

JOSE MARÍA MARTÍNEZ

Ph.D. Candidate

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EDUCATION

- 2021-2025 **Ph.D. in Agricultural, Food, and Resource Economics**, (*Summer 2025*),
Michigan State University,
Field: Agricultural and Development Economics
Committee: M. Maredia (Chair), S. Liverpool-Tasie, D. Ortega, and J.M. Wooldridge.
- 2015-2016 **M.Sc. in Applied Economics**,
Universidad del Valle (Colombia)
- 2010-2014 **B.A. (Hons.) in Economics**,
Universidad del Valle (Colombia)

INTERESTS: Agricultural development; Applied econometrics; Development economics; Agricultural policy; Welfare economics; Climate change; Empirical methods for field research.

DISSERTATION CHAPTERS

Sweating Bullets: Heat, High-Stakes Evaluations, and the Role of Incentives,

with V. Zuluaga and A. Buriticá.

[Revise & Resubmit, *Environmental and Resource Economics*]

We study the effect of temperature on students' performance and how changes in the incentives to study alter this impact in the context of high-school exit exams in Colombia. We show that temperature increases have a negative impact on exam scores, particularly among urban students. Conversely, rural students exhibit slightly positive effects. Leveraging time-use data, we find evidence of individuals in rural areas responding to increases in temperature by reallocating time towards off-farm activities, which are human capital intensive. Additionally, the announcement of a national scholarship program, which introduced exogenous variation in exam stakes, reveals that heightened student effort exacerbates the temperature's impact on scores. In particular, an interquartile change in the exposure to this program increases the impact of temperature on exam scores by 11.9%. This underscores the intricate relationship between incentive-based policies and the challenge of rising temperatures. As global temperatures continue to rise, understanding this dynamic is crucial for informing effective educational policy.

Impact of Introduced Pastures in Colombian Lowland Ranching,

with R. Labarta and M. Maredia.

[Submitted, *Environment and Development Economics*]

The adoption of higher-nutrient grasses, such as *Brachiaria*, offers substantial long-term economic and environmental benefits for ranchers by enhancing soil health and pasture productivity. In Latin America, where ranching frequently occurs on marginal lands, these more nutritious and resilient grass varieties are being introduced to improve outcomes. This study investigates the effects of adopting these introduced pastures on productivity and revenue in Colombia's leading beef-producing regions. Our analysis reveals that 66% of pastureland among sampled ranchers is now planted with these grasses. Adoption rates are negatively correlated with factors such as distance from technological dissemination centers, historical violence, and disrup-

tions in transportation and trade. Transitioning from native savannas to introduced pastures significantly boosts productivity, particularly when combined with practices like weed control and fertilization. Although yield improvements are below those suggested by agronomic trials, revenues per hectare increase notably. These results emphasize the value of promoting introduced pastures for sustainable ranching.

Heat, Yields, and Incidental Truncation,

[*In progress*]

Recent research highlights the significant impact of climate change on agricultural productivity, primarily through econometric analyses connecting crop yields to high heat exposure at the farm level. Many of these studies operate under the assumption that a farm's presence in a sample during an agricultural season is random. However, other literature suggests that farmers' crop choices are influenced by climate, raising concerns about potential bias from incidental truncation. This study examines sorghum production data from the United States and provides evidence that the effect of heat may be overestimated. I argue how this difference is potentially connected to adaptation effects.

ONGOING WORK

Brewing Sustainability: The Need for Increased Agricultural R&D Investments in the Global Coffee Sector,

[Submitted, *World Development Sustainability*] [[White Paper Version](#)]

(Maredia, M., and **Martinez, J.M.**)

Estimating Yield Benefits and Adoption of Improved Bean Varieties in Central America and Haiti: New Insights,

[*In progress*]

(Reyes, B., Maredia, M. **Martinez, J.M.**, Gomez, L., Rosas, J.C., and Miranda, A.)

PEER-REVIEWED PUBLICATIONS

2023 [Market participation of small-scale rice farmers in Eastern Bolivia,](#)

Journal of Agricultural and Applied Economics, 55(3): 471-491.

(Lopera, D.C., González, C., and **Martinez, J.M.**)

[Impacts of the joint adoption of improved varieties and chemical fertilizers on rice productivity in Bolivia: Implications for Global Food Systems,](#)

Frontiers in Sustainable Food Systems, 7:1194930.

(**Martinez, J.M.**, Labarta, R.A., and González, C.)

2021 [Joint adoption of rice technologies among Bolivian farmers,](#)

Agricultural and Resource Economics Review, 50(2): 252-272.

(**Martinez, J.M.**, Labarta, R.A., Gonzalez, C., and Lopera, D.C.)

[Multivariate analysis of the adoption of cacao productive technologies: Evidence from a case study in Colombia,](#)

Economía Agraria y Recursos Naturales, 21(1): 79-102.

(**Martinez, J.M.**, and Martínez-Pachón, E.)

[Sensory dimensions of peach-palm fruit \(*Bactris gasipaes*\) and implications for future genetics,](#)

Agronomía Mesoamericana, 32(1): 77-92.

(**Martinez, J.M.**, Moreno-Caicedo, L.P., and Loaiza-Loaiza, O.)

Measuring the effect of long-term pitfall trapping on the prevalence of epigeal arthropods: A case study in the Pacific Coast of Colombia,
Sociobiology, 68(2): e5928.
(**Martinez, J.M.**, Tarazona, R., Löhr, B., and Narváez, C.A.)

- 2018 **Household determinants of the adoption of improved cassava varieties using DNA fingerprinting to identify varieties in farmer fields: A case study in Colombia**,
Journal of Agricultural Economics, 69(2): 518-536.
(Floro, V.M., Labarta, R.A., Becerra, L.A., **Martinez, J.M.**, and Ovalle, T.M.)

RESEARCH EXPERIENCE

- 2021–Present **Graduate Research Assistant**, Michigan State University,
Department of Agricultural, Food, and Resource Economics,
East Lansing, MI.
- 2018–2021 **Research Fellow**, AGROSAVIA – Colombian Corporation of Agricultural Research,
Palmira Research Center,
Cali, Colombia.
- 2019–2020 **Visiting Scholar**, Michigan State University,
Visiting International Professional Program & AFRE,
East Lansing, MI.
- 2019 **Project Leader**, Universidad del Valle,
Office of Extension and Outreach & Economics Department,
Cali, Colombia.
- 2014–2018 **Research Associate**, Alliance of Bioversity International & CIAT,
Applied Economics Lab,
Cali, Colombia.

TEACHING EXPERIENCE

- Spring, **Instructor of Record**, Michigan State University,
Summer & *Department of Agricultural, Food, and Resource Economics*,
Fall 2024 Course: World Food, Population, and Poverty (AFRE 206),
East Lansing, MI.
- Fall 2023 **Teaching Assistant**, Michigan State University,
Department of Agricultural, Food, and Resource Economics,
Course: World Food, Population, and Poverty (AFRE 206),
East Lansing, MI.
- 2017–2020 **Adjunct Professor**, Universidad Autónoma de Occidente,
Economics Department,
Courses: Econometrics II, Microeconomics III (Welfare Economics & General Eq.),
Cali, Colombia.
- 2017 **Adjunct Professor**, Universidad del Valle,
Economics Department,
Course: Econometric Methods for Impact Evaluation,
Cali, Colombia.

SKILLS

Software abilities: Stata, \LaTeX , RStudio (*basic*), Q-GIS (*basic*).

Languages: English (*fluent*), Spanish (*native*).

SERVICE

2023–2024 **President, Graduate Student Organization**,
Michigan State University, *Department of Agricultural, Food, and Resource Economics*.

2018–Current **Subject Editor in Agricultural Economics and Rural Development**,
Ciencia y Tecnología Agropecuaria, *Journal edited by AGROSAVIA, Colombia*.

2020–2021 **Alumni Representative in the Undergraduate Policy Council**,
Universidad del Valle (Colombia), *Economics Department*.

2019–2021 **President & Liaison, Inter-Network Innovation Committee**,
AGROSAVIA, *Palmira Research Center*.

Referee Service: Journals and Conferences, *Agricultural and Resource Economics Review*,
Journal of Agricultural and Applied Economics, *Ciencia y Tecnología Agropecuaria*, *Revista Agronomía Colombiana*; 2024 AAEA Annual Meeting, 2024 ICAE Conference.

PRIZES AND RECOGNITION

2021 **Sustainable Michigan Endowed Project (SMEP) Ph.D. Fellowship**,
Michigan State University, *College of Agriculture and Natural Resources*.

2019 **Norman E. Borlaug International Research Fellowship**,
United States Department of Agriculture, *Foreign Agricultural Service*.

2016 **Outstanding Masters' Thesis Award**,
Universidad del Valle (Colombia), *Economics Department*.

2014 **First Class Honours in Economics**,
Universidad del Valle (Colombia), *Economics Department*.

2010-2014 **Outstanding Academic Performance Scholarship**, [All undergraduate semesters]
Universidad del Valle (Colombia), *Economics Department*.

CONFERENCE PRESENTATIONS

2024 **VIII Colombian Economics Congress at Universidad de los Andes**,
Bogotá, Colombia. (*Forthcoming*)

AAEA Annual Meeting,
New Orleans, LA.

32nd International Conference of Agricultural Economists,
New Delhi, India.

Latin American Section of the AAEA Webinar/Workshop Series,
(Virtual) Las Cruces, NM.

AERE Summer Conference,
Washington, D.C.

2023 **University of Houston, Economics Student Brown Bag Seminar**,
(Virtual) Houston, TX.

- MSU AFRE Graduate Student Research Symposium,**
East Lansing, MI.
- 2017 **VIII Bolivian Conference of Development Economics,**
Cochabamba, Bolivia.
- 2016 **XII National Microeconomics Symposium,**
Bogotá D.C., Colombia.
- 2015 **29th Triennial Conference of Agricultural Economists,**
Milan, Italy.
- 2013 **IX National Microeconomics Symposium,**
Bogotá D.C., Colombia.

ASSOCIATION MEMBERSHIPS

American Economic Association, Agricultural & Applied Economics Association, International Association of Agricultural Economists, Southern Agricultural Economics Association.

REFERENCES

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Resource Economics,
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Impact Assessment.
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