

# JOHN MICHAEL ANTLE

**Professor, Agricultural and Resource Economics**  
**Ballard Extension Hall, Oregon State University**  
**Corvallis, OR 97331**  
**(406) 580-0176**  
**john.antle@oregonstate.edu**

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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

## **EMPLOYMENT**

Professor, Agricultural and Resource Economics, Oregon State U., 2010-Present  
Professor, Agricultural Economics and Economics, Montana State U., 1987-2010  
Associate Professor, Agricultural Economics, U. California, Davis, 1984-1987  
Assistant Professor, Agricultural Economics, U. California, Davis, 1980-1984

## **HONORS AND FELLOWSHIPS:**

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  
President, American Agricultural Economics Association, 1999-2000  
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:**

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 EXPERIENCE:**

Consultant to Bill and Melinda Gates Foundation, 2009-present.  
Consultant to International Potato Center, Climate Adaptation Project, 2006-present.

Consultant to Food and Agriculture Organization of the U.N., Ecosystems Services Project, 2005-2007  
Principal Investigator, USAID Soil Man. 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 Instituto Nacional de Investigaciones Forestales y Agropecuarias, Federal Government of Mexico, 1992-1995  
Principal Investigator in Research Collaboration with International Rice Research Institute and International Potato Center  
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

## **LANGUAGE SKILLS**

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

## **RECENT RESEARCH FUNDING:**

Rew, L.J., Antle, J.M., Maxwell, B.D., and diTomaso, J. "A decision support prioritization framework for non-indigenous plant population management." USDA-NRI-CSREES. \$490,987. 2008-2011.

Claessens, L., J. Antle and J. Stoorvogel, in collaboration with the International Potato Center. "Participatory development and testing of strategies to reduce climate vulnerability of poor farm households in East Africa through innovations in potato and sweet potato technologies and enabling policies." German Advisory Service on Research for Development, 2008-2011, EUR 1,150,000.

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-March 2010, \$14,292,087. Antle is technical leader for Economics and Risk Management with a budget of \$1,181,000.

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, 2005-2008, \$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, 2004-2009, \$454,000

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, 2002-2008, \$2,696,931.

## **SELECTED PUBLICATIONS:**

### **Peer-Reviewed Professional Journal Publications:**

#### *In Press and Submitted*

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*.

- Antle, J.M. (2010). "Asymmetry, Partial Moments and Production Risk." *American Journal of Agricultural Economics*. Submitted.
- Antle, J.M. (2010). "Parsimonious Technology Impact Assessment." *American Journal of Agricultural Economics*. Submitted.
- Antle, J.M., L. Rew and B. Maxwell. (2010). Tradeoff Analysis of Non-indigenous Invasive Species Management in Forest Systems. *Ecological Economics*, submitted.
- 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*, invited article, in press.
- 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*, in press.
- Antle, J.M and S. Ogle. (2009). "Agricultural GHG Mitigation in the Central U.S. with No-Till: Accounting for Changes in Soil C, N<sub>2</sub>O and Fuel Use. *Climatic Change*, submitted.
- Claessens, L., J.M. Antle, J.J. Stoorvogel, R.O. Valdivia, P.K. Thornton, and M. Herrero. 2010. A minimum-data approach for agricultural system level assessment of climate change adaptation strategies in resource-poor countries. *Global Environmental Change*, submitted.
- 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*, in press.
- Valdivia, R., J. Antle and J. Stoorvogel. (2010). "Coupling the Tradeoff Analysis Model to market equilibrium models to analyze and agriculture-environment interactions across spatial scales." *Agriculture, Ecosystems and Environment*, in press.
- Vallejo, A.M., J.J. Stoorvogel, J.M. Antle and A. de Jager. (2010). "Linking nutrient monitoring and tradeoff analysis for policy analysis." *Environmental Modeling*, in press.

#### *Published*

- Antle, J.M. (2010), "Do Economic Variables follow Scale or Location-Scale Distributions?" *American Journal of Agricultural Economics* 92(1):196-204.
- 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.
- 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 CO<sub>2</sub> 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.
- 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., 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. (1996). "Methodological Issues in Assessing the Potential Impacts of Climate Change on Agriculture." *Agricultural and Forest Meteorology* 80(1):67-85.
- 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 P. Pingali. (1994). "Pesticides, Productivity, and Farmer Health: A Philippine Case Study." *American Journal of Agricultural Economics* 76(3):418-430.
- 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.
- Just, R.E. and J.M. Antle. (1990). "Interactions between Agricultural and Environmental Policy: A Conceptual Framework." *American Economic Review* 80(2):197-202.

### **Selected 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.
- 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. Zanas, 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.
- 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.

Antle, J.M. (1988). *World Agricultural Development and the Future of U.S. Agriculture*. Washington, DC: American Enterprise Institute. 97 pp.