

GRAP – Orians and Cash

Please note: For summer 2021, GRAP is offered as a **remote** opportunity. If conditions change (Tufts allows international travel, and the country where the research takes place allows incoming student researchers), we will consider allowing students to travel internationally.

Faculty: Colin Orians, Professor, School of Arts & Sciences; Sean Cash, Associate Professor, Friedman School of Nutrition Science & Policy

Project Locations: Remote work from home or at Tufts University/Medford, MA, Santa Maria de Dota, Costa Rica, and Heredia, Costa Rica

Dates: early June– early August 2021

Project Title: Building socio-ecological resilience across the supply chain in coffee

Project Details: Estimating farmer resilience – the capacity to absorb, adapt and transform to external disturbances – is a primary goal of scientists, policy makers, and the general public, hailed for its potential to bridge disciplines and to unify preventive and responsive measures to global change. Local resilience in internationally traded crops depend not only on farm level dynamics, but also on dynamics across the supply chain, including consumer demand. Production and quality tradeoffs are common in many globally traded perennial crops, and have consequences to the entire supply chain. Our interdisciplinary project uses the coffee supply chain, in Costa Rica, to quantify the impacts of tradeoffs to farmers, institutions and consumers. Previously we demonstrated that production tradeoffs are common and here we build on that work by examining the impact of farming practices on quality tradeoffs that can impact the entire supply chain. The primary tasks to be completed as part of this research experience include farmer and co-op representative surveys, plus data analysis of both interview and coffee production field data.

Tasks and Responsibilities of Research Assistant:

Remote work:

Professors Orians and Cash will plan to hire a Costa Rican to carry out the interviews, and the student will use data and transcriptions of prior surveys for their analysis. To ensure that students have a first-hand survey experience, Professors Orians and Cash, along with post-doctoral fellow Scott Frost, will plan to supplement a previous US consumer survey with new intercept surveys of consumers in the Boston area.

If international travel is allowed:

The student will travel to Costa Rica to conduct field work and farmer interviews in two locations within Costa Rica. Specifically, we will spend two weeks in Santa Maria de Dota (a region known to produce some of the best coffee globally) and two weeks in the Central Valley (a region that has seen coffee quality decline due to climate change). In Santa Maria, the student will modify the existing study sites established by doctoral student Gabriela Garcia to initiate a new rapid assessment of farmer approaches to enhancing resilience. The student will return to Tufts, where activities will include transcription of farmer surveys, coding of survey data, and data analysis of field data. In addition, the student will be posed with a question that they will use the data to address for their independent project and write-up.

Qualifications:

Applicants are required to be fluent in Spanish and have a stated interest in interdisciplinary research. Background in data preparation and statistics is desirable.

Description of Field Site:

The field site is in a small, rural town nestled in the coffee-covered mountains of Costa Rica. The farms are at a high elevation (1500-2000 meters) very close to a tropical cloud forest. WiFi access will likely be limited to the local cafes and restaurants, though cell service is good if students choose to purchase an international plan or a local SIM-card (requires an unblocked phone).

Housing in Costa Rica:

The student will stay in a hotel in San Jose before departing to Santa Maria, where Professors Oriens and Cash will rent an Airbnb house for everyone. The student should feel comfortable preparing most of their own meals at the field house.