" Dawn Lesley, H. VanZee and J.A. Moore. Oregon State University Extension Service, EM 8543; July 1993.

- "Design and Construction of Demonstration/Research Wetlands for Treatment of Dairy Farm Wastewater. M.J. Gamroth and J.A. Moore. U.S. Environmental Protection Agency, Environmental Research Laboratory, Corvallis, OR. EPA/600/R-93/105. April 1993.
- "Physical Treatment of Animal Waste", J.A. Moore. Paper presented at Meeting the Environmental Challenge, Environmental Symposium, November 17-18, 1993, Minneapolis, MN, sponsored by the National Pork Producers Council.
- "Decomposition of Cattail and Bulrush Plants in Constructed Wetlands", Anita Walz and J.A. Moore. Hortus Northwest: A Pacific Northwest Native Plant Directory & Journal. Issue 1, Vol. 5. July 1994.
- "Handling Options: Old and the New", J.A. Moore. National Hog Farmer, Spring 1994, pp. 32-34, 37.

## **PUBLICATIONS** (continued)

### Extension Publications, Reports and Others (continued)

- "Sludge Mineralization Rate", J.A. Moore. Final Report to city of Eugene, OR. July 1994; 12 pages.
- "Myrtle Creek Hydroponics Wastewater Treatment Project Final Report", J.A. Moore, D. Ross and J. Kramer, Bioresource Engineering Department, June 1994. City of Myrtle Creek, OR.
- "Systems of Runoff Control". J.A. Moore, V.M. Meyer, A.L. Sutton. Pork Industry Handbook: Manure Management, Cooperative Extension Service, Purdue University, West Lafayette, IN. PIH-21, Reprinted June 1994.
- "Controlling Odors from Confined Animal Operations." James A. Moore and Ted L. Willrich. FS 282. Oregon State University Extension Service. Reprinted September 1994.
- "Assessing Your Manure Management for Water Quality Risk", M. Gamroth and J.A. Moore. Extension Circular 8646, Oregon State University, February 1996.
- "Manure Management in Small Farm Livestock Operations", D. Godwin and J.A. Moore. Extension Circular 8649, Oregon State University, October 1996.
- "Prohibit Livestock from Certain Polluted Waters or Adjacent Lands", J.A. Moore, contributing author, Special Report 966, Oregon State University, October 1996.
- "Integrated Animal Waste Management", J.A. Moore, contributing author, Task Force Report, No. 128, November 1996, Council for Agricultural Science and Technology, Nov. 1996.
- "Why Do Septic Systems Fail?", J.A. Moore, Extension Circular 1340, Oregon State University, March 1997.
- "Stream Temperatures – Some Basic Considerations", J.A. Moore and J.R. Miner. Extension Circular 1489, Oregon State University, May, 1997.
- "Water Quality Monitoring in the Tillamook Watershed", Timothy J. Sullivan, Joseph M. Bischoff, Kellie B. Vache, Mark Wustenberg and James Moore. Results of a One-Year Periodic Monitoring and Storm Sampling Program. December, 1998.

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