

# JESSE B. TACK

## Kansas State University, Department of Agricultural Economics

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1603 Old Claflin Place  
Manhattan, KS 66506

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### APPOINTMENTS

Professor, Kansas State University, 2021 – present  
Associate Professor, Kansas State University, 2016 – 2021  
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 2016-2024.  
*Average Evaluation: 4.8/5.0*

Current Agriculture and Natural Resource Policy Issues (KSU: AGEC 610). Fall 2017-2020.  
*Average Evaluation: 4.5/5.0*

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

Perez-Quesada, G., N. Hendricks, J. Tack, and D. Steward. Adapting Crop Production to Water Scarcity. *Environmental Research Letters* 20(2024) 014029

Biram, H., J. Tack, R. Nehring, and J. Yu. Empirical Challenges for Estimating Moral Hazard Effects of Crop Insurance on Pesticide Use. *Journal of Agricultural and Resource Economics* 49(2024): 265-282.

Bucheli, J., M. Visse-Mansiaux, J. Herrera, L.L. Häner, J. Tack, and R. Finger. Precipitation Causes Quality Losses of Large Economic Relevance in Wheat Production. *Q Open* 4(2024) p.qoae008.

Regmi, M., A. Featherstone, and J. Tack. Does Crop Insurance Attenuate Farm Financial Risk? *Agricultural Finance Review* 83.4/5 (2023): 635-654.

Tsiboe, F., J. Tack, K. Coble, A. Harri, and J. Cooper. Simulating Corn Futures Market Reaction and Prices Under Weekly Yield Forecasts. *Agricultural Finance Review* 83.4/5 (2023): 655-674.

Regmi, M., J. Tack, and A. Featherstone. Does Crop Insurance Influence Crop Yield Impacts of Warming Temperatures? A Farm-level Analysis. *Journal of the Agricultural and Applied Economics Association* 2.4 (2023): 808-822.

- Tsiboe, F., J. Tack, and J. Yu. Farm-Level Evaluation of Area- and Agroclimatic-Based Index Insurance. *Journal of the Agricultural and Applied Economics Association* 2.4 (2023): 616-633.
- Kusunose, Y. et al. Sustaining Productivity Gains in the Face of Climate Change: A Research Agenda for U.S. Wheat. *Global Change Biology* 29(2023): 926-934
- Barkley, A., P. Aseete, and J. Tack. Spatial Equilibrium Effects of Agricultural Commodity Price Changes on Great Plains Agriculture, 1997-2017. *Journal of Agricultural and Resource Economics* 48(2023): 46-64
- Yu, J., D. Hennessy, J. Tack, and F. Wu. Climate Change Will Increase Aflatoxin Risk in US Corn. *Environmental Research Letters* 17(2022) 054017
- Tsiboe, F. and J. Tack. Utilizing Topographic and Soil Features to Improve Rating for Farm-level Insurance Products. *American Journal of Agricultural Economics* 104(2022): 52-69
- Wang, R., R. Rejesus, J. Tack, J. Balagtas, and A. Nelson. Quantifying the Yield Sensitivity of Modern Rice Varieties to Warming Temperatures: Evidence from the Philippines. *American Journal of Agricultural Economics* 104(2022): 318-339
- Ramsey, A., J. Tack, and M. Balota. Double or Nothing: Impacts of Warming on Crop Quantity, Quality, and Revenue. *Journal of Agricultural and Resource Economics* 41(2022): 1-22
- Biram, H., K. Coble, A. Harri, E. Park, and J. Tack. Mitigating Price and Yield Risk Using Revenue Protection and Agriculture Risk Coverage. *Journal of Agricultural and Applied Economics* (2022): 1-15.
- Shew, A., J. Tack, L. Nalley, P. Chaminuka, and S. Maali. Yield Gains Larger in GM Maize for Human Consumption than Livestock Feed in South Africa. *Nature Food* 2.2(2021): 104-109.
- Miller, N., J. Tack, and J. Bergtold. The Impacts of Warming Temperatures on US Sorghum Production and the Potential for Adaptation. *American Journal of Agricultural Economics* 103(2021): 1742-1758
- Wang, R., R. Rejesus, J. Tack, and S. Aglasan. Do Higher Temperatures Influence How Yields Respond to Increasing Planting Density? *Agricultural and Resource Economics Review* 50(2021): 273-295
- Obembe, O., N. Hendricks, and J. Tack. Decreased Wheat Production in the USA from Climate Change Driven by Yield Losses Rather Than Crop Abandonment. *PLOS ONE* 16(2021): e0252067
- Ala-Kokkoa, K., L. Nalley, A. Shew, J. Tack, P. Chaminuka, M. Matlock, and M. D'Haese. Economic and Ecosystem Impacts of GM Maize in South Africa. *Global Food Security* 29 (2021): 100544.
- Perry, E., J. Yu, and J. Tack. Using Insurance Data to Quantify the Multidimensional Impacts of Warming Temperatures on Yield Risk. *Nature Communications* 11.1(2020): 1-9
- Shew, A., J. Tack, L. Nalley, and P. Chaminukad. Yield Reduction Under Climate Warming Varies Among Wheat Cultivars in South Africa. *Nature Communications* 11.1(2020): 1-9
- Coffey, B., A. Barkley, G. Tonsor, and J. Tack. How Do Students Allocate Their Time? An Application of Prospect Theory to Trade-offs between Time Spent to Improve GPA Versus Time Spent on Other Activities. *Applied Economics Teaching Resources* (2020) doi: 10.22004/ag.econ.303903
- Harri, A., J. Maples, J.M. Riley, and J. Tack. Firm Decision Making under Both Input and Output Price Uncertainty. *Journal of Agricultural and Resource Economics* 45(2020): 549-570
- Ubilava, D., J. Tack, and N. Villoria. Smooth Transitions across Latitudes and Longitudes: An Application of a Nonlinear Panel Regression to the Climate–Economics Nexus. *Economics Letters* 182(2019): 114-117

- Tack, J., K. Coble, R. Johansson, A. Harri, and B. Barnett. The Potential Implications of 'Big Ag Data' for USDA Forecasts. *Applied Economic Perspectives and Policy* 41(2019): 668-683
- Smart, N., B. Briggeman, J. Tack, and E. Perry. Examining U.S. Grain Marketing and Farm Supply Cooperatives' Sustainable Growth Rates. *Agribusiness* 35(2019): 625-638
- Ortiz-Bobea, A., J. Tack. Is Another Genetic Revolution Needed to Offset Climate Change Impacts for US Maize Yields? *Environmental Research Letters* 13(2018) 124009
- Tack, J., K. Coble, and B. Barnett. Warming Temperatures Will Likely Induce Higher Premium Rates and Government Outlays for the US Crop Insurance Program. *Agricultural Economics* 49(2018): 635-647
- Tsiboe, F., L. Nalley, K. Brye, B. Dixon, A. Shew, J. Tack, and A. Barkley. Estimating Spatial Differences in Methane Emissions to Identify Sustainable Rice Sources. *Agronomy Journal* 110(2018): 611-620
- 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

- Bayesian space-time varying coefficient modeling for climate econometrics: A spatial-temporal Gaussian process approach (J. Yu and others). *Conditionally Accepted at Journal of Econometrics*
- Measuring the Impact of Hurricane Incidence on Agricultural Production Risk Using Insurance Data (with H. Biram and M. Cameron-Harp). *Conditionally Accepted at AJAE*
- Climate-Based Measures of Supply Chain Resilience (with K. Ala-Kokko, G. Gardner, V. Breneman, S. Arita, and J. Cooper). *Conditionally Accepted at Agricultural Finance Review*
- Risk Return of Forward Contracting Corn with Crop Insurance (with C. Bhattarai, A. McKenzie, H. Biram, and A. Durand-Morat). *Conditionally Accepted at JAAEA*
- Quantifying Yield Losses from Bt Resilience among Maize Cultivars in South Africa (with C. Cooper, L. Nalley, P. Caminuka, M. Saifai, E. Farmer, and M. Gore). *Revise and Resubmit at Nature Communications*
- Parallel gains in maize yield and drought resistance driven by breeding advances in the U.S. Corn Belt (with H. Zhao, G. J. Kluitenberg, MB. Kirkham, G. F. Sassenrath, L. Zhang, N. Wan, Z. Liu, J. Zhao, A. M. Nelson & X. Lin). *Revise and Resubmit at Nature Communications*
- New Production Economics: Where the Heck are the Prices? (with J. Yu and R. Rejesus). *Revise and Resubmit at Food Policy*

- The Divergence of the Public and Private Plant Breeding Sectors with Implications for Climate Change (with L. Nalley et al.). *Revise and Resubmit at Nature Communications*
- Evaluating the Global Impact of IRRI's Breeding Innovations (with L. Nalley, A. Durand-Morat, D. Villanueva, and V. Pede). *Under Review at Global Food Security*
- Extensive Margin Adaptation for Dryland Corn Irrigation Use and Crop Switching (with J. Yu and F. Tsiboe). *Under Review at Journal of the Association of Environmental and Resource Economists*
- From Field Trials to Farm Adoption: Identifying the Productivity Effect of On-Farm Technology Adoption (with K. Ala-Kokko and J. Yu). *Under Review at Food Policy*

## BOOK CHAPTERS

- Tack, J., and J. Yu. Risk Management in Agricultural Production. In C. Barrett and D. Just eds., *Handbook of Agricultural Economics*. Elsevier, Amsterdam, 2021.
- Lusk, J., J. Tack, and N. Hendricks. Heterogeneous Yield Impacts from Adoption of Genetically Engineered Corn and the Importance of Controlling for Weather. In W. Schlenker ed., *Agricultural Productivity and Producer Behavior*. University of Chicago Press, 2019.  
\*Also published as an NBER Working Paper, No. 23519.
- 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

- Yu, J., D. Hennessy, J. Tack, and F. Wu. Climate Change and Aflatoxin in Corn. CARD Agricultural Policy Review, Iowa State University, 2023.
- Tack, J., T. Hertel, A. Ortiz-Bobea, and J. Suter. AAEE Grand Challenges: Agricultural Production and Climate Change. Report provided to AAEE Government Relations committee, 2022.
- 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

- Best Paper Award in Applied Risk Analysis (with F. Tsiboe), AAEE Applied Risk Analysis Section, 2023
- Outstanding Published Research Award (with F. Tsiboe), Western Agricultural Economics Association, 2023
- Outstanding Article (with H. Biram, E. Park, K. Coble, and A. Harri), *Journal of Agricultural and Applied Economics*, 2023
- Outstanding Published Research Award (with N. Miller and J. Bergtold), Western Agricultural Economics Association, 2022

Honorable Mention Outstanding Article Award (with B. Coffey, A. Barkley, and G. Tonsor), *Applied Economics Teaching Resources*, 2022

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), AAEA 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**

Cooperative agreement with USDA Office of Chief Economist, "Leveraging Spatial Correlations of Weather to Better Understand Supply Chain Resilience and Trade Patterns," co-PI, \$44,444, 2023-2024.

Kansas State University, "Grid-integrated Renewable Energy and Decarbonization for Kansas Agriculture," co-PI, \$100,000, 2023-2024.

Cooperative agreement with USDA Office of Chief Economist, "The Role of Agricultural Trade and Spatial Correlation of Yield Shocks in Adaptation to a Changing Climate," co-PI, \$100,000, 2021-2022.

Cooperative agreement with USDA Office of Chief Economist, "Crop Loss Estimation from Hurricanes," PI, \$100,000, 2019-2020.

Cooperative agreement with USDA Office of Chief Economist, "New Policy Implications of Big Ag Data," Co-PI, \$166,506, 2018-2020.

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**

### General

Co-Editor, *AJAE*, 2021-present

AAEA Publications Task Force, 2023-present

Guest Editor, special issue for *The Geneva Papers on Risk and Insurance*, 2019

Associate Deputy Editor, *Climatic Change*, 2018-2021

Associate Editor, *AJAE*, 2015-2019

Editorial Council, *JAAE*, 2015-2019

External Reviewer for PhD Thesis, Monash University, 2020

Statistics & Information Resources Committee, AAEA, 2016-2019

Econometrics Section (Past Chair), AAEA, 2017

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

### Kansas State University

Search Committee, Department of Agricultural Economics, 2023-2024

KFMA NW Screening Committee, 2019

Outstanding MS Thesis and PhD Dissertation Committee, 2019-2020, 2023

Prelim Committee, Department of Agricultural Economics, 2016-2018; 2020-2022

PhD Restructuring Committee, Department of Agricultural Economics, 2018

Search Committee, Department of Agricultural Economics, 2017-2018

### Mississippi State University

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

Other

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, USDA NIFA Hatch KS17HA1009: *Determinants of Agricultural Returns, Land Values, and Agricultural Employment in the Great Plains* (2018-present)

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*; *Applied Economics Teaching Resources*; *Climate Risk Management*; *Climatic Change*; *Economic Bulletin*; *Environmental Research Letters*; *European Review of Agricultural Economics*; *Food Policy*; *Insurance Mathematics and Economics*; *International Journal of Climatology*; *Journal of Agricultural and Applied Economics*; *Journal of Agriculture and Resource Economics*; *Journal of Agricultural Economics*; *Journal of Environmental Economics and Management*; *Journal of the Association of Environmental and Resource Economists*; *Journal of Public Economics*; *Journal of the American Statistical Association*; *Nature Climate Change*; *Nature Communications*; *Nature Food*; *Nature Scientific Reports*; *Proceedings of the National Academy of Sciences*; *Science Advances*; *Scientific Reports*

Selected Topics Leader, Quantitative Methods, SAEA, 2011

Reviewer AAEA Selected Papers, (Various Years)

Reviewer SAEA Selected Papers, (Various Years)

## **GRADUATE STUDENTS**

Kristiina Ala-Kokko (major advisor), Ph.D. (expected 2025)  
Hunter Biram (major advisor), Ph.D. (2022)  
Francis Tsiboe (major advisor), Ph.D. (2021)  
Noah Miller (co major advisor), Ph.D. (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)  
Raymond Thomas (committee member), Ph.D. (expected 2024)



Abdur Rub (committee member), Ph.D. (2023)  
 Gerald Mashange (committee member), Ph.D. (2023)  
 Minkyong Ko (committee member), Ph.D. at Virginia Tech (2023)  
 Haidong Zhao (committee member), Ph.D. in Agronomy (2024)  
 Nathan Hein (committee member), Ph.D. in Agronomy (2022)  
 Gabriela Perez-Quesada (committee member), Ph.D. (2022)  
 Micah Cameron-Harp (committee member), Ph.D. (2022)  
 Janic Bucheli (committee member), Ph.D at ETH. (2022)  
 Mallika Appuhamilage Buddhika Patalee (committee member), Ph.D. (2020)  
 Elliot Dennis (committee member), Ph.D. (2019)  
 Madhav Regmi (committee member), Ph.D. (2019)  
 Bowen Chen (committee member), Ph.D. (2019)  
 Oladipo Obembe (committee member), Ph.D. (2019)  
 Kayode Ajewole (committee member), Ph.D. (2019)  
 Nicholas Pates (committee member), Ph.D. (2018)  
 Weldensie Embaye (committee member), Ph.D. (2018)  
 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)  
 Nathan Smart (committee member), M.S. (2018)  
 John Green (committee member), M.S. (2022)  
 Parker Vulgamore (committee member), M.S. (2025)  
 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 Effects of Extreme Heat on South African Maize Yields and Its Impact on Food Security (with C. O'Neill, L. Nalley, H. Smith, and P. Chaminuka). Selected Poster. XVIII EAAE Congress, 2025.  
 From Field Trials to Farm Adoption: Identifying the Productivity Effect of On-Farm Technology Adoption (with K. Ala-Kokko and J. Yu). Selected Poster. Agricultural and Applied Economics Association Annual Meeting, 2025.  
 The Effects of Heat and Precipitation on Pulse Varieties (with K. Ala-Kokko). Selected Paper. SCC-76 Annual Meeting, 2025.

The Impacts of Warming Temperatures on Risk Premiums: Implications for Crop Insurance (with E. Serrano, G. Gardner, and H. Biram). Selected Poster. Southern Agricultural Economics Association Annual Meeting, 2025.

Climate-Based Measures of Supply Chain Resilience (with K. Ala-Kokko, G. Gardner, V. Breneman, S. Arita, and J. Cooper). Track Session Presentation. Agricultural and Applied Economics Association Annual Meeting, 2024.

How Effective is Irrigation for Abating Warming Temperature Impacts on Crop Yields? (with J. Yu and F. Tsiboe). Track Session Presentation. Agricultural and Applied Economics Association Annual Meeting, 2024.

Climate Change Impacts on Crop Insurance Risk Premium Rates (with E. Serrano, G. Gardner, and H. Biram). Selected Poster. Southern Agricultural Economics Association Annual Meeting, 2024.

Using Field Trial Data to Estimate the On-Farm Effects of GM Adoption on Yield (with K. Ala-Kokko and J. Yu). Selected Paper. SCC-76 Annual Meeting, 2024.

Quantifying Heat Stress for Sorghum and Maize using Large-scale Crop Yield Data from Kansas Farms (with J. Yu and F. Tsiboe). Invited Seminar. University of Illinois, 2024.

Quantifying Heat Stress for Sorghum and Maize using Large-scale Crop Yield Data from Kansas Farms (with J. Yu and F. Tsiboe). Invited Seminar. Arizona State University, 2024.

Quantifying Heat Stress for Sorghum and Maize using Large-scale Crop Yield Data from Kansas Farms (with J. Yu and F. Tsiboe). Invited Seminar. Cornell University, 2024.

Quantifying Heat Stress for Sorghum and Maize using Large-scale Crop Yield Data from Kansas Farms (with J. Yu and F. Tsiboe). Invited Seminar. CSI Kansas State, 2024.

Quantifying Heat Stress for Sorghum and Maize using Large-scale Crop Yield Data from Kansas Farms (with J. Yu and F. Tsiboe). Invited Seminar. Kansas State Plant Pathology, 2023.

Evaluating the Global Impact of IRRI's Breeding Innovations (with L. Nalley, A. Durand-Morat, D. Villanueva, and V. Pede). Selected Paper. 6th International Rice Congress, 2023.

Examination of the role of spatial correlation in weather shocks as it relates to agricultural trade and climate change (with K. Ala-Kokko, G. Gardner, V. Breneman, and S. Arita). Track Session Presentation. Agricultural and Applied Economics Association Annual Meeting, 2023.

Examination of the role of spatial correlation in weather shocks as it relates to agricultural trade and climate change (with K. Ala-Kokko, G. Gardner, V. Breneman, and S. Arita). Selected Paper. The Ninth International Conference on Agricultural Statistics, 2023.

Crop Insurance and Adverse Weather Effects on Farmland Rental Rates (with J. Yu). Selected Paper. SCC-76 Annual Meeting, 2023.

Agricultural Insurance and Share Tenancy in the United States (with L. Yao and M. Bellemare). Selected Paper. SCC-76 Annual Meeting, 2023.

Irrigation Offsets Wheat Yield Reductions from Extreme Heat in Pakistan (with A. Rub and A. Barkley). Selected Paper. Southern Agricultural Economics Association Annual Meeting, 2023.

The Future of Public and Private Plant Breeding (with L. Burris, L. Nalley, W. Yang, J. Lusk, and H. De Steur). Selected Paper. Southern Agricultural Economics Association Annual Meeting, 2023.

Precipitation Causes Quality Losses of Economic Relevance in Wheat Production (with J. Bucheli, M. Visse, J. Herrera, L. Häner, and R. Finger). Selected Paper. Agricultural Economics Society Conference, 2022.

- Quantifying Yield Risk from Hurricanes for the Purpose of Premium Rate Determination (with H. Biram). Track Session Presentation. Agricultural and Applied Economics Association Annual Meeting, 2022.
- Does Crop Insurance Participation Impact Quality-Adjusted Pesticide Usage? (with H. Biram and R. Nehring. Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2022.
- Quantifying Yield Damages from Natural Disasters (with J. Yu and E. Perry). Invited Seminar. Montana State University, January 2022
- Risk Management in Agricultural Production (with Jisang Yu). Presenter. AAEA Virtual Workshop: Handbook of Agricultural Economics, volume 6.
- The Important Role of Heat for Understanding Climate Change Impacts on Crop Yields. Panelist. C-FARE webinar: Agricultural Risk Management and Climate Change Adaptation.
- Can Historical Cause of Loss Insurance Data be Leveraged to Develop Real Time Predictions of Crop Loss as Natural Disasters Occur (with Jisang Yu and Ed Perry). Track Session Presentation. Agricultural and Applied Economics Association Annual Meeting, 2021.
- Forecasting Winter Wheat Basis with Soil Moisture Measurements (with N. Miller, M. Taylor, and I. Ciampitti). Selected Paper. NCCC-134 Annual Meeting, 2021.
- Farm- and Program-Level Tradeoffs Between APH- and Index-Based Insurance (with F. Tsiboe). Selected Paper. SCC-76 Annual Meeting, 2021.
- Designing Area-based Crop Insurance Program based on Soil Similarity (with E. Park, A. Harri, K. Coble, and F. Tsiboe. Selected Paper. SCC-76 Annual Meeting, 2021.
- Effects of Crop Insurance Participation on Quality-Adjusted Pesticide Use (with H. Biram and R. Nehring). Selected Paper. Southern Agricultural Economics Association Annual Meeting, 2021.
- Forecasting Winter Wheat Basis with Soil Moisture Measurements (with N. Miller, M. Taylor, and I. Ciampitti (Kansas State University). Selected Paper. NCCC 134 Conference, 2021.
- Environmental Benefits of GM Maize Adoption in South Africa (with Ala-Kokko, K., L. Nalley, P. Chaminuka, A. Shew, and M. Matlock). Selected Paper. Southern Agricultural Economics Association Annual Meeting, 2021.
- Utilizing Topographic and Soil Features to Improve Rating for Farm-Level Insurance Products (with Francis Tsiboe). Selected Paper. Agricultural and Applied Economics Association Annual Meeting Applied Risk Analysis Graduate Student Lightning Session, 2020.
- Utilizing Topographic and Soil Features to Improve Rating for Farm-Level Insurance Products (with Francis Tsiboe). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2020.
- Using Historical Weather Data to Price Crop Insurance Revenue Products (with B. Barnett, K. Coble, and Jisang Yu). European Association of Agricultural Economics Webinar on Dealing with Extreme Weather in Agriculture, 2020.
- Estimating Crop Planting Delays and Phenological Variation caused by Extreme Rainfall Events in the US Lower Mississippi River Basin using Earth Observation Systems (with A. Shew, L. Nalley, and A. Ghosh). Selected Poster. American Geophysical Union Fall Meeting, 2019.
- The Impact of Warming Temperatures on US Sorghum Production and the Potential for Adaptation (with N. Miller and J. Bergtold). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2019.

- Soil Conditioned Climate Effects Matter when Modeling Crop Yields (with E. Dennis, T. Hefley, and N. Hendricks). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2019.
- Estimating the Yield Gains of GM Maize in South Africa (with L. Nalley, A. Shew, P. Chamanuka, and Z. Mavunganidze). Selected Poster. Agricultural and Applied Economics Association Annual Meeting, 2019.
- Estimating the Yield Benefits of GM Maize Breeding in South Africa (with L. Nalley, A. Shew, P. Chamanuka, and Z. Mavunganidze). Invited Seminar. South African Agricultural Research Council (ARC) Grain Crops Institute, Potchefstroom, South Africa. May 2019.
- Estimating the Yield Benefits of GM Maize Breeding in South Africa (with L. Nalley, A. Shew, P. Chamanuka, and Z. Mavunganidze). Invited Seminar. South African Agricultural Research Council (ARC), Pretoria, South Africa. May 2019.
- Quantifying the Yield Sensitivity of Modern Rice Varieties to Warming Temperatures: Evidence from the Philippines (with R. Wang, R. Reyes, J. Balagtas, and A. Nelson). Selected Paper. 172nd European Association of Agricultural Economists Seminar, 2019.
- Using Cross-country Data to Estimate the Yield Impact of Genetically Engineered Corn (with J. Lusk and N. Hendricks). Invited Seminar. University of Nebraska, March 2019
- Using Cross-country Data to Estimate the Yield Impact of Genetically Engineered Corn (with J. Lusk and N. Hendricks). Invited Seminar. University of Kentucky, April 2019
- Is Climate Change Likely to Affect the Geographic Movement of Cattle Production within the U.S.? (With M. Patalee and G. Tonsor). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2018.
- Another genetic yield revolution is needed to offset climate change effects on U.S. maize (with A. Ortiz-Bobea). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2018.
- Does Crop Insurance Enrollment Exacerbate the Negative Effects of Extreme Heat? A Farm-level Analysis (with M. Regmi and A. Featherstone). Selected Paper. Agricultural and Applied Economics Association Annual Meeting, 2018.
- Using Cross-country Data to Estimate the Yield Impact of Genetically Engineered Corn (with J. Lusk and N. Hendricks). Selected Paper. Western Agricultural Economics Association Annual Meeting, 2018.
- Estimating Weather Impacts on South African Wheat Yields under Climate Change (with A. Shew and L. Nalley). Selected Paper. Western Agricultural Economics Association Annual Meeting, 2018.
- Can Adjustment of Planting Dates Offset Warming Impacts for Kansas Sorghum Producers? (with N. Miller). Selected Paper. Risk and Profit Conference, 2018.
- Does Crop Insurance Enrollment Exacerbate the Negative Effects of Extreme Heat? A Farm-level Analysis (with M. Regmi). Selected Paper. Risk and Profit Conference, 2018.
- Heterogeneous Yield Impacts from Adoption of Genetically Engineered Corn and the Importance of Controlling for Weather (with J. Lusk and N. Hendricks). Invited Seminar. Mississippi State University, April 2018.
- Heterogeneous Yield Impacts from Adoption of Genetically Engineered Corn and the Importance of Controlling for Weather (with J. Lusk and N. Hendricks). Invited Seminar. North Carolina State University April 2018.
- Another Genetic Revolution is Needed to Offset Climate Change Impacts on US Maize Yields (with A. Ortiz-Bobea). Invited Seminar. North Carolina State University, April 2018.

- Another Genetic Revolution is Needed to Offset Climate Change Impacts on US Maize Yields (with A. Ortiz-Bobea). Invited Seminar. Virginia Tech University, March 2018.
- Hybrid vs Conventional in Mid-South US Rice Production: An Agronomic and Economic Evaluation (with Aaron Shew and Lanier Nalley). Invited Paper. International Hybrid Rice Symposium, 2018.
- Heterogeneous Impact of El Nino Southern Oscillation on Growth: Smooth Transitions Across Latitudes and Longitudes (with David Ubilava and Nelson Villoria). Selected Paper. Australasian Agricultural and Resource Economics Society Annual Meeting, 2018.
- Smooth Transitions across Latitudes and Longitudes: An Application of a Nonlinear Panel Regression to the Climate - Economics Nexus (with David Ubilava and Nelson Villoria). Selected Paper. 28th Australia New Zealand Econometric Study Group Meeting, 2018.
- Heterogeneous Yield Impacts from Adoption of Genetically Engineered Corn and the Importance of Controlling for Weather (with J. Lusk and N. Hendricks). Understanding Productivity Growth in Agriculture Conference. National Bureau of Economic Research, May 2017.
- 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, September 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.