JIM TEAL

University of Wisconsin–Madison
Agricultural & Applied Economics
Ph.D. Candidate

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EDUCATION

University of Wisconsin–Madison
Ph.D., Agricultural and Applied Economics — Expected May 2026
- Primary Field: Agricultural Economics
- Secondary Field: Industrial Organization
- Dissertation: *Three Essays on Agricultural Diversification*
- Committee: Paul Mitchell, Guanming Shi, and Andrew Stevens (Chair)

University of California–Davis
M.Sc., Agricultural and Resource Economics — 2019

University of Tennessee–Knoxville
B.A., Economics — 2015

PUBLICATIONS

Stevens, A. W., **J. Teal**, C. D. Court, G. DiGiacomo, M. Miller & H. H. Peterson (2024). Predicting Firm Diversification in Agri-Food Value Chains. *Journal of Food Distribution Research*, 55(3), 43-64.

Teal, J. & A. W. Stevens (2024). Race and Premium Misrating in the U.S. Federal Crop Insurance Program. *Applied Economic Perspectives and Policy*, 46(1), 169-188.

Stevens, A. W. & **J. Teal** (2024). Diversification and Resilience of Firms in the Agrifood Supply Chain. *American Journal of Agricultural Economics*, 106(2), 739-778.

WORKING PAPERS

Teal, J., "Crop Diversification and Banking Resilience: An Entropy-Based Evaluation of Agricultural Lending Performance." [Job Market Paper]

> Does agricultural diversification exposure of lending institutions decrease agricultural loan delinquency rates, and does the type of diversification matter? Using call reports from the Federal Deposit Insurance Corporation and planted acreage reports from the Farm Service Agency, I show that diversification does have an impact on the delinquency rates of agricultural loans. Contrary to the initial hypothesis, diversification increases delinquency rates for agricultural production loans and real estate loans secured by farmland. A one standard deviation increase in diversification exposure would raise production loan delinquencies by over 13% and real estate loan delinquencies by 11%. To determine if the type of diversification matters, I calculate diversification using the Shannon Entropy Index which can be separated into between group and within group diversification. The impact of different types of diversification on delinquency rates is highly context specific. Within group diversification has a larger negative impact than general diversification on real estate loans. For production loans, there is no difference between the different types of diversification. My results suggest that, in some situations, all diversification is not created equally, and some forms of diversification are actually risk increasing instead of risk mitigating.

WORKS IN PROGRESS

Teal, J., "Measurement Differences in Agricultural Diversification."

How do measures of agricultural diversification differ across different data sources of land cover? This research highlights how different data sources are not interchangeable and which data sources are best for certain types of projects. Primary diversification indexes are calculated using the Cropland Data Layer (CDL) and the Farm Service Agency (FSA) Crop Acreage Data, from 2009 to 2018. When selecting on highly productive counties and crops, CDL and FSA diversification are highly similar with a correlation coefficient of 0.82. When comparing county-year pairs across the entire data set, differences become more extreme with a lower correlation coefficient of 0.52. Differences also exhibit a non-random behavior violating classical measurement error. As CDL diversification increases, CDL diversification becomes increasingly more diversified than FSA.

Teal, J., "Downstream Intensification and Local Landscape Diversification: How Increased Demand for Agricultural Inputs Changes Local Landscapes"

How agricultural products are used has an impact on the intensity a crop is grown. The U.S. Renewable Fuel Standard greatly increased corn acreage. Similarly in the coming years, as the demand for biodiesel increases, soybean acreage will need to increase to match that demand. With growing urban pressure on farmlands and the current level of agricultural intensification in the United States, additional soybean acreage is likely to be substituted from other crops to soybeans instead of new farm acres being planted. How does the increased demand for an agricultural input change local landscape diversification? I answer this question using the introduction of soybean crush plants; ethanol refineries; meat, poultry and egg slaughter facilities; and local landcover from the Cropland Data Layer. When soybean crush plants; ethanol refineries; and meat, poultry and egg slaughter facilities enter an area, there is an increased demand for local agricultural inputs to supply these facilities. I take advantage of this variation to determine if local landscape diversification changes, or if these plants choose to open in locations with excess supply of the needed inputs.

RESEARCH & PROFESSIONAL EXPERIENCE

University of Wisconsin–Madison
Research Assistant — September 2020–Present
Supervisor: Dr. Andrew Stevens

United States Department of Agriculture
Economic Research Service Pathways Intern — Summer 2022
Supervisor: Dr. Michael Ollinger

Conservation Strategy Fund
Research Associate — November 2019–September 2020

Federal Reserve Board of Governors
Senior Research Assistant — July 2017–July 2018
Research Assistant — January 2016–June 2017
Supervisor: Dr. Gustavo Suarez & Dr. Nitish Sinha

University of Tennessee–Knoxville
Research Assistant — Summer 2022
Supervisor: Dr. Marianne Wanamaker

TEACHING EXPERIENCE

University of Wisconsin–Madison
AAE 421: Economic Decision Analysis
Teaching Assistant — Fall 2023 & Fall 2024

- Co-developed, implemented, and improved through iteration a course lab project analyzing data from a hypothetical on-farm precision experiment
- Overall performance rating from student evaluations 4.15 and 4.45 out of 5

University of California–Davis
ARE 100B: Intermediate Microeconomics
Reader Spring 2019
Teaching Assistant Winter 2019
- Overall effectiveness rating from student evaluations 4.7 out of 5

PRESENTATIONS

2025 - SCC-76: Economics and Management of Risk in Agriculture and Natural Resources Annual Meeting (Kansas City, MO).

2024 - American Society of Farm Managers and Rural Appraisers Wisconsin Chapter (Prairie du Sac, WI), Agricultural and Applied Economics Association (AAEA) Annual Meeting (New Orleans, LA), NC-1177: Agricultural and Rural Finance Markets in Transition Annual Meeting (St. Louis, MO)

2023 - United States Department of Agriculture Economic Research Services (Kansas City, MO)

2022 - NC-1177: Agricultural and Rural Finance Markets in Transition Annual Meeting (Detroit, MI)

FELLOWSHIPS, HONORS, AND AWARDS

Graduate Student Travel Award ($500) 2025
Applied Risk Analysis AAEA Section
Graduate Student Travel Award ($500) 2025
Agricultural Finance & Management AAEA Section
Student Research Grants Competition ($1,500) 2024
University of Wisconsin–Madison
Mueller Fellowship Recipient 2024
Farm Foundation Agricultural Scholar 2023

SERVICE

Graduate student representative for Ph.D. admissions 2024–2025
UW AAE graduate committee representitive 2024–2025
Abstract reviewer for AAEA 2024
President of the Taylor-Hibbard Club September 2021–July 2023
UW AAE graduate student organization
Referee for *Applied Economic Perspectives and Policy* 2022

PROFESSIONAL AFFILIATIONS

Agricultural & Applied Economics Association

SKILLS

Proficient in R, LaTeX, Markdown, data visualization, and Linux-based operating systems
Experience in MATLAB, SQL, ArcGIS, SAS, and STATA
Regular use of the Tidyverse libraries within R including dplyr, purrr, and ggplot2

REFERENCES

Andrew Stevens
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Agricultural & Applied Economics
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e-mail: AWStevens@wisc.edu
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Paul Mitchell
Professor & Department Chair
Agricultural & Applied Economics
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Guanming Shi
Renk Agribusiness Chair & Professor
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e-mail: GShi@wisc.edu
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