

## **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 in government and civil society. 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 deep 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 Project – 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

Abraham Lincoln Award (for excellence in research and contributions to U.S. agriculture) U.S. Dept. of Agriculture, 2016

Presidential Award (for AgMIP leadership), American Society of Agronomy, 2015  
F.E. Price/OSU Agricultural Research Foundation Award for Excellence in Research, 2015  
*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  
Recognized by the Intergovernmental Panel on Climate Change as a contributor to the 2007  
Nobel Peace Prize awarded to the IPCC  
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

Reviewer for various professional journals, grant proposals, etc.  
Co-founder, Executive Committee member, and Economics Team Leader, Agricultural Model  
Inter-comparison and Improvement Project, 2011-present  
Member, Fellows Selection Committee, Ag & Applied Economics Association, 2012-2016  
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

#### CURRENT TEACHING, ADVISING, UNIVERSITY AND DEPARTMENTAL SERVICE

I currently am teaching a field course in the Applied Economics Ph.D. program at Oregon State University, AEC 640 Sustainable Development, and a graduate course in microeconomic theory (AEC 512). I am chairing three Ph.D. committees and member of two others. My research projects in the U.S., Africa and South Asia provide opportunities for OSU students to participate in capacity-building and international and inter-disciplinary research activities.

Another capacity building activity is the course I have co-developed with colleagues on the use of the TOA-MD impact assessment 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](http://tradeoffs.oregonstate.edu)). On our web site is a map showing the global locations of over 700 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. We have organized a series of courses that conclude with a 1-week workshop (see our web site for further information). I am currently transforming these research and teaching materials into a book-length manuscript that I expect to complete in 2020 and publish on-line.

As a member of AgMIP's Executive Council and 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 (<http://www.agmip.org/regional-integrated-assessments-handbook/#>). As part of the AgMIP-led project in Africa and South Asia, my OSU-based team has trained over 25 economists in Africa and South Asia to use these methods to carry out climate impact assessments in their countries.

As a member of the AgMIP Executive Council, I meet regularly with other members by phone conference, participate in public events to publicize AgMIP work, and help to organize periodic global meetings, the next one will be in New York City in October 2020 (see [www.agmip.org](http://www.agmip.org)).

#### PROFESSIONAL PRESENTATIONS AND MEETINGS

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

#### RECENT RESEARCH FUNDING

- Steiner, J., J. Antle et al. Sustainably Incorporating Hemp Biobased Economy into Western U.S. Regional Rural and Tribal Lands. USDA-NIFA. \$10,000,000. 2021-2026.
- Antle, J.M. Economic Potential of Pacific Northwest Hemp Production Systems. Agricultural Research Service, USDA. \$294,000. 2020-22.
- Antle, J.M. AgMIP Adaptation Teams Startup – A CLARE Initiation Activity. International Development Research Center (Canada). OSU subcontract to Columbia University, \$272,000. 2020-21.
- Jaeger, W. and J. Antle. Reducing Uncertainty to Advance Sustainable Groundwater Use Using an Integrated Hydro-Economic System Model: Investigations in the Harney Basin, Oregon. USDA-AFRI, 2019-2022. \$500,000.
- Antle, J. Impact of domestic and trade policies on adoption of a biofuel crop in dryland wheat-based farming systems in U.S. Pacific Northwest. USDA Sun Grant, 2018-2019. \$60,000.
- Antle, J. "Rapid Assessment of Agriculture in a 1.5 Degree C World." Subcontract to Columbia University, USDA Cooperative Agreement. 2016-17. \$50,000.
- Antle, J. "Climate Change Impacts on Agriculture and Land Use." 2014-16. Cooperative Ecosystems Studies Unit, USGS, \$155,000.
- Antle, J. "Agricultural Research Support for East Africa." 2015-16. International Crops Research Institute for the Semi-Arid Tropics, \$44,000.
- Antle, J. and R. Valdivia. "Assessing Index-Based Crop Insurance Potential in West Africa." USAID and International Center for Tropical Agriculture. 2015-2016. \$34,803.
- Rosenzweig, C., J. Jones, J. Hatfield, J. Antle and others. 2015 – 2017. Agricultural Model Intercomparison and Improvement Project, \$5,000,000. UKAID-USDA/ARS. (J. Antle leads Regional Economics Team, \$430,000 subcontract).
- Wu, JunJie, J. Antle, S. Capalbo, C. Daly. "Assessing Climate-Induced Water Scarcity and Strategies to Adapt for Agriculture Systems in the U.S. Pacific Northwest." US Department of Agriculture Office of the Chief Economist, \$99,988. 2014-2015.

- 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. 2011-2017. 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).

## PUBLICATIONS

(\* Award winners)

- Basso, B. and J.M. Antle. 2020. Digital Agriculture to Design Sustainable Agricultural Systems. *Nature Sustainability* 3 (April 2020): 254-256.
- Antle, J.M. 2019. Data, Economics, and Computational Agricultural Science. *American Journal of Agricultural Economics* Volume 101, Issue 2, March 2019, Pages 365–382, <https://doi.org/10.1093/ajae/aay103>. AAEA Fellows Address, 2018.
- Hatfield, J.L., J.M. Antle, K.A. Garrett, R.C. Izaurralde, T. Mader, E. Marshall, M. Nearing, G.P. Robertson, L. Ziska. 2018. Indicators of climate change in agricultural systems. *Climatic Change* 163(4): 1719-1732.
- Ruane, A.C., J.M. Antle et al. 2018. Biophysical and economic implications for agriculture of +1.5 and +2.0°C global warming using AgMIP Coordinated Global and Regional Assessments. *Climate Research* 76(1):17-39. DOI: 10.3354/cr01520.
- Antle, J.M., S. Cho, H. Tabatabaie and R. Valdivia. 2018. Economic and Environmental Performance of Dryland Wheat Systems in a 1.5 Degree C World. *Mitigation and Adaptation Strategies for Global Change*. DOI 10.1007/s11027-018-9804-1.
- Mu, J., J.M. Antle and J. Abatzoglou. Representative agricultural pathways, climate change, and agricultural land uses: an application to the Pacific Northwest of the USA. *Mitigation and Adaptation Strategies for Global Change*. <https://doi.org/10.1007/s11027-018-9834-8>
- Rosenzweig, C., A.C. Ruane, J.M. Antle, et al. 2018. Coordinating AgMIP data and models across global and regional scales for 1.5° and 2.0° C assessments. *Philosophical Transactions of the Royal Society A*. 376:20160455. doi: 10.1098/rsta.2016.0455.
- Antle, J., J. Mu, H. Zhang, S. Capalbo, P. Diebel, S. Eigenbrode, C. Kruger, C. Stöckle, J.D. Wulfforst. 2017. Design and Use of Representative Agricultural Pathways in U.S Pacific Northwest Wheat-Based Systems. *Frontiers in Ecology and Evolution*. Published online. doi: 10.3389/fevo.2017.00099.
- Mu, E., B. Sleeter and J.M. Antle. 2017. Climate Impacts on Agricultural Land Use in the USA: The Role of Socioeconomic Scenarios. *Climatic Change* 144(2): 329–345.
- Valdivia, R.O., J.M. Antle and J.J. Stoorvogel. 2017. Designing and Evaluating Sustainable Development Pathways for Semi-Subsistence Crop-Livestock Systems: Lessons from Kenya. *Agricultural Economics*. Volume 48(S1): 11–26. DOI: 10.1111/agec.12383.
- Stöckle, C.O., S. Higgins, R. Nelson, J. Abatzoglou, D. Huggins, W Pan, T. Karimi, J. Antle, S. Eigenbrode, and E. Brooks. 2017. Evaluating Opportunities for an Increased Role of Winter Crops

- as Adaptation to Climate Change in Dryland Cropping Systems of the U.S. Inland Pacific Northwest. *Climatic Change*. Published online.
- Antle, J., S. Homann-Kee Tui, K. Descheemaeker, P. Masikate, R. Valdivia. 2017. “Using AgMIP Regional Integrated Assessment Methods to Evaluate Climate Impact, Adaptation, Vulnerability and Resilience in Agricultural Systems.” In L. Lipper, N. McCarthy, D. Zilberman, S. Asfaw and G. Branca, editors. *Climate Smart Agriculture - Building Resilience to Climate Change*. New York: Springer.
- Antle, J.M., H. Zhang, J. Mu, J. Abatzoglou and C.O. Stöckle. 2017. Methods to Assess Between-System Adaptations to Climate Change: Dryland Wheat Systems in the Pacific Northwest United States. *Agriculture, Ecosystems and Environment*. published online.  
<https://doi.org/10.1016/j.agee.2017.03.017>
- Antle, J.M. and C.O. Stöckle. 2017. Climate Impacts on Agriculture: Insights from Agronomic-Economic Analysis. *Review of Environmental Economics and Policy* 11(2): 299–318.  
<https://doi.org/10.1093/reep/rex012>
- Antle, J., J. Jones and C. Rosenzweig. 2017. Next Generation Agricultural System Data, Models and Knowledge Products: Synthesis and Strategy. *Agricultural Systems* 155: 179-185.
- Antle, J., J. Jones and C. Rosenzweig. 2017. Next Generation Agricultural System Data, Models and Knowledge Products: Introduction. *Agricultural Systems* 155: 186-190.
- Antle, J.M., B.O. Basso, R.T. Conant, H.C.J. Godfray, J.W. Jones, M. Herrero, R.E. Howitt, B.A. Keating, R. Munoz-Carpena, C.E. Rosenzweig, and T.R. Wheeler. 2017. Towards a New Generation of Agricultural System Data, Models and Knowledge Products: Design and Improvement. *Agricultural Systems* 155: 255-268.
- Jones, J.W., J.M. Antle, B.O. Basso, K. Boote, R.T. Conant, I. Foster, H.C.J. Godfray, M. Herrero, R.E. Howitt, S. Janssen, B.A. Keating, R. Munoz-Carpena, C. Porter, C.E. Rosenzweig, and T.R. Wheeler. 2017. A Brief History of Agricultural Systems Models. *Agricultural Systems* 155: 240-254.
- Jones, J.W., J.M. Antle, B.O. Basso, K. Boote, R.T. Conant, I. Foster, H.C.J. Godfray, M. Herrero, R.E. Howitt, S. Janssen, B.A. Keating, R. Munoz-Carpena, C. Porter, C.E. Rosenzweig, and T.R. Wheeler. 2017. Towards a New Generation of Agricultural System Models, Data, and Knowledge Products: State of Agricultural Systems Science. *Agricultural Systems*. 155: 268-288.
- Janssen, S., C.H. Porter, A. D. Moore, I.N. Athanasiadis, I. Foster, J.W. Jones, J. Antle. 2017. Building an Open Web-Based Approach to Agricultural Data, System Modeling and Decision Support. *Agricultural Systems*. 155: 200-212.
- Capalbo, S.M., J.M. Antle and C. Seavert. 2017. Next generation data systems and knowledge products to support agricultural producers and science-based policy decision making. *Agricultural Systems* 155: 191-199. <http://dx.doi.org/10.1016/j.agsy.2016.10.009>
- Capalbo, S.M., J.M. Antle, C. Seavert, J. Way and L. Houston. 2017. Understanding Tradeoffs in the Context of Farm-Scale and Regional Impacts: An Application of Decision-Support Tools for Assessing Climate Smart Agriculture. *Climate Smart Agriculture - Building Resilience to Climate Change*. Springer. DOI 10.1007/978-3-319-61194-5.
- Kanter, D.R., M. Musumba, S.L.R. Wood, C. Palm, J. Antle, P. Balvanera, V.H. Dale, P. Havlik, K.L. Kline, R.J. Scholes, P. Thornton, P. Tittonell, S. Andelman. 2018. Evaluating agricultural trade-offs in the age of sustainable development. *Agricultural Systems* 163: 73-88.
- Rosenzweig, C., J. Antle, and J. Elliott (2016), Assessing impacts of climate change on food security worldwide, *Eos*, 97, doi:10.1029/2016EO047387. Published on 9 March 2016.
- Antle, J.M., R. Adhikari and S. Price. (2015). An Income-based Food Security Indicator for Agricultural Technology Impact Assessment, in Andrew Schmitz, P. Lynn Kennedy, Troy G. Schmitz (ed.) *Food Security in an Uncertain World (Frontiers of Economics and Globalization, Volume 15)* Emerald Group Publishing Limited, pp.81 - 96

- \*Brown, M.E., J.M. Antle, P. Backlund, E.G. Carr, W.E. Easterling, M.K. Walsh, C. Ammann, W. Attavanich, C.B. Barrett, M.F. Bellemare, V. Dancheck, C. Funk, K. Grace, J.S.I. Ingram, H. Jiang, H. Maletta, T. Mata, A. Murray, M. Ngugi, D. Ojima, B. O'Neill, and C. Tebaldi. 2015. *Climate Change, Global Food Security, and the U.S. Food System*. 267 pages. Available online at [http://www.usda.gov/oce/climate\\_change/FoodSecurity.htm](http://www.usda.gov/oce/climate_change/FoodSecurity.htm). Abraham Lincoln Award, USDA.
- \*Antle, J. S. Capalbo, and L. Houston. Using Big Data to to Evaluate Agro-environmental Policies, *Choices* 3<sup>rd</sup> Quarter 2015. AAEA Outstanding Article Award.
- Antle, J.M. 2015. "Climate Change, Vulnerability and Food Insecurity". *Choices*. Quarter 2. Available online: <http://choicesmagazine.org/choices-magazine/theme-articles/climate-change-and-agriculture-revisiting-the-evidence-and-potential-solutions/climate-change-vulnerability-and-food-insecurity>
- Rosenzweig, C., J.W. Jones, J.L. Hatfield, J.M. Antle, A.C. Ruane and C.Z. Mutter. (2015). The Agricultural Model Intercomparison and Improvement Project: Phase I Activities by a Global Community of Science. C. Rosenzweig and D. Hillel, eds. *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project Integrated Crop and Economic Assessments, Part 1*. London: Imperial College Press.
- Antle, J. M., R.O. Valdivia, K.J. Boote, S. Janssen, J.W. Jones, C.H. Porter, C. Rosenzweig, A.C. Ruane, and P.J. Thorburn. (2015). AgMIP's Trans-disciplinary Agricultural Systems Approach to Regional Integrated Assessment of Climate Impact, Vulnerability and Adaptation. C. Rosenzweig and D. Hillel, eds. *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project Integrated Crop and Economic Assessments, Part 1*. London: Imperial College Press.
- Claessens, L., Antle, J. M., Stoorvogel, J. J., Valdivia, R. O., Thornton, P. K., Herrero, M., 2015. Scoping Climate Change Adaptation Strategies for Smallholder Farmers in East Africa – A Multi-dimensional, Multi-scenario Impact Assessment. In: *Climate Change Challenges and Adaptations at Farm level: Case studies from Asia and Africa*, 138-145. Edited by N. Singh, C. Bantilan, K. Byjesh and S. Nedumaran. International Crops Institute for the Semi-Arid Tropics. India. Cabi climate change series; 9.
- Singh, Harbir, Nataraja Subash, Babooji Gangwar, Roberto Valdivia, John Antle, and Guillermo Baigorria. "Assessing Economic Impacts of Climate Change and Adaptation in Indo-Gangetic Basin." *Procedia Environmental Sciences* 29 (2015): 229-230.
- Valdivia, R.O., J.M. Antle, C. Rosenzweig, A.C. Ruane, J. Vervoort, M. Ashfaq, I. Hathie, S. Homann-Kee Tui, R. Mulwa, C. Nhemachena, P. Ponnusamy, H. Rasnayaka and H. Singh. (2015). Representative Agricultural Pathways and Scenarios for Regional Integrated Assessment of Climate Change Impact, Vulnerability and Adaptation. C. Rosenzweig and D. Hillel, eds. *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project Integrated Crop and Economic Assessments, Part 1*. London: Imperial College Press.
- Wallach, D., L.O. Mearns, M. Rivington, J.M. Antle and A.C. Ruane. Uncertainty in Agricultural Impact Assessment. C. Rosenzweig and D. Hillel, eds. *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project Integrated Crop and Economic Assessments, Part 1*. London: Imperial College Press, 2015.
- Porter, C., C. Villalobos, D. Holzworth, R. Nelson, J.W. White, I.N. Athanasiadis, M. Zhang, S. Janssen, R. Knapen, J.W. Jones, K.J. Boote, J. Hargreaves, J.M. Antle. 2015. Data Interoperability Tools for Regional Integrated Assessment. In C. Rosenzweig and D. Hillel, eds. *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project Integrated Crop and Economic Assessments, Part 1*. London: Imperial College Press, 2015.

- 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, N<sub>2</sub>O 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.
- Brickley, 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.
- 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* 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.
- 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(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*

- Antle, J.M. and S. Ray. 2020. *Sustainable Agricultural Development: An Economic Perspective*. Palgrave-Macmillan. <https://www.palgrave.com/gp/book/9783030345983>.
- 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. 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.
- 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.
- Antle, J.M. (1988). *World Agricultural Development and the Future of U.S. Agriculture*. Washington, DC: American Enterprise Institute. 97 pp.

#### *Chapters in Books and Other Publications (varying levels of peer review)*

- Valdivia R.O., Antle, J.; Homann-Kee Tui, S., Subash, N., Hathie, I., Neduraman, S., Harbir, S., Claessens, L., Dickson, C., Sisito, G. 2021. Developing Representative Agricultural Pathways: A Multi-Scale Co-Designing Process to Support Transformation and Resilience of Agricultural Farming Systems. In: *Handbook of Climate Change and Agroecosystems*:

Climate Change and Farming System Planning in Africa and South Asia: AgMIP Stakeholder-driven Research (In 2 Parts) (Vol. 5). World Scientific Publishing. [Rosenzweig, C., C.Z. Mutter and E. Mencos Contreras (eds.)]. June 2021.

- Antle, J.M. Integrating economic simulation models with whole-farm system models for ex ante technology impact assessment. Boote, K. (ed.), *Advances in crop modelling for a sustainable agriculture*, Burleigh Dodds Science Publishing, Cambridge, UK (ISBN: 978 1 78676 240 5; [www.bdspublishing.com](http://www.bdspublishing.com))
- Antle, J.M. and Roberto O. Valdivia. 2016. Assessing Climate Change Impact, Adaptation, Vulnerability, and Food Security of Farm Households: The AgMIP Regional Integrated Assessment Approach. *World Economic and Social Survey 2016: Climate Change resilience – an opportunity for reducing inequalities*. Background Paper for the WESS 2016. United Nations. Available at <http://bit.ly/2a8si5H>
- Antle, J.M. and L. Houston. (2013). "A Regional Look at the Distribution of Farm Program Payments and How It May Change with a New Farm Bill." *Choices 4<sup>th</sup> Quarter 2013*. <http://www.choicesmagazine.org>.
- Antle, J.M., J.J. Stoorvogel. (2009). "Payments for Ecosystem Services, Poverty and Sustainability: The Case of Agricultural Soil Carbon Sequestration." In *Payments for Environmental Services in Agricultural Landscapes*. Ed. L. Lipper, T. Sakuyama, R. Stringer and D. Zilberman. Springer Publishing.
- Nalukenge, I., J.M. Antle, and J.J. Stoorvogel. (2009). "Assessing the Feasibility of Wetlands Conservation Using Payments for Ecosystem Services in Pallisa, Uganda." In *Payments for Environmental Services in Agricultural Landscapes*. Ed. L. Lipper, T. Sakuyama, R. Stringer and D. Zilberman. Springer Publishing.
- Antle, J.M. (2008) "Climate Change and Agriculture: Economic Impacts." *Choices* 23(1):9-11.
- Antle, J., S. Capalbo, and K. Paustian. (2006). "Ecological and Economic Impacts of Climate Change in Agricultural Systems: An Integrated Assessment Approach." In M. Ruth, K. Donaghy and P. Kirshen, eds., *Regional Climate Change and Variability: Impacts and Responses*. Cheltenham, UK and Northampton, MA: Edward Elgar, pp. 128-160.
- Antle, J.M., R.O. Valdivia, C.C. Crissman, J.J. Stoorvogel, and D. Yanggen. (2006). "Spatial Heterogeneity and Adoption of Soil Conservation Investments: Integrated Assessment of Slow Formation Terraces in the Andes." In D. Miljkovic, ed., *New Topics in International Agricultural Trade and Development*. New York: Nova Science Publishers, Inc, pp. 29-53.
- 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.

- Antle, J.M. and S.M. Capalbo. (2002). "Agriculture as a Managed Ecosystem: Implications for Econometric Analysis of Production Risk." In R.E. Just and R.D. Pope, eds., *A Comprehensive Assessment of the Role of Risk in U.S. Agriculture*, Boston: Kluwer Academic Publishers, pp. 243-263.
- Antle, J.M. and B.A. McCarl. (2002). "The Economics of Carbon Sequestration in Agricultural Soils." In T. Tietenberg and H. Folmer, eds., *The International Yearbook of Environmental and Resource Economics 2002/2003*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, pp. 278-310.
- Antle, J.M. and S. Mooney. (2002). "Designing Efficient Policies for Agricultural Soil Carbon Sequestration." In J.M. Kimble, R. Lal, and R.F. Follett, eds., *Agriculture Practices and Policies for Carbon Sequestration in Soil*, Boca Raton, FL: CRC Press LLC, pp. 323-336.
- Antle, J.M. "Economic Analysis of Food Safety." (2001). In B.L. Gardner and G.C. Rausser, eds., *Handbook of Agricultural Economics*. Amsterdam: North-Holland Publishing Co., pp. 1083-1136.
- Antle, J.M. and J.J. Stoorvogel (2001). "Integrating Site-Specific Biophysical and Economic Models to Assess Trade-offs in Sustainable Land Use and Soil Quality." In N. Heerink, H. van Keulen, and M. Kuiper, eds., *Economic Policy and Sustainable Land Use: Recent Advances in Quantitative Analysis for Developing Countries*. New York: Physica-Verlag, pp. 169-184.
- Crissman, C.C., J.M. Antle, and J.J. Stoorvogel. (2001). "Tradeoffs in Agriculture, the Environment and Human Health: Decision Support for Policy and Technology Managers." In D.L. Lee and C.B. Barrett, eds., *Tradeoffs or Synergies? Agricultural Intensification, Economic Development and the Environment*. Wallingford, UK: CAB International, pp. 135-150.
- Gitay, H., S. Brown, W. Easterling, and B. Jallow (with J. Antle, M. Apps, R. Beamish, T. Chapin, W. Cramer, J. Frangi, J. Laine, L. Erda, J. Magnuson, I. Noble, J. Price, T. Prowse, T. Root, E. Schulze, O. Sirotenko, B. Sohngen, J. Soussana). (2001). "Ecosystems and Their Goods and Services." In J.J. McCarthy, O.F. Canziani, N.A. Leary, D.J. Dokken, and K.S. White, eds. *Climate Change 2001: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change, United Nations Environment Programme–World Meteorological Organization, Cambridge: Cambridge University Press, pp. 235-342.
- Antle, J.M., S.M. Capalbo, and J. Hewitt. (2000). "Testing Hypotheses in Integrated Impact Assessments: Climate Variability and Economic Adaptation in Great Plains Agriculture." FY 1999/2000 Annual Report, National Institute for Global Environmental Change, <http://nigec.ucdavis.edu>.
- Antle, J.M. (2000). "Tradeoffs in Sustainable Agriculture and the Environment in the Andes: A Decision Support System for Policy Makers." 1999 Annual Report to the Soil Management CRSP, February. Available at [www.tradeoffs.montana.edu](http://www.tradeoffs.montana.edu).
- Antle, J.M. (1999). "The Cost of Quality in the Meat Industry: Implications for HACCP Regulation." In L. Unnevehr, ed., *The Economics of HACCP: New Studies of Costs and Benefits*. St. Paul, MN: Egan Press.
- Young, L.M. and J.M. Antle. (1999). "Introduction and Major Findings." In L.M. Young, J.B. Johnson, and V.H. Smith, eds., *2000 WTO Negotiations: Issues for Agriculture in the Northern Plains and Rockies*. Bozeman, MT: Trade Research Center, pp. 1-24.
- Antle, J.M. and V.H. Smith. (1999). "An Overview of World Wheat Markets." In Antle, J.M. and V.H. Smith, eds., *Economics of World Wheat Markets*. Oxon, UK: CAB International, pp. 3-19.
- Antle, J.M., D. Hayes, S. Mohanty, P. Vavra, and V.H. Smith. (1999). "Long-Term Supply and Demand Trends: Whither the Real Price of Wheat?" In Antle, J.M. and V.H. Smith, eds., *Economics of World Wheat Markets*. Oxon, UK: CAB International, 39-76.

- Antle, J.M., S.M. Capalbo, J.B. Johnson, and W.E. Zidack. (1999). "Prices, Net Returns and Land Use in Northern Great Plains Dryland Grain Production." In Antle, J.M. and V.H. Smith, eds., *Economics of World Wheat Markets*. Oxon, UK: CAB International, pp. 407-420.
- Antle, J.M. and V.H. Smith. (1999). "Synthesis and Implications." In Antle, J.M. and V.H. Smith, eds., *Economics of World Wheat Markets*. Oxon, UK: CAB International, pp. 421-430.
- Capalbo, S.M. and J.M. Antle. (1998). "Sustainability and Production Technology: Measuring Sustainability for Agricultural Production Systems." In G.E. D'Souza and T.G. Gebremedhin, eds., *Sustainability in Agricultural and Rural Development*. Aldershot, UK and Brookfield, VT: Ashgate Publishing Company, pp. 67-84.
- Antle, J.M., J.N. Lekakis, and G.P. Zanias. (1998). "Introduction: Free Trade, Agriculture and the Environment with a View to the European Union." In J.M. Antle, J.N. Lekakis, and G.P. Zanias, eds., *Agriculture, Trade and the Environment: The Impact of Liberalization on Sustainable Development*. Cheltenham, UK: Edward Elgar Publishing, Ltd., pp. 1-9.
- Antle, J.M. and S.M. Capalbo. (1998). "Quantifying Agriculture-Environment Tradeoffs to Assess Environmental Impacts of Domestic and Trade Policies." In J.M. Antle, J.N. Lekakis, and G.P. Zanias, eds., *Agriculture, Trade and the Environment: The Impact of Liberalization on Sustainable Development*. Cheltenham, UK: Edward Elgar Publishing, Ltd., pp. 25-51.
- Antle, J.M., C.C. Crissman, J. Hutson, and R.J. Wagenet. (1996). "Empirical Foundations for Environment-Trade Linkages: Implications of an Andean Study." In M.E. Bredahl, N. Ballenger, J.C. Dunmore, and T.L. Roe, eds., *Agricultural Trade and the Environment: Discovering and Measuring the Critical Linkages*, Boulder and London: HarperCollins, Westview Press, 173-197.
- Antle, J.M. and R.J. Wagenet. (1995). "Why Scientists Should Talk to Economists: The Role of Economics in Enhancing the Value of Publicly Funded Agricultural Research." American Agricultural Economics Association Occasional Paper, jointly commissioned by the American Agricultural Economics Association and the USDA/Economic Research Service. Published by the American Agricultural Economics Association, Ames, IA. 15 pp.
- Antle, J.M. and R.J. Wagenet. (1995). "Why Scientists Should Talk to Economists, and Vice Versa." *Choices* (4th Quarter):29-33.
- Antle, J.M. (1995). "Why Is World Agriculture Still in Disarray?" In J.M. Antle and D.A. Sumner, eds., *The Economics of Agriculture, Vol. 2: Papers in Honor of D. Gale Johnson*. Chicago: University of Chicago Press, pp. 400-419.
- Antle, J.M. (1995). "Choice, Efficiency, and Food Safety Policy." In D.A. Sumner, ed., *Agricultural Policy Reform in the United States*. American Enterprise Institute Studies in Agricultural Policy, Washington, DC: AEI Press, 185-210.
- Antle, J.M. and S.M. Capalbo. (1995). "Measurement and Evaluation of the Impacts of Agricultural Chemical Use: A Framework for Analysis." In P.L. Pingali and P.A. Roger, eds., *Impacts of Pesticides on Farmer Health and the Rice Ecosystem*. Boston: Kluwer Academic Publishers, pp. 23-57.
- Antle, J.M. and P.L. Pingali. (1995). "Pesticides, Productivity, and Farmer Health: A Philippine Case Study." In P.L. Pingali and P.A. Roger, eds., *Impacts of Pesticides on Farmer Health and the Rice Ecosystem*. Boston: Kluwer Academic Publishers, pp. 361-387.
- Antle, J.M. (1994). "Health, Environment, and Agricultural Research." In J.R. Anderson, ed., *Agricultural Technology: Policy Issues for the International Community*. Wallington, UK: CAB International in association with the World Bank, pp. 517-531.
- Antle, J.M. and T. McGuckin. (1993). "Technological Innovation, Agricultural Productivity, and Environmental Quality." In G.A. Carlson, D. Zilberman, and J.A. Miranowski, eds., *Agricultural and Environmental Resource Economics*. New York and Oxford: Oxford University Press, pp. 175-220.

- Antle, J.M. and S.M. Capalbo. (1993). "Integrating Economic and Physical Models for Analyzing Environmental Effects of Agricultural Policy on Nonpoint-Source Pollution." In C.S. Russell and J.F. Shogren, eds., *Theory, Modeling and Experience in the Management of Nonpoint-Source Pollution*. Boston: Kluwer Academic Publishers, pp. 155-178.
- Antle, J.M. and R.E. Just. (1991). "Effects of Commodity Program Structure of Resource Use and the Environment." In N. Bockstael and R.E. Just, eds., *Commodity and Resource Policy in Agricultural Systems*. New York: Springer-Verlag, pp. 97-127.
- Antle, J.M. (1988). "Integrated Pest Management: It Needs to Recognize Risks, Too." *Choices* (3rd Quarter):8-11. Reprinted in *Bulletin of the Association of Applied Insect Ecologists*, Spring 1989.
- Antle, J.M. (1988). "Dynamics, Causality, and Agricultural Productivity." In S.M. Capalbo and J.M. Antle, eds., *Agricultural Productivity: Measurement and Explanation*. Washington, DC: Resources for the Future, Inc., Johns Hopkins Press, pp. 332-365.
- Antle, J.M. and S.M. Capalbo. (1988). "An Introduction to Production Theory and Productivity Measurement." In S.M. Capalbo and J.M. Antle, eds., *Agricultural Productivity: Measurement and Explanation*. Washington, DC: Resources for the Future, Inc., Johns Hopkins Press, pp. 17-95.
- Antle, J.M. (1987). "Technology and Uncertainty: Evidence from Egypt." In M. Bellamy and B. Greenshields, eds., *Agriculture and Economic Instability*. London: Gower Publishing Co., pp. 134-137.
- Antle, J.M. and S.K. Park. (1986). "Economics of IPM for Processing Tomatoes." *California Agriculture*. pp. 31-32.
- Antle, J.M. (1983). "Infrastructure and Agricultural Productivity: Theory, Measurement, and Implications for Growth and Equity in Agricultural Development." In Proceedings of the XVIII International Conference of Agricultural Economists. London: Gower Publishing Co., pp. 181-190.
- 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).

*Non-Peer Reviewed Chapters in Books, Book Reviews and Other Publications:*

- Claessens, L., Antle, J. M., Stoorvogel, J. J., Valdivia, R. O., Thornton, P. K., Herrero, M., 2015. Scoping Climate Change Adaptation Strategies for Smallholder Farmers in East Africa – A Multi-dimensional, Multi-scenario Impact Assessment. In: Climate Change Challenges and Adaptations at Farm level: Case studies from Asia and Africa, 138-145. Edited by N. Singh, C. Bantilan, K. Byjesh and S. Nedumaran. International Crops Institute for the Semi-Arid Tropics. India. Cabi climate change series; 9.
- Antle, J.M. (2009). "Economic Analysis of Carbon Sequestration in Agricultural Soils." Paper prepared for the Agriculture and Trade Division, OECD. Paris.
- Antle, J.M. Review of *From Marx to Mao to the Market: The Economics and Politics of Agricultural Transition*, by Johan F.M. Swinnen and Scott Rozelle. *American Journal of Agricultural Economics* 90(1):280-281.
- Antle, J.M. (2007). Review of *Social Science Knowledge and Economic Development: An Institutional Design Perspective*, by Vernon W. Ruttan. *Economic Development and Cultural Change* 55(3):616-619.
- Antle, J.M. (2007). "Payments for Ecosystem Services and U.S. Farm Policy." In *The 2007 Farm Bill and Beyond: Summary for Policymakers*. American Enterprise Institute Agricultural Policy Series, Washington, DC: AEI Press, pp. 111-113.

- Stoorvogel, J.J. and J.M. Antle. (2007). "Integrated Assessment of Agricultural Systems: A Challenge of System and Model Complexity." In M. Donatelli, J. Hatfield, A. Rizzoli, eds., *Farming Systems Design 2007, International Symposium on Methodologies for Integrated Analysis of Farm Production Systems, Book 1 - Farm-Regional Scale Design and Improvement*, Pavia, Italy: La Goliardica Pavese, pp. 9-10.
- Antle, J., D. Cole, and C. Crissman. (2002). "Plaguicidas, Salud y Productividad de los Agricultores." (Pesticides, Health and Productivity of Farmers.) In D. Yanggen, C. Crissman, and P. Espinosa, eds., *Los Plaguicidas: Impactos en Produccion, Salud y Medio Ambiente en Carchi, Ecuador*. International Potato Center, Ediciones Abya-Yala, Quito, pp. 135-146.
- Crissman, C., D. Yanggen, J. Antle, D. Cole, J. Stoorvogel, V.H. Barrera, P. Espinosa, and W. Bowen. (2002). "Relaciones de Intercambio Existentes entre Agricultura, Medio Ambiente y Salud Humana con el Uso de Plaguicidas" (Tradeoffs between Agriculture, Environment and Human Health with Pesticide Use). In D. Yanggen, C. Crissman, and P. Espinosa, eds. *Los Plaguicidas: Impactos en Produccion, Salud y Medio Ambiente en Carchi, Ecuador*. International Potato Center, Ediciones Abya-Yala, Quito, pp. 147-162.
- Antle, J.M. and G. Uehara. (2002). "Creating Incentives for Sustainable Agriculture: Defining, Estimating Potential and Verifying Compliance with Carbon Contracts for Soil Carbon Projects in Developing Countries." In *A Soil Carbon Accounting and Management System for Emissions Trading*. Special Publication SM CRSP 2002-04, Soil Management Collaborative Research Support Program, University of Hawaii, Honolulu, Hawaii, pp. 1-11. Available at [www.tradeoffs.montana.edu](http://www.tradeoffs.montana.edu).
- Antle, J.M. (2002). "Economic Analysis of Carbon Sequestration in Agricultural Soils: An Integrated Assessment of Carbon Sequestration in Agricultural Soils." In *A Soil Carbon Accounting and Management System for Emissions Trading*. Special Publication SM CRSP 2002-04, Soil Management Collaborative Research Support Program, University of Hawaii, Honolulu, Hawaii, pp. 69-90. Available at [www.tradeoffs.montana.edu](http://www.tradeoffs.montana.edu).
- Antle, J.M., J.J. Stoorvogel, C.C. Crissman, and W. Bowen. (2001). "Tradeoff Assessment as a Quantitative Approach to Agricultural/Environmental Policy Analysis." In *Methodologies for Interdisciplinary Multiple Scale Perspectives*. Proceedings of the SAAD-III Third International Symposium on Systems Approaches for Agricultural Development, November 1999, CD-ROM, Lima, Peru: International Potato Center (CIP).
- Antle, J.M. and G. Heidebrink. (1999). "Environment and Development: Theory and International Evidence." *Economic Development and Cultural Change* 4(April 1995):603-625. Reprinted in J.B. Opschoor, K.J. Button, and P. Nijkamp, eds., *Environmental Economics and Development*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, Ltd., 41-63.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, and J.M. Antle. (1998). "Production Costs for Annually-Planted Crops Produced on Dryland Cropland, Northeastern Montana MLRA 53A." *Departmental Special Report #25*, Department of Agricultural Economics and Economics, Montana State University, Bozeman.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, and J.M. Antle. (1998). "Production Costs for Annually-Planted Crops Produced on Dryland Cropland, East Central Montana MLRA 54." *Departmental Special Report #26*, Department of Agricultural Economics and Economics, Montana State University, Bozeman.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, and J.M. Antle. (1998). "Production Costs for Annually-Planted Crops Produced on Dryland Cropland, Southeastern Montana MLRA 58A." *Departmental Special Report #27*, Department of Agricultural Economics and Economics, Montana State University, Bozeman.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, and J.M. Antle. (1998). "Production Costs for Annually-Planted Crops Produced on Dryland Cropland, Northern Montana MLRA 52." *Departmental*

*Special Report #28*, Department of Agricultural Economics and Economics, Montana State University, Bozeman.

- Capalbo, S.M., J.M. Antle, J.B. Johnson, and W.E. Zidack. (1998). "Net Returns and Production Costs for Montana Grain Producers." *Markets, Prices, Policies, and Risks: The Economic Future of Agriculture in the Northern Plains*. Conference Proceedings, Trade Research Center, Montana State University, Bozeman, May 14-15.
- Antle, J.M. (1998). "Agriculture, Trade, and the Regional Economy." *Markets, Prices, Policies, and Risks: The Economic Future of Agriculture in the Northern Plains*. Conference Proceedings, Trade Research Center, Montana State University, Bozeman, May 14-15.
- Johnson, J.B., J.M. Antle, S.M. Capalbo, and W. E. Zidack. (1998). "Production Costs and Financial Positions of Montana Wheat and Barley Producers." *Trade Research News*, Summer.
- Antle, J.M. (1997). "Setting the Limits: The Role of the Government in Agricultural Research." *Cadernos de Ciência & Tecnologia, Brasília* 14(3):333-363.
- Antle, J.M., S.M. Capalbo, J.B. Johnson, and W.E. Zidack. (1997). "Implication of Changes in World Markets and Domestic Policies for the Sustainability of Northern Plains Wheat Markets." In *The Economics of World Wheat Markets: Implications for North America*. Conference Proceedings, Trade Research Center, Montana State University, Bozeman, October.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, J.M. Antle, and D.F. Webb. (1997). "Pests, Pesticide Use, and Pesticide Costs of Larger Central and Eastern Montana Farms with Annually-Planted Dryland Crops." Department of Agricultural Economics and Economics Special Report #23, Montana State University, Bozeman, October.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, J.M. Antle, and D.F. Webb. (1997). "Fertilizer Use and Costs of Larger Central and Eastern Montana Farms with Annually-Planted Dryland Crops." Department of Agricultural Economics and Economics Special Report #22, Montana State University, Bozeman, October.
- Johnson, J.B., W.E. Zidack, S.M. Capalbo, J.M. Antle, and D.F. Webb. (1997). "Farm Level Characteristics of Larger Central and Eastern Montana Farms with Annually-Planted Dryland Crops." Department of Agricultural Economics and Economics Special Report #21, Montana State University, Bozeman, August.
- Antle, J.M. and S.M. Capalbo. (1997). "Integrated Assessment of IPM Impacts: An Overview." *Proceedings of the Third National IPM Symposium/Workshop*. Economic Research Service Special Report, Washington, DC, May.
- Antle, J.M. (1993). "Agriculture in the National Economy." In G.M. Craig, ed., *The Agriculture of Egypt*. London: Oxford University Press, pp. 170-187.
- Antle, J.M. (1992). "Setting Priorities for Global Change Research in Agriculture." In J.M. Reilly and M. Anderson eds., *Economic Issues in Global Climate Change: Agriculture, Forestry, and Natural Resources*. Boulder and Oxford: Westview Press, 432-438.
- Antle, J.M. (1989). "Montana in a Global Agriculture." Research study commissioned by the Burton K. Wheeler Foundation, Montana State University, Bozeman. (Feature presentation at the 1989 Burton K. Wheeler Lecture Series, March.)
- Antle, J.M. (1989). "Human Capital and Agricultural Productivity Change: Discussion." In A. Maunder and A. Valdes, eds., *Agriculture and Governments in an Interdependent World*. Proceedings of the Twentieth International Conference of Agricultural Economists, Buenos Aires, Argentina, August 24-31, 1988. Aldershot: Gower Publishing Co.
- Antle, J.M. (1988). "Agriculture and Economic Development." *Economic Impact* 64:70-74.
- Antle, J.M. (1988). "Agricultural Resources in an Open Economy." In J. Sutton, ed., *Agricultural Trade and Natural Resources: Discovering the Critical Linkages*. Boulder, CO: Lynne Rienner Publishers, pp. 63-92.

- Antle, J.M. and S.M. Capalbo. (1986). "Pesticides and Public Policy: A Program for Public Research and Policy Analysis." In T. Phipps, P. Crosson, and K. Price, eds., *Agriculture and the Environment*. Washington, DC: Resources for the Future, pp. 155-174.
- Antle, J.M. (1986). "Third World Economic Development and Its Consequences for Agriculture." In *U.S. Agriculture and Foreign Economic Development: Critical Interdependency*. Washington, DC: National Planning Association, pp. 1-17.
- Antle, J.M. (1986). "Measuring Returns to Marketing Systems Investments for Agricultural Development." In *Agricultural Marketing in the Semi-Arid Tropics*. Patancheru, India: International Crops Research Institute for the Semi-Arid Tropics, pp. 319-329.
- Antle, J.M. and C.C. Crissman. (1986). "Risk Attitude Estimation by Econometric Methods." Proceedings of the S180 Regional Project Meetings.

#### INTERNATIONAL RESEARCH & ADVISORY ACTIVITIES

- Co-PI and Economics Team Co-Leader, Ag. Model Inter-comp and Improvement Project, 2010-present
- Consultant to WorldFish Center, 2011- 2013
- 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