

Molly Sears (Van Dop)

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ACADEMIC POSITION **Michigan State University**, East Lansing, Michigan
Agricultural, Food, and Resource Economics *August 2022-Present*
Assistant Professor

EDUCATION **University of California, Berkeley**, Berkeley, California
PhD Agricultural and Resource Economics *May 2022*
M.S. Agricultural and Resource Economics *May 2018*

Purdue University, West Lafayette, IN
M.S. Agriculture and Resource Economics *May 2016*

University of Arizona, Tucson, AZ
B.S. Environmental and Water Resource Economics *May 2014*
B.S. Environmental Science *May 2014*

RESEARCH INTERESTS Environmental and resource economics; agricultural economics; applied microeconometrics; policy design and impact evaluation; water policy and management

PUBLICATIONS James Sears, Sofia B. Villas-Boas, **Molly Sears**, Carly Trachtman, Andrew W. Stevens, Linlin Fan. “Deniers and Compilers: Unpacking the Heterogeneous Effectiveness of U.S. Stay-at-Home Mandates During the COVID-19 Pandemic” (*Forthcoming, Journal of Applied Econometrics*)

Judy Long, Tao Liu, Sean Woznicki, Miljana Markovic, Oskar Marko, **Molly Sears**. “From Time-series Generation, Model Selection to Transfer Learning: A Comparative Review of Pixel-wise Approaches for Large-scale Crop Mapping.” *Computers and Electronics in Agriculture* (2026) ([Link](#))

Mauricio Tejera, S. Cordova, **Molly Sears**, Kurt Thelen, Philip G. Robertson, Berkley Walker. “Switchgrass (*Panicum virgatum*) and miscanthus (*Miscanthus × giganteus*) long-term yield patterns reveal consistent productivity declines.” *Global Change Biology: Bioenergy* (2025) ([Link](#))

Ashim Datta, Brook Wilke, Christine Charles, Marc Hasenick, Tayler Ulbrich, Maninder Singh, **Molly Sears**, and G. Philip Robertson. “Crop performance and profitability for the initial transition years of a regenerative cropping system in the Upper Midwest USA.” *Journal of Environmental Quality* (2025) ([Link](#))

Younsuk Dong, Stewart Tucker, Gurjeet Singh, Nawab Ali, Najme Yazdanpanah, Josh Vander Weide, **Molly Sears**. “Optimizing Soil Moisture Sensor Placement Through Spatial Variability Analysis in Orchards.” *Smart Agricultural Technology* (2025) ([Link](#))

Jamshid Jalali, Nishan Bhattarai, Jillian Greene, Tao Liu, Oskar Marko, Mirjana Radulovic, **Molly Sears**, Sean A. Woznicki. “Climate change threatens water resources for major crops in Serbia’s Danube Basin by mid-21st century.” *Journal of Hydrology: Regional Studies* (2025) ([Link](#))

Sampriti Sarkar, Preet Lal, **Molly Sears**, Frank Lupi. “Evaluating the impact of fertilizer and crop prices on phosphorus concentrations in Great Lakes watersheds” *Journal of the Agricultural and Applied Economics Association* (2024) ([Link](#))

Molly Sears, Karen M. Jetter, and Etaferahu Takele. “For California Perennial Crops Facing Climate Change, Water Use Stays Stable While Planting Density Increases” *California Agriculture* (2024) ([Link](#))

Peter Berck, **Molly Sears (corresponding author)**, Carly Trachtman, Rebecca Taylor & Sofia Villas-Boas, “Reduce, Reuse, Redeem: Deposit-Refund Recycling Programs in the Presence of Alternatives” *Ecological Economics* (2024) ([Link](#)). *Written in memory of Peter Berck, who passed in 2018.*

Sat Darshan S. Khalsa, Jessica Rudnick, Mark Lubell, **Molly Sears**, Patrick H. Brown “Linking agronomic and knowledge barriers to adoption of conservation practices for nitrogen management” *Frontiers in Agronomy* (2022) ([Link](#))

Liza Wood, Mark Lubell, Jessica Rudnick, Sat Darshan S. Khalsa, **Molly Sears**, Patrick H. Brown, “Mandatory information-based policy tools facilitate California farmers’ learning about nitrogen management” *Land Use Policy* (2022) ([Link](#))

Jessica Rudnick, Mark Lubell, Sat Darshan S. Khalsa, Stephanie Tatge, Liza Wood, **Molly Sears & Patrick H. Brown**, “A farm systems approach to the adoption of sustainable nitrogen management practices in California” *Agriculture and Human Values* (2021) ([Link](#))

Peter Berck, Marshall Blundell, Gabriel Englander, Samantha Gold, Shelley He, Janet Horsager, Scott Kaplan, **Molly Sears**, Andrew Stevens, Carly Trachtman, Rebecca Taylor, Sofia B. Villas-Boas, “Recycling Policies, Behavior and Convenience: Survey Evidence from the CalRecycle Program” *Applied Economics Perspective and Policy* (2021) ([Link](#))

Celine Bonnet, Carly Trachtman, **Molly Van Dop**, Sofia B Villas-Boas, “Food markets’ structural empirical analysis: a review of methods and topics” *European Review of Agricultural Economics* (2020) ([Link](#))

SUBMITTED
PAPERS

Sungmin Cheu*, **Molly Sears**. “Crop Insurance and Irrigation Behavior: The Conditional Role of Pumping Costs.” (*Revise and Resubmit, American Journal of Agricultural Economics*)

Noormah Rizwan*, Jamshid Jahali, **Molly Sears (corresponding author)**, Sean Woznicki, Tao Liu, Oskar Marko. “Irrigation adoption in a changing landscape: a combined economic and hydrologic approach”. (*Revise and Resubmit, Water Resources Research*)

Molly Sears, Jeffrey M. Perloff, Wolfram Schlenker, and Ximing Wu, “Crop Failures from Temperature and Precipitation Shocks, Implications for U.S. Crop Insurance.” (*Under Review*)

Molly Sears, Ellen Bruno, Michael Hanemann. “Strawberry Fields Forever: Valuing Recycled Water For Irrigation”. (*Under Review*)

Lachhab, Rania*, **Molly Sears**. “Silver Bullets: Cloud Seeding and Water Resources in California.” (*Under Review*)

PAPERS IN
PROGRESS

Molly Sears, James Sears, Mark Lubell, Jessica Rudnick, Patrick H. Brown, Elise Zufall, Sat Darshan S Khalsa. “Do nutrient management practices change nitrogen outcomes?”. (*In Prep*)

Saesol Kang*, **Molly Sears**. “Do Pollutant Limits on U.S. Waterways Improve Water Quality?”. (*In Prep*)

Sungmin Cheu*, **Molly Sears**. “The impact of crop insurance premium subsidies on wetland easement participation.” (*Working Paper*)

Caitlin Nelson*, **Molly Sears (corresponding author)**. “Alternative Water Sources: Opportunities and challenges in addressing global water vulnerability.” (*Working Paper*)

Molly Sears, Rania Lachhab*, Sat Darshan S Khalsa, Mark Lubell, and Patrick Brown. “Conservation practice adoption and advice: examining perceived barriers and uptake across growers and their technical advisers.” (*Working Paper*)

Noormah Rizwan*, **Molly Sears**, Sean Woznicki, Tao Liu, Oskar Marko. “Irrigation and crop choice in the Danube River Basin: implications for agricultural production and water resources.” (*Working Paper*)

Graduate students I supervise are indicated with an asterisk (*)

EXTENSION
PUBLICATIONS
AND REPORTS

Chris Bardenhagen, Emily Lavelly, Derek Plotkowski, Bill Shane, and **Molly Sears**. “Michigan Peach Cost of Production 2024.” MSU Extension Bulletin E3537. September 26, 2025.

Chris Bardenhagen, Chris Galbraith, and **Molly Sears**. “Michigan Cabbage Cost of Production 2024.” MSU Extension Bulletin E3532. September 4, 2025.

Chris Bardenhagen, Rufus Isaacs, Carlos Garcia-Salazar, **Molly Sears**, and Cheyenne Sloan. “Michigan Blueberry Cost of Production 2024.” MSU Extension Bulletin E3529. June 17, 2025.

Sungmin Cheu*, **Molly Sears**, and Younsuk Dong. “When should you retrofit your center pivot irrigation system?” MSU Extension Article and Decision Support Tool. May 30, 2025.

Chris Bardenhagen, Alan Ker, Jonathan LaPorte, **Molly Sears**, Frank Wardynski. “Season wrap-up for Farm Policy & Risk Management Series.” MSU Extension Article. February 20, 2025.

Jonathan LaPorte, **Molly Sears**, and Alan Ker. “MSU Farm Bill Analyzer 2025”. MSU Extension Decision Support Tool. January 7, 2025.

Jonathan LaPorte, **Molly Sears**, and Alan Ker. “MSU Extension to hold discussion on 2025 Farm Bill commodity program decisions.” MSU Extension Article. December 23, 2024.

Jonathan LaPorte, **Molly Sears**. “MSU to host Marketing and Input Strategies program to discuss securing profits and minimizing input costs.” MSU Extension Article. November 14, 2024.

Jonathan LaPorte, **Molly Sears**. “Review your break-even grain prices to secure profits or minimize losses.” MSU Extension Article. October 30, 2024.

Jonathan LaPorte, **Molly Sears**. “Marketing spotlighted in new season of risk management series from MSU Extension.” MSU Extension Article. October 30, 2024.

Caitlin Nelson*, **Molly Sears**, Younsuk Dong, and Lyndon Kelley. “Analyzing the costs of

energy for irrigation in Michigan.” MSU Extension Article. September 13, 2024.

Sungmin Cheu*, **Molly Sears**. “SCO Insurance Program and its use in Michigan.” MSU Extension Article. March 1, 2024.

Jonathan LaPorte, **Molly Sears**. “MSU Farm Bill Analyzer 2024.” MSU Extension Article. December 8, 2023.

Younsuk Dong, Lyndon Kelley, Eric Anderson, and **Molly Sears**. “The importance of checking irrigation system uniformity.” MSU Extension Article. August 18, 2023.

Matthew Gammans, Alan Ker, and **Molly Sears**. “Drought Resources for Michigan Farmers.” MSU Extension Article. June 15, 2023.

Peter Berck, Gabriel Englander, Samantha Gold, Yulei He, Janet Horsager, Scott Kaplan, Andrew Stevens, Rebecca Taylor, Carly Trachtman, **Molly Van Dop**, Sofia Villas-Boas. “Convenient Beverage Recycling in California: A Report to the California State Legislature.” CalRecycle. June, 2019.

Graduate students I supervise(d) are indicated with an asterisk (*)

GRANTS

Environmental Defense Fund: Addressing gaps in field-crop research that matches on-farm nitrogen management (\$27,000 total, \$27,000 share)

Environmental Defense Fund: Modeling Producer Decision-Making for Adaptive and Sustainable Crop Systems (\$85,000 total, \$85,000 share)

Michigan Department of Agriculture and Rural Development: Empowering Michigan Farmers: An AI-Based Forecasting and Management System for Building Resilient Agriculture (AI4AgSys) (\$1,250,000 total, \$115,000 share)

National Science Foundation: Global Center: International Research Center for Enhancing Plant Resilience (\$5,000,000 total, \$500,00 share)

Michigan Department of Agriculture and Rural Development: BRACE: Building Resilience in Agriculture through Climate-smart Practices and Socioeconomic Evaluation (\$1,250,000 total, \$100,000 share)

Michigan Department of Agriculture and Rural Development: Ensuring the success of Michigan farms in the face of climate change: Using linkages between soil health and greenhouse gas emissions to enhance the resilience of Michigan field crops. (\$1,250,000 total, \$110,000 share)

Michigan Soybean Committee: Enhancing crop yield resilience and protecting water resources with climate-smart adaptation: A system’s approach of stacking cover crops, nutrient

management, and water management practices.(\$10,000 total, \$1,000 share)

USDA Risk Management Agency: Cost of Production Study and Expense Budgets for Michigan Cabbage and Peaches (\$51,267.44 total, \$4,954.99 share)

NASA: Water Scarcity in the Serbian Danube: Agricultural land use change and irrigation (\$449,817 total, \$177,141 share; added as Co-PI in Fall 2023)

Michigan Department of Agriculture and Rural Development: 2022 Farm Innovation Grant – Improving Irrigation Efficiency in Blueberry Orchards Using an IoT-based Automatic Smart Irrigation System (\$200,000 total, \$60,000 share)

MSU Project GREEN: Sustainable Water Management in Agriculture through an Irrigation System Efficiency Program (\$50,000 total, \$30,000 share)

Fertilizer Research and Education Program, California Department of Food and Agriculture: Project 16-0620

TEACHING
EXPERIENCE

Economics of Environmental Resources: AFRE 829
Michigan State University

Spring 2026

Public Policy in the Agri-Food System: AFRE 300
Michigan State University

Spring 2023-2026

Commodity Marketing: AFRE 232
Michigan State University

Fall 2025

Environmental Economics and Policy: EEP C101
UC Berkeley

Summer 2019

Graduate Student Instructor Pedagogy Workshop: ARE 375
Graduate Student Instructor for Professor Sofia Villas-Boas

Fall 2018

Natural Resource Economics: EEP C102
Graduate Student Instructor for Professor Larry Karp

Fall 2016-2017

Financial Economics: ECON 136
Graduate Student Instructor for Dr. Raymond Hawkins

Spring 2017

AWARDS AND
FELLOWSHIPS

2018 Outstanding Graduate Student Instructor Award,

Department of Agricultural Economics, UC Berkeley
2017-2019 Environment and Society: Data Science for the 21st Century Fellow,
NSF Traineeship Program, UC Berkeley
2015 Graduate Student Extension Competition: *Second Place,*
Agricultural and Applied Economics Association
2014 University of Arizona Outstanding Senior,
Western Agricultural Economics Association

SERVICE

National and Professional Service

Referee: American Journal of Agricultural Economics; Water Resources Research; Canadian Journal of Agricultural Economics; Case Studies in the Environment; California Agriculture; Journal of the Agricultural and Applied Economics Association; Journal of Policy Analysis and Management; AAEA Conference Abstract Reviewer

Grant Review: USDA-NIFA; Wisconsin Sea Grant

W5190 Multi-State Hatch: President, 2025–Present; Vice President, 2024–2025; Secretary, 2023–2024

College Service

CANR Undergraduate Research Program Committee: 2024–2026

Departmental Service

Department Advisory Committee: 2024–2026

Graduate Program Committee: 2025–Present

Seminar Committee: Chair, 2022–2025

Graduate Admissions Committee: 2022–2024

Search Committees (AFRE and MSU Extension): Spring 2024; Fall 2024 Berkeley

Economists for Equity: Leadership Board, 2020–2021

GRADUATE STUDENTS SUPERVISED

Major Professor (*initial appointments post-graduation in parentheses*)

Rania Lachhab (PhD, AFRE). 2022-2024.

UC Berkeley (Postdoc)

Sungmin Cheu (PhD, AFRE). 2023-2025.

Montana State University (Asst. Professor)

Caitlin Nelson (MS, AFRE). 2023-2025

North Dakota Dept. of Water Resources

Noormah Rizwan (PhD, AFRE, co-chair with James Sears). 2023-present

Saesol Kang (PhD, AFRE). 2022-present

Yue Wang (PhD, AFRE). 2025-present

Yuqing Liu (MS, AFRE). 2025-present

Committee Member

Seowoo Lee (PhD, AFRE). 2022-2025

Sam Tucker (PhD, Econ). 2023-present
 Leslie Alex (PhD, AFRE). 2024-present
 Rachel Drobnak (PhD, CSS). 2024-present
 Dabit Bista (PhD, AFRE). 2025-present
 Tess Chargo (MS, URP). 2026-present

RESEARCH SEMINARS AND PRESENTATIONS	NBER Risk and Risk Management in the Agricultural Economy Meeting	<i>November 2025</i>
	15th Annual MSU/UM Energy & Environmental Economics Day	<i>August 2025</i>
	Agricultural and Applied Economics Association Annual Meeting	<i>July 2025</i>
	University Council on Water Resources Annual Meeting	<i>June 2025</i>
	Michigan State University, Departmental Seminar	<i>April 2025</i>
	Michigan State University, Department of Geography Colloquium	<i>September 2024</i>
	14th Annual MSU/UM Energy & Environmental Economics Day	<i>August 2024</i>
	Agricultural and Applied Economics Association Annual Meeting	<i>July 2024</i>
	Joint Workshop of the GOFC-GOLD SCERIN and MedRIN Networks	<i>July 2024</i>
	Grand Valley State University Annis Water Resources Institute	<i>April 2024</i>
	University of Rhode Island, Departmental Seminar	<i>March 2024</i>
	Kellogg Biological Station	<i>February 2024</i>
	Kansas State University, Departmental Seminar	<i>September 2023</i>
	Agricultural and Applied Economics Association Annual Meeting	<i>August 2023</i>
	Western Economics Association International Annual Meeting	<i>July 2023</i>
	Association of Environmental and Resource Economists Annual Meeting	<i>June 2023</i>
	Environmental and Resource Economics Workshop at Illinois	<i>October 2022</i>
	University of Idaho, Department Seminar	<i>November 2021</i>
	Agriculture and Natural Resources Seminar, UC Berkeley & UC Davis	<i>November 2021</i>
	University of Georgia, Department Seminar	<i>October 2021</i>
	University of Nevada Reno, Department Seminar	<i>October 2021</i>
	University of California, Berkeley, Department Seminar	<i>September 2021</i>
	Online Summer Workshop in Environment, Energy, and Transportation	<i>September 2021</i>
	Agricultural and Applied Economics Association Annual Meeting	<i>August 2021</i>
	Social Cost of Water Pollution Workshop	<i>April 2021</i>
	Agricultural and Applied Economics Association Annual Meeting	<i>August 2020</i>
	Environmental and Resource Economics Seminar, UC Berkeley	<i>April 2020</i>
	International Conference on Research on National Brands, Barcelona	<i>June 2019</i>
	Conference on IO and the Food Industry, Toulouse	<i>June 2019</i>
	Association of Environmental and Resource Economists Annual Meeting	<i>June 2019</i>
	Giannini Agriculture and Resource Economics Student Conference	<i>April 2019</i>
	Environmental and Resource Economics Seminar, UC Berkeley	<i>February 2019</i>
	Giannini Agriculture and Resource Economics Student Conference	<i>April 2018</i>

EXTENSION SEMINARS AND PRESENTATIONS	Molly Sears, Lyndon Kelley. “The Value of Irrigation in Michigan.” Virtual. March 5, 2026. 35 participants
	Molly Sears, Jonathan LaPorte. “Grain Marketing Strategies.” Virtual. March 17, 2025. 90 participants
	Jonathan LaPorte, Molly Sears, and Alan Ker. “2025 Farm Bill Program & Crop Insurance Decisions-What Fits Your Farm?” Virtual. February 11, 2025. 30 participants
	Jonathan LaPorte, Molly Sears, and Alan Ker. “2025 Farm Bill Program & Crop Insurance

Decisions-What Fits Your Farm?" Virtual. January 21, 2025. 30 participants

Jonathan LaPorte, **Molly Sears**. "Marketing and Input Strategies." Virtual. December 3, 2024. 30 participants

Jonathan LaPorte, **Molly Sears**. "Marketing and Input Strategies." Virtual. November 7, 2024. 10 participants

Molly Sears. "Grain Marketing Outlook." Field Crops Virtual Breakfast Series. September 12, 2024. 160 participants.

Molly Sears. "Economics of Carbon Credits." Michigan Farm Bureau Carbon Credits Task Force Meeting. June 28, 2024. 10 participants

Jonathan LaPorte, **Molly Sears**, and Elliot Alfredson. "2024 Farm Bill Program & Crop Insurance Decisions-What Fits Your Farm?" Virtual. February 13, 2024. 30 participants

Molly Sears. "Do nutrient management practices change nitrogen outcomes." Irrigated Lands Regulatory Program Stakeholder Meeting. Virtual January 31, 2024. 100 participants

Molly Sears. "Trends in irrigation and innovation." Great Lakes Crop Summit. January 24, 2024. 70 participants

Jonathan LaPorte, **Molly Sears**, and Elliot Alfredson. "2024 Farm Bill Program & Crop Insurance Decisions-What Fits Your Farm?" Virtual. January 23, 2024. 30 participants

Molly Sears. "The Value of Irrigation in Michigan." Michigan Agri-Business Association Winter Conference. January 10, 2024. 40 participants

Molly Sears. "Valuing Irrigation in Michiana." Michiana Irrigators Association Winter Educational Meeting. December 15, 2023. 70 participants

Molly Sears. "Water Policy: Current Trends And Considerations For The Great Lakes And Beyond." Great Lakes Expo. December 6, 2023. 40 participants

Molly Sears. "Specialty Crops Outlook." Michigan Agricultural Credit Conference. October 24, 2023. 90 participants

Molly Sears and Matthew Gammans. "Agricultural Carbon Credits and Water Policy." National Farm Business Management Conference. June 13, 2023. 100 participants

Molly Sears. "Water Policy, Quantity and Withdrawal: Nationally, and in the Great Lakes" Michigan Water Day. February 27, 2023. 40 participants

Jonathan LaPorte, Betz, Roger, and **Molly Sears**. “2023 Farm Bill Program & Crop Insurance Decisions-What Fits Your Farm?” Virtual. February 21, 2023. 25 participants

Jonathan LaPorte, Betz, Roger, and **Molly Sears**. “2023 Farm Bill Program & Crop Insurance Decisions-What Fits Your Farm?” Virtual. January 17, 2023. 30 participants

Molly Sears. “Water Quantity and Withdrawal Nationally, and in the Great Lakes” Michigan Agri-Business Association Winter Conference. January 10, 2023. 60 participants

Molly Sears. “Water Policy: Historical Legacy and Current Challenges in California and Michiana”. Michiana Irrigators Association Winter Educational Meeting. December 16, 2022. 60 participants.

Molly Sears. “Specialty Crops Outlook”. Michigan Agricultural Credit Conference. October 25, 2022. 100 participants

Molly Sears. “Agricultural Policy Update”. Camp Wa Wa Sum Extension Retreat. September 12, 2022. 12 participants