

JESSE B. TACK

Kansas State University, Department of Agricultural Economics

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APPOINTMENTS

Associate Professor, Kansas State University, 2016 – present
Associate Professor, Mississippi State University, 2015 – 2016
Assistant Professor, Mississippi State University, 2009 – 2015

DEGREES

Ph.D. University of California, Berkeley, Agricultural and Resource Economics, 2009
M.Sc. University of California, Berkeley, Agricultural and Resource Economics, 2004
B.A. University of California, Davis, Economics, 2003

TEACHING

Economics of Agricultural Production (KSU: AGEC 923). Fall 2016, 2017.
Average Evaluation: 5.0/5.0

Current Agriculture and Natural Resource Policy Issues (KSU: AGEC 610). Fall 2017.
Average Evaluation: N/A

Market Organization and Structure (MSU: AEC 8123). Spring 2010-2016.
Average Evaluation: 4.9/5.0

Applied Quantitative Analysis in Agriculture (MSU: AEC 4223/6223) Spring 2011-2016.
Average Evaluation: 4.8/5.0

Introduction to Agricultural and Resource Economics (AEC 2713). Spring 2010.
Average Evaluation: 4.3/5.0

REFEREED JOURNAL ARTICLES

Tack, J., J. Lingenfelter, and K. Jagadish. Disaggregating Sorghum Yield Reductions Under Warming Scenarios Exposes Narrow Genetic Diversity in US Breeding Programs. *Proceedings of the National Academy of Sciences* 114(2017): 9296-9301

Tack, J., A. Barkley, and N. Hendricks. Irrigation Offsets Wheat Yield Reductions from Warming Temperatures. *Environmental Research Letters* 12(2017) 114027

Nalley, L., J. Tack, A. Durand, G. Thoma, F. Tsiboe, A. Shew, and A. Barkley. The Production, Consumption and Environmental Impacts of Rice Hybridization in the USA. *Agronomy Journal* 109(2017): 193-203.

Tack, J., A. Barkley, T. Rife, J. Poland, and L. Nalley. Quantifying Variety-specific Heat Resistance and the Potential for Adaptation to Climate Change. *Global Change Biology* 22(2016): 2904–2912.

Nalley, L., B. Dixon, J. Tack, A. Barkley, and K. Jagadish. Optimal Harvest Moisture Content for Maximizing Mid-South Rice Milling Yields and Returns. *Agronomy Journal* 108(2016): 701-712

Nalley, L., J. Tack, A. Barkley, K. Jagadish, and K. Brye. Quantifying the Agronomic and Economic Performance of Hybrid and Conventional Rice Varieties. *Agronomy Journal* 108(2016): 1514-1523.

- Tack, J. and M. Holt. The Influence of Weather Extremes on the Spatial Correlation of Corn Yields. *Climatic Change* 134(2016): 299-309.
- Bheemanahalli, R., R. Sathishraj, J. Tack, L. Nalley, R. Muthurajan, and K. Jagadish. Temperature Thresholds for Spikelet Sterility and Associated Warming Impacts for Sub-Tropical Rice. *Agricultural and Forest Meteorology* 221(2016): 122-130.
- Brye, K., L. Nalley, J. Tack, B. Dixon, A. Barkley, C. Rogers, A. Smartt, R. Norman, and K. Jagadish. Factors Affecting Methane Emissions from Rice Production in the Lower Mississippi River Valley, USA. *Geoderma Regional* 7(2016): 223-229.
- Tack, J., A. Barkley, and L. Nalley. The Effect of Warming Temperatures on U.S. Wheat Yields. *Proceedings of the National Academy of Sciences* 112(2015): 6931-6936
- Tack, J., A. Barkley, and L. Nalley. Estimating Yield Gaps with Limited Data: An Application to United States Wheat. *American Journal of Agricultural Economics* 97(2015): 1464-1477
- Tack, J., R. Singh, L. Nalley, B. Viraktamath, S. Krishnamurthy, N. Lyman, and K. Jagadish. High Vapor Pressure Deficit Drives Salt Stress Induced Rice Yield Losses in India. *Global Change Biology* 21(2015): 1668-1678
- Tack, J., R. Pope, J. LaFrance, and R. Cavazos. Modeling an Aggregate Agricultural Panel with Application to U.S. Farm Input Demands. *European Review of Agricultural Economics* 42 (2015): 371-396
- Tack, J. and D. Ubilava. Climate, Risk, and Insurance: Measuring the Effect of ENSO on U.S. Crop Insurance. *Agricultural Economics* 46(2015): 245-257
- Tack, J. and J. Aker. Information, Mobile Telephony, and Traders' Search Behavior in Niger. *American Journal of Agricultural Economics* 96(2014): 1439-1454
- Annan, F., J. Tack, A. Harri, and K. Coble. Spatial Pattern of Yield Distributions: Implications for Crop Insurance. *American Journal of Agricultural Economics* 96(2014): 253-268
- Tack, J., A. Barkley, and L. Nalley. Heterogeneous Effects of Warming and Drought on Selected Wheat Variety Yield: A Moment Based Maximum Entropy Approach. *Climatic Change* 125(2014): 489-500
- Barkley, A., J. Tack, L. Nalley, J. Bergtold, R. Bowden, and A. Fritz. Weather, Disease, and Wheat Breeding Effects on Kansas Wheat Varietal Yields, 1985-2011. *Agronomy Journal* 106(2014): 227-235
- Ibendahl, G., M. Farrell, S. Spurlock, and J. Tack. Economic Impact of On-Board Module Building Cotton Harvesters on Replacement Schedule and Harvest Costs. *Agricultural Finance Review* 74(2014): 2-16
- Coatney, K. and J. Tack. The Impacts of an Antitrust Investigation: A Case Study in Agriculture. *Review of Industrial Organization* 44(2014): 423-44
- Tack, J. and D. Ubilava. The Effect of El Nino Southern Oscillation on U.S. Corn Production and Downside Risk. *Climatic Change* 121(2013): 689-700
- Tack, J. A Nested Test for Common Yield Distributions with Application to U.S. Corn. *Journal of Agricultural and Resource Economics* 38(2013): 64-77
- Tack, J., A. Harri, and K. Coble. More than Mean Effects: Modeling the Effect of Climate on the Higher Order Moments of Crop Yields. *American Journal of Agricultural Economics* 94(2012): 1037-1054

WORK IN PROGRESS

Warming Temperatures Will Likely Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). *Under Review*

- Estimating Spatial Differences in Methane Emissions Using Local Rice Production Reports (with F. Tsiboe, L. Nalley, A. Shew, B. Dixon, A. Barkley, and K. Brye). *Under Review*
- Heterogeneous Yield Impacts from Adoption of Genetically Engineered Corn and the Importance of Controlling for Weather (with J. Lusk and N. Hendricks). *Accepted for presentation at NBER Understanding Productivity Growth in Agriculture Conference. NBER working paper number 23519*
- The Potential Implications of ‘Big Ag Data’ for USDA Forecasts (with K. Coble, R. Johansson, A. Harri, and B. Barnett). *Under Review*
- Sequential Firm Decision Making under Both Input and Output Price Uncertainty (with A. Harri, J. Maples, and J. Riley).
- Can Crop Productivity Indices Improve Crop Insurance Rates? (with K. Coble, X. Li, and B. Barnett)
- Estimating Site-Specific Crop Yield Response using Varying Coefficient Models (with X. Li, K. Coble, and B. Barnett).
- Smooth Transitions across Latitudes and Longitudes: An Application of a Nonlinear Panel Regression to the Climate–Economics Nexus (with D. Ubilava and N. Villoria)

BOOK CHAPTERS

- LaFrance, J., R. Pope, and J. Tack. Risk Response in Agriculture. In J.P. Perloff and J.G. Zivin eds., *The Intended and Unintended Effects of U.S. Agricultural and Biotechnology Policies*. University of Chicago Press, 2012.
**Also published as an NBER Working Paper, No. 16716.*
- Ball, E., R. Cavazos, J. LaFrance, R. Pope, and J. Tack. Aggregation and Asset Management in Joint Production. In Ball, E., ed. *The Economic Impact of Public Support to Agriculture*. New York: Elsevier-Science, 2010.

RESEARCH REPORTS

- Barkley, A., J. Tack, L. Nalley, J. Bergtold, R. Bowden, and A. Fritz. The Impact of Climate, Disease, and Wheat Breeding on Wheat Variety Yields in Kansas, 1985-2011. *Kansas State University Agricultural Experiment Station and Cooperative Extension Service Bulletin*. 665, 2013.
- Tack, J. and A. Zwane. Estimating the Costs of Sudden Oak Death: Results of a Survey of California Nurseries. ARE Update Volume 10, Number 4. *Giannini Foundation of Agricultural Economics, Agricultural and Resource Economics Update*.

AWARDS

- Outstanding Scientific Publication Award (with Andrew Barkley and Lanier Nalley), College of Agriculture and Life Sciences, Mississippi State University, 2016
- Outstanding Undergraduate Faculty Award, Department of Agricultural Economics, Mississippi State University, 2014
- Outstanding Reviewer Award, Journal of Agricultural and Resource Economics, 2014
- Finalist, Mississippi State University Alumni Association Early Career Award for Outstanding Teaching, 2014
- Outstanding Contribution to Applied Risk Analysis (with Ardian Harri and Keith Coble), AAEE Applied Risk Analysis Section, 2013
- Outstanding Master’s Thesis Award (awarded to advisee Francis Annan), Agricultural and Applied Economics Association, 2013

Outstanding Master's Thesis Award (awarded to advisee Francis Annan), Southern Agricultural Economics Association, 2013

Scholarship, USDA Agricultural Resource Management Survey (ARMS) Scholarship Program, 2012.

FUNDED RESEARCH GRANTS

Mississippi Agricultural and Forestry Experiment Station Special Research Initiative, "Precision Corn Management Technologies with Spatially Explicit Production Budgets," Co-PI, \$300,000, Jan 1, 2015 - Dec 31, 2016.

Cooperative agreement with USDA Office of Chief Economist, "New Policy Implications of Big Ag Data," Co-PI, \$149,528, 2014-2015.

United States Department of Agriculture National Institute of Food and Agriculture, "Evaluation of Downstream and Ecosystem Water Quality and Quantity through Targeting Conservation Practices in Mississippi," Co-PI, \$430,000, 2014-2017.

Mississippi Agricultural and Forestry Experiment Station Special Research Initiative, "Crop Insurance Implications under Climate Change," PI, \$23,600, Jan 1, 2014 - Dec 31, 2014.

Mississippi Agricultural and Forestry Experiment Station Special Research Initiative, "The Effects of Irrigation and Climate Change on Crop Yield Variability," PI, \$24,500, Jan 1, 2011 - Dec 31, 2011.

Mississippi Agricultural and Forestry Experiment Station Cross-disciplinary Research Facilitation Grant Program, "Interdisciplinary Modeling of Crop Yields," PI, \$2,000, Jan 1, 2011 - Dec 31, 2011.

Agriculture and Food Research Initiative Foundational Program: Economics of Markets and Development, "Estimating the Value of Regulatory Investigations in Agriculture," Co-PI, \$86,000, Feb 1, 2011 - Feb 1, 2013.

PROFESSIONAL SERVICE AND ACTIVITIES

Associate Editor, *AJAE*, 2015-present

Editorial Council, *JAAE*, 2015-present

Statistics & Information Resources Committee, AAEA, 2016-2019

Econometrics Section (Chair), AAEA, 2016

Econometrics Section (Chair-elect), AAEA, 2015

Econometrics Section (Treasurer), AAEA, 2014

Awards Committee, Applied Risk Section of the AAEA, 2014

Prelim Committee, Department of Agricultural Economics, 2016-present

Seminar Committee (Chair), Department of Agricultural Economics, Fall 2009-16

Graduate Admissions Committee, Department of Agricultural Economics, Fall 2009-16

Search Committee (three), Department of Agricultural Economics

Interdisciplinary Modeling of Crop Yields research group (Chair), MSU, 2010-2013

Curriculum Committee, College of Agriculture and Life Science, Fall 2013-16

Guest Lecture, AEC 4133: Food Markets and Prices, 2009

Guest Lecture, BCH 2990: Special Topics in Biochemistry, 2010

Panelist and Judge, AEC 4133: Food Markets and Prices, 2011-13

Participant, MSU Curriculum, Advising, and Program Planning System Training, 2009

Participant, Center for Teaching and Learning seminar, "State of the Art in Cheating," 2009

Participant, Center for Teaching and Learning seminar, "Using eBooks in Your Class," 2010
Participant, Center for Teaching and Learning seminar, "A Million Books to Choose From: Coping with New Policies and Challenges in Textbook Selection," 2010
Participant, Center for Teaching and Learning, Teaching Portfolio Workshop, 2014
Organizer, Golf Tournament for the 2012/13 Mississippi Agricultural Economics Association Annual Meetings
Board member, Starkville Community Market, 2010-2012
Professional Association Memberships:
Agricultural and Applied Economics Association (Various Years)
American Economic Association (Various Years)
Association of Environmental and Resource Economics (Various Years)
Mississippi Agricultural Economics Association (Various Years)
Southern Agricultural Economics Association (Various Years)
Southern Economic Association (Various Years)
Western Agricultural Economics Association (Various Years)
Participant, *S-1062: The importance of U.S. food and agricultural trade in a new global market environment*, USDA-CSREES Multistate Research Project (2009-present)
Participant, *SCC-76: Economics and Management of Risk in Agriculture and Natural Resources*, USDA-CSREES Information Exchange Group (2009-present)
Reviewer for the Following Journals:
Agricultural and Forest Meteorology; Agricultural Economics; Agricultural and Resource Economics Review; Agronomy Journal; American Journal of Agricultural Economics; Applied Economic Perspectives and Policy; Climatic Change; Economic Bulletin; Environmental Research Letters; European Review of Agricultural Economics; Food Policy; International Journal of Climatology; Journal of Agricultural and Applied Economics; Journal of Agriculture and Resource Economics; Journal of Environmental Economics and Management; Journal of Public Economics; Journal of the American Statistical Association; Nature Climate Change; Proceedings of the National Academy of Sciences; Scientific Reports
Selected Topics Leader, Quantitative Methods, SAEA, 2011
Reviewer AAEA Selected Papers, 2009-present
Reviewer SAEA Selected Papers, (Various Years)

GRADUATE STUDENTS

Francis Tsiboe (major advisor), Ph.D. (expected 2021)
Noah Miller (co major advisor), Ph.D. (expected 2020)
Francis Annan (major advisor), M.S. (2012)
Sandra Amonoo (major advisor), M.S. (2013)
Tabitha Nindi (major advisor), M.S. (2015)
Celestine Siameh (major advisor), M.S. (2016)
Eric Ofori (major advisor), M.S. (2017)
Bowen Chen (committee member), Ph.D. (expected 2019)
Oladipo Obembe (committee member), Ph.D. (expected 2019)
Weldensie Embaye (committee member), Ph.D. (expected 2019)
Kayode Ajewole (committee member), Ph.D. (expected 2019)

Matthew Farrell (committee member), M.S. (2010)
Lekhnath Chalise (committee member), M.S. (2011)
Joshua Maples (committee member), M.S. (2013)
Aaron Rodgers (committee member), M.S. (2014)
Yohane Chimbalanga (committee member), M.S. (2015)
Penjani Singini (committee member), M.S. (2015)
Chimwemwe Khoswe (committee member), M.S. (2015)
Ben Sanderson (committee member), M.S. (2016)
William Maples (committee member), M.S. (2016)
James Dale (committee member), M.A.B.M (2011)
Jeremy Valentine (committee member), M.A.B.M (2011)
Douglas Gholston (committee member), M.A.B.M (2013)
Alex Detz (committee member), M.A.B.M (2016)

SELECTED PAPERS/POSTERS AND OTHER PRESENTATIONS

The Geography of the Growth Effect of ENSO: Smooth Transitions Across Latitudes and Longitudes (with David Ubilava and Nelson Villoria). Selected Paper. Econometric Models of Climate Change Conference, 2017.

Estimating Temperature Effects on the Cost of the Federal Crop Insurance Program (with Ed Perry and Jisang Yu). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2017.

Climate Change and Agriculture: Mechanisms, Adaptation, and Uncertainty (with Nathan Hendricks). Agricultural and Applied Economics Association Annual Meeting, 2017.

The Effect of Adoption of Genetically Engineered Varieties on U.S. Corn Yield (with Nathan Hendricks and Jayson Lusk). Agricultural and Applied Economics Association Annual Meeting, 2017.

Warming Temperatures Will Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). Invited Seminar. University of Minnesota, March, 2017.

Spatial Heterogeneities of Warming Impacts on Corn Yields in Ghana (with Eric Ofori, X. Li, and A. Harri). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2017.

A Theoretical Analysis of Multiproduct Mergers: Application in the Major Meat Sectors (with B. Sanderson, K. Coatney, and B. Parman). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2016.

Can Crop Productivity Indices Improve Crop Insurance Rates? (with X. Li, K. Coble, and B. Barnett). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2016.

Spatial Differences in Methane Emissions from Rice Production in the Mid-South (with F. Tsiboe, L. Nalley, B. Dixon, A. Shew, A. Barkley, and K. Brye). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2016.

Estimating Site-Specific Crop Yield Response using Varying Coefficient Models (with X. Li, K. Coble, and B. Barnett). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2016.

- Warming Temperatures Will Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). Invited Seminar. Purdue University, April, 2016.
- Warming Temperatures Will Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). Invited Seminar. Oklahoma State University, April, 2016.
- Warming Temperatures Will Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). Invited Seminar. Cornell University, April, 2016.
- Warming Temperatures Will Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program (with K. Coble and B. Barnett). Invited Seminar. Kansas State University, January, 2016.
- Determining the Effectiveness of Exchange Traded Funds as a Risk Management Tool (with W. Maples, A. Harri, J. Riley, and B. Williams). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2016.
- Determining the Effectiveness of Exchange Traded Funds as a Risk Management Tool (with W. Maples, A. Harri, J. Riley, and B. Williams). Selected Paper. NCCC-134 Applied Commodity Price Analysis, Forecasting, and Market Risk Management Meeting, 2016.
- Cotton Premium Rate Heterogeneities and Implications under Climate Change (with C. Siameh, B. Barnett, and A. Harri). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2016.
- Heterogeneous Wheat Variety Response to Extreme Heat Using Genetic Cluster Analysis (with A. Barkley, T. Rife, J. Poland, and L. Nalley). Invited Seminar. Kansas State University, Sep 4, 2015.
- Heterogeneous Effects of Warming and Drought on Selected Wheat Variety Yield (with A. Barkley and L. Nalley). Water Seminar Series. Mississippi State University, Feb 18, 2015.
- Implications of Rice Variety Selection to Optimize Returns from Crop Insurance (with E. Branscum, L. Nalley, B. Dixon, T. Siebenmorgen, and D. Danforth). Selected paper. Agricultural and Applied Economics Association Symposium: Crop Insurance and the 2014 Farm bill: Implementing Change in the U.S. Agricultural Policy. Louisville KY, October 8-9, 2014.
- Heterogeneous Effects of Warming and Drought on Selected Wheat Variety Yield (with A. Barkley and L. Nalley). Econometric Analysis of Crop Yield Distributions and Crop Insurance Programs track session. Agricultural and Applied Economics Association Annual Meeting, 2014.
- Determining Willingness to Adopt Mechanical Harvesters among Southeastern Blueberry Producers (with A. Rodgers, A. Harri, K. Morgan, K. Hood, and K. Coble). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2014.
- The Effect of Climate on Crop Insurance Premium Rates and Producer Subsidies. Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2013.
- El Nino Southern Oscillation Impacts on Crop Insurance (with D. Ubilava). Selected Poster. Agricultural and Applied Economics Association Annual Meeting, 2013.
- El Nino Southern Oscillation Impacts on Crop Insurance (with D. Ubilava). Selected Paper. Crop Insurance and the Farm Bill: A New Paradigm in U.S. Agricultural Policy Symposium, 2013.
- Marketing Margins and Input Price Uncertainty (with J. Maples, A. Harri, and J. Riley). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2013.

- Effect of Late Season Precipitation on Cotton Yield Distribution (with S. Amonoo). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2013.
- The Effect of the El Nino Southern Oscillation on Crop Production in the Southeastern U.S. (with D. Ubilava). Selected paper, Southern Economic Association Annual Meeting, 2012.
- Modeling the Effect of Climate on the Higher Order Moments of Crop Yields (with A. Harri and K. Coble). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2012.
- Spatial Pattern of Yield Distributions: Implications for Crop Insurance (with F. Annan). Selected Paper. Southwestern Social Science Association Annual Meeting, 2012.
- The Effect of the El Nino Southern Oscillation on U.S. Corn Production and Downside Risk (with D. Ubilava). Selected Paper. SCC-76 Information Exchange Group on Economics and Management of Risk in Agriculture and Natural Resources Annual Meeting, 2012.
- The Effect of the El Nino Southern Oscillation on U.S. Corn Production and Downside Risk (with D. Ubilava). Selected Paper. Southern Agricultural and Economics Association Annual Meeting, 2012.
- Common Bidding Agents and Competition (with K. Coatney). Equity Cooperative Livestock meeting in Baraboo, WI, 2012.
- Estimating the Value of Regulatory Investigations: A Case Study in Agriculture (with K. Coatney). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2011.
- Information and Firms' Search Behavior (with J. Aker). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2011.
- A Mixed Effects Model of Crop Yields for Purposes of Premium Determination (with M. Roberts). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2011.
- Can Government Really Make Agriculture Less Risky (with K. Coble, D. Just, and D. Spielman). Organized Symposium. Agricultural and Applied Economics Association Annual Meeting, 2011
- The Effect of Irrigation and Climate on Yield Variability (with A. Harri and K. Coble). Selected Paper. SCC-76 Information Exchange Group on Economics and Management of Risk in Agriculture and Natural Resources Annual Meeting, 2011.
- Intertemporal Risk Management in Agriculture (with S. Colby, T. Graciano, J. LaFrance, and R. Pope). Selected Paper. Center for the Economic Analysis of Risk (CEAR) Workshop: Econometrics of Choice Under Risk and Over Time, 2011
- Agricultural Arbitrage, Adjustment Costs, and the Intensive Margin (with J. LaFrance). Selected Paper. Southern Agricultural Economics Association Annual Meeting, 2010.
- How to Survive Graduate School. Graduate Student Track Session. Agricultural and Applied Economics Association Annual Meeting, 2010.