

JOHN MICHAEL ANTLE

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PERSONAL STATEMENT

Throughout my career I have been engaged in teaching and research aimed at improving our understanding of agricultural and food systems, and using that knowledge to improve private and public decision making by communicating research to stakeholders (for example, through the new Center for Agricultural and Environmental Policy I helped establish at OSU). Another theme of my work has been the development of trans-disciplinary research to improve our understanding of the sustainability of agricultural systems – by this I mean going beyond data sharing to a deeper collaboration that changes the way we do disciplinary science. I have worked collaboratively with other economists and social scientists, as well as disciplines ranging from entomology, soil science, agronomy, animal and veterinary science, to climate sciences, ecology and geology, to medical sciences and public health. As part of this integrative research, I have led the development of an analytical tool for “multi-dimensional impact assessment” (the TOA-MD model). This model is being used by a wide array of national and international research programs to assess the sustainability of agricultural systems, to assess the provision of ecosystem services in agricultural landscapes, to assess the impacts of climate change on agricultural systems and households, and to assess the impacts of agricultural policies. In addition to my own research projects, I am a co-PI and leader of the Regional Economics Team of AgMIP, the Agricultural Model Inter-Comparison and Improvement Program – a new “community of science” that is exploring new ways to do trans-disciplinary agricultural science. Through this new approach to science we hope to raise the understanding of agricultural systems and food systems to the level that true sustainability can be achieved.

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

EMPLOYMENT

Professor, Applied Economics, Oregon State U., 2010-Present
Professor, Agricultural Economics and Economics, Montana State U., 1990-2010
Senior Staff Economist, President’s Council of Economic Advisers, 1989-90
Associate Professor, Agricultural Economics and Economics, Montana State U., 1987-90
Associate Professor, Agricultural Economics, U. California, Davis, 1984-87
Assistant Professor, Agricultural Economics, U. California, Davis, 1980-84

AWARDS AND FELLOWSHIPS

Choices Article of the Year Award, Agricultural and Applied Econ Assn., 2013
Quality of Research Discovery Award, Agricultural and Applied Econ. Assn., 2012
Quality of Research Discovery Award (Honorable Mention), Ag. and Applied Econ. Assn., 2011

University Fellow, Resources for the Future, 1990-present
John Dillon Fellow, Australian Agricultural and Resource Economics Society, 2005
Distinguished Fellow, American Agricultural Economics Association, 2002
Policy Article Prize, Center for Intl Food and Ag Policy, University of Minnesota, 1995
Journal Article of the Year (Honorable Mention), Western Ag Economics Association, 1995
Outstanding Journal Article (Honorable Mention), American Ag Economics Assn, 1995
Journal Article of the Year Award, Northeastern Ag and Resource Economics Association, 1992
Outstanding Journal Article, 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

PUBLIC POLICY AND PROFESSIONAL SERVICE

Co-PI and Regional Economics Team Leader, Agricultural Model Inter-comparison and Improvement Project, 2011-present
Co-PI, Center for Agricultural and Environmental Policy, Oregon State University, 2012-present
Member, Fellows Selection Committee, Ag & Applied Economics Association, 2012-present
Contributing Author, Fourth Assessment Report, Intergov Panel on Climate Change, U.N., 2006-2007
Lead Author, Third Assessment Report, Intergov Panel on Climate Change, U.N., 1999-2000
President and Chairman of the Executive Board, American Ag Economics Association, 1999-2000
President Elect and Executive Board Member, American Ag Economics Association, 1998-1999
Member, Committee on the Human Dimensions of Global Change, Natl 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 and ADVISORY ACTIVITIES

Consultant to WorldFish Center, 2011- 2013
Co-PI and Economics Team Co-Leader, Ag. Model Inter-comp and Improvement Prog, 2010-present
Consultant to Bill and Melinda Gates Foundation, 2009-2011
Consultant to International Potato Center, Climate Adaptation Project, 2006-2011
Consultant to Food and Agriculture Organization of the U.N., Ecosystems Services Project, 2005-2007
Principal Investigator, USAID Soil Management Collaborative Research Support Program, 1996-2008
Consultant to the Agricultural Research Corporation of Brazil (EMBRAPA), 1996
Consultant to the Environment Division, OECD, 1994-1995
Consultant to the World Bank and the National Ag & Forestry Inst, Mexico, 1992-1995
Principal Investigator, collaborator with Int. Rice Research Inst. and Int. Potato Center, 1989-2008
Consultant to the Agricultural Sciences Division, Rockefeller Foundation, 1987-1988
Consultant to the Economics Program, Intl Crops Res Inst for Semi-Arid Tropics, India, 1984-1986
Principal Investigator, Farm Efficiency Activity, University of California-Egypt Project, 1980-1983

CURRENT RESEARCH FUNDING

Antle, J.M., J. Jones and Cynthia Rosenzweig and others. 2014. Scoping Study: Designing the Next Generation of Decision Support Tools for Evaluating Farm-Level Sustainable Intensification Options. Bill and Melinda Gates Foundation. \$430,000.
Antle, J.M. and S.M. Capalbo. 2013-2014. Environmental Sustainability and Tradeoff Analysis Research Program. Bill and Melinda Gates Foundation. \$130,000.

Rosenzweig, C., J. Jones, J. Hatfield, J. Antle and others. 2011 – 2014. Agricultural Model Intercomparison and Improvement Project, \$10,000,000. UKAID-Columbia University-USDA/ARS. (J. Antle leads Regional Economics Team, \$540,000 subcontract).

Diebel, P., J.M. Antle (co-PI) and others. Developing a Sustainable Biofuels System in the PNW: Economic, Policy and Commercialization Analysis. USDA/AFRI. 2013-2015. \$350,000.

Eigenbrode, S., J. Antle and others. 2011-2015. Approaches to Climate Change for Inland Pacific Northwest Agriculture. USDA-NIFA. \$20,000,000. Economics component \$2,000,000 (J. Antle is leader of Modeling Team).

Wu, Junjie, J.M. Antle (co-PI) and others. OSU-UC Davis Partnership for Agricultural and Resource Policy Research. USDA/NIFA. 2012-2014. \$960,000.

CURRENT TEACHING AND ADVISING

I currently am teaching two courses in the Applied Economics Ph.D. program at Oregon State University, AEC 612 Microeconomic Theory, and AEC 640 Sustainable Development, a field course in the PhD program. I am currently the member of four Ph.D. dissertation committees and chair of two. Further details are available on request. I also developed AREC 451 Climate Change Economics, a new course at OSU for advanced undergraduate and Master's degree students.

Another major international teaching activity is the course I have co-developed with colleagues on the use of the TOA-MD model. This course includes a User Guide, a set of Learning Modules, and technical documentation for self-guided use. This material is available free to researchers with the model software at our web site (tradeoffs.oregonstate.edu). On our web site is a map showing the global locations of over 300 individuals and institutions that are “registered users” of our software, meaning that they have obtained our software, completed at least the Basic Learning Module, and agreed to the Terms of Use.

For the past two years we have offered a 1-week in person workshop at Oregon State University which has been attended by about 20 economists and other scientists from around the world (for details see <http://tradeoffs.oregonstate.edu/second-annual-global-toa-md-workshop>). In 2014, we are planning a course on “Crop-Livestock Systems Modeling for *Ex Ante* Impact Assessment using the TOA-MD and Ruminant Models,” jointly with Mario Herrero, a leading livestock modeler at CSIRO-Australia. This course is designed for economists and scientists who are part of research teams at CGIAR centers with projects on crop-livestock systems. We have received expressions of interest in this course from over 30 economists and other scientists working at six centers and the CGAIR Climate Change and Food Security Program. Although still in planning, we anticipate holding a 1-week workshop for participants in mid-2014 at the International Livestock Research Institute in Nairobi or Addis Ababa.

As the leader of AgMIP's Regional Economics Team, I have contributed to the development of a handbook on methods for integrated assessment of climate change impacts and adaptation (<http://www.agmip.org/regional-integrated-assessments-handbook/#>). In addition, I co-organized and led a 1-week TOA-MD training workshop in May 2013 in Dubai, for 25 economists from the AgMIP South Asia and Sub-Saharan Africa regional teams, with additional support from the CGIAR Climate Change and Food Security Program (detailed report available on request).

PROFESSIONAL PRESENTATIONS

Each year I make numerous presentations at conferences, workshops and other venues. A list of recent presentations is available on request.

PUBLICATIONS

Peer-Reviewed Journal Articles and Other Publications

- Antle, J.M. et al. 2014 (in press). AgMIP's Trans-disciplinary Approach to Regional Integrated Assessment of Climate Impact, Vulnerability and Adaptation of Agricultural Systems. In *Handbook of Climate Change and Agroecosystems*, ed. D. Hillel and C. Rosenzweig.
- Valdivia, R.O., J.M. Antle et al. 2014. Representative Agricultural Pathways and Scenarios for Regional Integrated Assessment of Climate Change Impact, Vulnerability and Adaptation. In *Handbook of Climate Change and Agroecosystems*, ed. D. Hillel and C. Rosenzweig.
- Antle, J.M., J. Stoorvogel and R. Valdivia. 2014. New Parsimonious Simulation Methods and Tools to Assess Future Food and Environmental Security of Farm Populations. *Philosophical Transactions of the Royal Society B* 369:20120280.
- Rosenzweig, C., J.W. Jones, J.L. Hatfield, A.C. Ruane, K.J. Boote, P. Thorburn, J.M. Antle, G.C. Nelson, C. Porter, S. Janssen, S. Asseng, B. Basso, F. Ewert, D. Wallach, G. Baigorria, and J.M. Winter. 2013. The Agricultural Model Intercomparison and Improvement Project (AgMIP): Protocols and Pilot Studies. *Ag. For. Meteor.* 170:166-182.
- Antle, J.M. and S. Ogle. 2012. "Agricultural GHG Mitigation in the Central U.S. with No-Till: Accounting for Changes in Soil C, N₂O and Fuel Use." *Climatic Change* 111:609–625.
- Bagamba, F., B. Bashaasha, L. Cladssens and J. Antle. 2012. Assessing Climate Change Impacts and Adaptation Strategies for Smallholder Agricultural Systems in Uganda. *African Crop Science Journal*, Vol. 20, Issue Supplement s2, pp. 303 – 316.
- Claessens, L., J.M. Antle, J.J. Stoorvogel, R.O. Valdivia, P.K. Thornton, and M. Herrero. 2012. A Method for Evaluating Climate Change Adaptation Strategies for Small-Scale Farmers Using Survey, Experimental and Modeled Data. *Agricultural Systems* 111:85-95.
- Valdivia, R., J.M. Antle and J. Stoorvogel. 2012. "Coupling the Tradeoff Analysis Model with a Market Equilibrium Model to Analyze Economic and Environmental Outcomes of Agricultural Production Systems." *Agricultural Systems* 110: 17-29.
- Valdivia, R., J. Stoorvogel and J.M. Antle. 2012. "Economic and Environmental Impacts of Climate Change and Socio-Economic Scenarios: A Case Study of a Semi-Subsistence Agricultural System." *The International Journal of Climate Change Impacts and Responses* 3(2);157-175.
- Grace, P., J. Antle, P. Aggarwal, S. Ogle, K. Paustian and B. Basso. 2012. "Soil carbon sequestration and associated economic costs for farming systems of the Indo- Gangetic Plain: a meta-analysis." *Agriculture, Ecosystems and Environment* 146: 137– 146.
- Antle, J.M. 2011. Parsimonious Multi-Dimensional Impact Assessment. *American Journal of Agricultural Economics* 93(5): 1292–1311.
- Antle, J.M. and S.M. Capalbo 2010. "Adaptation of Agricultural and Food Systems to Climate Change: An Economic and Policy Perspective." *Applied Economic Perspectives and Policy* 32:386-416.
- Antle, J.M., B. Diagana, J. Stoorvogel and R. Valdivia (2010), "Minimum-Data Analysis of Ecosystem Service Supply in Semi-Subsistence Agricultural Systems: Evidence from Kenya and Senegal." *Australian Journal of Agricultural and Resource Economics* 54:601-617.
- Antle, J.M. (2010). "Asymmetry, Partial Moments and Production Risk." *American Journal of Agricultural Economics* 92:1294-1309.
- Antle, J.M. (2010), "Do Economic Variables follow Scale or Location-Scale Distributions?" *American Journal of Agricultural Economics* 92(1):196-204.

- Grace, P., J. Antle, S. Ogle and K. Paustian. 2010. "Soil carbon sequestration rates and associated economic costs for farming systems of South-Eastern Australia." *Australian Journal of Soil Research* 48: 720–729.
- Claessens, L., J.J. Stoorvogel, and J.M. Antle. (2009). "Economic viability of adopting dual-purpose sweetpotato in Vihiga district, Western Kenya: a minimum data approach." *Agricultural Systems*. 99:13-22.
- Claessens, L., J.J. Stoorvogel, and J.M. Antle. 2010. "Impacts of Hydrological Field Interactions in an Integrated Assessment Model for Terraced Crop Systems in the Peruvian Andes." *Journal of Land Use Science* 5(4): 259–275.
- Claessens, L., J.J. Stoorvogel, and J.M. Antle. (2009). "Economic viability of adopting dual-purpose sweetpotato in Vihiga district, Western Kenya: a minimum data approach." *Agricultural Systems*. 99:13-22.
- Antle, J.M. and J.J. Stoorvogel. (2008). "Agricultural Carbon Sequestration, Poverty and Sustainability." *Environment and Development Economics* 13: 327-352.
- Immerzeel, W., J. Stoorvogel, and J. Antle. (2008). "Can Payments for Ecosystem Services Secure the Water Tower of Tibet?" *Agricultural Systems* 96(1-3):52-63.
- Antle, J.M., J.J. Stoorvogel, and R.O. Valdivia. (2007). "Assessing the Economic Impacts of Agricultural Carbon Sequestration: Terraces and Agroforestry in the Peruvian Andes." *Agriculture, Ecosystems and Environment* 122(4):435-445.
- Diagana, B., J. Antle, J. Stoorvogel, and K. Gray. (2007). "Economic Potential for Soil Carbon Sequestration in the Niore Region of Senegal's Peanut Basin." *Agricultural Systems* 94(1):26-37.
- Antle, J.M., S.M. Capalbo, K.H. Paustian, and M.K. Ali. (2007). "Estimating the Economic Potential for Agricultural Soil Carbon Sequestration in the Central United States Using an Aggregate Econometric-Process Simulation Model." *Climatic Change* 80(1-2):145-171.
- Mooney, S., K. Gerow, J. Antle, S. Capalbo, and K. Paustian. (2007). "Reducing Standard Errors by Incorporating Spatial Autocorrelation into a Measurement Scheme for Soil Carbon Credits." *Climatic Change* 80(1-2):55-72.
- Antle, J.M. and J.J. Stoorvogel. (2006). "Predicting the Supply of Ecosystem Services from Agriculture." *American Journal of Agricultural Economics* 88(5):1174-1180.
- Antle, J.M., J.J. Stoorvogel, and R.O. Valdivia. (2006). "Multiple Equilibria, Soil Conservation Investments, and the Resilience of Agricultural Systems." *Environment and Development Economics* 11(4):477-492.
- Antle, J.M. and R. Valdivia. (2006). "Modeling the Supply of Ecosystem Services from Agriculture: A Minimum-Data Approach." *Australian Journal of Agricultural and Resource Economics* 50(1):1-15.
- 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.
- Bricklemyer, 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. Antle, S. Capalbo, and K. 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 Bio-physical 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 Agriculture* 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* 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.
- 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 High- and Low-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(4):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(1-2):213-236.

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- 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(2):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(1):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). "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* 1(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:

- Paustian, K., J.M. Antle, J. Sheehan, and E.A. Paul. (2006). *Agriculture's Role in Greenhouse Gas Mitigation*. Arlington, VA: Pew Center on Global Climate Change. 76 pp.
- 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.
- Capalbo, S.M., and J.M. Antle, 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.

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