

MATTHEW J. MACLACHLAN

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RESEARCH APPOINTMENTS

Cornell University, Assistant Professor. *2023–present*

Research Economist, USDA - Economic Research Service

- Senior Economist, *2022–2023*
- Research Economist, *2015–2022*

EDUCATION

Ph.D. Agricultural and Resource Economics, University of California at Davis, *2015*

B.S. Environmental Biology and Management, University of California at Davis, *2008*

B.A. Economics, University of California at Davis, *2008*

JOURNAL PUBLICATIONS

11. **Matthew J. MacLachlan**, Michael K. Adjemian, Xioali Etienne, Ricky Volpe, and Wendy Zeng. 2025. Adaptive food price forecasts enhance public information during rapid economic changes. *Nature Communications* 16:6282.
10. Diego Diel, Felipe Peña-Mosca, Elisha Frye, **Matthew J. MacLachlan**, ... & Daryl Nydam. 2025. The impact of highly pathogenic avian influenza H5N1 virus infection on dairy cows. Accepted at *Nature Communications*.
9. Samantha Padilla, Quinton Baker, and **Matthew J. MacLachlan**. 2025. Impacts of HPAI Trade Restrictions on U.S. Poultry Exports in 2022–23. *Applied Economic Perspectives and Policy*.
8. **Matthew J. MacLachlan**, John Volk, and Christopher Doherty. 2024. Incorporating model selection and uncertainty into forecasts of economic conditions in companion animal clinical veterinarian labor markets. *Journal of the American Veterinary Medical Association*, 1(aop), 1–8.
7. Samantha Padilla, **Matthew J. MacLachlan**, Lee Schultz, and Kate Vaiknorais. 2023. “Disasters, population trends, and their impact on the U.S. pork packing sector.” *Food Policy*, 118, 102458.
6. **Matthew J. MacLachlan**, David Boussios, and Amy D. Hagerman. 2022 “The economic impacts of embargoes resulting from highly pathogenic avian influenza outbreaks in the United States.” *Journal of Agricultural and Resource Economics*.
5. **Matthew J. MacLachlan**, Andrew Liebhold, Takehiko Yamanaka, and Michael Springborn. 2021. “Hidden patterns of insect establishment risk revealed from two centuries of alien species discoveries.” *Science Advances*, 7(44), p.eabj1012.
4. Stacy Sneeringer, Gianna Short, **Matthew J. MacLachlan**, and Maria Bowman. 2020. “Impacts on livestock producers and veterinarians of FDA policies on use of medically important antibiotics in food animal production.” *Applied Economic Perspectives and Policy*, 42.4: 674–694.
3. Bobeck S. Modjtahedi, Amar P. Patel, Scott Barb, **Matthew J. MacLachlan**, Tave van Zyl, Thanos Papakostas, and Dean Elliott. 2019. “Characteristics and outcomes of endogenous endophthalmitis: eight-year experience at a tertiary care center.” *Ophthalmology Retina* 3.1: 61–72.
2. **Matthew J. MacLachlan**, Michael Springborn, and Paul L. Fackler. 2017. “Learning about a moving target in resource management: optimal Bayesian disease control.” *American Journal of Agricultural Economics*, 99.1: 140–162.
1. Micheal R. Springborn, Gerardo Chowell, **Matthew J. MacLachlan**, and Eli Fenichel. 2015. “Accounting for behavioral responses during a flu epidemic using home television viewing.” *BMC Infectious Disease*, 21:15.

PEER-REVIEWED RESEARCH REPORTS

8. **Matthew J. MacLachlan**, Carolyn A. Chelius, and Gianna Short. 2022. “Time-series Methods for Forecasting and Modeling Uncertainty in the Food Price Outlook.” *Technical Bulletin, United States Department of Agriculture*.
7. McLaughlin, P.W., Stevens, A., Dong, X., Chelius, C., Marchesi, K., and **M.J. MacLachlan**. 2022. “National Trends in Food Retail Sales During the COVID-19 Pandemic: Findings from Information Resources, Inc.(IRI) Retail-Based Scanner Data.” *COVID-19 Working Paper, United States Department of Agriculture*.
6. William E. Maples, B. Wade Brorsen, William F. Hahn, **Matthew J. MacLachlan**, and Lekhnath Chalise. 2022. “An Update and Re-Estimation of the ERS Livestock Baseline Model.” *Technical Bulletin, United States Department of Agriculture*.
5. Samantha Padilla, Lee Shultz, Katherine Vaiknoras, and **Matthew J. MacLachlan**. 2021. “Changes in Regional Hog Slaughter during COVID-19.” *ERS COVID-19 Working Paper Series, United States Department of Agriculture*.
4. David Boussios, Sharon Raszap Skorbiansky, and **Matthew J. MacLachlan**. 2021. “Evaluating USDA Long-run Forecasts for Area Planted.” *Economic Research Report, United States Department of Agriculture*.
3. Ashley Hungerford, Mesbah Motamed, Erik O’Donoghue, Stephanie Rosch, **Matthew J. MacLachlan**, Greg Astill, and Joseph Cooper. 2018. “Federal Risk Management Tools for Agricultural Producers: An Overview.” *Economic Research Report, United States Department of Agriculture*.
2. **Matthew J. MacLachlan**, Sean Ramos, Ashley Hungerford, and Seanicaa Edwards. 2018. “Federal Natural Disaster Assistance Programs for Livestock Producers 2008–2016.” *Economic Information Bulletin, United States Department of Agriculture*.
1. Sean Ramos, **Matthew J. MacLachlan**, and Alex Melton. 2017. “Impacts of the 2014–2015 Outbreak of Highly Pathogenic Avian Influenza Outbreak on the U.S. Poultry Sector.” *e-Outlook, United States Department of Agriculture*.

PAPERS IN PROGRESS

- Quantifying the role of economic activity as a driver of biological invasions (with Rebecca Epanchin-Niell, Andrew Liebhold)
- International determinants of retail fish and seafood prices (Kailin Kroetz, Kaitlyn Malakoff, and Megan Sweitzer)
- Forecasting retail food prices changes from highly pathogenic avian influenza (Jada Thompson and Bingyan Dai)
- Factors influencing markets for veterinary services and pet products under rapid changes in consumer behavior (Clinton Neill and Shamar Stewart)
- Policy drivers of non-native species discoveries (Rebecca Epanchin-Niell, Andrew Liebhold, and D. Adeline Yeh)

OTHER PUBLICATIONS

13. **Matthew J. MacLachlan** and Megan Sweitzer. Monthly Food Price Outlook report. *October 2020–October 2023*
12. Megan Sweitzer and **Matthew J. MacLachlan**. “ERS’s Food Price Outlook forecasts enhanced with midpoints and prediction intervals.”
11. Megan Sweitzer and **Matthew J. MacLachlan**. 2022. “All food categories experienced higher inflation through July in 2022 compared with 2021.” *Chart of Note, United States Department of Agriculture*.
10. **Matthew J. MacLachlan**, Wendy Zeng, and Samantha Padilla. 2022. “Embargoes from past avian flu outbreaks reduced demand for U.S. chicken meat.” *Amber Waves, United States Department of Agriculture*.
9. **Matthew J. MacLachlan**. 2022. “Food prices were below overall inflation in 2021.” *Chart of Note, United States Department of Agriculture*.
8. **Matthew J. MacLachlan**. 2022. “2021 retail food price inflation continued at same pace as 2020, but varied among food categories.” *Chart of Note, United States Department of Agriculture*.
7. Megan Sweitzer and **Matthew J. MacLachlan**. 2022. “All food categories experienced higher inflation through July in 2022 compared with 2021.” *Chart of Note, United States Department of Agriculture*.
6. **Matthew J. MacLachlan** and Carolyn Chelius. 2021. “Cost of a home-grilled cheeseburger up 11 cents from 2019.” *Chart of Note, United States Department of Agriculture*.
5. Carolyn Chelius and **Matthew J. MacLachlan**. 2021. “Retail Food Price Inflation in 2020 Outpaced Historical Average by 75 Percent.” *Amber Waves Finding, United States Department of Agriculture*.
4. **Matthew J. MacLachlan**, Sean Ramos, and Ashley Hungerford. 2018. “The 2012–2013 U.S. drought heightened federal disaster assistance payments for livestock producers.” *Amber Waves Magazine, United States Department of Agriculture*.
3. Sean Ramos, Alex Melton, and **Matthew J. MacLachlan**. 2017. “Egg price impacts of the 2014–15 highly pathogenic avian influenza outbreak.” *Amber Waves Finding, United States Department of Agriculture*.
2. (internal USDA) Stacy Sneeringer, Matthew Clancy, Maria Bowman and **Matthew J. MacLachlan**. 2016. “Incentivizing new products in animal pharmaceuticals to reduce agricultural use of medically important antibiotics.” *White Paper, United States Department of Agriculture*.
1. Colin A. Carter, Guillaume P. Gruère, Patrick McLaughlin, and **Matthew J. MacLachlan**. 2013. “California’s Proposition 37: effects of mandatory labeling of GM food.” *ARE Update, Giannini Foundation*.

OUTREACH AND DATA PRODUCTS

4. USDA Food Price Outlook, team lead. *2020–2023*
 - Over 285,000 views in 2022
 - Major revision of forecasting methods and reporting
 - Responds to inquiries from USDA leadership, other agencies, media, academia, and industry
3. USDA Food Price Environment, team lead. *2021–2022*
2. USDA 10-Year Baseline Projections, Livestock. *2016–2018*
1. High Plains Cattle Feeder Simulator. *2016–2017*

COURSES TAUGHT

- Professor, Cornell
 - Veterinary economics. *2025*
 - Master’s-level Production Economics. Average rating 5.0/5. *2024*
- Lecturer, UC Davis
 - Intermediate Microeconomics. Average rating: 4.3. *2015*
- Teaching Assistant, UC Davis
 - Environmental Policy. Average ratings: 4.5, 4.7. *2014 and 2015*
 - Intermediate Microeconomics. Average rating: 4.9. *2013*

SELECT INTERVIEWS AND BRIEFINGS

7. Interview with the American Veterinary Medical Association’s Veterinary Vertex. *2024*
6. Briefing to New York City Mayor’s Office on food price inflation. *2023*
5. Briefing to Chief Economist, Seth Meyer—forecasting food prices. *2022*
4. Semimonthly interviews with USDA Radio about food prices. *2021–2023*
3. Interview with Science’s podcast on non-native species establishment in the United States. *2021*
2. Interview with Trisha Hendricks from NBC on retail food prices. *2021*
1. Forecasting the response of agricultural markets to COVID-19. Briefing to the USDA - Office of the Chief Economist. *2020*

INVITED PRESENTATIONS, PANELS, AND GUEST LECTURES

20. Adaptive food price forecasts enhance public information during rapid economic changes. Food & Agricultural Economics Seminar Series. *2024*
19. Veterinary and animal-health economics. Guest lecture for Vet Med Population Medicine & Diagnostic Services (course 6640) at Cornell University. *2024*
18. The impact of highly pathogenic avian influenza H5N1 virus infection in dairy cattle. The American Association of Bovine Practitioners. *2024*
17. Economic update on HPAI in dairy. Dairy and Food Safety Virtual Office Hours. *2024*
16. The landscape and challenges of nationally representative forecasting. AAEE Workshop on Food Prices and Forecasting Sponsored by ERS. *2024*
15. Research and development of food price forecasting—optimal selection of leading indicators. AAEE Workshop on Food Prices and Forecasting Sponsored by ERS. *2024*
14. USDA Food Price Outlook—forecasting food prices in a rapidly changing economy. C-Fare’s Inflation Webinar. *2022*
13. Improvements to the methodology used in the Food Price Outlook. USDA, National Agricultural Statistics Survey Fall Data Users Meeting. *2022*
12. Lessons learned from the 2004 and 2014/2015 outbreaks of highly pathogenic avian influenza—market impacts. USDA distance learning at Tuskegee University. *2022*
11. Hidden patterns of insect establishment risk revealed from two centuries of alien species discoveries. USDA - Office of the Chief Economist’s Risk Forum. *2022*
10. An overview of U.S. food spending, prices, and forecasts. UCSF’s NOPREN HER Summer Student Series. *2022*
9. Lessons learned from the 2004 and 2014/2015 outbreaks of highly pathogenic avian influenza. University of Nebraska, Lincoln. *2022*

8. An overview of food U.S. food spending, prices, and forecasts. Greater Chicago Food Depository. *2022*
7. Evaluation and advancement of the methods used in the USDA's Food Price Outlook. ARS-ERS Joint Seminar Series. *2021*
6. Agricultural research and the economic impacts of infectious animal disease outbreaks. Guest lecture for the Biohazardous Threat Agents & Emerging Infectious Diseases masters program at Georgetown University. *2018 and 2019*
5. Livestock disaster assistance programs and market impacts of highly pathogenic avian influenza. USDA Animal and Plant Health Inspection Service. *2018*
4. Production, price, and trade impacts of the 2014–2015 outbreak of highly pathogenic avian influenza. ARS's 4th International Biosafety and Biocontainment Symposium: Global Biorisk Challenges—Agriculture and Beyond. *2017*
3. Economic impacts of the 2014–2015 outbreak of highly pathogenic avian influenza. White House National Science and Technology Council Foreign Animal Disease Threats Interagency Working Group. *2016*
2. Adaptive management of infectious disease. Guest lecture for the Department of Biology at Georgetown University. *2015*
1. Dynamic-Bayesian disease management under state uncertainty: learning and bovine tuberculosis control in New Zealand cattle. MASpread, Princeton Workshop. *2014*

OTHER PRESENTATIONS

14. Determinants of veterinary prices. AAEE Annual Meeting. *2025*
13. Moving on from pass-through—identifying the determinants of U.S. food prices in predictive models. AAEE Annual Meeting. *2023*
12. Forecasting U.S. food prices. AAEE Annual Meeting. *2023*
11. Food Price Outlook. Agricultural Outlook Forum. *2023*
10. Food Price Outlook. Agricultural Outlook Forum. *2022*
9. Evaluation and advancement of the methods used in the USDA's Food Price Outlook. Federal Forecasters Conference. *2021*
8. The impacts of federal antimicrobial guidance on the livestock industry. AAEE Annual Meeting. *2019*
7. Quantifying the hidden historical role of plant imports driving non-native insect invasions over 150 years. AERE Annual Meeting. *2019*
6. Identifying the price determinants of animal products in the presence of structural breaks. AAEE Annual Meeting. *2018*
5. Measuring storage responses of broiler meat producers during an outbreak of highly pathogenic avian influenza. AAEE Annual Meeting. *2017*
4. The Hitchhiker's Guide to the Greenery: estimating the dynamics of trade-driven non-native species introductions via plant material from 1854 to the present. AAEE Annual Meeting. *2016*
3. The Hitchhiker's Guide to the Greenery: estimating the dynamics of trade-driven non-native species introductions via plant material from 1854 to the present. RAPID Trade Workshop. *2016*.
2. Learning about a moving target in resource management: Optimal Bayesian Disease Control. AAEE Annual and AERE Annual Meetings. *2015*
1. Dynamic-Bayesian disease management under state uncertainty: learning and bovine tuberculosis control in New Zealand cattle. AAEE Annual Meeting. *2014*

GRANTS AND FELLOWSHIPS

4. PI for Strategic Priority Grant to study causes and impacts of food price inflation—\$495,000. *2022*
3. PI for Cooperative agreements for two COVID-19 related research projects with Yale University and the University of Georgia—\$80,000. *2020*
2. Agricultural & Applied Economics Association (AAEA) Trust Travel Grant. *2014*
1. Atmospheric Aerosols and Health—Research Fellowship. *2009–2011*

AWARDS AND HONORS

12. Many ERS Extra Effort awards, including for major updates to the USDA’s forecasting models and reporting, leading a workshop, contributing to a study of COVID-19’s impacts on pork producers, and engaging with the Government Accountability Office. *2022–2023*
11. John E. Lee Award for Sustained Excellence in Group Economic Analysis. *2022*
10. Two ERS Extra Effort Awards for developing food-price forecasting method and a publication. *2021*
9. Research, Education, and Economics Under Secretary’s Award for contributions as part of the ERS COVID-19 Team. *2020*
8. Three ERS Extra Effort Awards for leading a recruitment effort, serving on ERS’s COVID-19 Rapid Response Team, and serving on the Plant Breeders Working Group. *2020*
7. ERS agency award: the Helios—Communication. Honorable Mention. *2019*
6. Three Extra Effort Awards for establishing MTED’s Young Researchers’ Writing Group, serving on the organization committee for a post AAEA workshop, and contributing to an ERS employee satisfaction survey. *2018*
5. The Helios—Research, Staff Analysis, and Outlook. Honorable Mention. *2017*
4. Gianinni Foundation: Agricultural and Resource Economics Update. Award for The Most Downloaded Article 2012–2013. Also featured as the most popular over five years.
3. UC Davis Department of Agricultural & Resource Economics Block Grant. *2009–2010*
2. Departmental Citation “conferred in recognition of outstanding economic undergraduate accomplishment.” *2008*
1. NCAA Academic All American. *2005–2007*

MENTORING AND STUDENT OUTREACH

5. Presentation: Federal statistical research and mid-career pivots. University of California, Davis Department of Agricultural and Resource Economics. *2023*
4. Founder and organizer of the MTED/ERS Research Writing Group. *2016–2023*
3. Farm Foundation Agricultural Scholars Program mentor. *2021*
2. New Employee Mentoring, MTED. *2016–2020*
1. Graduate Student Mentoring, University of California, Davis. *2012–2014*

COMPUTER SKILLS

- R, Matlab, and Stata—sample code [\[link\]](#)
- L^AT_EX (including Beamer, Bibtex, and Overleaf) and the Microsoft Office Suite (Word, Excel, PowerPoint, Onenote, and Endnote)

REFEREE ACTIVITY

- *Journal of Preventative Veterinary Medicine*, 2 articles
- *Journal of the American Veterinary Medical Association*
- *Food Policy*, 2 articles
- *USDA - Economic Research Service*
- *American Journal of Agricultural Economics*, 5 articles
- *Australian Journal of Agricultural and Resource Economics*
- *The Organization for Economic Cooperation and Development - Trade and Agricultural Directorate, Committee for Agriculture*, 5 articles
- *Biological Invasions*
- *EcoHealth*
- *Journal of Food Distribution Research*
- *Choices Magazine*
- *OSPRI New Zealand*
- *Western Economics Forum*

SERVICE

11. Organization committee member for the Food & Agricultural Economics seminar series. *2025*
10. Co-organizer for early career faculty lunches for PMDS faculty. *2025*
9. Organization committee member for the AAEE Workshop on Food Prices and Forecasting Sponsored by ERS. *2024*
8. Federal Forecasters Consortium Board member. *2020–2023*
7. Plant Breeders Working Group. *2020–2023*
6. USDA - Economic Research Service's COVID-19 Rapid Response Team. *2020*
5. Several ERS hiring and review committees *2017–2020*
4. Faculty Search Committee member, University of California, Davis. *2014*
3. Graduate Student Social Committee co-chair, University of California, Davis. *2011–2012*
2. Men's Water Polo co-captain, University of California, Davis. *2007–2008*
1. Men's Water Polo Student-Athlete Advisory Committee representative, University of California, Davis. *2006–2007*

OTHER EMPLOYMENT

Graduate Student Researcher, UC Davis

- Adaptive management of infectious disease. Funded by the NSF-NIH-USDA Ecology and Evolution of Infectious Diseases program. *2014–2015*
- Empirical analysis of endogenous behavioral response in swine flu transmission. Funded by an NIH grant "Modeling Anthropogenic Effects in the Spread on Infectious Disease." *2012–2014*
- Economic implications of a statewide chloropicrin ban on California Ag. Funded by the California Department of Food & Agriculture. *2011–2013*

Field Biologist, Blankinship and Associates. *2008–2009*

Water Polo Coach. *2006, 2010, 2013–2015*