

CURRICULUM VITAE

John A. Miranowski

Address: (H) 4523 Westbend Drive
Ames, IA 50014

Telephone: (H) 515-292-8670

Department of Economics
Iowa State University
382B Heady Hall
Ames, IA 50011-1070

(W) 515-294-6132
(Fax) 515-294-6644
(E-mail) jmirski@iastate.edu

EDUCATION

Ph.D., Economics, Harvard University, 1975.
A.M., Economics, Harvard University, 1969.
B.S., Agricultural Business, Iowa State University, 1966.

PROFESSIONAL EXPERIENCE

Iowa State University

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Iowa State University

Professor (2000-present). Director, Institute of Science and Society (2006-2009). Research Director, Biobased Industry Center (2007-2009). Member, National Academies' Panel on Alternative Liquid Transportation Fuels Panel (2007-2009), Member, National Resource Council's Committee on Economic and Environmental Impacts of Increasing Biofuels Production (2009-2011).

Professor and Chair (1995-2000). Department of Economics. Associate Professor (1980-1984). Assistant Professor (1975-80).

Economic Research Service (USDA)

Director, Resources and Technology Division (1984-1995; on detail 1990-91). Executive Coordinator of the Secretary's Policy Coordination Council and Special Assistant to the Deputy Secretary of Agriculture (1990-1991).

Resources for the Future

Gilbert F. White Visiting Fellow (1981-82). Completed study of Optimal Management of Soil Productivity and Environmental Quality.

Harvard University

United Nations Study of the Impact of Prospective Environmental Issues and Policies on the International Development Strategy. Consultant (1973-75).
Teaching Fellow and Economics Tutor (1969-71). Taught Principles of Economics and Economics of African Development. Conducted tutorials for undergraduate economics majors.

Northeastern University

Lecturer (1971-74). Taught graduate courses in Regional Economic Development, Comparative Economic Development, and Public Finance and undergraduate courses in Economic Development and Public Finance.

CURRENT WORKING PAPERS

Ethanol Economics: Past, Present, and Future. Book chapter for Madhu Khanna and David Zilberman (eds.) volume on renewable biofuel economics.

Long Term Global Biofuel Projections and Agricultural Resource Use under alternative Oil Price Scenarios, FAO ESA Working Paper Series, 2012.

Minimizing Biofuel Supply Costs under Heterogeneous Biomass Production Conditions, (with Alicia Rosburg and Keri Jacobs). Rosburg's dissertation chapter for submission to *Journal of Agricultural and Resource Economics*, 2014.

Cellulosic Biofuel Supply Costs under Alternative Biomass Procurement Strategies: An Application to Switchgrass Ethanol. (with Alicia Rosburg and Keri Jacobs). For submission to *Land Economics*, 2014.

Acreage Allocation in the Presence of Commodity and Conservation Programs: The Conservation Reserve Program and Crop Production in the Midwest, (with Lin Yang). Working paper for submission to *JARE*, Spring 2013.

Ethanol Plant Investment under Uncertainty when Considering Market Impacts (with Leandro Andrian). Working paper for submission to *AJAE*, 2014.

Estimating the Demand for US Fuel Ethanol, 1995-2009, (with Jittinan Aukayanagul), Working paper for submission to *Energy and Environmental Economics*, 2014.

JOURNAL PUBLICATIONS

Technology Forcing and Associated Costs and Benefits of Cellulosic Ethanol.
Choices, (forthcoming 2014).

Long-term Biofuel Projections Under Different Oil Price Scenarios, (with Alicia Rosburg), *AgBioForum*, 15(4): 1-9, 2013.

Inference Based on Alternative Bootstrapping Methods in Spatial Models with an Application to County Income Growth in the United States, (with Daniel Monchuk, Dermot Hayes, and Dayton Lambert). *Journal of Regional Science*, Vol. 51, No. 5, pp. 880-896, 2011.

- US Maize Yield Growth Implications for Ethanol and Greenhouse Gas Emissions**, (with Alicia Rosburg and Jittinan Aukayanagul). *AgBioForum*, 14(3): 120-13, 2011.
- An Economic Evaluation of US Biofuel Expansion Using the Biofuel Breakeven Model**, (with Alicia Rosburg). *AgBioForum*, 14(3): 111-19, 2011.
- Crop Residues: The Rest of the Story**, (with Karlen, Douglas, Rattan Lal, Ronald Follett, John Kimle, Jerry Hatfield, Cynthia Cabadella, Andrew Manale, Robert Anex, and Charles Rice). *Environmental Science and Technology*, 2009.
- Amenities and Non-Farm Employment Growth in the U.S. Midwest: The Impact of Recreational Amenities in Neighboring Counties**, (with D.C. Monchuk), *The Review of Regional Studies*, Vol. 37, No. 2, pp. 120-145, 2007.
- Amenities and Non-Farm Employment Growth in the U.S. Midwest: The Impact of Recreational Amenities in Neighboring Counties**, (with D.C. Monchuk), *The Review of Regional Studies*, 2009.
- Analysis of Regional Economic Growth in the U.S. Midwest**, (with D.C. Monchuk, D.J. Hayes and B.A. Babcock), *Review of Agricultural Economics*, Vol. 29, No. 1, pp. 17-39, Spring 2007.
- Interrelationships of Animal Agriculture, the Environment, and Rural Communities** (with M.G. Hogberg, S.L. Fales, F.L. Kirschenmann, M.S. Honeyman and P. Lasley), *Journal of Animal Science*, Vol. 83, No.E. Suppl., pp. E13-E17, 2005.
- Genetic Information in Agricultural Productivity and Product Development** (with D.A. Hennessy and B.A. Babcock), *American Journal of Agricultural Economic*, Vol. 85, No. 1, 73-87, February 2004.
- Rethinking the Vision for Environmental Research in US Agriculture** (with G.P. Robertson, J.C. Broome, E.A. Chornesky, J.R. Frankenberger, P. Johnson, M. Lipson, E.D. Owens, D. Pimmentel, and L.A. Thrupp), *Bioscience*, Vol. 54, No. 1, pp. 61-65, January 2004.
- Increasing Role of Agribusiness in Agricultural Economics** (with Amir Heiman, David Zilberman, and Jennifer Alix). *Journal of Agribusiness*. 2002.
- An Integrated Perspective on Ph.D. Programs in the Economics Department: A Discussion**. *American Journal of Agricultural Economics*. Vol. 84. August 2002. pp. 860-862.
- Leadership and the Provision of Safe Food** (with David A. Hennessy and Jutta Roosen). *American Journal of Agricultural Economics*, Vol. 83. November 2001. pp. 862-874.

- Modeling How a Financial Crisis Affects World Agriculture: Discussion.** *American Journal of Agricultural Economics*. Vol. 82. August 2000. pp. 707-708.
- The Environment and the 1995 Farm Bill: Discussion.** *American Journal of Agricultural Economics*. Vol. 78. December 1996.
- A Dynamic Model of Acreage Allocation with General and Crop-Specific Capital** (with P. Orazem). *American Journal of Agricultural Economics*. Vol. 76. August 1994. pp. 385-395.
- Understanding Farmland Price Changes** (with R. Just). *American Journal of Agricultural Economics*. Vol. 75. February 1993. pp. 156-168.
- U.S. Land Prices: Trends and Determinants** (with R. Just). *Agriculture and Governments in an Interdependent World*, Proceedings of Twentieth International Conference of Agricultural Economists, Buenos Aires, Argentina, August 24-31, 1988. Allen Maunder and Alberto Valdes, Editors. Dartmouth Publishing Company. 1990. pp. 755-770.
- Limitations in Evaluating Environmental and Agricultural Policy Coordination Benefits** (with J. Hrubovcak and M. LeBlanc). *The American Economic Review*. Vol. 80, No. 2. May 1990. pp. 208-212.
- Estimating the Implicit Price of Energy Efficiency Improvement in the Residential Housing Market: A Hedonic Approach** (with T. Dinan). *Journal of Urban Economics*. Vol. 25. 1989. pp. 52-67.
- Dynamic Corn Supply Functions: A Model with Explicit Optimization** (with A. Tegene and W. Huffman). *American Journal of Agricultural Economics*. Vol. 70, No. 1. February 1988. pp. 103-111.
- Monitoring the Economic Impacts of the Conservation Reserve.** *Journal of Soil and Water Conservation*. Vol. 43, No. 1. January-February, 1988. pp. 59-60.
- Intertemporal Soil Resource Use: Is It Socially Excessive?** (with J. Shortle). *Journal of Environmental Economics and Management*. Vol. 14. 1987. pp. 99-111.
- An Indirect Test for the Specification of Expectation Regimes** (with P. Orazem). *The Review of Economics and Statistics*. Vol. 68, No. 4. November 1986. pp. 603-609.
- Effects of Risk Perceptions and Other Characteristics of Farmers and Farm Operations on the Adoption of Conservation Tillage Practices** (with J. Shortle). *Applied Agricultural Research*. Vol. 1, No. 2. 1986. pp. 85-90.
- Issues in Water Resource Economics: Discussion.** *American Journal of Agricultural Economics*. Vol. 67, No. 5. December 1985. pp. 1244-1246.

- Effects of Rising Relative Energy Prices on Soil Erosion and its Control** (with L. Zinser, J. Shortle, and M. Monson). *American Journal of Agricultural Economics*. Vol. 67, No. 3. August 1985. pp. 558-562.
- Agricultural Management Practices and Wildlife Related Recreation: Pheasant Hunting Recreation in Iowa** (with R. Bender). *Transaction North American Wildlife and Natural Resources Conference*. Vol. 49. 1984. pp. 325-333.
- Implicit Prices of Soil Characteristics for Farmland in Iowa** (with B. Hammes). *American Journal of Agricultural Economics*. Vol. 66, No. 5. December 1984. pp. 745-749.
- Obtaining the Optimal Fuel Conserving Investment Mix: A Linear Programming Approach** (with T. Dinan). *Resources and Conservation*. Vol. 10. March 1984. pp. 271-286.
- Impacts of Productivity Loss on Crop Production and Management in a Dynamic Economic Model**. *American Journal of Agricultural Economics*. Vol. 66, No. 1. February 1984. pp. 61-71.
- Determination of Income, Production, and Employment Under Pollution Control: An Input-Output Approach** (with J. Rhee). *The Review of Economics and Statistics*. Vol. 66. 1984. pp. 146-150.
- Dynamic vs Static Models for Erosion Control Policy Research** (with J. Shortle). *Journal of Northeastern Agricultural Economics*. Vol. 12. 1983. pp. 7-12.
- Impact of Erosion Control Policies on Wildlife Habitat on Private Lands** (with R. Bender). *Journal of Soil and Water Conservation*. Vol. 37. 1982. pp. 288-291.
- Commentary: Soil Protection: Why, By Whom, and For Whom?** (with P. Crosson). *Journal of Soil and Water Conservation*. Vol. 37, No. 1. January-February 1982. pp. 27-29.
- An Economic Analysis of Expenditures on Agricultural Experiment Station Research** (with W. Huffman). *American Journal of Agricultural Economics*. Vol. 63, No. 1. February 1981. pp.104-118.
- Estimating the Relationship Between Pest Management and Energy Prices, and the Implications for Environmental Damage**. *American Journal of Agricultural Economics*. Vol. 62, No. 5. December 1980. pp. 995-1000.
- Sediment Damage and Farm Production Costs: A Multiple-Objective Analysis** (with W. Boggess, K. Alt, and E. Heady). *North Central Journal of Agricultural Economics*. Vol. 2, No. 2. July 1980. pp. 107-112.

Uncertainty and the Choice of Agricultural Pollution Abatement Policy (with K. Alt).
Agricultural Economics Research. Vol. 31, No. 4. October 1979. pp. 48-50.

Effects of Energy Price Rises, Energy Constraints, and Energy Minimization on Crop and Livestock Production Activities. *North Central Journal of Agricultural Economics*. Vol. 1, No.1. Jan. 1979. pp. 1-14.

Policy Costs in the Theory of Externalities and the Selection of Nonpoint Pollution Policy (with K. Alt).). *Journal of Economics*. Vol. 4. 1978. pp. 159-162.

Insecticide Requirement in an Efficient Agricultural Sector (with O. Dixon and P. Nixon).
Review of Economics and Statistics. Vol. 55, No. 4. November 1973. pp. 423-432.

BOOKS AND BOOK CHAPTERS

Renewable Fuels Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy, Committee on Economic and Environmental Impacts of Increasing Biofuel Production, National Research Council, National Academy Press, 2011.

Liquid Transportation Fuels from Coal and Biomass: Technological Status, Costs, and Environmental Impacts, Committee on Alternative Liquid Transportation Fuels Panel Report, National Academies, National Academy Press, 2009.

Biofuel, the Rural Economy, and Farm Structure (with D. Swenson, L. Eathington, A. Rosburg.) In *Risk, Infrastructure and Industry Evolution*, B. English, ed., Farm Foundation, 2008, www.farmfoundation.org.

Ethanol Industry Evolution and Aggregate Impacts of Expansion: Rural Economy Implications. In *Proceedings of the Biofuels and the Rural Economy Roundtable*, Dan Otto(ed.), 2008.

Biofuel Incentives and the Energy Title of the 2007 Farm Bill. John Miranowski in *The 2007 Farm Bill & Beyond: Online Handbook*, B. Gardner and D. Sumner (.eds), American Enterprise Institute for Public Policy Research, 2007, <http://www.aei.org/research/farmbill/publications/pageID.1476,projectID.28/default.asp>

Perspectives in World Food and Agriculture. Vol. 2: 2005. John Miranowski and Colin Scanes, Editors, Blackwell Professional Publishing, Ames, IA, 2005, 352 pp.

Energy Consumption in US Agriculture. John Miranowski in *Agriculture as a Producer and Consumer of Energy*, CABI Publishing, Cambridge, MA, pp. 68-111, 2005

Perspectives in World Food and Agriculture 2004. Colin Scanes and John Miranowski, Editors. Blackwell Professional Publishing, Ames, IA, 2004, 485 pp.

National Research Council, Frontiers in Agricultural Research: Food, Health, Environment and Communities. National Academy Press 2003. (Co-Author).

Product Differentiation and Restructuring of Agricultural Production and Marketing Systems: GM Segregation and Identity Preservation in Iowa (with Helen Jensen, Ariun Ishdorj, and Patricia Batres-Marquez) in *Papers of 7th ICABR Conference on Public Goods and Public Policy for Agricultural Biotechnology*, June 2003

Rural Development and the Role of Agriculture Value Added Activities. VI. International Scientific Days of Agricultural Economics. Volume 3. Dr. Sándor Magda and Dr. Lajos Szabó, Editors. MÁTRA-TAN KHT. Press, Gyöngyös, Hungary.

Agricultural and Resource Economics. G. Carlson, D. Zilberman, and J. Miranowski, Editors. Oxford University Press. New York. 1993. 528 pp.

Agricultural Resource Economics: An Overview (with G. Carlson). *Agricultural and Environmental Resource Economics.* G. Carlson, D. Zilberman, and J. Miranowski, Editors. Oxford University Press. New York. 1993. pp. 3-27.

Economics of Land in Agriculture (with M. Cochran). *Agricultural and Environmental Resource Economics.* G. Carlson, D. Zilberman, and J. Miranowski, Editors. Oxford University Press. New York. 1993. pp. 392-440.

Cropland Allocation Decisions: The Role of Agricultural Commodity Programs and the Reclamation Program (with M. Moore and D. Negri). *The Economics and Management of Water and Drainage in Agriculture.* A. Dinar and D. Zilberman, Editors. Kluwer Academic Publishers. Boston. 1991. pp. 575-596.

The Effects of Commodity Programs on Resource Use (with J. Hrubovcak and J. Sutton). *Commodity and Resource Policies in Agricultural Systems.* Richard E. Just and N. Bockstael, Editors. Springer-Verlag. New York. 1991. pp. 275-292.

Productivity and Resource Use Impacts of Environmental Regulations on the Agricultural Economy (with R. Shoemaker and E. Ball). *The Role of Exaction on Controlling Pollution*, Frederick Stoecker, Editor. Lincoln Institute of Land Policy and Property Taxation Series No. RPR-15. 1987. pp. 107-122.

Economic Issues in Public and Private Approaches to Preserving Pest Susceptibility (with G. Carlson). *Management of Resistance to Pesticides: Strategies, Tactics, and Research.* National Academy of Sciences. Washington, D.C. 1986.

Targeting Conservation Programs: A Discussion. Soil Conservation: Assessing the National Resources Inventory. Volume 2. National Academy of Sciences. Washington, D.C. 1986.

- A Midwestern Perspective on Targeting Conservation Programs to Protect Soil Productivity.** *Soil Conservation: Assessing the National Resources Inventory. Vol. 2.* National Academy of Sciences. Washington, D.C. 1986. pp. 293-295.
- Tax Credits As Incentives for Soil Conservation.** *Technical Papers on Soil Conservation in America--What Do We Have to Lose? Technical Volume II.* American Farmland Trust. Washington, D.C. 1986.
- Macro-economics of Soil Conservation.** *Conserving Soil: Insights from Socioeconomic Research,* S. B. Lovejoy and T. L. Napier, Editors. Soil Conservation Society of America. Ankeny, IA. 1986.
- A Framework for Analyzing the Productivity Costs of Soil Erosion in the United States** (with P. Crosson, P. Dyke, and D. Walker). *Soil Erosion and Crop Productivity,* R. L. Follett and B. A. Stewart, Editors. ASA-CSSA-SSA. Madison, WI. 1985. pp. 481-503.
- Micromodeling: A Systems Approach at the National Level.** *Proceedings of a Conference on Modeling and Evaluating Policy and Institutional Impacts and Farm Firms: Theory, Research Policy, and Extension Applications.* Ken Baum and Lyle Schertz, Editors. Westview Press. Boulder, CO. 1983.
- Best Management Practice Implementation Economics and Farmer Decision Making** (with K. Alt). *Agricultural Management and Water Quality,* Frank Schaller and George Bailey, Editors. Iowa State University Press. Ames, IA. 1983. pp. 374-384.
- Training Cost and Exports** (with O. Doering and A. Schmitz). *Increasing Understanding of Public Problems and Policies.* Farm Foundation. Oak Brook, IL. 1983.
- Agricultural Impacts on Environmental Quality.** *Water Resources Research: Problems and Potentials for Agriculture and Rural Communities,* Ted L. Napier, Donald Scott, K. William Easter, and Raymond Supulla, Editors. Soil Conservation Society of America. Ankeny, IA. 1983. pp. 117-134.
- More Federal Government Involvement in Soil Conservation.** *Increasing Understanding of Public Problems and Policies-1982,* Charles Beer, Harold Guither, Walter Armbruster, and R. J. Hildreth, Editors. Farm Foundation. Oak Brook, IL. 1982. pp. 66-71.
- National Research Council, **Impacts of Emerging Agricultural Trends on Fish and Wildlife Habitat.** National Academy of Sciences. Washington, D.C. 1982. (Co-Author)
- Economic Future for Agriculturally Derived Alcohol.** *Proceedings of Moonshine to Motor Fuel: A Workshop on Regulatory Compliance for Fuel Alcohol Production.* M. Salk, F. Sharples, and McBrayers, Editors. Oak Ridge National Laboratory. Oak Ridge, TN. October 1981.

Economic Feasibility of Methane Generation and Livestock and Crop Waste Recycling for a Typical Iowa Family Farm (with E. Pidgeon and D. Peterson). *Agriculture and Energy*, William Lockeretz, Editor. Academic Press. New York. 1977. pp. 469-477.

The Economics of Cocoa Production (with J. Simmons). *Cocoa Production: Economic and Botanical Perspectives*, John Simmons, Editor. Praeger. New York. 1976.

MONOGRAPHS AND OTHER PUBLICATIONS

Energy Demand and Capacity to Adjust in U.S. Agricultural Production, Proceedings of the Agricultural Outlook Forum 2005, USDA, Office of the Chief Economist, Washington, DC, February 24, 2005.

Product Differentiation and Segregation in Agricultural Systems: Non-Genetically Modified and Specialty Corn and Soybean Crops in Iowa, (with Helen H. Jensen, S. Patricia Batres-Marque and Ariun Ishdorj). CARD Working Paper #04-WP 354, February 1, 2004.

Iowa's Land and Environment – Serving Competing Needs. Iowa State University Extension, College of Agriculture, Agriculture and Home Economics Experiment Station, June, 2000.

Economic Importance of the Iowa Egg Industry (with John D. Lawrence, Gary May and Daniel Otto). *Ag Industry Issues and Analysis*, ISU Extension, March 2003.

Modern Economic Growth and the Fate of the Rural Region (with Darin Wohlgenuth). *Proceedings of the International Conference on Rural Development*. Hungary, March 2000.

Determinants of Growth: The Case of Iowa (with Daniel Monchuk). *Proceedings of the International Conference on Rural Development*. Hungary, March 2000.

The Changing Face of Agriculture (with C. Phillip Baumel). *Wallaces Farmer*, January 17, 2000.

Viability of Methane Production by Anaerobic Digestion on Iowa Swine Farms (with M. Ernst, J. Rodecker, E. Luvaga, T. Alexander and J. Kliebenstein). *1999 Swine Research Report*, Iowa State University, No. ASL-R1693, January 2000.

Animal Structural Change: Changes in Animal Agriculture Structure and Why We've Gotten There. *Proceedings of the Animal Science National Priority Setting Meeting, FAIR 2002*, Baltimore, Maryland, April 1999.

Foreword (with C. Phillip Baumel). *Agriculture in the 21st Century: Surviving and Thriving*. College of Agriculture, Agriculture and Home Economics Experiment Station, and University Extension, March 1999.

Summary and Conclusions (with C. Phillip Baumel). *Agriculture in the 21st Century: Surviving and Thriving*. College of Agriculture, Agriculture and Home Economics Experiment Station, and University Extension, March 1999.

The Economist's Role in the Agricultural Sustainability Paradigm. *Proceedings of the AAEA Preconference on Sustainable Agriculture*, San Antonio, Texas, July 1996.

Economic Implications of Sustainable Agro-Forestry Systems. *Forestry, Agriculture and the Environment*, OECD Documents, 1995, pp. 45-54.

Economic Implications of Sustainable Agriculture. *Proceedings of Great Plains Agricultural Council*, Tulsa, Oklahoma, June 5-7, 1990. pp. 107-125.

Resource Conservation Programs in the Farm Policy Arena (with K. Reichelderfer). *Agricultural- Food Policy Review: Commodity Program Perspectives*. AER-530. U.S. Department of Agriculture, Economic Research Service. July 1985. pp. 202-221.

Investments in Soil Conservation and Land Improvements: Factors Explaining Farmers' Decisions (with E. Nielsen and M. Morehart). AER-601. U.S. Department of Agriculture, Economic Research Service. January 1989. 36 pp. □

Capital Goods Investments and Costs in U.S. Production Agriculture. *Proceedings of Farm Machinery Distribution Systems for the 21st Century, An Exploratory Conference*. The Ohio State University. March 27-28, 1988. pp. 60-64.

Risk Management Research: Is it Policy Relevant? (with K. Reichelderfer). *Incorporation of Risk in Analysis of Farm Management Decisions Affecting Natural Resource Use*. Agricultural Experiment Station, Oregon State University, Corvallis, OR. Special Report 821. February 1988. pp. 65-71.

Risk Management Research on the Agricultural-Natural Resource Interface: Is It Policy Relevant? (with K. Reichelderfer). *Risk and Natural Resources, Proceedings of a Regional Workshop, October 1986, Southern Natural Resource Economics Committee, Southern Rural Development Center, and Farm Foundation*. SNREC Publication No. 24. September 1987. pp. 19-28.

Domestic Farm Policy Environment: The Resource Base. *Outlook '85 Proceedings*. U.S. Department of Agriculture. December 1984. pp. 67-71.

Effect of Agricultural Land Use Practices on Stream Water Quality: Economic Analysis (with M. Monson, J. Shortle, and L. Zinser). Final report prepared for the U.S. Environmental Protection Agency. National Technical Information Service PB83-217836. U.S. Department of Commerce. 1983.

How Farm Soil is Sliding into the Pork Barrel (with C. Leman). Christian Science Monitor. November 3, 1982.

Impacts of Soil Loss on the Productivity of Agricultural Land (with R. Cruse, H. Johnson, and J. Timmons). Final Report prepared for Resources For the Future. December 1982.

Overlooked Variables in BMP Implementation: Risk Attitudes, Perceptions, and Human Capital Characteristics. *Perceptions, Attitudes, and Risks: Overlooked Variables in Formulating Public Policy on Soil Conservation and Public Policy.* Staff Report AGES 820129. USDA. February 1982. pp. 7-18.

Experiment Station Expenditures: State Share and Population Effects (with W. Huffman). *Evaluation of Agricultural Research Proceedings of a Workshop Sponsored by NC-148.* Miscellaneous Publication 8-1981. Minnesota Agricultural Experiment Station, University of Minnesota. April 1981.

Issues in the Selection of Appropriate Policy Instruments to Control Nonpoint Source Pollution (with K. Alt). *Proceedings of a Symposium on Agriculture and Water Quality Improvements: What are the Implementation Costs and Policy Issues?* Economic Report Series No. 18, Department of Economics, Iowa State University, Ames, Iowa. December 1980. pp. 27-36.

Energy Use in the Food and Fiber System, John A. Miranowski, Editor. Economic Report Series No. 14, Department of Economics, Iowa State University, Ames, Iowa. September 1980. 118 pp.

Solar Grain Drying with a Combination Desiccant/Low-Temperature System (with C. Bern, M. Anderson, and W. Wilcke). Paper No. 79-3022, Joint Meeting of American Society of Agricultural Engineers and Canadian Society of Agricultural Engineering, June 1979. 10 pp.

Economic Implications of 208 Planning on the Agricultural Economy. *The Economic Impact of Section 208 Planning on Agriculture: Proceedings of Seminar.* Great Plains Agricultural Council Publication No. 86. January 1978. pp. 75-98.

Social Costs and Effectiveness of Alternative Nonpoint Pollution Control Policies (with K. Alt and E. Heady), Ray Loehr, Editor. *Proceedings, Cornell Waste Management Conference.* Ann Arbor, MI: Ann Arbor Science Publishers. 1979.

Theory and Practice of Allocating Water-Polluting Rights (with K. Alt). *Legal, Institutional and Social Aspects of Irrigation, Drainage, and Water Resources Planning and Management.* Proceedings of a National Specialty Conference, Amer. Soc. Civil Engr. 1979.

The Role of an Anaerobic Digester on a Typical Central-Iowa Farm (with R. Smith, R. Fehr, and E. Pidgeon). *Food, Fertilizer and Agricultural Residues*. Proceedings, Cornell Agricultural Waste Management Conference. Ann Arbor, MI: Ann Arbor Science Publishers. 1978.

Energy Relationships for a 320-Acre Iowa Farm: An Attempt to Increase Production of Grain and Meat While Rendering the Farm Energy Self-Sufficient by Generating Methane Through Anaerobic Fermentation of Residues (with R. Smith and R. Vetter). Final Report to ARS, USDA, Grant No. 12-14-1001-597. August 1977.

Methane Generation and Waste Recycling for an Iowa Farm: An Economic Summary. *Proceedings, NCR Extension Agricultural Engineers' Workshop*. May 1976.

Crop Insurance and Information Services to Control Use of Pesticides, (with F. Ernst and F. Cummings). U.S. Environmental Protection Agency, Socioeconomic Environmental Studies Series. September 1974. 84 pp.

BOOK REVIEWS

Book Review: The Economics of Natural Environments, John V. Krutilla and Anthony C. Fisher, Editors, Johns-Hopkins University Press, 1975. *The Journal of Soil and Water Conservation*. Vol. 32, No. 3. May-June 1977.

Book Review: The Principles of Practical Cost-Benefit Analysis, Robert Sugden and Alan Williams, Editors. *Journal of Economics*. Vol. 5. 1979.

Book Review: The Economics of Agricultural Production, Edward Witkowski and Arnold Wells, Editors, Alfred Publishing Company, 1979. *American Journal of Agricultural Economics*. Vol. 6. 1980.

PRESENTATIONS

List available on request. Presentations have been made at the ASSA and AAEA meetings, before national professional groups, national and state farm organizations, the Secretary of Agriculture and subcommittee members, testimony to Congress, and departmental and university seminars.

PROFESSIONAL ASSOCIATIONS

American Economics Association
American Agricultural Economics Association
Association of Environmental and Resource Economists
American Association of Wine Economists

PROFESSIONAL ACTIVITIES

- Member, AAEA Committee on T. W. Schultz Memorial Lecture, 2011-2014.
- Member, AAEA Committee on J. Kenneth Galbraith Memorial Lecture, 2008-2011.
- Member, Committee of 82 – “Improving the Economic Vitality of Rural Iowa.”
- Member, Iowa Secretary of Agriculture VA Task Force, 2002-2003.
- Member, AAEA Distinguished Policy Contribution Award Committee, 2003-present.
- Member, Committee on Opportunities in Agriculture Research, Environment, National Research Council, National Academy of Sciences, 2001-2002.
- Member, Executive Board, C-FARE, 1999-2003.
- Head, U.S. Delegation, OECD Joint Working Party on Agriculture and the Environment, Organization for Economic Cooperation and Development, 1993-1995.
- Member, Executive Committee, Great Plains Agricultural Council, 1989-1993.
- Member, U.S. Delegation, OECD Ad Hoc Committee on Agriculture and the Environment, Organization for Economic Cooperation and Development, 1989-1992.
- Member, FCCSET Ad Hoc Working Group on Risk Assessment, Federal Coordinating Committee on Science, Education, and Technology, 1990-1992.
- Director, Executive Board, Association of Environmental and Resource Economists, 1989-present.
- Director, Executive Board, American Agricultural Economics Association, 1987-1990.
- Member, AERE Workshop Committee, Association of Environmental and Resource Economists, 1988-1990.
- Editorial Council, Journal of Environmental Economics Management, 1986-1989.
- Member, CSRS Departmental Review Teams, University of Minnesota and University of Maryland, 1987.
- Member, Outstanding Ph.D. Dissertation Award Committee, American Agricultural Economics Association, 1983-1986.
- Chairman, CRIS Review Committee, American Agricultural Economics Association, 1982-1983.

Member, CIPM Peer Review Team, Consortium for Integrated Pest Management, EPA/USDA, 1981-1983.

Chairman, Water Branch Review Team, Economic Research Service, U.S. Department of Agriculture, 1981.

Member, Committee on Impact of Emerging Agricultural Trends on Fish and Wildlife Habitat, National Research Council, National Academy of Sciences, 1980-82.

Member, Quality of Research Discovery Award Committee, American Agricultural Economics Association, 1977-80.

HONORS AND AWARDS

U.S. Department of Agriculture: USDA Distinguished Service Honor Award for Biofuels Program Development (1993), USDA Superior Service Honor Award for Workforce Diversity (1992) to Resources and Technology Division, SES Performance Review Board Bonus Awards (1988-1992), Visiting Lecturer at the University of California-Berkeley (1987).

Iowa State University: College of Agriculture 2000 Team Award (Iowa's Land and Environment – Serving Competing Needs), Gilbert F. White Fellowship, Resources for the Future (1981-82), EPA Water Quality Research Grant (1979-81).