

JOHN MICHAEL ANTLE

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Montana State University
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EDUCATION:

Ph.D., Economics, University of Chicago, 1980
M.A., Economics, University of Chicago, 1979
A.B., *summa cum laude*, Economics and Mathematics, Albion College, 1976

HONORS AND FELLOWSHIPS:

John Dillon Fellow, Australian Agricultural and Resource Economics Society, 2005
Distinguished Fellow, American Agricultural Economics Association, 2002
President, American Agricultural Economics Association, 1999-2000
Policy Article Prize, Center for International Food and Agricultural Policy, University of Minnesota, 1995
Journal Article of the Year, Honorable Mention, Western Agricultural Economics Association, 1995
Outstanding Journal Article of the Year, Honorable Mention, American Agricultural Economics Association, 1995
AAEA/ERS commissioned paper on the role of economics in publicly-funded agricultural research, 1994
Journal Article of the Year Award, Northeastern Agricultural and Resource Economics Association, 1992
University Fellow, Resources for the Future, 1990-present
Outstanding Journal Article Award, American Agricultural Economics Association, 1988
Resident Fellowship, National Center for Food and Agricultural Policy, Resources for the Future, 1986
Gilbert F. White Fellowship, Resources for the Future, 1984-1985
Earhart Foundation Fellowship, 1976-1978
Phi Beta Kappa; NSF Honorable Mention in Economics, 1976

PUBLIC POLICY AND PROFESSIONAL SERVICE:

Lead Author, Third Assessment Report, Intergovernmental Panel on Climate Change, United Nations, 1999-2000
President and Chairman of the Executive Board, American Agricultural Economics Association, 1999-2000
President Elect and Executive Board Member, American Agricultural Economics Association, 1998-1999
Member, Committee on the Human Dimensions of Global Change, National Research Council, 1997-2000
Member, Board on Agriculture, National Research Council, 1992-1997
Senior Economist, President's Council of Economic Advisors, 1989-1990

INTERNATIONAL RESEARCH EXPERIENCE:

Principal Investigator, USAID Soil Management Collaborative Research Support Program, 1996-present
Consultant to the Agricultural Research Corporation of Brazil (EMBRAPA) for preparation of a paper on "The Role of Government in Agricultural Research," 1996
Consultant to the Environment Division, Organization for Economic Cooperation and Development, for the design of indicators of the environmental impacts of agricultural policies in the OECD countries, 1994-1995
Consultant to the World Bank and the Instituto Nacional de Investigaciones Forestales y Agropecuarias, Federal Government of Mexico, for the design and implementation of research projects to investigate the on-farm productivity of agricultural research in Mexico and the environmental impacts of Mexican agriculture, 1992-1995
Principal Investigator in Research Collaboration with International Rice Research Institute and International Potato Center on projects investigating environmental impacts of agriculture, 1988-1992
Consultant to the Agricultural Sciences Division, Rockefeller Foundation, 1987-1988
Consultant to the Economics Program, International Crops Research Institute for Semi-Arid Tropics, India, 1984-1986
Principal Investigator, Farm Efficiency Activity, University of California-Egypt Project, 1980-1983

LANGUAGE SKILLS:

French (fluent speaking and reading)
Spanish (conversational level)

RESEARCH FUNDING:**Current Funding:**

- Antle, J.M., Principal Investigator. "The Tradeoff Analysis Project Phase 2: Scaling Up and Technology Transfer to Address Poverty, Food Security and Sustainability of the Agro-Environment." Phase 2 of project funded as part of the Soil Management Collaborative Research Support Program (SM-CRSP), Agency for International Development, 2002-2007, expected funding \$2,760,000. Actual funding for 2002-2003: \$552,000; funding for 2003-2004: \$552,000; funding for 2004-2005: \$557,000.
- Capalbo, S.M., J.M. Antle and others. "Big Sky Regional Carbon Sequestration Partnership, Phase 2." Department of Energy, Fossil Energy Research and Development Program. October 2005-September 2009, \$14,292,087. Capalbo is lead PI, Antle is technical leader for Economics and Risk Management with a budget of \$1,181,000.
- Capalbo, S.M., Antle, J.M., and others. "Big Sky Carbon Sequestration Partnership." Department of Energy, Fossil Energy Research and Development Program. October 2003-September 2005, \$1,997,889. Capalbo is lead PI, Antle is co-investigator.
- Capalbo, S.M., J.M. Antle, R. Engel, D. Griffith, and P. Miller. MSU participation in the Consortium for Agricultural Soils Mitigation of Greenhouse Gases. CSREES/USDA, 2002-2004, MSU funds, \$1,320,000. Capalbo is lead PI, Antle is co-investigator.
- Maxwell, B., J. Antle, R. Aspinall, and L. Rew. "Developing and integrating tools for assessing the impacts of invasive plants for prioritization of management on federal lands." USDA Program on Economics of Invasive Species Management, 2005-2007, \$238,300.
- Ogle, S., J. Antle, K. Pickering, and K. Paustian. "Accounting for Leakage and Non-CO2 Greenhouse Gases for Emissions Trading: Toward Effective Policies that Promote Carbon as a Commodity for Agricultural Producers." USDA National Research Initiative Competitive Grants Program, Markets and Trade, 2004-2007, \$454,000
- Antle, J.M. University Fellow appointment, Resources for the Future, \$2,000 per year.

Past Funding:

- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. "Close Coupling of Ecosystem and Economic Models: Adaptation of Central U.S. Agriculture to Climate Change." Research proposal funded by USEPA program on Assessing the Consequences of Interactions between Human Activities and a Changing Climate, October 2000-September 2003, \$1,420,860. Summary available at www.climate.montana.edu.
- Mooney, S., J.M. Antle, and S.M. Capalbo. "A Measurement and Monitoring Protocol for Policies Designed to Sequester Soil Carbon." Montana State University proposal to USDA-NRI, 2002-2003, \$58,000.
- Antle, J.M., S.M. Capalbo, S. Mooney, and K.H. Paustian. "Economically Optimal Spatial Scale for Integrated Analysis of Agricultural Production Systems." National Science Foundation, Methods and Models for Integrated Assessment Program, June 2000-November 2003, \$275,000. Summary available at www.climate.montana.edu.
- Antle, J.M., Principal Investigator. "Tradeoffs in Sustainable Agriculture and the Environment in the Andes: A Decision Support System for Policy Makers." Project funded as part of the Soil Management Collaborative Research Support Program (SM-CRSP), Agency for International Development. 1996-2000, \$988,082. Completed October 2002.
- Antle, J.M. and S.M. Capalbo. MSU participation in the Consortium for Agricultural Soils Mitigation of Greenhouse Gases. Environmental Protection Agency, FY 2000-2001, MSU portion of grant, \$23,500. Summary available at www.climate.montana.edu.
- Antle, J.M., S.M. Capalbo, and J. Hewitt. "Testing Hypotheses in Integrated Impact Assessments: Climate Variability and Economic Adaptation in Great Plains Agriculture." U.S. Department of Energy, National Institute for Global Environmental Change, 1997-2000, \$410,000.
- Antle, J.M., S.M. Capalbo, and S. Mooney. "Policy Design and Implications for Ag Soil C Sequestration." USDA National Research Initiative Competitive Grants Program for FY 2000, \$70,000.

- Antle, J.M. Grant from U.S. Customs to the Trade Research Center for the research and education programs of the Center, 1996-2000 federal fiscal years, \$2,500,000.
- Antle, J.M. "Food Safety Regulation, Productivity and Competitiveness in Meat and Poultry Slaughter and Processing." CSRS/USDA (National Research Initiative Competitive Grants Program), 1995-1996, \$43,000; 1996-1999, \$146,000.
- Antle, J.M. Co-investigator on proposal with Rollin Hotchkiss, University Nebraska. "Water Resources and Climate Change: Regionally Integrated Assessment of Consequences." Great Plains Regional Center for Global Environmental Change, 1995-1998, total project funds, \$441,181; MSU component, \$44,602.
- Antle, J.M., S.M. Capalbo, and J. Hewitt. "Heterogeneity and Scale in Modeling the Economic Impacts of Climate Change on Agriculture in Great Plains and Northern Rocky Mountains Ecosystems." U.S. Department of Energy, Great Plains Regional Center for Global Environmental Change, 3-year grant proposal for \$520,693. Funding level for 1996, \$120,000; 1997, \$155,000.
- Antle, J.M. Co-investigator on project with Tony Barnosky et al., MSU Mountain Research Center. "Drivers of Biodiversity and Socioeconomic Patterns through Space and Time in Montane Ecosystems: A Cooperative, Experimental Initiative by the University of Montana and Montana State University." NSF EPSCoR Experimental Systemic Initiative Program, total project funds \$500,000 for 1995-1996, Antle budget \$10,000. Project renewed for 1996-1997.
- Antle, J.M., S.M. Capalbo, and J.B. Johnson. "Economics and Sustainability of Crop and Livestock Agriculture in the Northern Plains and Foothill-Mountain Environments," a project in the USDA/EPA research program on National Implications of Sustainable Agriculture, 1995-1997, \$130,475.
- Antle, J.M. and S.M. Capalbo. "Economic Impact Assessment of IPM." USDA Cooperative Agreement, 1995-1996, \$23,000.
- Antle, J.M., S.M. Capalbo, and J. Hewitt. "Heterogeneity and Scale in Modeling the Economic Impacts of Climate Change on Agriculture in Great Plains and Northern Rocky Mountains Ecosystems." Seed money grant for preparation of a proposal to the Great Plains Regional Center for Global Environmental Change, December 1994-October 1995, \$14,985.
- Antle, J.M. and S.M. Capalbo. "Economic and Physical Model Integration for Analysis of the Impacts of Agricultural Chemical Use on Ground Water Quality." ERS/USDA Cooperative Agreement, 1992-1995, \$133,000.
- Antle, J.M., C.C. Crissman, and S.M. Capalbo. "Sustainability of Andean Potato Production," in collaborative with the International Potato Center funded by the Rockefeller Foundation, 1990-1993, \$250,000.
- Antle, J.M., S.M. Capalbo, and P. Pingali. "Environmental and Health Impacts of Pesticide Use in Southeast Asian Rice Culture," in collaboration with the International Rice Research Institute funded by the Rockefeller Foundation, 1989-1993, \$160,000.
- Antle, J.M. and S.M. Capalbo. "Measuring Impact of Environmental Policies." ERS/USDA Cooperative Agreement, 1992-1993, \$10,000.
- Antle, J.M. Full salary and benefits funded by President's Council of Economic Advisors, Washington, DC, during 1989-1990 academic year, \$83,500.
- Antle, J.M. Research on measurement and valuation of agricultural pollution, Resources for the Future, Washington, DC, 1988, \$24,642.
- Antle, J.M. National Center for Food and Agricultural Policy Fellowship, Resources for the Future, Washington, DC, 1986, \$20,000.
- Antle, J.M. Gilbert White Fellowship, Resources for the Future, Washington, DC, 1986-1986, \$24,000.
- Antle, J.M. IPM Funding, University of California, 1984-1985, \$35,000.
- Antle, J.M. Egypt Project, University of California, 1981-1984, \$90,000.
- Antle, J.M. Water Resources Center, University of California, 1982-1983, \$32,000.

EMPLOYMENT HISTORY:

- Professor, Department of Agricultural Economics and Economics, Montana State University, Bozeman, MT, 1992-present
- Associate Professor, Department of Agricultural Economics and Economics, Montana State University, Bozeman, MT, 1987-1992
- Senior Economist, President's Council of Economic Advisors, Washington, DC, July 1989-June 1990
- Associate Professor, Department of Agricultural Economics, University of California-Davis, Davis, CA, 1984-1987

Visiting Professor, Department of Agricultural and Resource Economics, University of Maryland, College Park, MD,
Spring 1986
Assistant Professor, Department of Agricultural Economics, University of California-Davis, Davis, CA,
1980-1984
Lecturer in Economics, University of Illinois at Chicago, Chicago, IL, 1979-1980
Lecturer in Economics, Indiana University Northwest, Gary, IN, Fall 1978

PUBLICATIONS:

Manuscripts in Press and Under Review:

- Antle, J., S. Capalbo, and K. Paustian. "Ecological and Economic Impacts of Climate Change in Agricultural Systems: An Integrated Assessment Approach." Chapter 5 in *Climate Change and Variability: Local Impacts and Response*. Edward Elgar Publishing. Expected publication 2006.
- Antle, J.M. and R. Valdivia. "Modeling the Supply of Environmental Services from Agriculture: A Minimum Data Approach." *Australian Journal of Agricultural and Resource Economics*, accepted for publication, December 2005.
- Antle, J.M., J.J. Stoorvogel, and R.O. Valdivia. "Multiple Equilibria, Soil Conservation Investments and the Resilience of Agricultural Systems." *Environment and Development Economics*, accepted for publication December 2005.
- Antle, J.M., S.M. Capalbo, K.H. Paustian, and M.K. Ali. "Estimating the Economic Potential for Agricultural Soil Carbon Sequestration in the Central United States Using an Aggregate Econometric-Process Simulation Model." Submitted to *Climatic Change*, February 2005. Revision requested, November 2005.
- Antle, J., J. Stoorvogel, R. Valdivia, and D. Yanggen. "Economic Feasibility of Carbon Sequestration in Terraced Agroforestry Systems of Highland Peru." Submitted to *Agriculture, Ecosystems and Environment* December 2005.
- Antle, J.M., R. Valdivia, and D. Yanggen, "Endogeneity of Land Titling and Conservation Investments: Evidence from the Peruvian Andes." Submitted to *Land Use Policy* December 2005.
- Diagana, B., J.M. Antle, J.J. Stoorvogel, and K. Gray. "Economic Potential for Soil Carbon Sequestration in the Niore Region of Senegal's Peanut Basin." *Agricultural Systems*, accepted for publication, August 2005.
- Mooney, S., K. Gerow, J. Antle, S. Capalbo, and K. Paustian. "The Value of Incorporating Spatial Autocorrelation into a Measurement Scheme to Implement Contracts for Carbon Credits." Submitted to *Climatic Change*, February 2005.
- Paustian, K., J. Antle, J. Sheehan and E. Paul. *Agriculture's Role in Greenhouse Gas Mitigation*. Pew Center on Global Climate Change, 50 pp.

Professional Journal Publications:

- Antle, J.M. and J.J. Stoorvogel. (2006). "Incorporating Systems Dynamics and Spatial Heterogeneity in Integrated Assessment of Agricultural Production Systems." *Environment and Development Economics* 11(1):39-58.
- Antle, J.M., R.O. Valdivia, C.C. Crissman, J.J. Stoorvogel, and D. Yanggen. (2005). "Spatial Heterogeneity and Adoption of Soil Conservation Investments: Integrated Assessment of Slow Formation Terraces in the Andes." *Journal of International Agricultural Trade and Development* 1(1):29-53.
- Bricklemeyer, R.S., P.R. Miller, K. Paustian, T. Keck, G.A. Nielsen, and J.M. Antle. (2005). "Soil Organic Carbon Variability and Sampling Optimization in Montana Dryland Wheat Fields." *Journal of Soil and Water Conservation* 60(1):42-51.
- Antle, J.M., S.M. Capalbo, E.T. Elliott, and K.H. Paustian. (2004). "Adaptation, Spatial Heterogeneity, and the Vulnerability of Agricultural Systems to Climate Change and CO₂ Fertilization: An Integrated Assessment Approach." *Climatic Change* 64(3):289-315.
- Capalbo, S.M., J.M. Antle, S. Mooney, and K.H. Paustian. (2004). "Sensitivity of Carbon Sequestration Costs to Economic and Biological Uncertainties." *Environmental Management* 33(S1):S238-S251.
- Mooney, S, J.M. Antle, S.M. Capalbo, and K. Paustian. (2004). "Design and Costs of a Measurement Protocol for Trades in Soil Carbon Credits." *Canadian Journal of Agricultural Economics* 52(3):257-287.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K.H. Paustian. (2004). "Influence of Project Scale and Carbon Variability on the Costs of Measuring Soil Carbon Credits." *Environmental Management* 33(S1):S252-S263.

- Stoorvogel, J.J., J.M. Antle, and C.C. Crissman. (2004). "Trade-off Analysis in the Northern Andes to Study the Dynamics in Agricultural Land Use." *Journal of Environmental Management* 72(1-2):23-33.
- Stoorvogel, J.J., J.M. Antle, C.C. Crissman, and W. Bowen. (2004). "The Tradeoff Analysis Model: Integrated Biophysical and Economic Modeling of Agricultural Production Systems." *Agricultural Systems* 80(1):43-66.
- Sumner, D.A., J.M. Antle, and B.L. Gardner. (2004). "Contributions of D. Gale Johnson to the Economics of Agriculture." *Economic Development and Cultural Change* 52(3):659-679.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2003). "Spatial Heterogeneity, Contract Design, and the Efficiency of Carbon Sequestration Policies for Agriculture." *Journal of Environmental Economics and Management* 46(2):231-250.
- Antle, J.M. and B. Diagana. (2003). "Creating Incentives for the Adoption of Sustainable Agricultural Practices in Developing Countries: The Role of Soil Carbon Sequestration." *American Journal of Agricultural Economics* 85(5):1178-1184.
- Antle, J. J. Stoorvogel, W. Bowen, C. Crissman, and D. Yanggen. (2003). "The Tradeoff Analysis Approach: Lessons from Ecuador and Peru." *Quarterly Journal of International Agriculture* 42(2):189-206.
- Hunt, W., J. Antle, and K. Paustian. (2003). "False Determinations of Chaos in Short Noisy Time Series." *Physica D: Nonlinear Phenomena* 180(1-2):115-127.
- Antle, J.M. "Antibiotic Use in Animal Agriculture and the Economics of Resistance: Discussion." (2002). *American Journal of Agricultural Economics* 84(5):1301-1302.
- Antle, J.M. and S.M. Capalbo. (2002). "Agriculture as a Managed Ecosystem: Policy Implications." *Journal of Agricultural and Resource Economics* 27(1):1-15.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2002). "A Comparative Examination of the Efficiency of Sequestering Carbon in U.S. Agricultural Soils." *American Journal of Alternative Agricultural* 17(3):109-115.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2002). "Sensitivity of Carbon Sequestration Costs to Soil Carbon Rates." *Environmental Pollution* 116(3):413-422.
- Antle, J.M. and S.M. Capalbo. (2001). "Econometric-Process Models for Integrated Assessment of Agricultural Production Systems." *American Journal of Agricultural Economics* 83(2):389-401.
- Antle, J.M., S.M. Capalbo, E.T. Elliott, H.W. Hunt, S. Mooney, and K.H. Paustian. (2001). "Research Needs for Understanding and Predicting the Behavior of Managed Ecosystems: Lessons from the Study of Agroecosystems." *Ecosystems* 4(8):723-735.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2001). "Economic Analysis of Agricultural Soil Carbon Sequestration: An Integrated Assessment Approach." *Journal of Agricultural and Resource Economics* 26(2):344-367.
- Stoorvogel, J.J. and J.M. Antle. (2001). "Regional Land Use Analysis: The Development of Operational Tools." *Agricultural Systems* 70(2-3):623-640.
- Antle, J.M. (2000). "No Such Thing as a Free Safe Lunch: The Cost of Food Safety Regulation in the Meat Industry." *American Journal of Agricultural Economics* 82(2):310-322.
- Antle, J.M. (1999). "The New Economics of Agriculture." *American Journal of Agricultural Economics* 81(5):993-1010.
- Antle, J.M. (1999). "Benefits and Costs of Food Safety Regulation." *Food Policy* 24(6):605-623.
- Antle, J.M., S.M. Capalbo, J.B. Johnson, and D. Miljkovic. (1999). "The Kyoto Protocol: Economic Effects of Energy Prices on Northern Plains Dryland Grain Production." *Agricultural and Resource Economics Review* 28(1):96-105.
- Antle, J.M., D. Cole, and C.C. Crissman (1998). "Further Evidence on Pesticides, Productivity, and Farmer Health: Potato Production in Ecuador." *Agricultural Economics: An International Journal* 18(2):199-207.
- Antle, J.M. (1996). "Methodological Issues in Assessing the Potential Impacts of Climate Change on Agriculture." *Agricultural and Forest Meteorology* 80(1):67-85.
- Antle, J.M. (1996). "Efficient Food Safety Regulation in the Food Manufacturing Sector." *American Journal of Agricultural Economics* 78(5):1242-1247.
- Antle, J.M. (1995). "Climate Change and Agriculture in Developing Countries." *American Journal of Agricultural Economics* 77(3):741-746.
- Antle, J.M. and G. Heidebrink. (1995). "Environment and Development: Theory and International Evidence." *Economic Development and Cultural Change* 43(3):603-625.

- Antle, J.M. and R.J. Wagenet. (1995). "Why Scientists Should Talk to Economists." *Agronomy Journal* 87(6):1033-1040.
- Antle, J.M. and P. Pingali. (1994). "Pesticides, Productivity, and Farmer Health: A Philippine Case Study." *American Journal of Agricultural Economics* 76(3):418-430.
- Antle, J.M., S.M. Capalbo, and C.C. Crissman. (1994). "Econometric Production Models with Endogenous Input Timing: An Application to Ecuadorian Potato Production." *Journal of Agricultural and Resource Economics* 19(1):1-18.
- Antle, J.M. and S.M. Capalbo. (1994). "Pesticides, Productivity, and Farmer Health: Implications for Agricultural and Research Policy." *American Journal of Agricultural Economics* 76(3):598-602.
- Antle, J.M. and G. Heidebrink. (1995). "Environment and Development: Theory and International Evidence." *Economic Development and Cultural Change* 43(3):603-625.
- Hu, F. and J.M. Antle. (1993). "Agricultural Policy and Productivity: International Evidence." *Review of Agricultural Economics* 15(3):495-505.
- Antle, J.M. (1993). "Environment, Development, and Trade Between Low and High Income Countries." *American Journal of Agricultural Economics* 75(3):784-788.
- Antle, J.M. and R.E. Just (1992). "Conceptual and Empirical Foundations for Agricultural-Environmental Policy Analysis." *Journal of Environmental Quality* 21(3):307-316.
- Antle, J.M. and S.M. Capalbo. (1991). "Physical and Economic Model Integration for Measurement of the Environmental Impacts of Agricultural Chemical Use." *Northeastern Journal of Agricultural and Resource Economics* 20(1):68-82.
- Antle, J.M. (1991). "Farm Policy Reform and the Environment." *American Journal of Agricultural Economics* 73(3):917-921.
- Just, R.E. and J.M. Antle. (1990). "Interactions between Agricultural and Environmental Policy: A Conceptual Framework." *American Economic Review* 80(2):197-202.
- Antle, J.M. and C. Crissman. (1990). "Risk, Efficiency, and the Adoption of Modern Crop Varieties: Evidence from the Philippines." *Economic Development and Cultural Change* 38(3):517-538.
- Antle, J.M. (1989). "Nonstructural Risk Attitude Estimation." *American Journal of Agricultural Economics* 71(3):774-784.
- Antle, J.M. and S.M. Capalbo. (1989). "Incorporating Social Costs in the Returns to Agricultural Research." *American Journal of Agricultural Economics* 71(2):458-463.
- Antle, J.M. and W.J. Goodger. (1988). "How the Producer's Attitude Toward Risk Affects the Relative Value of Veterinary Services." *Preventive Veterinary Medicine* 5:281-291.
- Antle, J.M. and C. Crissman. (1988). "The Market for Innovations and Short Run Technological Change: Evidence from Egypt." *Economic Development and Cultural Change* 36(4):669-690.
- Antle, J.M. (1987). "Econometric Estimation of Producers' Risk Attitudes." *American Journal of Agricultural Economics* 69(3):509-522.
- Antle, J.M. and R.J. Kopp. (1986). "Economic and Social Indicators for the Farm Sector: Discussion." *American Journal of Agricultural Economics* 68(5):1130-1131.
- Antle, J.M. (1986). "Aggregation, Expectations, and the Explanation of Technological Change." *Journal of Econometrics* 33(1):213-236.
- Antle, J.M. and S.A. Hatchett. (1986). "Dynamic Input Decisions in Econometric Production Models." *American Journal of Agricultural Economics* 68(4):939-949.
- Antle, J.M. and A.S. Aitah. (1986). "Egypt's Multiproduct Agricultural Technology and Agricultural Policy." *Journal of Development Studies* 22(4):709-723.
- Antle, J.M. (1984). "Dynamic Supply Response and Agricultural Investment: Discussion." *Northeastern Journal of Agricultural and Resource Economics* 13:177-178.
- Antle, J.M. and W.A. Goodger. (1984). "Measuring Stochastic Technology: The Case of Tulare Milk Production." *American Journal of Agricultural Economics* 66(3):342-350.
- Antle, J.M. (1984). "The Structure of U.S. Agricultural Technology, 1910-1978." *American Journal of Agricultural Economics* 66(4):414-421.
- Antle, J.M. (1984). "Human Capital, Infrastructure, and the Productivity of Indian Rice Farmers." *Journal of Development Economics* 14:163-181.

- Antle, J.M. (1983). "Incorporating Risk in Production Analysis." *American Journal of Agricultural Economics* 65(5):1099-1106.
- Antle, J.M. and Ali S. Aitah. (1983). "The Structure of Rice Technology, Farmer Rationality, and Agricultural Policy in Egypt." *American Journal of Agricultural Economics* 65(4):667-674.
- Antle, J.M. (1983). "Testing the Stochastic Structure of Production: A Flexible Moment-Based Approach." *Journal of Business and Economic Statistics* 3:192-201.
- Antle, J.M. (1983). "Sequential Decision Making in Production Models." *American Journal of Agricultural Economics* 65(2):282-290.
- Antle, J.M. (1983). "Infrastructure and Aggregate Agricultural Productivity: International Evidence." *Economic Development and Cultural Change* 31(3):609-620.

Peer Reviewed Books and Monographs:

- Stoorvogel, J.J., J.M. Antle, C.C. Crissman, and W. Bowen. (2001). *The Tradeoff Analysis Model Version 3.1: A Policy Decision Support System for Agriculture – User Guide*. Wageningen: Laboratory of Soil Science and Geology, Wageningen University, The Netherlands. 93 pp.
- Antle, J.M. and V.H. Smith, eds. (1999). *The Economics of World Wheat Markets*. Oxon, UK: CAB International. 442 pp.
- Antle, J.M., J.N. Lekakis, and G.P. Zanias, eds. (1998). *Agriculture, Trade and the Environment: The Impact of Liberalization on Sustainable Development*. Cheltenham, UK: Edward Elgar Publishing, Ltd. 272 pp.
- Crissman, C.C., J.M. Antle, and S.M. Capalbo, eds. (1998). *Economic, Environmental and Health Tradeoffs in Agriculture: Pesticides and the Sustainability of Andean Potato Production*. Dordrecht/Boston/London: Kluwer Academic Publishers. 281 pp. (5 chapters co-authored by J.M. Antle).
- Antle, J.M. and D.A. Sumner, eds. (1995). *The Economics of Agriculture, Vol. 1: Selected Papers of D. Gale Johnson*. Chicago: University of Chicago Press. 352 pp.
- Antle, J.M. and D.A. Sumner, eds. (1995). *The Economics of Agriculture, Vol. 2: Papers in Honor of D. Gale Johnson*. Chicago: University of Chicago Press. 437 pp.
- Antle, J.M. (1995). *Choice and Efficiency in Food Safety Policy*. Washington, DC: American Enterprise Institute. 132 pp.
- Antle, J.M. and S.M. Capalbo, eds. (1988). *Agricultural Productivity: Measurement and Explanation*. Washington, DC: Resources for the Future. 404 pp.
- Antle, J.M. (1988). *Pesticide Policy, Production Risk, and Producer Welfare*. Washington, DC: Resources for the Future. 134 pp.
- Antle, J.M. (1988). *World Agricultural Development and the Future of U.S. Agriculture*. Washington, DC: American Enterprise Institute. 97 pp.

Peer Reviewed Chapters in Books and Other Publications:

- Antle, J.M. and L.M. Young. (2005). "Policies and Incentive Mechanisms for the Permanent Adoption of Agricultural Carbon Sequestration Practices in Industrialized and Developing Countries." In R. Lal, N. Uphoff, B.A. Stewart, and D.O. Hansen, eds., *Climate Change and Global Food Security*, Boca Raton, FL: CRC Press, pp. 679-701.
- Mooney, S., J. Antle, S. Capalbo, and K. Paustian. (2004). "How Much Could It Cost to Measure Soil Carbon in Montana?" *MontGuide*, MT200409 AG, Extension Service, Montana State University, Bozeman, October.
- Antle, J.M., S.M. Capalbo, and S. Mooney. (2003). "Soil Carbon Sequestration in Agriculture: Opportunities Vary Throughout Montana." *MontGuide*, MT200313 AG, Extension Service, Montana State University, Bozeman, December.
- Antle, J.M., S.M. Capalbo, S. Mooney, E. Elliott, and K. Paustian. (2003). "Soil Carbon Sequestration in Agriculture: Can Agriculture Compete in a Market for Carbon?" *MontGuide*, MT200314 AG, Extension Service, Montana State University, Bozeman, December.
- Antle, J.M., S.M. Capalbo, and S. Mooney. (2002). "Farming the Environment: Spatial Variation and Economic Efficiency in Soil; Developing Policies for Carbon Sequestration and Agriculture." *Choices* 17(4):24-25.
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- Antle, J.M. and S.K. Park. (1986). "Economic Benefits and Costs of an Integrated Pest Management Program for Processing Tomato Production." *The California Tomato Grower* 29(5).

Conference Sessions Organized:

- Antle, J.M. and P.L. Pingali. (1994). "Economic and Health Consequences of Pesticide Use in Developing Country Agriculture." Invited Paper Session, Winter 1994 meetings of the Allied Social Science Association, Boston, proceedings published in *American Journal of Agricultural Economics*, August 1994.
- Antle, J.M. (1990). "Health and Environmental Impacts of Pesticides: A Cross-Disciplinary Perspective." Annual meetings of the American Association for the Advancement of Science, New Orleans, Louisiana, February.
- Antle, J.M. (1988). "Dynamics of Production." Annual meetings of the Society for Economic Dynamics and Control, Tempe, Arizona, March.
- Antle, J.M. (1988). "Externalities and the Returns to Agricultural Research." Invited paper session, winter meetings of the Allied Social Science Association, New York, published in *American Journal of Agricultural Economics* 71:447-467.
- Antle, J.M. and S.M. Capalbo. (1984). "Developments in Measuring and Modeling Agricultural Productivity," December, abstracted in *American Journal of Agricultural Economics* 66:890.

Seminar and Conference Presentations:

- Antle, J.M. (2005). "Linking TOA and NUTMON to evaluate options for sustainable nutrient management in semi-subsistence agricultural systems." Seminar presented at the Department of Development Economics, Wageningen University, The Netherlands, December 6.
- Antle, J.M. (2005). "Modeling the Supply of Environmental Services from Agriculture." Presentation at *National Science Foundation Symposium on Valuation of Ecosystem Services in Agriculture*, Augusta, MI, October 26-28.
- Antle, J.M. (2005). "Modeling the Supply of Environmental Services from Agriculture: A Minimum Data Approach." Seminar presented at the Department of Agricultural Economics and Management, Cornell University, Ithaca, NY, October 15-22.
- Antle, J.M. (2005). "Tradeoff Analysis: Policy Decision Support for Agriculture." Seminar presented at the Department of Agricultural Economics, Makerere University, Kampala, Uganda, June 24.
- Stoorvogel, J.J., J.M. Antle, and other collaborators. (2005). Two presentations made as part of the Ecoregional Fund workshop, *Tradeoff Analysis: An Operational and Accepted Tool for Policy Analysis*, Nairobi, June 20-21.
- Stoorvogel, J.J., and J.M. Antle. (2005). Organized and conducted Ecoregional Fund workshop *Tradeoff Analysis: An Operational and Accepted Tool for Policy Analysis*, Nairobi, Kenya, June 20-21.
- Antle, J.M. (2005). "Agricultural Carbon Sequestration and Poverty." Presented at the Workshop on Environmental Services for Poverty Reduction and Food Security, Food and Agriculture Organization, Rome, Italy, May 30-31.
- Antle, J., S. Capalbo and K. Paustian. (2005) "Estimating the Economic Potential for Agricultural Soil Carbon Sequestration in the Central U.S. Using an Aggregate Econometric-Process Simulation Model." Presented at the Third USDA Symposium on Greenhouse Gases and Carbon Sequestration in Agriculture and Forestry, Baltimore, MD, March 21-24.
- Antle, J.M., J.J. Stoorvogel and R. Valdivia (2005). Organized and conducted a training workshop for the National Agricultural Research Institute, Panama City, Panama, February 21-25.
- Antle, J.M. (2005). "Creating Markets for the Environmental Services of Agriculture." Presented at the University of New England, Armidale, New South Wales, Australia, February 16.
- Antle, J.M. (2005). "Modeling Agriculture-Environment Interactions in Production Systems." Invited paper presented at the Distinguished Fellows Lecture, annual meetings of the Australian Agricultural and Resource Economics Society, Coffs Harbour, New South Wales, Australia, February 11.
- Antle, J.M. (2005). "Greenhouse Gas Emissions and Climate Change: Designing Policy-Relevant Science." Presented at Queensland University of Technology, Brisbane, Australia, February 7.
- Antle, J., C. Crissman, A. de Jager, J. Stoorvogel, and A. Mora Vallejo. (2004). "Impacts of Policy and Technology Interventions on Nutrient Depletion, Poverty and Food Security in the Machakos Agricultural System: An Application of Nutrient Monitoring and Tradeoff Analysis Tools." Presented at the African Highlands Initiative Conference on Poverty and Food Security, Nairobi, Kenya, October.
- Antle, J.M. and J.J. Stoorvogel. (2004). Conducted workshop *Tradeoff Analysis Model for East Africa*, Nairobi, Kenya, September 6-10.
- Antle, J.M. (2004). "Scaling Up Econometric-Process Simulation Models." Presentation at the annual meetings of the American Agricultural Economics Association, Denver, CO, August 1.
- Antle, J.M., S. Capalbo, and K. Paustian. (2004). "Estimating Economic Potential for Ag Soil Carbon Sequestration Using the Opportunity Cost Approach: Results for the Central United States." Presented at the Third Annual Conference on Carbon Capture and Sequestration, Alexandria, VA, May 4.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K. Paustian. (2004). "What are the Economic Costs of Measuring and Monitoring Soil Carbon?" Presented at the Third Annual Conference on Carbon Capture and Sequestration, Alexandria, VA, May 3-6.
- Antle, J.M. and S.M. Capalbo. (2004). "Integrating Economic and Biophysical Models for Assessing Carbon Sequestration Potentials through Land Use Changes." Big Sky Carbon Sequestration Regional Partnership Meeting, Los Alamos National Laboratory, Los Alamos, NM, March 1-3.
- Capalbo, S.M. and J.M. Antle. (2004). "MSU Project Plan and Approach." Big Sky Carbon Sequestration Regional Partnership Meeting, Los Alamos National Laboratory, Los Alamos, NM, March 1-3.
- Antle, J.M. and S.M. Capalbo. (2004). "Economic Potential for Soil C Sequestration in the Central U.S.: The Opportunity Cost Approach." Presented at the Agriculture and Energy Industry Partnerships for Soil Carbon

- Sequestration to Offset Greenhouse Gases conference at Texas A&M University, College Station, TX, January 21.
- Antle, J.M. and J.J. Stoorvogel. (2003). Conducted workshop on the first version of Tradeoff Analysis Model for Senegal, Dakar, Senegal, November 17-21.
- Antle, J.M. and S.M. Capalbo. (2003). "Synergies, Surprises and Schwartzenegger: Designing Policy-Relevant Science." Presented at the Center for Natural Resources Policy Analysis, University of California, Davis, October 23.
- Antle, J.M. (2003). "The Economic Feasibility of Carbon Sequestration: Application of Tradeoff Analysis in Northern Peru." Presented at the International Potato Center, Lima, Peru, August 4 and at the National Research Center for Natural Resources and the Environment, Puno, Peru, August 13.
- Antle, J.M. and D. Yanggen. (2003). "The Tradeoff Analysis Project: Applications in Ecuador and Peru." Presented at the University of the Pacific, Lima, Peru, August 5.
- Antle, J.M. and B. Diagana. (2003). "Creating Incentives for the Adoption of Sustainable Agricultural Practices in Developing Countries: The Role of Soil Carbon Sequestration." Principal paper presented at the American Agricultural Economics Association Annual Meetings, Montreal, Quebec, July 27-30.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K.H. Paustian. (2003). "Uncertainty in Econometric-Process Models: The Case of Soil Carbon Sequestration." Paper presented at the American Agricultural Economics Association Annual Meetings, Montreal, Quebec, July 27-30.
- Antle, J.M. and L.M. Young. (2003). "Policies and Incentive Mechanisms for the Permanent Adoption of Agricultural Carbon Sequestration Practices in Industrialized and Developing Countries." Paper presented at the Climate Change, Carbon Dynamics and World Food Security conference, The Ohio State University, Columbus, Ohio, June 10-11.
- Yanggen, D., J. Antle, and R.O. Valdivia. (2003). "Economic Analysis of Subsidies and the Sustainable Adoption of Agricultural Conservation Technologies: A Conceptual Framework and Case Study of Terraces in the Peruvian Andes." Paper presented at the Latin American Congress of Watershed Management, Arequipa, Peru, June 4-9.
- Antle, J.M. (2003). "Why Scientists Should Talk to (and even work with) Economists, and Vice Versa: Synergies and Surprises in Agroecosystem Research." Presented to the Center for Natural Resources Policy Analysis, University of California, Davis, May 9.
- Antle, J.M. and J.J. Stoorvogel. (2003). "Incorporating Systems Dynamics and Spatial Heterogeneity in Integrated Assessment of Agricultural Production Systems." Paper presented at the international workshop on Reconciling Rural Poverty Reduction and Resource Conservation: Identifying Relationships and Remedies at Cornell University, May 2-3.
- Capalbo, S., J.A. Antle, S. Mooney, and K. Paustian. (2003). "Sensitivity of Carbon Sequestration Costs to Scale and to Economic and Biological Uncertainties." Presented at the Allied Social Science Association (ASSA) Annual Meetings, Washington, DC, January 5.
- Antle, J.M., R. Brickley, S.M. Capalbo, R. Engel, and P. Miller. (2002). "Montana State University Research on Soil Carbon Sequestration." Presented at the Power Generation/Industry Workshop, Governor's Carbon Sequestration Working Group, Helena, MT, December 12.
- Antle, J.M. (2002). "The Contribution of Agricultural Research to Environmental Sustainability Development Targets." Presented at the International Potato Center (CIP), Lima, Peru, November 21.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K.H. Paustian. (2002). "Costs of Measuring Soil Carbon." Presented at the USDA Carbon Symposium on Natural Resource Management to Offset Greenhouse Gas Emissions, Raleigh, NC, November 20.
- Capalbo, S.M., J.M. Antle, S. Mooney, and K.H. Paustian. (2002). "Spatial Heterogeneity and Scale: Implications for Carbon Sequestration Policies for Agriculture." Presented at the USDA Carbon Symposium on Natural Resource Management to Offset Greenhouse Gas Emissions, Raleigh, NC, November 19.
- Brickley, R.S., P.R. Miller, K.H. Paustian, T.J. Keck, J.M. Antle, and G.A. Nielsen. (2002). "Sensitivity of the CENTURY Model for Estimating Sequestered Soil Carbon Due to the Adoption of No-Till Management in North Central Montana Using Coarse- and Fine-Scale Map Data Sources." Presented at the Soil Science Society of America annual meetings, Indianapolis, IN, November 12.
- Antle, J.M., S. Mooney, S.M. Capalbo, and K.H. Paustian. (2002). "Design and Cost of a Measuring and Monitoring Scheme for Soil Carbon Credits." Presented at the Soil Science Society of America annual meetings, Indianapolis, IN, November 11.

- Antle, J.M. and J.J. Stoorvogel. (2002). "The Tradeoff Analysis Model: Integrated Bio-Physical and Economic Modeling of Agricultural Production Systems." Presented to the Department of Applied Economics and Management, Cornell University, Ithaca, NY, October 30.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2002). "Montana State University Program on Climate Change and Greenhouse Gas Mitigation." Presented to the Governor's Carbon Sequestration Working Group, NCRS Office, Missoula, MT, October 21.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K.H. Paustian. (2002). "Soil Carbon Measurement Costs and Protocols Using a Linked Economic and Biophysical Model." Presented at the Forestry and Agriculture Greenhouse Gas Modeling Forum, Shepherdstown, WV, October 9.
- Paustian, K., J. Antle, S. Capalbo, and S. Mooney. (2002). "Science, Policy and Economics of Agricultural Sequestration." Presented at the Environmental Defense Annual Science Day, Menlo Park, CA, September 19.
- Antle, J.M. (2002). "Assessing Economic and Environmental Impacts of Agricultural Research: Tradeoff Analysis." Presented at the CRSP Council workshop on *Impact Assessment of Agricultural and NRM Research: Needs, Challenges and Options*, Washington, DC, September 12 and 13.
- Mooney, S., J.M. Antle, S.M. Capalbo, and K.H. Paustian. (2002). "A Measurement Protocol for Soil C: Influence on Efficient Contract Design." Selected paper presented at the American Agricultural Economics Association Annual Meetings, Long Beach, CA, July 30.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2002). "Opportunity Costs of Supplying Soil C: Sensitivity to Estimated Soil C Rates." Poster presented at the American Agricultural Economics Association Annual Meetings, Long Beach, CA, July 28-31.
- Antle, J.A., S. Capalbo, S. Mooney, E. Elliott, and K. Paustian. (2002). "Spatial Heterogeneity, Contract Design, and the Efficiency of Carbon Sequestration Policies for Agriculture." Paper presented at the 2nd World Congress of Environmental and Resource Economists, Monterey, CA, June 25.
- Antle, J.M., J.J. Stoorvogel, W. Bowen, C.C. Crissman, and D. Yanggen. (2002). "Making an Impact with Impact Assessment: The Tradeoff Analysis Approach and Lessons from the Tradeoff Analysis Projects in Ecuador and Peru." Presented at the *Why Has Impacts Assessment Research Not Made More of a Difference?* international conference sponsored by CIMMYT, San José, Costa Rica, February 4-7.
- Antle, J.M., S.M. Capalbo, S. Mooney, H.W. Hunt, and K.H. Paustian. (2002). "Close-Coupling of Ecosystem and Economic Models: Adaptation of Central U.S. Agriculture to Climate Change." Presented at EPA STAR annual review, Washington, DC, January 15.
- Antle, J.M. (2001). "The Tradeoff Analysis Project Phase 2: Scaling Up and Technology Transfer to Address Poverty, Food Security and Sustainability of the Agro-Environment." Presented at USAID, Washington, DC, November 29.
- Capalbo, S.M., Antle, J.M., and S. Mooney. (2001). "Quantifying Carbon Sequestration Costs in the Northern Great Plains: An Integrated Assessment Approach." Paper presented at the USDA/EPA forum on *Forestry, Agriculture, and Greenhouse Gas Modeling*, National Conservation Training Center, Shepherdstown, WV, October 1-3.
- Stoorvogel, J.J., J.M. Antle, C.C. Crissman, and W. Bowen. (2001). "The Tradeoff Analysis Model: A Quantitative Tool for Policy Decision Support." Paper presented at the conference on *Land Management for Sustainable Agriculture* at the International Center for Tropical Agriculture, Cali, Columbia, August 28-30.
- Antle, J., S. Capalbo, S. Mooney, E. Elliott, and K. Paustian. (2001). "Spatial Heterogeneity and the Design of Efficient Policies for Soil Carbon Sequestration." Invited presentation at a seminar at North Dakota State University, July 26.
- Antle, J.M. and S.M. Capalbo. (2001). "Agriculture as a Managed Ecosystem: Policy Implications." Invited paper presented at the meetings of the Western Agricultural Economics Association, Logan, Utah, July 10.
- Capalbo, S.M. and J.M. Antle. (2001). "Prospects for Agricultural Carbon Sequestration: An Economic Assessment." Paper presented at the Western Economics Association annual meetings, San Francisco, July.
- Antle, J.M. (2001). "Evaluación de la Potencial para la Captura de Carbono en Suelos Agrícolas" (Evaluation of the Potential for Carbon Sequestration in Agricultural Soils). Presented at the Santa Catalina Research Station, National Institute for Agricultural Research, Quito, Ecuador, June 7.
- Antle, J. and D. Cole. (2001). "Pesticides and Human Health: Lessons from the Andes." Paper presented at the Annual Bank Conference on Development Economics, the World Bank, Washington, DC, May 1.

- Antle, J.M. (2001). "Research on Natural Resource Management in the CRSPs." Paper presented at the meeting of the Board on International Food and Agriculture, Washington, DC, March 29.
- Antle, J.M. (2001). "Spatial Heterogeneity and the Design of Carbon Sequestration Policies for Agriculture." Paper presented at the Economic Research Service, USDA, Washington, DC, March 28.
- Antle, J.M. and S.M. Capalbo. (2001). "Agriculture as a Managed Ecosystem: Implications for Econometric Analysis of Production Risk." Paper presented at the SER-IEG-31 meetings on *A Comprehensive Assessment of the Role of Risk in Agriculture*, Gulf Shores, Alabama, March 22.
- Antle, J., S. Capalbo, S. Mooney, E. Elliott, and K. Paustian. (2001). "Could Agriculture Compete in a Market for Carbon?" Paper presented at a meeting on Carbon Sequestration held by the Montana Carbon Offset Coalition, Bozeman, February 7.
- Antle, J., S. Capalbo, S. Mooney, E. Elliott, and K. Paustian. (2001). "Could Agriculture Compete in a Market for Carbon? Results from a Study of Montana Dryland Grain Production." Paper presented at the 4th Annual National Wheat Industry Research Forum sponsored by the National Association of Wheat Growers, New Orleans, February 2.
- Antle, J.M. (2001). "Designing Efficient Contracts for Soil Carbon Sequestration in Agriculture." Presented at a departmental seminar, Agricultural Economics Department, Kansas State University, February 1.
- Antle, J.M. (2000). "Economic Research Needs for Agricultural Soil Carbon Sequestration." Presented at Assessing the Current State of Carbon Sequestration Science as a Basis for Developing Sound Carbon Management Policies, National Research Council, Washington, DC, November 29-30.
- Antle, J.M. (2000). "Tradeoffs: A New Methodological Approach for the Integrated Assessment of Agriculture and the Environment." Presented at the 2000 ASA-CSSA-SSSA Annual Meetings, Minneapolis, November 6.
- Antle, J.M. (2000). "What's It Worth Economically? The Economics of Carbon Sequestration in Agricultural Soils." Invited Plenary Presentation, at *Carbon: Exploring the Benefits to Farmers and Society*, Des Moines, Iowa, August. Powerpoint presentation available at www.climate.montana.edu.
- Antle, J.M. (2000). "Economic Feasibility of Using Soil Carbon Sequestration Policies and Markets to Alleviate Poverty and Enhance Sustainability of the World's Poorest Farmers." Paper presented at the *Expert Workshop on Carbon Sequestration, Sustainable Agriculture, and Poverty Alleviation* held at the World Meteorological Organization (WMO), Geneva, Switzerland, August 31. Paper available at www.climate.montana.edu.
- Antle, J.M. (2000). "Economics of Soil Carbon Sequestration." Presented at the *New Developments in Estimating Impacts of Agricultural Research* workshop sponsored by USAID, Washington, DC, July 20. Available at www.tradeoffs.montana.edu.
- Antle, J.M., S.M. Capalbo, and S. Mooney. (2000). "Economics of Agricultural Soil C Sequestration in the Northern Plains." Presented at *Economics of Soil Carbon Sequestration* seminar at the University of Arkansas, June 15.
- Antle, J.M., S.M. Capalbo, E.T. Elliott, H.W. Hunt, S. Mooney, and K.H. Paustian. (2000). "Understanding and Predicting the Behavior of Managed Ecosystems: Lessons from Agroecosystem Research." Invited paper presented at the workshop on *Developing a Research Agenda for Linking Ecological and Socioeconomic Systems*, Tempe, AZ, June 5-8.
- Antle, J.M., S.M. Capalbo, and J.A. Hewitt. (2000). "Testing Hypotheses in Integrated Impact Assessments: Climate Variability and Economic Adaptation in Great Plains Agriculture." Annual report presented at the annual meeting of the National Institute for Global Environment Change (NIGEC), Lincoln, NE, April 2-3.
- Antle, J.M., S.M. Capalbo, S. Mooney, E.T. Elliott, and K.H. Paustian. (2000). "Economic Analysis of Soil Carbon Sequestration." Selected paper presented at American Agricultural Economics Association Annual Meetings, Tampa, FL, August.
- Antle, J.M., S.M. Capalbo, and S. Mooney. (1999). "Optimal Spatial Scale and Economic and Environmental Tradeoffs." Selected paper, American Agricultural Economics Association Meetings, Nashville, TN, August.
- Antle, J.M. and S. Mooney. (1999). "Efficient Policies for Carbon Sequestration in Agricultural Soils." Paper presented at the conference on *Technologies and Policies for Carbon Sequestration in Agricultural Soils*, The Ohio State University, July.
- Antle, J.M. and J.J. Stoorvogel. (1999). "Models for Integrated Assessment of Sustainable Land Use and Soil Quality." Invited paper presented at the conference on Economic Policy Reform and Sustainable Land Use in LDCs, Wageningen Agricultural University, the Netherlands, June.

- Antle, J.M., J.J. Stoorvogel, C.C. Crissman, and W. Bowen. (1999). "Tradeoff Assessment as a Quantitative Approach to Agricultural/Environmental Policy Analysis." Paper presented at the SAAD-III Third International Symposium on Systems Approaches for Agricultural Development Conference, Lima, Peru, November.
- Antle, J.M. (1998). "Food Safety, Production Structure, and the Industrial Organization of the Food Industry." Invited paper presented at the 62nd EAAE Seminar and 3rd INRA-IDEI Conference on Industrial Organization and the Food Processing Industry, Toulouse, November 12-13.
- Antle, J.M. (1998). "The Cost of Quality in the Meat Industry: Implications for HACCP Regulation." Paper presented at the NE-165 Conference, Washington, DC, *New Studies of Costs and Benefits of HACCP*, June 16.
- Antle, J.M. (1998). "No Such Thing as a Free Safe Lunch: The Cost of Food Safety Regulation in the Meat Industry." Seminars presented: Resources for the Future, May 27; Ohio State University, May 28.
- Antle, J.M. (1998). International Conference on Pesticide Use in Developing Countries: Impact on Health and Environment, San Jose, Costa Rica, February. Three papers presented: (1) "The Environment, Health and Agricultural Production in Ecuador: An Innovative Methodology for Measuring Tradeoffs," J. Antle, S. Capalbo, and C. Crissman; (2) "Health Effects of Pesticide Use and Tradeoffs between Health and Agricultural Production in Ecuador," D. Cole, J. Antle, C. Crissman, J. Julian, and F. Carpio; and (3) "Tradeoffs between Groundwater Contamination and Agricultural Production in Ecuador," C. Crissman, J. Antle, and C. Ducrot.
- Antle, J.M. (1996). "Drawing the Line: The Role of Government in Agricultural Research." Invited paper presented at the conference, *The Role of Public and Private Sectors in Agricultural Research*, Brazilian Council of Science and Technology, Brasilia, Brazil, December 3.
- Antle, J.M. (1996). "Integrated Assessment of IPM Impacts: An Overview." Invited paper and presentation at the Third National IPM Symposium/Workshop, Washington, DC, February 28.
- Antle, J.M. (1996). "Efficient Food Safety Regulation in the Food Manufacturing Sector." Principal paper session, annual meetings of the American Agricultural Economics Association, San Antonio.
- Antle, J.M. (1995). "Why Scientists Should Talk to Economists." Invited presentation made to the Ag. Econ. Administrator Association Meeting, Nashville, November 3.
- Antle, J.M. (1995). Invited Seminar for the Policy Article Prize, Center for International Food and Agricultural Policy, University of Minnesota, "Economic, Environmental and Health Tradeoffs in Agricultural Development," November 2.
- Antle, J.M. (1995). Invited speaker at American Enterprise Institute Conference on "Reforming the Food and Drug Administration: The Regulation of Foods," Rayburn House Office Building, Washington, DC, June 26.
- Antle, J.M. (1995). "Environmental Indicators for Agricultural Policy Analysis." Invited paper and presentation at the Joint Working Party on Agriculture and Environment, OECD, Paris, June 21.
- Antle, J.M. and S.M. Capalbo. (1994). "Pesticides, Productivity, and Farmer Health: Implications for Agricultural and Research Policy." Invited paper presented at the ASSA meetings, Boston, January.
- Antle, J.M., S.M. Capalbo, and C.C. Crissman. (1993). "Endogenous Timing of Decisions in Econometric Production Models." Western Agricultural Economics Association/Canadian Association of Agricultural Economics Meetings, Edmonton, July.
- Antle, J.M. (1992). "Economic Research on Agricultural Adaptation to Global Climate Change." Economic Research Service, Washington, DC, June 1992.
- Antle, J.M. (1992). "Environmental Motivation for International Cooperation in Research." Conference on Resource and Environmental Management in an Interdependent World, IICA Headquarters, San Jose, Costa Rica, January.
- Antle, J.M., S.M. Capalbo, and C.C. Crissman. (1992). "Integrated Economic, Environmental, and Health Analysis of Policy Options for the Carchi Project." Rockefeller Foundation Conference on Measuring the Health and Environmental Impacts of Pesticides, Bellagio, Italy, April.
- Antle, J.M. (1991). "Health, Environment, and Agricultural Research." World Bank Conference on Current Policy Issues for the World Bank and the International Community, Airlie House, October.
- Antle, J.M. and R.N. Johnson. (1991). "Efficient Redistribution Reconsidered." Presented at the Western Economics Association, Seattle, Washington, July.
- Antle, J.M. (1990). "Farm Policy Reform and the Environment." Invited paper, annual meetings of Allied Social Science Association, Washington, DC, December.

- Antle, J.M. (1990). "Setting Priorities for Global Climate Change Research in Agriculture." Presented at *Global Change: Economic Issues in Agriculture, Forestry, and National Resources*, Washington, DC. Sponsored by USDA, the Farm Foundation, and NOAA, November.
- Antle, J.M. and S.M. Capalbo. (1990). "Measurement and Evaluation of the Impacts of Agricultural Chemical Use: A Framework for Analysis." Presented at the Workshop on the Health and Environmental Impacts of Pesticide Use in Rice Culture, International Rice Research Institute, Los Banos, Philippines, March.
- Antle, J.M. (1989). "Effects of Commodity Program Structure on Resource Use and the Environment." Presented in session titled *Conflicts between Agricultural and Environmental Policies*. Allied Social Science Association Meetings, Atlanta, GA, December.
- Antle, J.M. (1989). "Interactions between Agricultural and Environmental Policies: A Conceptual Framework." Presented in session titled *Interactions between Agricultural and Environmental Policies*. Allied Social Science Association Meetings, Atlanta, GA, December.
- Antle, J.M. (1989). "Measuring Economic Variability: Conceptual and Methodological Issues." Invited paper, Annual Meetings of the S-232 Regional Research Project.
- Antle, J.M. (1988). "Measurement and Valuation of Agricultural Externalities." Invited paper, Allied Social Science Meetings, New York, December.
- Antle, J.M. (1988). "Human Capital and Agricultural Productivity Change: Discussion." Invited paper discussant at the Twentieth International Conference of Agricultural Economists, Buenos Aires, Argentina, August.
- Antle, J.M. (1988). "Games Against Nature: Time Consistency and Agricultural Resource Policy." Annual meetings of the Society for Economic Dynamics and Control, Tempe, AZ, March.
- Antle, J.M. (1988). "Time Consistency and Agricultural Resource Policy." USDA Consortium on Cropping Systems, Airlie House, VA, January.
- Antle, J.M. (1987). "Agricultural Resources and International Trade." USDA Conference on International Trade and Natural Resources, Washington, DC, March.
- Antle, J.M. (1986). "Econometric Tests of Expected Utility Theory." Summer meetings of the Econometric Society, Duke University, June.
- Antle, J.M. (1985). "Technology and Uncertainty: Evidence from Egypt." International Conference of Agricultural Economists, Malaga, Spain, August.
- Antle, J.M. (1984). "Production Dynamics and Agricultural Productivity Measurement." Annual meetings of the American Agricultural Economics Association, Cornell University, August.
- Antle, J.M. (1984). "Dynamic Agricultural Supply Response: Discussion." Annual meetings of the American Agricultural Economics Association, Cornell University, August.
- Antle, J.M. (1984). "Dynamics, Causality, and Agricultural Productivity." Workshop on Assessing Future Trends in Agricultural Productivity, Resources for the Future, Washington, DC, July.
- Antle, J.M. (1984). "Measuring Technical Efficiency Under Stochastic Production." Annual meetings of the Western Agricultural Economics Association, San Diego, CA, July.
- Antle, J.M. and S.A. Hatchett. (1984). "Issues in Formulating and Estimating Dynamic Production Models." Sixth Annual Meeting of the Society of Economic Dynamics and Control, Nice, France, June.
- Antle, J.M. (1983). "Measuring Returns to Investments in Marketing Systems." International Workshop on Agricultural Markets in the Semi-Arid Tropics, ICRISAT, October.
- Antle, J.M. (1983). "Incorporating Risk in Production Analysis." Annual meetings of the American Agricultural Economics Association, Purdue University, August.
- Antle, J.M. (1983). "Definition and Measurement of Technical Efficiency under Stochastic Production." Summer meeting of the Econometric Society, Northwestern University, June.
- Antle, J.M. (1982). "Infrastructure and Agricultural Productivity: Theory, Measurement, and Implications for Growth and Equity in Agricultural Development." XVIII International Conference of Agricultural Economists, Jakarta, August.