

CURRICULUM VITAE

April 23, 2003

Ronald A. Fleming

Assistant Professor,

Environmental and Natural Resource Economics, June 1, 1997

University of Kentucky

Department of Agricultural Economics

309 C.E. Barnhart Building

Lexington, Kentucky 40546-0276

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	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
Distribution of Effort						
Research	90%	61%	61%	61%	70%	82%
Resident Instruction	10%	39%	39%	39%	30%	18%

Education:

- Ph.D. **Oregon State University** 1996
Emphasis: Environmental and Natural Resources Economics
Dissertation: The economics of agricultural groundwater quality: Effects of spatial and temporal variability on policy decisions.
Advisor: Richard M. Adams
- M.S. **Kansas State University** 1990
Emphasis: Farm Management/Production Economics
Dissertation: Costs of insect control and discounts for insects in stored grain: A case study of Kansas country elevators.
Advisor: Bryan W. Schurle
- B.S. **Kansas State University** 1988
Emphasis: Farm Management/Production Economics

Work Experience:

- 1997-Present Assistant Professor, Dept. of Ag. Economics, University of Kentucky
1996-1997 Visiting Scientist, Department of Economics, Iowa State University
1990-1996 Research Assistant, Dept. of Ag. & Resource Econ., Oregon State U.
1988-1990 Research Assistant, Dept. of Ag. Economics, Kansas State University
1984-1988 Student Worker, Dept. of Ag. Economics, Kansas State University
1982-1984 Emergency Medical Technician, St. Mary's Hospital, Manhattan, KS
1982 E.M.T., Coffey County Ambulance Service, Burlington, KS
1982 E.M.T., Anderson County Ambulance Service, Garnett, KS

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AWARDS

Citation of appreciation from Governor Paul Patton concerning work on the Green River CREP project noted below. **See letter from Governor Patton between the research narrative and curriculum vitae.**

AAEA Outstanding Poster Finalist, Natural Resource Economic Sub-Section Winner.
Perkins, J.D. *, **R.A. Fleming**, and A. Pagoulatos, "Evaluating three options for the commercial production of Kentucky paddlefish." 2000.

RESEARCH

Special Project at the request of the Governor's Office for the KY Dept of Conservation.

Fleming, R.A., and E.F. Bazen *, "An economic analysis of the Conservation Reserve Enhancement Program (CREP) for the Green River Region of Kentucky: Adair, Barren, Edmonson, Green, Hart, Metcalfe, Russell, and Taylor Counties." Report to the Kentucky Department of Conservation, November, 2000.

This project resulted in a \$88.2 million USDA grant to the State of Kentucky.

Externally Funded Research Projects:

Awards to date: Total	\$597,439
Fleming's Portion	\$163,400

Extramural:

Dillon, Carl R., Tom Mueller, Scott Shearer and Ronald A. Fleming , "Integration of Management Zone Research." USDA, \$68,749, Collaborator, Competitive within the College of Agriculture. 2003-2005	4,000
Dillon, Carl A., Ronald A. Fleming , John Fulton, Tom Mueller, Scott Shearer, and Tim Stombaugh, "Variable Rate Technology Risk Management." USDA, \$71,551, Collaborator, Competitive within the College of Agriculture. 2003-2005	5,800
Bicudo, Jose R., Larry Turner, and Ronald A. Fleming , "Geotextile and gravel pad optimization for heavy livestock traffic areas." SB-271 Water Quality Program, Phase III, \$145,539, Collaborator, Competitive within the College of Agriculture. 2002-04	50,000
Barnhisel, Richard, and Ronald A. Fleming , "Evaluation of topography attributes on corn yield." USDA, \$41,100, Collaborator, Competitive within the College of Agriculture. 2001-03	5,000
Debertin, David, Ronald A. Fleming , and Carl R. Dillon, "Capital costs and farm size in precision farming adoption USDA, \$54,900, Collaborator, Competitive within the College of Agriculture. 2000-02	1,500
Dillon, Carl R., Steve Isaacs, Ronald A. Fleming , and Greg Ibendahl, "An economic assessment of precision agriculture and decision aids." USDA, \$48,000, Collaborator, Competitive within the College of Agriculture. 1999-2001	1,500

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- Green, J.D., William W. Witt, James R. Martin, Steve Isaacs, and **Ronald A. Fleming**, “A decision aid for selecting weed management options in ground and surface water sensitive areas of Kentucky.” SB-271 Water Quality Program, Phase III, \$73,000, Collaborator, Competitive within the College of Agriculture.
1998-99 1,000
- Fleming, Ronald A.**, Stephen R. Workman, Richard I. Barnhisel, and Richard L. Trimble, “An economic evaluation of best management practices: Minimizing groundwater contamination from swine manure applications on reclaimed surface mine land.” SB-271 Water Quality Program, Phase III, \$94,600, Principal Investigator, Competitive within the College of Agriculture.
1998-2000 94,600

Other Research Projects:Hatch:

- “Agricultural industrialization and the environment: Implications for the rural economy.”
- “Benefits and costs of natural resources policies affecting public and private lands.”
Principal Investigator, Addendum to W-1133 regional project covering research at the College of Agriculture, University of Kentucky.

Proposals Submitted:Extramural:

None Currently

Hatch:

- Pagoulatos, A., and **R.A. Fleming**, “Using ex-post evaluations of environmental projects that affect Kentucky agriculture and rural communities.”

Unfunded Competitive Grants:Nationally Competitive Grants

- Bazen, E.F.*, A. Pagoulatos, and **R.A. Fleming**, “Economic impact of TMDL implementation on Southeastern dairy farms.” EPA STAR Grant, Submitted in 2002.
- Harkins, S., B. King, and **R.A. Fleming**, “Freshwater shrimp market development: Systems for Post.” Small Business Innovation Research (SBIR) Program, Submitted in 2002.
- Fleming, Ronald A.**, and Angelos Pagoulatos. “Evaluating the Economic Potential of Kentucky's Commercial Paddlefish Industry.” USDA Federal-State Marketing Improvement Program. Submitted 2001.
- Fleming, Ronald A.**, David L. Debertin, Carl R. Dillon, Thomas G. Mueller, and Scott A. Shearer, “Present and Future Adoption of Precision Farming Technology in Southern Agriculture,” USDA/IFAFS, Submitted in 2000.
- Shearer, Scott, Thomas G. Mueller, Carl R. Dillon, and **Ronald A. Fleming**, USDA/IFAFS, Submitted in 2000.

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“Interactive Mapper of Animal Waste Nutrient Management Zones: A Watershed Wide Prototype for Graves Co. Kentucky,” Section 319(h) Funding, Submitted in 1998.

Samson, Scott, **Ronald A. Fleming**, Scott A. Shearer, and Joseph L. Taraba, “Development of an Economic Spatial Index of the Assimilative Capacity of Cropland Available for Application of Manure Stocks from Confined Animal Feeding Operations,” NASA, NRA-98-OES-09, Remote Sensing Applications Research in Agriculture, Forestry, and Range Resource Management, Submitted in 1998.

University-wide Competitive Grants

Fleming, Ronald A., “Evaluating the Economic Potential of Kentucky’s Commercial Paddlefish Industry,” UK Research Committee Grants, Submitted in 2000.

Fleming, Ronald A., “An Economic Analysis of Kentucky Dairy Farm Abatement Cost,” UK Research Committee Grants, Submitted in 1999.

College-wide Competitive Grants

Pagoulatos, A., **R.A. Fleming**, R.I. Barnhisel, S.S. Vickner, and E. Scorsone. “The Agricultural Cost of Nitrate-Nitrogen Regulation: A Watershed Analysis of Swine Manure Management in the Western Kentucky Coal-field.” SB-271 Water Quality Program, Submitted 2002.

Fleming, Ronald A., and Angelos Pagoulatos. “Measuring the Status of Precision Farming Technology Adoption in Kentucky.” USDA, Submitted 2001.

Fleming, Ronald A., “Evaluating the Economic Potential of Kentucky’s Commercial Paddlefish Industry,” Kentucky Value-Added Grants Program, Submitted in 1999.

PUBLICATIONS

Peer-reviewed and Refereed Scholarly Outlets:

Refereed Journal Articles:

Fleming, R.A., and J.D. Long*, “Measuring the cost of restricting access to crop land for manure nutrient management.” *J. of Agronomy*. 94(January-February, 2002):57-64.

Fleming, R.A., “The economic impact of setback requirements on land application of swine manure.” *Land Economics*, 75(November 1999):110-124.

Fleming, R.A., and B.A. Babcock, “Resource or Waste? The economics of swine manure storage and management.” *Review of Agricultural Economics*, 20(Spring/Summer 1998):96-113.

Fleming, R.A., R.M. Adams and D.E. Ervin, “The role of soil test information in reducing groundwater pollution.” *Journal of Agricultural and Resource Economics*. 23(July 1998):20-38.

Fleming, R.A., and R.M. Adams, “The importance of site specific information in the design of tax policies.” *Journal of Environmental Economics and Management*. 33(1997):347-358.

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- Kim, C.S., C.L. Sandretto and **R.A. Fleming**, "Misspecification bias in dynamic optimization models for managing groundwater quality and use." *Natural Resource Modeling*. 10(Summer 1997):.
- Adams, R.M., **R.A. Fleming**, C.C. Change, B.A. McCarl, and C. Rosenzweig, "A reassessment of the economic effects of global climate change on U.S. agriculture." *Climatic Change*. 30(1995):147-167.
- Fleming, R.A.**, R.M. Adams and C.S. Kim, "Regulating groundwater pollution: effects of geo-physical response assumptions on economic efficiency." *Water Resources Research*. 31(1995):1069-1076.

Refereed Journal Articles - In Review:

No articles currently in review. 5 articles soon to be submitted for review (see below).

Working Papers for Future Submission to Peer-reviewed Outlets:

- Fleming, R.A.**, A. Pagoulatos, and S.B. Cruz*, "Does cost share aid offset the burden of environmental compliance by dairy farmers?." *Agronomy Journal*. June, 2003.
- Pagoulatos, A., **R.A. Fleming** and S. Cornell*, "Assessing the relationship between environmental ranking and county environmental expenditures." *Environmental Management*. June, 2003.
- Ibendahl, G., and **R.A. Fleming**, "Controlling aquifer nitrogen levels when fertilizing crops." *Journal of Soil and Water Conservation*. May, 2003.
- Fleming, R.A.**, J.R. Skees, N. Clark*, and M.Y. Somov*, "Yield risk, crop insurance, and changes in agri-environmental indicators." Journal yet to be determined. May, 2003.
- Fleming, R.A.**, "A statistical evaluation of teaching evaluations: The impact of external forces on student assessment of quality of instruction." *Kentucky Journal of Excellence in College Teaching and Learning*. May 2003.
- Fleming, R.A.**, and E.F. Bazen*, "An economic evaluation of swine production facility setbacks."
- Garcia, S. *, **R.A. Fleming**, and E. Scorsonie, "The impact of natural disasters on economic growth: A study of Mexico and Central America."
- Fleming, R.A.**, and A. Pagoulatos, "The impact of super fund expenditures on race, poverty, and housing values in Kentucky."

Refereed Proceedings and Invited Papers:

- Shearer, S.A., **R. Fleming**, T.G. Mueller, T.S. Stombaugh, and J.L. Taraba, "Optimization of animal nutrient application for reduced environmental loading using GIS." ASAE Paper No. 01-1014. Proceedings of the Annual International Meeting, Sacramento Convention Center, Sacramento, California, July 29 through August 1. 2001.
- Bazen, E. *, **R.A. Fleming**, and S.R. Workman, "Feasibility study of swine manure management on reclaimed surface mine lands." Proceedings of the 2000 National

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- Meeting of the American Society for Surface Mining and Reclamation. Tampa, Florida, June 11-15, 2000.
- Long, J.D. *, and **R.A. Fleming**, "Measuring the capacity of Kentucky crop land to assimilate animal manure." Proceedings of the Nineteenth Annual ESRI International User Conference, July 26-30, San Diego, CA., 1999.
<http://www.esri.com/library/userconf/proc99/proceed/papers/pap486/p486.htm>

Peer-reviewed Extension Publications:

- Animal Waste Focus Group (**including R.A. Fleming**), "Assessment of the potential for livestock and poultry manure to provide the nutrients removed by crops and forages in Kentucky." A project by the Animal Waste Focus Group of the Environmental and Natural Resources Issues Task Force, University of Kentucky, Cooperative Extension Service. IP-56, 1999.
- Animal Waste Focus Group (**including R.A. Fleming**), "Potential for livestock and poultry manure to provide the nutrients removed by crops and forages in Kentucky." A project by the Animal Waste Focus Group of the Environmental and Natural Resources Issues Task Force, University of Kentucky, Cooperative Extension Service. IP-57, 1999.

Other Scholarly Outlets:

Other Proceedings

- Fleming, R.A.**, "Bluegrass farmland protection." Proceedings of the annual meeting. Western Regional Committee W-133, Benefits and Costs of Resource Policies Affecting Public and Private Land. Miami, FL. February 26-28, 2001.
- Fleming, R.A.**, "Economic evaluations of odor setbacks and swine manure management." Proceedings of the National Animal Waste Initiative Southern Regional Workshop. Atlanta, GA. February 13, 2001.
- Fleming, R.A.**, "Farmland protection: The Kentucky experience." Proceedings of the Land Values and Planning Workshop, SERA-IEG 30, University of Georgia, Athens, May 18-19, 2000.
- Perkins, J.D. *, **R.A. Fleming**, and A. Pagoulatos, "An Economic evaluation of commercial paddlefish (*Polyodon spathula*) production." Proceedings of the Tenth Biennial Conference of the International Institute of Fisheries Economics and Trade, Oregon State University, Corvallis, Oregon, July 10-14, 2000.
<http://www.orst.edu/Dept/IIFET/2000/papers/fleming.pdf>
- Bazen, E.F. *, S.R. Workman, **R.A. Fleming**, and R.I. Barnhisel, "Nutrient transport from swine manure applications on reclaimed surface mine lands." Proceedings of the the Annual International Meeting of the American Society of Agricultural Engineering. Milwaukee, Wisconsin. July 9-12, 2000.
- Fleming, R.A.**, "Farmland protection: The Kentucky experience." in *Land Values and Planning Workshop*, Proceedings of the annual meeting of the SERA-IEG 30 regional

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committee, Georgia Center for Continuing Education, University of Georgia, Athens, Georgia. May 18-19, 2000.

Fleming, R.A., "Setback requirements as an economic incentive to incorporate swine manure." Proceedings: Animal Production Systems and the Environment: An International Conference on Odor, Water Quality, Nutrient Management and Socioeconomic Issues, Des Moines, Iowa, July 19-22, pgs. 353-358, 1998.

Duncan, S.S., B.W. Schurle, **R.A. Fleming**, and C.R. Reed, "Discount behavior of Kansas elevators for stored wheat." Proceedings of the North Central Regional Project NC-186. *Performance of the U.S. Grain Marketing System* Minneapolis, MN, October 19-20, 1989. pp 155-169.

Extension Publications:

Pagoulatos, Angelos, **Ronald A. Fleming**, and Steve Vickner, "The dependence of Kentucky agriculture on energy and it's potential in ethanol production." Economic and Policy Update (blue sheet publication), University of Kentucky, Department of Agricultural Economics, 02(August 23, 2002):2-3.

Debertin, David and **Ronald A. Fleming**, "Farmland preservation for land use and planning: Three myths." Economic and Policy Outlook (Blue Sheets), Department of Agricultural Economics, Vol. 00, No. 14, Sept. 22, 2000.

Ibendahl, Gregg, Rick Costin, Richard Coffey, and **Ronald A. Fleming**, "1990-98 Hog enterprise summary." Kentucky Farm Business Management Program, University of Kentucky, Cooperative Extension Service, Agricultural Economics - Extension No. 2000-01, February, 2000.

Fleming, R.A., "Swine industry environmental regulations." Economic and Policy Update (blue sheet publication), University of Kentucky, Department of Agricultural Economics, Vol. 98, No. 5, March 10, 1998.

Other Reports and Publications:

Economic and Technical Feasibility Team (**including R.A. Fleming**), "Achieving zero discharge with impermeable lagoon covers: An economic and technical feasibility report." A technical working paper produced for USDA and EPA leadership for evaluating issues related to the CAFO rule. March 22, 2002.

Fleming, R.A., and E.F. Bazen*, "An economic analysis of the conservation reserve enhancement program (CREP) for the Green River region of Kentucky: Adair, Barren, Edmonson, Hart, Metcalfe, Russell, and Taylor Counties." Work done for the Kentucky. Department of Conservation and the Governor's Committee for Agriculture. October, 2000.

Fleming, R.A., and J. Anderson, "Environmental regulation of animal agriculture." Kentucky Farm Bureau Policy Development and Background Article, June 2000.

Maynard, L., **R.A. Fleming**, and G. Ibendahl, "Stabilizing the dairy market: Price, dairy compact, and environmental regulatory impacts." Kentucky Farm Bureau Policy Development and Background Article, June 2000.

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- Fleming, R.A.**, and E.F. Bazen*, "Evaluating the efficiency of Kentucky's swine production facilities setbacks." Departmental Staff Paper #402, University of Kentucky, Department of Agricultural Economics, January 2000.
- Long, J.D. *, and **R.A. Fleming**, "Measuring the capacity of Kentucky crop land to assimilate animal manure." Departmental Staff Paper #398, University of Kentucky, Department of Agricultural Economics, August 1999.
- Pagoulatos, A., Rebecca Smith*, and **R.A. Fleming**, "Water quality improvements for Scott County." Departmental Staff Paper #381, University of Kentucky, Department of Agricultural Economics, October 1998.
- Meyer, A.L., and **R.A. Fleming**, "Dead animal disposal in Kentucky." A Farm Bureau News Release submitted to the Kentucky Farm Bureau, June 1998.
- Fleming, R.A.**, and D.L. Debertin, "Urbanization, land use, and farmland preservation." A Farm Bureau News Release submitted to the Kentucky Farm Bureau, June 1998.
- Fleming, R.A.**, "Using setback requirements as an economic incentive to reduce swine odors." Report to the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, September, 1997.
- Babcock, B.A., and **R.A. Fleming**, "Swine manure: A valuable resource or a waste byproduct?" Department of Economics: Center for Agriculture and Rural Development. Iowa State University. April 1997.
- Fleming, R.A.**, B.A. Babcock and D. Bundy, "The economic impact of manure storage coverage and soil incorporation of manure on the Iowa pork industry." Department of Economics: Center for Agriculture and Rural Development. Iowa State University. November 1996.
- Fleming, R.A.**, and R.M. Adams, "The role of physical science information in economic assessments of groundwater pollution control." Department of Agricultural and Resource Economics. Oregon State University. May 1996.
- Connor, J., G. Perry and **R.A. Fleming**, "Market water transfers as a water quality policy." Staff Paper, Department of Agricultural and Resource Economics. Oregon State University. 1996.
- Kim, C.S., **R.A. Fleming**, R.M. Adams, M. English and C. Sandretto, "An economic analysis of agricultural programs on water quality: The Ontario (Oregon) Hydrologic Unit Area." *USDA ERS Resources and Technology Division Staff Report*, June 1994.
- Adams, R.M., **R.A. Fleming**, C.C. Change, B.A. McCarl, and C. Rosenzweig, "A reassessment of the economic effects of global climate change on U.S. agriculture." U.S. EPA Report, 1993.
- Perry, G.M., **R.A. Fleming**, and B. Conway, "Survey of farming practices in Treasure Valley." OSU Experiment Station Bulletin.
- Reed, C., B. Schurle and **R.A. Fleming**, "Stored wheat and the Kansas country elevator." *Kansas Agricultural Experiment Station Report of Progress 535*, March 1987.

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MEETINGS, PRESENTATIONS, CONSULTING, ETC.Organized Symposia:

- Fleming, R.A.**, Session Moderator, "The economic cost of managing for fish and wildlife."
Organizers: Michael Thomas, Florida A&M University, and Terry Hanson, Mississippi State University. Southern Agricultural Economic Association Annual Meeting, Orlando, Florida. February 2-6, 2002.
- Fleming, R.A.**, "New and innovative environmental policies for Kentucky swine production." Organized Symposia "Controlling pollution from animal feeding operations." Organizers: Gregory L. Poe, Cornell University, and Charles Abdalla, Pennsylvania State University, Northeastern Agricultural and Resource Economic Association Annual Meeting, University of Rhode Island, Whispering Pines Resort, R.I., June 11-13, 2000.
- Fleming, R.A.**, "Measuring the capacity of crop land to assimilate animal manure."
Organized Symposia "USDA/EPA Unified National Strategy for AFO's - Status and implication for Southern producers." Organizers: Ray Massey, U. Missouri, and Randy Little, Mississippi State U., Southern Agricultural Economic Association Annual Meeting, Lexington, KY., January 29-February 2, 2000.

Invited Workshop Presenter:

- Fleming, R.A.**, "Economic evaluations of odor setbacks and swine manure management." Economics Session - Jim Pease, Session Leader, EPA and USDA Grant Writer's Workshop, part of the National Animal Waste Initiative Southern Regional Workshop. Atlanta, GA. February 13, 2001.

Selected Papers and Posters:

- Fleming, R.A.**, "An evaluation of teaching evaluations: What do the numbers mean?,"
Forthcoming Selected Paper, American Agricultural Economics Association Annual Meeting, Montreal, Quebec, Canada. July 27-30, 2003.
- Clark, N. *, **R.A. Fleming**, and J.R. Skees, "Investigating the Relationship Between Yield Risk and Agri-Environmental Indicators," **Forthcoming Selected Paper**, American Agricultural Economics Association Annual Meeting, Montreal, Quebec, Canada. July 27-30, 2003.
- Ibendahl, G., and **R.A. Fleming**, "What should farmers pay for cash rents," Selected paper presentation. Southern Agricultural Economics Association Annual Meeting. Mobile, Alabama. February 1-5, 2003.
- Ibendahl, G., and **R.A. Fleming**, "Using economic value added (EVA) to examine farm businesses," Selected paper presentation. Southern Agricultural Economics Association Annual Meeting. Mobile, Alabama. February 1-5, 2003.
- Pagoulatos, A., **R.A. Fleming**, and S. Cornell *, "Effectiveness of equip and pride: environmental programs in Kentucky." Selected Paper, Kentucky Economic Association Annual Meeting, Lexington, Kentucky. October 10-11, 2002.

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- Fleming, R.A.**, E.F. Bazen*, and A. Pagoulatos, "Potential for confined animal production in western Kentucky and environmental concerns." Selected Paper, Kentucky Economic Association Annual Meeting, Lexington, Kentucky. October 10-11, 2002.
- Bazen, E.F. *, A. Pagoulatos, **R.A. Fleming**, "Assessment of nutrient management on reclaimed mine lands." Selected Poster, American Agricultural Economics Association Annual Meeting, Long Beach, California, July 28 - 31, 2002.
- Pagoulatos, A., **R.A. Fleming**, and S. Cornell*, "Putting you money where your mouth is: Environmental concern rankings, demographic variables, and expenditures." Selected Paper, Southern Agricultural Economic Association Annual Meeting, Orlando, Florida. February 2-6, 2002.
- Fleming, R.A.**, A. Pagoulatos, and A.K. Srinivasan*, "Environmental justice revisited: The case of Kentucky." Selected Paper, Southern Agricultural Economic Association Annual Meeting, Fort Worth, TX. January 27-31, 2001.
- Pagoulatos, A., **R.A. Fleming**, and A.K. Srinivasan*, "Superfund sites and environmental justice in Kentucky." Selected Paper, Kentucky Economics Association Annual Meeting, Lexington, KY, October 12-13, 2000.
- Perkins, J.D. *, **R.A. Fleming**, and A. Pagoulatos, "Evaluating three options for the commercial production of Kentucky paddlefish." Selected Poster, American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30 - August 2, 2000.
- Pagoulatos, A., **R.A. Fleming**, and A.K. Srinivasan*, "Superfund sites and environmental justice in Kentucky." Selected Poster, American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30 - August 2, 2000.
- Perkins, J.D. *, **R.A. Fleming**, and A. Pagoulatos, "An economic evaluation of commercial paddlefish (*Polyodon spathula*) production." The Tenth Biennial Conference of the International Institute of Fisheries Economics and Trade, Oregon State University, Corvallis, Oregon, July 10-14, 2000.
- Bazen, E.F. *, **R.A. Fleming**, and S.R. Workman, "Feasibility study of swine manure management on reclaimed surface mine lands." Selected Paper, 2000 National Meeting of the American Society for Surface Mining and Reclamation. Tampa, Florida, June 11-15, 2000.
- Cruz, S.B. *, and **R.A. Fleming**, "An economic analysis of Kentucky dairy farm abatement cost." Selected Poster, Southern Agricultural Economic Association Annual Meeting, Lexington, KY., January 29-February 2, 2000.
- Kanasasabhi, M. *, C.A. Dillon, and **R.A. Fleming**, "Microeconomic impact of weather variability on risk management." Selected Paper, Southern Agricultural Economic Association Annual Meeting, Lexington, KY., January 29-February 2, 2000.
- Fleming, R.A.**, "Evaluating the efficiency of Kentucky's swine production facilities setbacks." Selected Paper, Southern Agricultural Economic Association Annual Meeting, Lexington, KY., January 29-February 2, 2000.
- Perkins, J.D. *, and **R.A. Fleming**, "Assessing production options for the commercial culture of Kentucky paddlefish." Selected Paper, Southern Agricultural Economic Association Annual Meeting, Lexington, KY., January 29-February 2, 2000.

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- Long, J.D. *, and **R.A. Fleming**, "Measuring the capacity of Kentucky crop land to assimilate animal manure." Selected Poster, University of Kentucky Geographic Information System (GIS) Day, Lexington, Kentucky, November 19, 1999.
- Pagoulatos, A., **R.A. Fleming**, and R. Smith-Allen *, "Valuing water quality improvements and distributional alternatives of a sand filter system." Selected Paper, Kentucky Economics Association Annual Meeting, Lexington, KY, October 8, 1999.
- Fleming, R.A.**, and E.F. Bazen *, "An economic evaluation of swine production facilities setbacks." Selected Paper, Kentucky Economics Association Annual Meeting, Lexington, KY, October 8, 1999.
- Fleming, R.A.**, and J.D. Perkins *, "Feasibility of producing pond raised paddlefish." Selected Paper, Kentucky Economics Association Annual Meeting, Lexington, KY, October 8, 1999.
- Long, J.D. *, and **R.A. Fleming**, "Measuring the Capacity of Kentucky Crop Land to Assimilate Animal Manure." Selected Poster, American Agricultural Economics Association annual meeting, Nashville, TN, August 8-11, 1999.
- Fleming, R.A.** and J.D. Long *, "Assessing Kentucky's capacity to assimilate manure nutrients." Selected Paper, American Agricultural Economics Association Annual Meeting, Nashville, TN, August 8-11, 1999.
- Long, J.D. *, and **R.A. Fleming**, "Measuring the capacity of Kentucky crop land to assimilate animal manure." Selected Paper, Nineteenth Annual ESRI International User Conference, July 26-30, San Diego, CA., 1999.
- Fleming, R.A.**, "Setback requirements as an economic incentive to incorporate swine manure." Selected Paper, Animal Production Systems and the Environment: An International Conference on Odor, Water Quality, Nutrient Management and Socioeconomic Issues, Des Moines, Iowa, July 19-22, 1998.
- Fleming, R.A.**, "Using setback requirements as an economic incentive to reduce livestock water odors." Selected Paper, American Agricultural Economics Association Annual Meeting, Salt Lake City, Utah, August 2-5, 1998.
- Smith, B. *, A. Pagoulatos, and **R.A. Fleming**, "Valuing water quality improvements for a sand filter system in Scott County, Kentucky Using Benefit Transfer." Selected Paper, Kentucky Economics Association Annual Meeting, Lexington, KY, October 1997.
- Fleming, R.A.**, "The role of soil test information in reducing groundwater pollution." Selected Paper, American Agricultural Economics Association Annual Meeting, Toronto, Ontario, Canada, July 27-30, 1997.
- Connor, J., G. Perry and **R.A. Fleming**, "Market water transfers as a water quality policy." Selected Paper, American Agricultural Economics Association Annual Meeting, San Antonio, TX, July 28-31, 1996.
- Kim, C.S., C.L. Sandretto and **R.A. Fleming**, "Misspecification bias in dynamic optimization models for managing groundwater quality and use." Selected Paper, American Agricultural Economics Association Annual Meeting, San Antonio, TX, July 28-31, 1996.

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- Kim, C.S., **R.A. Fleming**, and R.M. Adams, "The choice of policy instruments for groundwater quality control." Selected Paper, American Agricultural Economics Association Annual Meeting, San Diego, CA, August 7-10, 1994.
- Fleming, R.A.**, and R.M. Adams, "Regulating groundwater pollution: Effects of geophysical response assumptions on economic efficiency." Selected Paper, Western Agricultural Economics Association Annual Meeting, Edmonton, Alberta, Canada, July 11-14, 1993.
- Fleming, R.A.**, B. Schurle, S. Duncan and C. Reed, "Impact of changes in U.S. grain standards on discounts for insects in stored grain." Selected Paper, American Agricultural Economics Association Annual Meetings, Vancouver, British Columbia, Canada, August 4-8, 1990.

Papers Delivered at Regional Committee Meetings:

- Fleming, R.A.**, "Bluegrass farmland protection." Paper presented at the annual meeting of W-133, Benefits and Costs of Resource Policies Affecting Public and Private Land. Miami, FL. February 26-28, 2001.
- Fleming, R.A.**, "Farmland protection: The Kentucky experience." Paper presented at the annual meeting of SERA-IEG 30, "Land Values and Planning Workshop." Georgia Center for Continuing Education, University of Georgia, Athens, May 18-19, 2000.

Invited Lectures and Speeches:

- Fleming, R.A.**, "The Economic and Environmental Implications of Precision Resources Management." Precision Agriculture in Kentucky: Developing and Assessing Precision Agriculture Technologies for Kentucky Producers. Farm Machinery Show, Louisville, Kentucky. Thursday, February 13, 2003.
- Fleming, R.A.**, and J.D. Perkins*, "The economics of pond raised paddlefish." presentation as part of the Concurrent Session titled "Kentucky Paddlefish" organized by Dr. Steve Mims, Kentucky Aquaculture Association / Kentucky State University Annual Aquaculture Conference, Frankfort, KY, March 10, 2000.
- Fleming, R.A.**, and J. Perkins*, "Economics of paddlefish aquiculture." Invited Speaker at the Symposium On Paddlefish (Spoonfish) and KY Aquiculture, The Seelbach Hotel, Louisville, KY, February 21 & 22, 1999.
- Fleming, R.A.**, "An industry in flux: Kentucky swine production." Invited Speaker at the Southern Regional Extension Meeting, Tulsa, OK, June 22-24, 1998.
- Fleming, R.A.**, "Kentucky land issues." 1998 Agriculture and Environment in the Classroom Summer Leadership Institute, University of Kentucky, College of Agriculture, June 22-26, 1998.
- Fleming, R.A.**, "The economic effects of global climate change on U.S. agriculture." Invited Speaker at the Climate Change/Global Warming Teach-in sponsored by the UK Sierrans Club, November 19, 1997.

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TEACHINGCourses Taught on Regular Appointment:AEC 445G: Introduction to Resource and Environmental Economics

Course Description: Economic analysis of the problems of assuring resource availability and environmental quality. Theoretical concepts and empirical tools for evaluating resource and environmental policy.

This course is taught as service to the Natural Resources Conservation Management (NRCM) Program, a college administrated interdisciplinary program.

AEC 445G Course Evaluations for Selected Questions

Evaluation Question	Mean Score by Semester			
	F 98	F 99	S 01	S02
9. Presented material effectively.	3.5	3.2	3.5	3.4
16. Incr. ability to analyze and evaluate	3.5	3.2	3.5	3.4
17. Helped ability to solve problems	3.4	3.2	3.4	3.2
20. Overall value of the course	3.5	3.1	3.5	3.2
21. Overall quality of teaching	3.6	3.2	3.5	3.5
# Students Evaluating / # of Students	11/14	19/21	15/20	24/34
University Average For Question 21	3.3	3.3	3.4	3.3
College Average For Question 21	3.5	3.5	3.4	3.4
Dept. Average For Question 21	3.6	3.4	3.5	3.3

AEC 624: Advanced Quantitative Methods in Agricultural Economics

Course Description: This course uses statistical tools to model agricultural and economic systems. Subjects covered include: (1) the classical linear regression model, (2) statistical hypothesis tests, and (3) estimation techniques for single and simultaneous equation models.

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AEC 624 Course Evaluations for Selected Questions

Evaluation Question	Mean Score by Semester			
	F 98	F 99	S 01	S02
9. Presented material effectively.	3.0	3.4	3.2	3.4
16. Incr. ability to analyze and evaluate	3.7	3.7	3.6	3.6
17. Helped ability to solve problems	3.7	3.7	3.6	3.7
18. Gained concepts and principals	3.3	3.7	3.3	3.6
20. Overall value of the course	3.0	3.7	3.4	3.8
21. Overall quality of teaching	2.3	3.7	3.4	3.7
# Students Evaluating / # of Students	6/8	9/9	10/10	10/10
University Average For Question 21	3.3	3.3	3.4	3.3
College Average For Question 21	3.5	3.5	3.4	3.4
Dept. Average For Question 21	3.6	3.4	3.5	3.3

Courses Taught as Overload:ES 600: Environmental Systems Seminar

Course Description: A series of presentations by experts in the field on environmental systems topics including topics from the fields of law, economics, social sciences, medicine, biology, engineering, and physical sciences.

Semesters Taught and Enrollment: Spring 1998 11 Students.

This Course is not Evaluated

Responsibility: Taught in collaboration with Dr. Mike Healy, Professor, College of Law.

ES 630: Legal, Social, and Economic Sciences in Environmental Systems

Course Description: Jurisprudential history, ethics, and rule of law, environmental economics, history of science, governmental structures, process for development, and enforcement of standards, social/political implications of environmental systems, regulatory schemes for environmental control.

Semesters Taught: Spring Semesters 1998, 1999, 2001, 2002, 2003

This Course is not Evaluated

Responsibility: I have one-quarter responsibility for this class and teach the section titled "Economics, The Environment, and Policy."

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AEC 101: The Economics of Food and Agriculture

Course Description: An introduction to the field of agricultural economics and some of the basic tools and concepts of decision making. Concepts are illustrated in terms of selected current social and economic issues including the role of agriculture in both a national and international dimension.

Semesters Taught: Since August 1999

This Course is not Evaluated

Responsibility: This course is taught as service to the department. The course is administered through the Independent Studies Program as a correspondence course.

Undergraduate Advising:

Spring 2003	AEC	6	Total 6
Fall 2002	AEC	8	Total 8
Summer 2002	AEC	1	Total 1
Spring 2002	AEC	8	
	NRCM	3	Total 11
Fall 2001	AEC	9	
	NRCM	2	Total 11
Summer 2001	AEC	2	
	NRCM	2	Total 4
Spring 2001	AEC	10	
	NRCM	3	Total 13
Fall 2000	AEC and NRCM		Total 19
Spring 2000	AEC and NRCM		Total 9
Fall 1999	AEC and NRCM		Total 8
Spring 1999	AEC and NRCM		Total 2
Fall 1998	AEC and NRCM		Total 3

Other Undergraduate Advising:

Fall 2002 to date		
AEC 490: Senior Seminar		2 students
NRC 381: Natural Resource Policy Analysis		1 student
Fall 2001 to Summer 2002		
AEC 490: Senior Seminar		6 students
Fall 2000- Summer 2001		
AEC 490: Senior Seminar		4 students
AEC 399: Experiential Learning in AEC		1 student
NRC 399: Experiential Learning in NRCS		1 student
Fall 1999- Summer 2000		
AEC 490: Senior Seminar		3 students
International Exchange Program		1 student
Fall 1998- Summer 1999		
AEC 490: Senior Seminar		2 students

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NRC 399: Experiential Learning in NRCS 1 student

Graduate Student Advising:Graduate Students Directed With Degrees CompletedSummer 2002

Steve Cornell, MS, Coadvisor

“Effectiveness of EQIP and Pride Environmental Programs in Kentucky.”

Spring 2002Ernest Bazen, Ph.D., Coadvisor¹

“Environmental and economic tradeoffs in livestock and crop management.”

Sharon (Senninger) Garcia, MS, Coadvisor

“The impact of natural disasters on economic growth: A study of Mexico and Central America.”

Nathan Clark, MS, Coadvisor

“Investigating the relationship between yield risk and agri-environmental indicators.”

Spring 2000

Stefanie B. Cruz, M.S., Advisor

“An economic analysis of dairy farm abatement cost.”

Other Graduate Students Directed:

Margarita Somov, MS, AEC, Advisor

Waripas Jiumpanyarach, PhD, AEC, Coadvisor¹

Quinton Tyler, MS, AEC, Advisor

Chad Carney, MS, AEC, Advisor

Peter C. Hamner, Ph.D., Coadvisor, Left program to work, Fall 1999

Jacqualine Perkins, M.S., Advisor, Left program to work, Fall 2000

Committee Service: Akssell Leiva Treminio, PhD, AEC
 Lanre Yebovi, MS, AEC
 Akila Nicks, MS, AEC
 Christen Egan, PhD, Patterson School of Diplomacy and
 International Commerce, **Completed**
 Jean-Marc Gandonou, PhD, AEC
 Ashfaqu Babool, MS, AEC, **Completed**
 Andrew Harvey, MS, AEC, **Completed**
 Xiaoqing Huang, PhD, AEC, Left program to work
 Murali Kanakasbai, PhD, AEC
 Kara Keeton, MS, AEC, **Completed**
 James Long, MS, AEC, **Completed**

¹ Assistant Professors (Associate members of the Graduate School) are not allowed to direct PhD Students by University Regulation.

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Arun Srinivasan, PhD, Transferred to Economics
Vijay Subramaniam, MS, AEC, **Completed**

SERVICE AND RECOGNITION

Research Committees, elected positions, offices held:

Regional

W-1133, Benefits and costs of natural resources policies affecting public and private lands.” UK Principal Investigator and Primary Contact

SERA-IEG 30, Southern Natural Resource Economics Committee.

UK Principal Investigator and Primary Contact

Vice-President, May 2002 through May 2003 (Position rotates to President).

Secretary, May 2001 through May 2002.

S-283, Southern Region Precision Farming Project

Collaborating Scientist

Chairman, Objective 4 (Assessing the Economic and Environmental Impacts of Precision Agriculture) November 2000 through November 2001.

Secretary, Objective 4 November 1999 through November 2000.

College

Precision Agriculture Faculty Advisory Committee, August 2000 to present.

Departmental

Participant, Research Committee, July 2002 to present.

Instructional Committees:

College

Natural Resources and Conservation Management (NRCM) Curriculum Steering Committee Fall 1999 to present.

NRCM Program Review Committee Nov. 2001 to March 2002.

Departmental

Participant, Graduate Program Committee, June 1998 to June 2002.

Participant, Graduate Curriculum Review Committee, March 1999 to Sept. 2001.

Advising of Undergraduate Clubs

Advisor, National Association for Environmental Professionals, UK Chapter. This club meets monthly and focuses on helping students better understand their professional options with respect to occupations in Environmental and Natural Resource fields. 25 members. 1998 to 2000.

Other Committees:

National Committees

Co-chair, American Agricultural Economics Association Poster Presentations Committee, August 1997 through August 1998.

University

Participant, Social Science Computing Advisory Committee, 1997 through 1998.

Participant, Environmental Initiative Committee, March 1998 to present.

Departmental

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Chair, Social Amenities Committee, June 1997 to 2000.
 Chair, Ag. Roundup Alumni Reception Committee, 1998
 Participant, Departmental Search Committee for Farm Business Management; One
 position Teaching/Research, one position Teaching/Extension, 1998.
 Co-chair, Periodic Review Documentation Committee, 1997.
 Participant, Ag. Roundup Alumni Reception Committee, 1997.

Outreach Service Activities:

Kentucky Farm Bureau Policy Development and Background Articles
Fleming, R.A., and J. Anderson, "Environmental regulation of animal agriculture."
 2000.
 Maynard, L., **R.A. Fleming**, and G. Ibendahl, "Stabilizing the dairy market: Price,
 dairy compact, and environmental regulatory impacts." 2000.
 Master Tobacco Settlement Phase II impact statements throughout 2000.

Editorships, review panels, reviewer service:

Review Panelist, USDA/CSREES Initiative for Future Agriculture and Food Systems
 (IFAFS) Competitive Grants Program, Animal Manure Management Program Sub-
 Area Panel, Washington, D.C., July 16-21, 2000 (93 proposals reviewed).

Fleming, R.A., "Farms for the Future." A review of the book Holding Our Ground, in
FORUM for Applied Research and Public Policy, 13(Fall 1998):102.

	98	99	00	01	02	03
Manuscripts Reviewed for Professional Journals						
<i>Review of Agricultural Economics</i>	3	1	0	0	0	0
<i>Journal of Agricultural and Applied Economics</i>	1	1	1	1	1	0
<i>Journal of Agricultural and Resource Economics</i>	2	2	0	1	3	0
<i>Agronomy Journal</i>	1	2	1	0	0	0
<i>Arid Environments</i>	0	0	0	1	0	0
<i>Water Resources Research</i>	0	0	0	0	1	0
<i>Canadian Journal of Agricultural Economics</i>	0	0	0	0	1	0
<i>Agriculture and Human Values</i>	0	0	0	0	0	1
Formal Reviews of Staff Papers, Extension Publications, etc.	2	3	1	0	1	0
Formal Reviews of USDA Agency Work	0	0	0	0	2	0
Proposals Reviewed for the College						
For Special Funding	15	0	0	0	0	0
Hatch	1	0	0	0	0	1
Proposals Reviewed for USDA	2	2	1	0	0	0
Manuscripts Reviewed for Professional Meetings						
American Agricultural Economics Association	83	22	10	20	0	9
Southern Agricultural Economics Association	10	6	10	0	11	0
Hatch Proposals Reviewed for other Universities					1	0

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PROFESSIONAL AFFILIATIONS

- 1988-Present Member, American Agricultural Economics Association
- 1990-Present Member, Western Agricultural Economics Association
- 1997-Present Member, Southern Agricultural Economics Association
- 1998-Present Member, Kentucky Economic Association
- 2000-2001 Member, Northeastern Ag. and Resource Economics Association
- 1992-Present Member, Gamma Sigma Delta, Honor Society of Agriculture