

Francisco X. Aguilar, Ph.D.

Associate Professor

Department of Forestry, The School of Natural Resources
College of Agriculture, Food and Natural Resources
203L Anheuser-Busch Natural Resources Building
University of Missouri (MU), Columbia, MO 65211

A. Education

Ph.D.

Jan. 2003 – May 2007

Degree: Forestry

Emphasis: Forest Products Economics and Marketing
School of Renewable Natural Resources
Louisiana State University, Baton Rouge, LA

Dissertation: *Cluster Occurrence and Factors Influencing the Spatial Location of Natural Resource-based Industries: the Case of Wood Products Manufacturers in the U.S.*

Master of Science

Jan. 2003-May 2006

Degree: Agricultural Economics

Concentration: Natural Resource Economics and Environmental Policy
Department of Agricultural Economics and Agribusiness
Louisiana State University, Baton Rouge, LA

Non-thesis M.S. research: *Consumer Willingness-to-Pay Price Premiums for Environmentally Certified Wood Products in the USA*

Master of Science

Oct. 2000 - Oct. 2002

Degree: Sustainable Agricultural Systems

Royal Agricultural College, Cirencester, United Kingdom

M.S. thesis: *Ecological Assessment and Monetary Valuation of the Benefits of Biodigestion and Effective Micro-organisms Technology: Case studies*

Agronomic Engineer

Jan. 1995 – Dec. 1998

Major: Agriculture and Natural Resources Management

Universidad Escuela de Agricultura de la Región Tropical Húmeda
(Universidad E.A.R.T.H.), Guacimo, Costa Rica

B.S. thesis: *Market Perspectives for the Introduction of Transgenic Crops to Costa Rica. Case Study of the Banana Farming Sector (In Spanish)*

B. Recent Professional Experience

Associate Professor (Sept. 2013 - present), Department of Forestry, University of Missouri, Columbia

Assistant Professor (Aug. 2007 – Aug.2013), Department of Forestry, University of Missouri, Columbia

C. Teaching Experience

Courses at 4000-level indicate upper-class undergraduate classes; 7000 and above indicate graduate level courses.

University of Missouri

Instructor. Forest Resource Economics (FOREST 4350/7350). Department of Forestry, The School of Natural Resources. Lecture-based, 3-hour credit course. 100% teaching responsibility.

Instructor. Natural Resource Policy and Administration (NATR 4353/7353). Department of Forestry, The School of Natural Resources. Lecture-based, 3-hour credit course. 100% teaching responsibility.

Instructor. Ecosystems: The Human Dimension (FOREST 8530). Department of Forestry, The School of Natural Resources. Lecture-based, 3-hour credit course. 100% teaching responsibility.

Instructor. Forestry Seminar (FOREST 9087). Department of Forestry, The School of Natural Resources. Combination of lectures and student presentations, 1-hour credit course. 100% teaching responsibility.

D. Publications

Peer-refereed Journal Articles (*Indicates Postdoctoral scholar, Ph.D. or M.S. student advisee)

Botard, S.A.*, Aguilar, F.X., Stelzer, H.E., Dwyer, J.P., Gallagher, T. Operational Costs and Sensitivity Analyses of an Integrated Harvest of Solid Hardwood Products and Woody Biomass. *Forest Science*. In Press.

Aguilar, F.X., Mohebalian, P*. and Thompson, W. 2015. U.S. Consumers' Preference for Vehicle Fuels: A Conjoint Analysis of Ethanol Fuel Blends. *Energy Economics*. In Press.

Aguilar, F.X., and E. Obeng*. 2015. Biodiversity, Carbon Sequestration and Nutrient Cycling Effects of Tropical Forest Transition to Cacao Agroforestry Systems: A Review. *Agroforestry Systems*. 81(1):19-35.

Aguilar, F.X., Cai, Z.* and A. D'Amato. 2014. Non-industrial private forest landowner's willingness-to-harvest: higher timber prices can increase woody biomass supply. *Biomass & Bioenergy*. 71:202-215.

Aguilar, F.X., Daniel, M.* and Z. Cai*. 2014. Missouri Private Forest Landowners' Willingness-to-Harvest Woodlands for Timber and Woody Biomass. *Agricultural and Resource Economics Review*. 43(2):279-299.

Cai, Z.*, and Aguilar, F.X. 2014. Consumer Expectations of Corporate Social Responsibility for the Wood Products Industry in the U.S. and China. *Forest Products Journal*. 64(3/4): 97-106.

- Sotomayor, S., Barbieri, C., Wilhelm Stanis, S., Aguilar, F.X. and J. Smith. 2014. Motivations for Recreating on Farmlands, Private Forests and State or National Parks. *Environmental Management*. 54(1):138-150.
- Song, N.,* Aguilar, F.X. and B.J. Butler. 2014. Cost-share program participation and family forest owners' past and intended future management practices. *Forest Policy and Economics*. 46: 39–46.
- Song, N.*, Aguilar, F.X., and B.J. Butler. 2014. Conservation Easements and Management by Family Forest Owners: A Propensity Score Matching Approach with Multi-imputations of Survey Data. *Forest Science*. 60(2):298-307.
- Shifley, S., Moser, W.K., Nowak, D., Miles, P., Butler, B., Aguilar, F.X., DeSantis, R., and E. Greenfield. 2014. Five Anthropogenic Factors That Will Radically Alter Forest Conditions and Management Needs in the United States. *Forest Science*. 60(5):914-925.
- Goerndt, M.G.* , Aguilar, F.X. and K. Skog. 2013. Drivers of Biomass Co-firing in US Coal-fired Power Plants. *Biomass and Bioenergy*. 58:158–167
- Goerndt, M.G.* , Aguilar, F.X. and K. Skog. 2013. Resource potential for renewable energy generation from co-firing of woody biomass with coal in the Northern US. *Biomass and Bioenergy*. 59:348-361.
- Cai, Z.* , and Aguilar, F.X. 2013. Consumer Purchasing Preferences and Corporate Social Responsibility in the Wood Products Industry: A Conjoint Analysis in the U.S. and China. *Ecological Economics*. 95:118-127.
- Aguilar, F.X., Daniel, M.* and L. L. Narine*. 2013. Opportunities and Challenges to the Supply of Woody Biomass for Energy from Missouri Nonindustrial Privately Owned Forestlands. *Journal of Forestry*. 111(4):249-260.
- Cai, Z.* and F.X. Aguilar. 2013. Meta-Analysis of Consumer's Willingness-to-Pay Estimates for Certified Wood Products. *Journal of Forest Economics*. 19: 15–31
- Mohebalian, P.* , Aguilar F.X. and M.M. Cernusca. 2013. Conjoint Analysis of U.S. Consumers' Preference for Elderberry Jelly and Juice Products. *HortScience*. 48(3):338-346.
- Yang, L.* , Yali, W., and F.X. Aguilar. 2013. Nonindustrial Family Forest Landowners' Stated Willingness-to-Participate in Forest Cooperatives in Southern China. *International Journal of Forestry Research*. Online at: <http://dx.doi.org/10.1155/2013/983168>.
- Aguilar, F.X., Goerndt, M.* , Song, N.* and S. Shifley. 2012. Internal, External and Location Factors Influencing Cofiring of Biomass with Coal in the U.S. Northern Region. *Energy Economics*. 34(6):1790-1798.
- Song, N.* , Aguilar, F.X., Shifley, S. and M. Goerndt*. 2012. Analysis of U.S. Residential Wood Energy Consumption: 1967-2009. *Energy Economics*. 34(6):2116-2124.

- Goerndt, M.*, Aguilar, F.X., Miles, P., Shifley, S. and N. Song*. 2012. Regional Assessment of Woody Biomass as an Energy Feedstock for Combined Combustion in the U.S. Northern Region. *Journal of Forestry*. 110(5):138-148.
- Mohebalian, P.*, Cernusca, M. and F.X. Aguilar. 2012. Discovering Niche Markets for Elderberry Juices in the U.S. *HortTechnology*. 22:556-566.
- Woodall, C.W., Ince, P.J., Skog, K.E., Aguilar, F.X., Keegan, C.E., Sorenson, C.B., Hodges, D.G., and W.B. Smith. 2012. An overview of the forest products sector downturn in the United States. *Forest Products Journal*. 61: 595-603.
- Saunders, A.*, Aguilar, F.X., Dwyer, J. and H. Stelzer. 2012. Cost Structure of Integrated Harvesting for Woody Biomass and Solid Hardwood Products in Southeastern Missouri. *Journal of Forestry*. 110(1):7-15.
- Song, N.*, Aguilar, F.X., Shifley, S. and M. Goerndt*. 2012. Factors Affecting Wood Energy Consumption by U.S. Households. *Energy Economics*. 34: 389–397.
- Cernusca, M.M., Aguilar, F.X. and M.A. Gold. 2012. Post-purchase Evaluation of U.S. Consumers' preferences for Chestnuts. *Agroforestry Systems*. 86: 355–364.
- Aguilar, F.X., Song, N.*, and S. Shifley. 2011. Review of Consumption Trends and Public Policies Promoting Woody Biomass as an Energy Feedstock in the U.S. *Biomass & Bioenergy*. 35: 3708-3718.
- Aguilar, F.X. 2011. Conjoint Analysis of Industry Location Preferences: Evidence from the Softwood Lumber Industry in the U.S. *Applied Economics*. 43(24):3265-3274.
- Aguilar, F.X. and A. Saunders*. 2011. Attitudes Toward Policy Instruments Promoting Wood-For-Energy Uses in the United States. *Southern Journal of Applied Forestry*. 35(2):73-79.
- Barbieri, C. and F.X. Aguilar. 2011. Thinking beyond Property Rights and Open Access: The *Ius In Re* as a Framework for Developing Tenure Institutions for Renewable Natural Resources. *Society and Natural Resources*. 24:292–302.
- Song, N.*, Chang, J. and F.X. Aguilar. 2011. U.S. Softwood Lumber Demand and Supply Estimation using Cointegration in a System of Dynamic Simultaneous Equations. *Journal of Forest Economics*. 17:19–33.
- Aguilar, F.X. and Z. Cai*. 2010 Conjoint Effect of Environmental Labeling, Disclosure of Forest of Origin and Price on Consumer Preferences for Wood Products in the U.S. and U.K. *Ecological Economics*. 70: 308–316.
- Aguilar, F.X. and Z. Cai*. 2010. Exploratory Analysis of Renewable Energy Private Investment Opportunities in the U.S. *Energy Economics*. 32(6):1245-1252.
- Aguilar, F.X. and A. Saunders*. 2010. Policy Instruments Promoting Wood for Energy Uses: Evidence from the Continental U.S. *Journal of Forestry*. 108(3):132-140.

- Aguilar, F.X., Cernusca, M., Gold, M. and C. Barbieri. 2010. Frequency of Consumption, Familiarity and Preferences for Chestnuts in Missouri. *Agroforestry Systems*. 79(1): 19-29.
- Aguilar, F.X. and R.P. Vlosky. 2010. Gender Differences in Determinants of Job Satisfaction among Cooperative Extension Workers in the United States. *Applied Economics Letters*. 17: 175–179.
- Aguilar, F.X., Grala, R. and S. Bratkovich. 2009. Use of Georeferenced Data to Study Clustering in the Primary Wood Products Industry of the U.S. South. *Canadian Journal of Forest Research*. 39(12): 2494-2504.
- Aguilar, F.X. and H.E. Garrett. 2009. Perspectives of Woody Biomass for Energy: Survey of State Foresters, State Energy Biomass Contacts, and National Council of Forestry Association Executives. *Journal of Forestry*. 107(6): 297-306.
- Aguilar, F.X. 2009. Investment Preferences for Wood-based Energy Initiatives in the U.S. *Energy Policy*. 37(6): 2292–2299.
- Aguilar, F.X. 2009. Spatial Econometric Analysis of Location Drivers in a Renewable Resource-based Industry: The U.S. South Lumber Industry. *Forest Policy and Economics*. 11: 184–193.
- Aguilar, F.X., Cernusca, M. and M. Gold. 2009. Exploratory Assessment of Consumer Preferences for Chestnut Attributes in Missouri. *HortTechnology*. 19(1): 216-223.
- Vlosky, R. P. and F.X. Aguilar. 2009. A Model of Employee Satisfaction: Gender Differences in Cooperative Extension. *Journal of Extension*. 47(2). Online at www.joe.org/joe/2009april/a2.php.
- Aguilar, F.X. 2008. Differentiating Region-specific Principles and Informing Consumers – Why there Should be a Two-label Forest Product Certification Structure. *Journal of Forestry*. 106(4):234-235.
- Aguilar, F.X. 2008. Effect of Centrifugal Forces on Cluster Patterns in the Softwood Lumber Industry of the United States. *Forest Science*. 54(2): 242-249.
- Aguilar, F.X. and R.P. Vlosky. 2008. An Exploratory Analysis of U.S. Homebuilders and Architect Attitudes toward Descriptions of Forest Certification. *Forest Products Journal*. 58(3):26-33.
- Aguilar, F.X. and R.P. Vlosky. 2007. Consumer Willingness-to-Pay Price Premiums for Environmentally Certified Wood Products in the USA. *Forest Policy and Economics*. 9: 1100–1112.
- Aguilar, F.X. and R.P. Vlosky. 2006. Spatial Analysis of Forest Product Manufacturer Clusters in Louisiana. *Wood and Fiber Science*. 38(1): 121-131.
- Mejía, A., Vlosky, R.P., Shupe, T.F. and F.X. Aguilar. 2006. Análisis Participativo de las Fortalezas, Oportunidades, Debilidades y Amenazas de la Pequeña y Mediana Industria Transformadora de Madera en Siguatepeque y San Pedro Sula, Honduras. [Participatory Analysis of the Strengths, Weaknesses, Opportunities and Threats to Small and Medium Wood Product Enterprises in Siguatepeque and San Pedro Sula, Honduras]. *Recursos Naturales y Ambiente*. 46-47: 158-165. [In Spanish].

- Aguilar, F.X. and B. Kohlmann. 2006. Willingness-to-Consume and Produce Transgenic Bananas in Costa Rica. *International Journal of Consumer Studies*. 30(6): 544–551.
- Shupe, T.F., Aguilar, F.X., Vlosky, R.P., Belisle, M. and A. Chavez. 2005. Wood Properties of Selected Lesser-used Honduran Wood Species. *Journal of Tropical Forest Science*. 17(3): 349-357.
- Aguilar, F.X. and R. Botero. 2006. Total Economic Benefits of Biogas Production using a Low-cost Polyethylene System. *Tierra Tropical*. 2(1): 15-25. [In Spanish].
- Vlosky, R.P., Aguilar, F.X. and Q. Wu. 2005. Demographic Profile and Spatial Analysis of Sugarcane Growers in Louisiana. *Journal of the American Society of Sugar Cane Technologists*. 25: 157-172.
- Reyes, R., Chávez, A., Aguilar, F.X. and R.P. Vlosky. 2004. Diagnóstico y Análisis de Mercadeo de Pequeñas y Medianas Empresas Transformadoras de Madera en Siguatepeque y San Pedro Sula, Honduras [Marketing Survey and Analysis of Small and Medium Wood Product Enterprises in Siguatepeque and San Pedro Sula, Honduras]. *Recursos Naturales y Ambiente*. 42: 86-92. [In Spanish].
- Aguilar, F.X. and P. Tabora. 2003. Total Economic Development Benefits for the Application of Effective Microorganisms Technology to Shrimp Production. *Journal of Environmental Science and Management*. 5(1-2): 15-26.
- Peer-refereed Conference Proceedings**
- Narine, L.L.* and F.X. Aguilar. 2012. The availability of woody biomass for energy: A social perspective from non-industrial private forest landowners in the U.S. Great Lakes Region. Proceedings of IUFRO 3.08.00 Small Scale Forestry Conference 2012: Science for Solutions. Sept. 24-27. Amherst, Ma. P 106-113.
- Barbieri, C., Sotomayor, S., and F.X. Aguilar. 2011. Perceived Benefits of Agritourism: A Comparison between Missouri Metropolitan and Non-Metropolitan Residents. 2011 Annual TTRA Conference: “Seeing the Forest and the Trees – Big Picture Research in a Detail Driven World”. London, Canada. June 19-21, 2011.
- Aguilar, F.X. and W. Thompson. 2010. Charging into the Blend Wall: Conjoint Analysis of Consumer Willingness to Pay for Ethanol Blend Fuels. Agricultural and Applied Economics Annual Meeting. Denver, Colorado. July 25-27, 2010. 19 p. Online at <http://ageconsearch.umn.edu/handle/61772>.
- Aguilar, F.X., Vlosky, R.P. and T. Hammett. 2009. Effects of Region of Origin, Price and Environmental Certification Eco-labeling on Consumer Preferences for Wood Products. Proceedings of the United Nations XIII World Forestry Congress: Forest Development: A Vital Balance. Buenos Aires, Argentina. 13 p. [Available in CD format].
- Aguilar F.X., Cernusca, M., Gold M. and C. Barbieri. 2009. Frequency of Consumption and Preferences for Chestnuts in Missouri. In: Gold, M.A. and Hall M. (Eds). Proceedings of the 11th North American Agroforestry Conference. Agroforestry Comes of Age: Putting Science into Practice. Columbia, MO. pp. 493-504

Barbieri, C., Cernusca, M., Gold, M. and F.X. Aguilar. 2009. Attendance Motivations behind the Missouri Chestnut Roast festival. In: Gold, M.A. and Hall M. (Eds). Proceedings of the 11th North American Agroforestry Conference. Agroforestry Comes of Age: Putting Science into Practice. Columbia, MO. pp. 505-512.

Peer-reviewed Technical Publications

Shifley, S.R., Moser, W.K., Wormstead, S. and F.X. Aguilar. 2014. Chapter 11: The Future of Northern Forests, in S.R. Shifley (Editor) Future Forests of the Northern United States. USDA Forest Service Gen. Tech. Rep. (In Press).

Song, N., S.R. Shifley, J. M. Bowker, M.R. Emery, F.X. Aguilar and K.E. Skog. 2014. Chapter 8: Maintenance and Enhancement of Long-Term Multiple Socio-Economic Benefits to Meet the Needs of Societies, in S.R. Shifley (Editor) Future Forests of the Northern United States. USDA Forest Service Gen. Tech. Rep. (In Press).

Aguilar, F.X., Glavonjić, B., Hartkamp, R., Mabee, W. and K. Skog. 2014. *Chapter 9: Wood Energy Market, 2013-2014*. In: United Nations Forest Products Annual Market Review. P. 87-97.
http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR-2014-final_01.pdf

Aguilar, F.X., Glavonjić, B., Hartkamp, R., Mabee, W. and K. Skog. 2013. *Chapter 9: Wood Energy Market, 2011-2012*. In: *United Nations Forest Products Annual Market Review*. P. 91-101. Online at
<http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf>.

Aguilar, F.X. 2012. Wood Energy: Opportunity or Risk? UNECE/FAO Policy Brief. 4pp. Online at
http://www.unece.org/fileadmin/DAM/timber/wood_energy/wood-energy-policy-brief-2012.pdf.

Aguilar, F.X., Gaston, C., Hartkamp, R., Mabee, W. and K. Skog. 2012. *Chapter 9: Wood Energy Market, 2011-2012*. In: *United Nations Forest Products Annual Market Review*. P. 95-106. Online at
<http://www.unece.org/fileadmin/DAM/timber/publications/09.pdf>.

Shifley, S. R. Aguilar, F. X., Song, N.*, Stewart, S. I., Nowak, D. J. Gormanson, D. D., Moser, W. K., Wormstead, S., and E. J. Greenfield. 2012. Forests of the Northern United States. USDA, Forest Service, Northern Research Station. Gen. Tech. Rep. NRS-90. Newtown Square, PA. 202 p. Online at
<http://nrs.fs.fed.us/pubs/40189>.

Aguilar, F.X., Gaston, C., Hartkamp, R., Mabee, W. and K. Skog. 2011. *Chapter 9: Wood Energy Markets. In: United Nations Forest Products Annual Market Review 2010-2011*. P. 85-97. Online at
http://www.unece.org/fileadmin/DAM/publications/timber/FPAMR_2010-2011_HQ.pdf.

Olsson, O., Hillring, B., Hartkamp, R., Skog, K., Spelter, H., Aguilar, F.X., Mabee, W., Gaston, C. and A. Wahl. 2010. *Chapter 9: Government Policies Increasingly Promote Renewable Energy Sources: Wood Energy Markets in the UNECE Region. In: United Nations Forest Products Annual Market Review 2009-2010*. P. 99-112. Online at <http://timber.unece.org/fileadmin/DAM/publications/sp-25.pdf>.

Aguilar, F.X. and R.P. Vlosky. 2008. Spatial Analysis of Louisiana's Forest Products Manufacturing Clusters. *Louisiana Agriculture*. Louisiana State University Agricultural Center. Baton Rouge, Louisiana. 51(1):34-35.

Book (Edited)

Aguilar, F.X. (Ed.). 2014. *Wood Energy in Developed Economies: Resource Management, Economics and Policy*. Routledge. 338 pp.

Book Chapters

Aguilar, F.X., Mabee, W., and S. Lanttiainen. 2014. Chapter 1: Wood: A Renewable Source of Energy. In: *Wood Energy in Developed Economies: Resource Management, Economics and Policy*. Routledge. 1-31 p.

Lanttiainen, S., Song, N., and Aguilar, F.X. 2014. Chapter 7: Public Policy Promoting Wood Energy in the EU and US. In: *Wood Energy in Developed Economies: Resource Management, Economics and Policy*. Routledge. 189-222 p.

Aguilar, F.X. 2014. Chapter 11: Wood Energy in the EU and the US: assessment and outlook to 2030. In: *Wood Energy in Developed Economies: Resource Management, Economics and Policy*. Routledge. 306-327 p.

Aguilar, F.X., Blazier, M.A., Alavalapati, J., and P. Lal. 2013. Chapter 12: Assessment of Global Wood-Based Bioenergy. In: *The Global Forest Sector: Changes, Practices, and Prospects* (281-314). Hansen, E.; Panwar, R; and Vlosky, R.P. (Eds.) CRC Press. 478 pp.