

SARAH C. SMITH

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RESEARCH FIELDS

Agricultural Economics, Econometrics, Extreme Weather, Climate Change, Adaptation, Remote Sensing

EDUCATION

Ph.D. in Agricultural and Resource Economics 2018–Present
University of California, Davis

Bachelor of Resource Economics (Honours Class 1 and the University Medal) 2012–2015
University of Sydney

EMPLOYMENT

Research Assistant 2019–Present
University of California, Davis
Research Assistant for Timothy K.M. Beatty and Julian M. Alston

Teaching
University of California, Davis
Instructor for ARE 139: Futures & Options Markets 2021
Evaluation score: 4.7/5.0
Teaching Assistant for ARE 172: Financial Management of the Firm 2019
Evaluation score: 4.9/5.0

Economist and Commodity Analyst 2016–2018
Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

RESEARCH

Publications

Smith, S.C. & D. Ubilava (2017). The El Niño Southern Oscillation Cycle and Growth in the Developing World. *Global Environmental Change* 45, 151-164.

Working Papers

Smith, S.C. Doing More with Less: Margins of Response to Water Scarcity in Californian Irrigated Agriculture.

Abstract

Adapting to less water is critical to a food-secure future in light of an increasingly variable and scarce water supply. Farmers respond to water scarcity by changing if they plant and what they plant, but evidence is inconclusive on whether farmers change how they produce. I use novel proprietary data on a panel of profit-maximizing farmers collected by a large tomato processor. During a water scarce year, growers change their growing practices to use water

more efficiently – insights unavailable in publicly available or survey data. I find water access priority drives how growers conserve water: growers with low-priority access rely on more costly margins, such as fallowing or changing growing practices in ways that reduce revenue. This demonstrates that agricultural producers engage in water-saving practices more than is typically assumed and these practices help growers avoid fallowing, a much more costly response.

Smith, S.C. & T.K.M. Beatty. Extreme Temperatures and Field-Level Crop Quality, Yield, and Revenue.

Abstract

How does weather affect the revenue of irrigated, specialty crop producers? We decompose the mechanisms by which temperature exposure drives changes in grower revenue: quality and yield. Yield is well-studied but quality less so. Quality is critical for agricultural production because of its role in contractual arrangements and price determination. We use proprietary data for every field contracted with a large tomato processor operating in California's processing tomato industry. In contrast to earlier work on irrigated crops, we find that extreme temperatures negatively affect both yield and quality, leading to reduced grower revenue. While the yield effect dominates, failing to account for quality significantly underestimates the true effect of temperature exposure on revenue by up to 20%. A back-of-the-envelope counterfactual analysis finds that warming trends reduced grower revenue by an average of 2.4% per year.

Cuffey, J., K. Newby & S. Smith. The Politics of Work and Race in the Supplemental Nutrition Assistance Program.

Beatty, T.K.M., A.E. Hill & S. Smith. Welfare Program Eligibility and Participation Among US Farmworkers.

Outreach Material

Smith, S. (2017). Wheat. *Agricultural Commodities: December quarter 2017* ABARES, Canberra.

Smith, S. (2017). Wheat quality explained. *Agricultural Commodities: September quarter 2017* ABARES, Canberra.

Smith, S. (2017). Wheat. *Agricultural Commodities: September quarter 2017* ABARES, Canberra.

Smith, S. (2017). Wheat. *Agricultural Commodities: June quarter 2017* ABARES, Canberra.

Smith, S. (2017). Wheat outlook. *Agricultural Commodities: March quarter 2017* ABARES, Canberra.

Smith, S. & A. Cameron (2017). Horticulture outlook. *Agricultural Commodities: March quarter 2017* ABARES, Canberra.

Brown, A., J. Fell, S. Smith & H. Valle (2016). Australian grains: Outlook for 2016–17 and industry productivity. *ABARES report prepared for the Grains Research and Development Corporation* ABARES, Canberra.

Smith, S. (2016). Wheat. *Agricultural Commodities: December quarter 2016* ABARES, Canberra.

Smith, S. (2016). The EU almond industry. *Agricultural Commodities: September quarter 2016* ABARES, Canberra.

Smith, S. (2016). Wheat. *Agricultural Commodities: September quarter 2016* ABARES, Canberra.

Smith, S. & J. Hogan (2016). Trade in fresh fruit and vegetables. *Agricultural Commodities: June quarter 2016* ABARES, Canberra.

PRESENTATIONS AND SEMINARS

- 2022 AARES Annual Meeting (online); Agricultural Economics Workshop, UC Davis; AAEA Annual Meeting, Anaheim CA.
- 2021 Giannini Foundation of Agricultural Economics Student Conference (online); AAEA Annual Meeting, Austin TX.
- 2017 Seminar to Japanese Ministry of Agriculture, Forestry and Fisheries delegation, Canberra; ABARES Research Day, Canberra; Seminar to USDA delegation, Canberra; Guest Lecture “Commodity market analysis and forecasting”, University of Sydney.
- 2016 AARES Annual Meeting, Canberra; AARES NSW Branch, Sydney; AARES ACT Branch, Canberra; ABARES Research Day, Canberra.

RESEARCH GRANTS AND FELLOWSHIPS

- 2022 Provost’s Dissertation Year Fellowship, University of California, Davis
- 2021 Henry A. Jastro Graduate Research Scholarship Award
- 2021 Giannini Foundation of Agricultural Economics Grant \$30,000 (with T.K.M. Beatty)
- 2020 Giannini Foundation of Agricultural Economics Grant \$30,000 (with J.M. Alston)
- 2018 Non-Resident Tuition Fellowship, University of California, Davis
- 2013 The Belmore Scholarship, University of Sydney
- 2012 Faculty of Agriculture Undergraduate Merit Scholarship, University of Sydney

AWARDS AND HONOURS

- 2022 Crawford Fund Scholar
- 2021 AARES-Crawford Fund Award
- 2021 Scott McNiven Community Service Award, University of California, Davis
- 2016 Australian Agricultural and Resource Economics Society Undergraduate Award
- 2015 University Medal, University of Sydney
- 2015 Academic Merit Prize, University of Sydney
- 2015 Bruce Davidson Prize in Resource Economics, University of Sydney
- 2015 Dean’s List for Academic Excellence, University of Sydney
- 2015 John Neil Downing Memorial Prize in Practical Agriculture, University of Sydney
- 2014 Alan Randall Prize in Resource Economics, University of Sydney
- 2013 Warren F Musgrave Prize in Resource Economics, University of Sydney
- 2012 John Arthur Cran Prize in Agriculture, University of Sydney

ACADEMIC SERVICE

- 2021–Present **Graduate Student Liaison.** Agricultural & Applied Economics Association.
- 2018–2022 **Committee Member.** UC Davis ARE Social Committee.
- 2019–2022 **Co-Organizer.** UC Davis ARE and Economics Econometrics Reading Group.
- 2020–2021 **Co-President.** UC Davis ARE Graduate Student Association.
- 2020 **Co-Organiser.** UC Davis ARE Anti-Racism in Economics Reading Group.
- 2018–2019 **Committee Member.** Australasian Agricultural & Resource Economics Society ACT Branch.

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