

THE SCHOOL FOR FIELD STUDIES

DIRECTED RESEARCH ITALY

Center for Sustainable Food Systems · Greve in Chianti. A complete record of student research projects from the four most recent semesters.



SPRING 2026

2 projects · 8 student authors

FALL 2025

2 projects · 10 student authors

SPRING 2025

3 projects · 11 student authors

FALL 2024

4 projects · 13 student authors

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FACULTY ADVISORS

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SEMESTERS

FALL 2024 – SPRING 2026

ABOUT THIS GUIDE

Directed Research is the capstone of every SFS semester: students work in small teams with resident faculty on questions set by the needs of the host community and its ecosystems. This guide collects the Directed Research projects completed at the Center for Sustainable Food Systems in Greve in Chianti, Tuscany, over the four most recent semesters.

Projects are listed newest first. Each entry gives the project title, its faculty advisor or advisors, and the student authors with their home institutions. Each entry closes with a research summary drawn from the Center’s semester final report for that project. Where a project’s final paper carries a formal author abstract, that abstract replaces the summary and is labelled as such.

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FACULTY ADVISORS

Directed Research at the Center for Sustainable Food Systems was advised by 5 faculty and researchers across these semesters.

ADVISOR	PROJECTS	SEMESTERS
Dr. Filippo Randelli	3	Fall 2024, Spring 2025, Fall 2025
Dr. Riccardo Simoncini	3	Fall 2024, Spring 2025
Claudia Corti	2	Fall 2024, Spring 2025
Dr. Gherardo Biancofiore	2	Fall 2025, Spring 2026
Lorenzo Costa	1	Spring 2026

Center for Sustainable Food Systems · Greve in Chianti, Italy

01 A Multidisciplinary Approach to Developing Riparian Zones

Faculty advisor: Lorenzo Costa

Ellis Krusch¹, Maisun Kobal², Charlotte Harkrader³, Max Bosquet⁴

¹ Lehigh University, ² University of Colorado Boulder, ³ Occidental College, ⁴ Cornell University

RESEARCH SUMMARY

This project took a multidisciplinary approach to developing riparian zones — the vegetated margins along watercourses that buffer farmland from rivers, hold banks together, and carry much of what biodiversity remains in an agricultural landscape. The work is a standing community initiative rather than a single-semester exercise: it will run for at least one more semester, and the local government has expressed willingness to collaborate.

02 Effects of Different Agroecological Soil Practices in Tuscany: QBS-ar Index as a Tool for Assessing Soil Health

Faculty advisor: Dr. Gherardo Biancofiore

Julia Donaghy¹, Safiya Martinez², Moira Dowling³, Laura Ng⁴

¹ Elon University, ² Scripps College, ³ Fordham University, ⁴ Drexel University

RESEARCH SUMMARY

The QBS-ar index scores soil health by the community of microarthropods living in it, on the principle that the more soil-adapted the fauna, the better the soil. This project applied the index across Tuscan farms using different agroecological practices, comparing what each does to soil biology. The next step is to turn the method into a soil testing protocol that can be offered as a service to farmers around Greve, alongside research into whether those farmers see a need for soil quality testing on their own land.

Center for Sustainable Food Systems • Greve in Chianti, Italy

01 **Assessing the Impact of Agroecological Practices on Soil Health Using QBS-ar Index and Other Soil Quality Indicators: A Study in Tuscany, Italy**

Faculty advisor: Dr. Gherardo Biancofiore

Daniel Williams¹, Grace Ellsworth², Maeve Merrick³, Mary Parks⁴, Savannah Wickam⁵

¹ University of Colorado Boulder, ² Colorado College, ³ Sarah Lawrence College, ⁴ College of William and Mary, ⁵ University of Minnesota Twin Cities

RESEARCH SUMMARY

This project assessed the impact of agroecological practice on soil health across farms in Tuscany, pairing the QBS-ar microarthropod index with additional soil quality indicators. The advisor reports the students quickly mastered the instruments and techniques and that the time allotted was sufficient for the work. The principal difficulty was sampling for a biological index in autumn, when falling temperatures compress the window; starting one to two weeks earlier would help. Planned changes include more preparatory work on statistical analysis, a second biological index unrelated to soil such as pollinators, more farms around Greve in Chianti, and additional laboratory equipment.

02 **How Does Consumer Satisfaction Reflect Physiological Indicators of Produce Quality in Pears and Cauliflower Sold in Various Store Types Across the Florence–Greve Area?**

Faculty advisor: Dr. Filippo Randelli

Charles Donahue¹, Devon Holloway², Max Li³, Morgan Howard⁴, Tatum Watkins⁴

¹ Connecticut College, ² Kenyon College, ³ University of North Carolina/Chapel Hill, ⁴ Grinnell College

RESEARCH SUMMARY

This project asked whether what shoppers say about produce quality matches what can be measured in it, comparing consumer satisfaction against physiological indicators of quality for pears and cauliflower sold in different store types across the Florence–Greve area. The advisor's notes for the next iteration are practical: narrow the study area to Greve, begin data collection earlier, vary the time of day for customer interviews to reach a broader range of shoppers, avoid interviewing within earshot of the store owner, and choose produce better matched to the season.

Center for Sustainable Food Systems • Greve in Chianti, Italy

01 Catalysts of Change: A Preliminary Analysis of the Motivations to Pursue Organic Certification in Chianti Classico Agriculture

Faculty advisor: Dr. Riccardo Simoncini

Reilan Garczynski¹, Natalia Jacobs², Sophie Leight², Alexis Romanowsky³

¹ Hamilton College, ² Bates College, ³ The George Washington University

RESEARCH SUMMARY

Organic certification imposes real costs on a farm, so the question is what makes growers pursue it. This preliminary analysis examined the motivations behind organic certification among Chianti Classico producers, interviewing farmers about what drove the decision and what stood in the way. It opens a line of work at the Center on the economics and motivation of sustainable practice in the region's viticulture.

02 Analysis of Management Practices in Viticulture to Understand Their Sustainability in Chianti Classico

Faculty advisor: Dr. Filippo Randelli

Annika Harris¹, Jacob Savelle², Joshua Rooney³

¹ Tulane University, ² University of Minnesota/Twin Cities, ³ Harvard University

RESEARCH SUMMARY

This project analysed viticultural management practices across Chianti Classico to assess how sustainable they are in practice rather than on paper. Interviews with growers documented what is actually done in the vineyard, and the reasoning behind it, across farms at different stages of transition toward sustainable methods.

03 Lizard Presence as Bioindicators in Vineyards Across the Chianti Region: Assessment of the State of Biodiversity in the Agroecosystems of Chianti Classico

Faculty advisor: Claudia Corti

Clover Sinning¹, Mia Cohen², Lillie Austin³, Lucas Raffo⁴

¹ Lewis and Clark College, ² Hamilton College, ³ University of Colorado/Boulder, ⁴ University of Tennessee/Chattanooga

RESEARCH SUMMARY

Lizards are sensitive to pesticide load, ground cover, and the presence of field margins, which makes their occurrence a legible signal of how a vineyard is managed. This project surveyed lizard presence across vineyards in the Chianti region as an indicator of the state of biodiversity in Chianti Classico agroecosystems.

01 Identification of socio-economic characteristics and their influence on the delivery of ecosystem services by vineyards in Chianti Classico

Faculty advisor: Dr. Riccardo Simoncini

Andrew Bowers¹, Dryden Eliason², Eleanor Schwab³

¹ Hamilton College, ² Colby-Sawyer College, ³ Colorado College

RESEARCH SUMMARY

This project identified the socio-economic characteristics of Chianti Classico vineyards and tested how they influence the ecosystem services those vineyards deliver. Farmers were interviewed about their motivations, the constraints they face in pursuing sustainability, and payments received under the EU Common Agricultural Policy. Next steps are to interview further farms — small and medium in particular — toward a statistically meaningful sample, sharpen the questionnaire, and draw on Tuscany Region agencies, farmer associations, biodistrict representatives, and the Chianti Classico Consortium. The concept of “terroir” will be developed further as an analytical tool for assessing agricultural sustainability; the advisor notes the difficulty of establishing robust relationships between socio-economic data and ecosystem service delivery from a limited sample.

02 Assessing ecosystem services in the Chianti Classico region

Faculty advisor: Dr. Riccardo Simoncini

Bella Woodbury¹, Maizie Schaffner², Rhine Hazra³

¹ The College of Wooster, ² Grinnell College, ³ Amherst College

RESEARCH SUMMARY

This project assessed three ecosystem services in the Chianti Classico region: soil erosion control, water run-off control, and maintenance of the traditional agricultural landscape. A triangulation method was developed combining indicator analysis, GIS mapping, and farmer interviews. Next steps are to refine the choice of indicators, develop the GIS maps and interview questions further, and add more direct field observation. The advisor notes the analysis is complex enough that the work could be split into three separate projects, one per service, and plans to open contact with the land use planning office of the Commune of Greve.

03 Transition towards sustainable viticulture: A case study of the Chianti region

Faculty advisor: Dr. Filippo Randelli

Grace Callaghan¹, Audrey Francell², Jen Novick³, Hannah Skelton⁴

¹ University of California, Santa Barbara, ² Sewanee: The University of the South, ³ Kenyon College, ⁴ Oregon State University

RESEARCH SUMMARY

This case study examined how Chianti growers are transitioning toward sustainable viticulture, using a questionnaire the advisor describes as a great tool for drawing out information about new practices. What the year lacked was direct field analysis of what those practices do to biodiversity. The advisor has begun implementing a Soil Visual Assessment to monitor how soil changes under different practices through a set of bioindicators, to be added to the syllabus.

Biodiversity in agricultural settings of the Chianti area: The foundations for future research

Faculty advisor: Claudia Corti

Emma Pollock¹, Yonah Kalikov², Evelyn Price³

¹ Knox College, ² Colorado College, ³ Sewanee: University of the South

RESEARCH SUMMARY

This project laid the foundations for a continuing line of biodiversity research in the agricultural settings of the Chianti area, selecting bioindicators and establishing the approach to be used. Quantitative field data on those bioindicators were to be gathered the following spring. Because the biodiversity group was scheduled to interview farmers last, the advisor recommends allowing more time in future semesters to draw out what wildlife farmers observe on their land.

THE SCHOOL FOR FIELD STUDIES

Center for Sustainable Food Systems, Greve in Chianti, Italy. Titles, faculty advisors, student authors, and home institutions compiled from the SFS Directed Research project lists for Fall 2024, Spring 2025, Fall 2025, and Spring 2026.