

Providing Socially Disadvantaged Farmers with the Knowledge, Techniques and Practices to Survive and Thrive in the U.S. Agricultural System

Proposal submitted to the
2022/23 University of California Sustainable Agriculture Research & Education Program (UC SAREP)
Grants Program

by the Sustainable Systems Research Foundation (SSRF)
Santa Cruz, California

A. Relevance to Priority Areas/Topics

SSRF and its partners seeks a \$10,000 Education and Outreach Grant to extend and expand training and practice workshops for new and aspiring minority farmers in the Monterey Bay Region. The workshops are designed to provide such farmers with knowledge of and access to low-cost agricultural technologies and techniques that can improve productivity and profits, management and operations. The workshops focus on regenerative agriculture and techniques; small-scale agricultural technologies; tools and skills to increase productivity; and strategies for improving produce marketing and distribution. They also address farm management techniques, which are critical to survival in the U.S. agricultural system.¹

SSRF has experience in delivering such workshops. During Winter-Spring 2021-22 The Sustainable Systems Research Foundation is collaborating with Whiskey Hill Farms, the Community Alliance for Family Farmers, and local agricultural educators and extension agents, to provide a series of these training and hands-on workshops to a group of Latinx farmers, primarily from the Salinas area (these workshops are partially funded by a grant from Western SARE).

Small urban and suburban farms (less than 50 acres) are vital to the nation's supply of fresh produce and offer a critical alternative to large-scale, fossil-fueled monoculture agriculture with complex supply and distribution chains (Altieri, 2019; Hagey, Rice & Flournoy, 2012). Small-scale operations produce more (Aragon, et al, 2019; McDougall, et al, 2019) and healthier food per acre, use resources and labor more efficiently, build local economies more evenly, provide easier access to new, underrepresented, low-income and first generation and aspiring farmers and educate the public and students more effectively than large ones. Small-scale agriculture supports food and environmental justice, increases increase food security for those without reliable access to affordable and healthy food as well as local resilience in an increasingly unstable world, and reduces the dependence of urban areas on potentially unreliable supply chains that rely on complex and resource-intensive food production and transportation integration, whose vulnerability to disruption has become apparent during the pandemic lockdowns (Sanyé-Mengual, Orsini & Giorgio, 2018). Small-scale farms and gardens are also more attentive to the sustainability of their agricultural practices. Whether organic or not, they are in closer contact with the land, apply water and other inputs more carefully and can precisely monitor the conditions of soil and crops daily. They tend to apply fewer agricultural chemicals and rely more on biological methods to control pests. And small farmers are the guardians of the soil, avoiding large-scale industrial techniques of land management and pursuing soil regeneration as a necessity rather than an option.

B. Relevance to Target Audience

¹ The term "agricultural system" refers not only to farmers but also the USDA and state agencies, land grant universities, colleges and high schools and their agricultural curricula, distribution channels, markets, financial aid and bureaucracy.

This project is targeted primarily to new, aspiring and underrepresented, low-income and first generation owned and operated farms and farmers in the Monterey Bay Region of California. Although precise data are not available, the numbers of Latinx farmers on the California Central Coast is growing. According to the *USDA Agricultural Census* (Table 48, p. 702), in 2017 there were 14,600 Hispanic, Latinx and Spanish origin “producers” in California (out of a total of 128,500) on 11,000 farms (of a total of 70,500 farms) covering almost three million acres of land (out of 24.5 million acres in farms; id., Table 45, p. 668). There are at least 500 small Latinx owned and operated farms in the Monterey Bay region.

Latinx owned-and operated small farms operate face serious economic and social challenges to survival, especially where management and operating skills are concerned. The majority of Latinx farmers rent and farm small tracts of land, have very limited access to capital and experience significant language, bureaucratic and infrastructure barriers to success in the U.S. agricultural system (Ostrom, Cha & Flores, 2010). Many were farmers in Mexico and points south and became farmworkers after migrating to the United States. Some learned their craft at ALBA (The Agriculture and Land Based Training Association in Salinas, California); others rely on experience in their native countries and peer networks and assistance here in California (Calo, 2018).

Reaching out to Latinx farmers is not straightforward. They are weakly socialized into the U.S. agricultural system (Calo, 2018). They operate in a trust-based milieu rather than a purely competitive one. They have to navigate both the nearby social networks of extended families and neighbors and the remote bureaucratic market system of the U.S. agricultural system (Garcia-Pabón & Marcia Ostrom, 2015). For disadvantaged farmers, much practical knowledge comes from historical praxis in specific environments, passed from peer to peer and generation to generation (Mayo, 2020). Small farmers, whether immigrants or not, face a set of market-based obstacles to success: limited capital, low resilience in the event of crop failure, poor or no credit, high levels of competition as specific crops ripen simultaneously, low remuneration rates from distributors, high costs of energy, water, labor and other inputs, low revenues and profits, and more. Some of these are common to all farmers; others may arise from lack of knowledge and skills (e.g., bookkeeping), mismatch between practice and local conditions, bureaucracy and record-keeping.

Through interviews, conversations, surveys and our workshops, we have identified the following Latinx farmer needs:

1. **Management & operations:** Viable and relevant business models, especially in terms of operational financing, local supply chain structures and emerging opportunities, storage and marketing options to support managing production, farm branding to add market value and revenue resilience, new market opportunities in a robust regional-scale food distribution chain.
2. **Marketing:** Development and expansion of urban market opportunities via wholesale, retail and direct access to consumers, including regional Food Hubs to facilitate information sharing and cooperation, better matching of producers to buyers, and leveraging language and culture as fundamental assets in networking and marketing initiatives.
3. **Inputs & outputs:** Better understanding of relationships among labor, technology, land, and infrastructure in terms of cost management, crop selection, farming methods, storage and processing, local distribution, and customer demand; cooperative sharing of planning, costs, equipment.
4. **Resilience:** Responses to changes in land availability and cost, product demand, new opportunities, and disruptive challenges (such as climate change and the pandemic); information and knowledge about increasing environmental sustainability and managing inputs of critical

resources, such as soil conservation and restoration, carbon storage, climate impacts, and water use; risks and challenges arising from applicable regulations, environmental factors, food safety issues.

5. **Technology:** Knowledge, skills and applications regarding costs and benefits of specific technologies, techniques and practices for improved management of land and production, increased efficiency and yield, and communication and information exchange.

The target community has been involved in revising the original curriculum plan for this project, through group discussions during workshops. Participating Latinx farmers will be consulted at the end of the first workshop series to identify topics and issues that need to be addressed in the future. Extension agents and ag educators who work with the Latinx farming community are involved in the project and are experienced in design and delivery of resource needs, pedagogical methods and learning styles of the target community.

C. Goals and Objectives

Goal #1. Socially disadvantaged farmers will learn and apply principles and practices of regenerative and sustainable agriculture, about technologies that can increase farm productivity and incomes, and practices for protecting the natural resource base on their farms.

- Instruct workshop participants in the principles of sustainable and regenerative agriculture
- Provide direct access to and practice with agricultural technologies for small farms
- Offer opportunities for hands-on application on small research plots

Goal #2. Socially disadvantaged farmers will be provided with access to knowledge, techniques and skills needed to navigate the bureaucratic and competitive U.S. agricultural system.

- Instruct farmers in the skills and knowledge required to manage their farms
- Work with farmers to develop social media and branding to increase visibility
- Teach farmers about marketing and distribution and provide access to supportive distributors
- Assist farmers in navigating the U.S. agricultural system

Goal #3: Develop multilingual printed and digital resources targeted to socially disadvantaged farmers and communities for widespread distribution.

- Develop short bilingual how-to guides for specific educational and learning methods
- Develop bilingual resources for farmers, in print, on-line, for smart phones and in the field.
- Create an on-going program of workshops, trainings and hands-on learning at learning site.

D. Methods/Activities/Timetable

i. Education and outreach methods

- Initial outreach conducted through announcements, extension and farmer networks, with reliance on the latter to bring in other interested farmers.
- Workshop content is based on initial identification of appropriate topics, gleaned through interviews, surveys and practice, review of available and suitable resources and knowledgeable presenters; mixed approaches to presentation and participation.
- Workshop structure involves mixed pedagogic strategies: expert presentations at round tables with small groups for discussion; demonstration and exploration of tools and practices of regenerative agriculture and critical practices (see table below); and hands-on fieldwork on experimental plots
- Participatory Action Research is used to engage with farmers, elicit unidentified needs and concerns, and adjust workshop content and structure accordingly.

ii. Activities (dates are approximate)

Task #1: Review activities and results of first round of workshops (May-September 2022)

- **April:** Debriefing of 2021-22 workshop instructors and participants to identify omissions, deletions and additions to curriculum, content and schedule; project assessment; data evaluation to assess productivity of experimental plots
- **May:** Preparation of required final report to WSARE
- **June:** Consultations with workshop participants, educators, extension agents on draft schedule and content for 2022-23
- **July:** Set workshop dates and send out announcements of forthcoming workshop via various media channels, radio, TV, newspapers, agricultural educators
- **August:** Prepare materials in English & Spanish, acquire supplies, schedule speakers and activities, harvest experimental plots & prepare for 2022-23
- **September:** Finalize preparations for workshops; consult with participants to identify specific needs and desires from workshops

Task #2: Conduct monthly workshops on principles of regenerative agriculture, polyculture & technologies, and necessary techniques and skills for farm management and operation (October 2022-March 2023)

- Hold monthly workshops from October-March, a combination of presentations, round tables with presenters, instruction in management techniques, access to technologies, and fieldwork on experimental plots. See workshop schedule below

Tentative workshop schedule for 2022-23 (to be revised as noted above)

Date	Agenda/content
Workshop #1: Oct. 2022	Introduction to workshop goals, content; farmer discussion groups to identify other topics and issues to address; tour of Whiskey Hill Farms and demonstration of its small-scale technologies and techniques; begin prep of experimental plots; identify plants farmers want to experiment with
Workshop #2, Nov. 2022	Soil science basics; principles of composting organic and ag wastes, with demonstration; presentation of technologies and technics (practices); plant seeds in propagation house
Workshop #3, Dec. 2022	Crop planning and cropping options & strategies; marketing and distribution channels; high value & culturally appropriate crops; CSAs & other customers; transplant seedlings to experimental plots
Workshop #4, Jan 2023	Introduction and demonstration of small-scale ag technologies--sensors, hydroponics, drones, internet; farm equipment testing; fieldwork in experimental plots
Workshop #5, Feb. 2023	Farm business management & tools; dealing with bureaucracy; options for loans and capital; financing small-scale technologies & techniques; fieldwork
Workshop #6, March 2023	Tour & assessment of participants' & other farms; potential actions & practices; harvesting (if possible); Open House & celebration

Task #3: Develop resources & deliverables for 2022-23 and the future (January-May 2023): As noted above and below

E. Products

i. Project deliverables

- Instructional, curricular and experiential materials prepared for workshops
- Short films on specific issues, practical directions and resources.
- Short podcasts with participating farmers

- “How to” guides for instructors and farmers
- Project website through which these materials are available

ii. Project documentation, communications & outreach.

Dissemination is initiated prior to the beginning of the project, via the on-line platform, email, social media, news articles and communications with students, student’s families, educators, farmers and agricultural professionals around the Central Coast. These tools are utilized throughout the project to inform educators, officials, students and the public about events and achievements. Products are uploaded to project website, as described above, and print copies made available, as appropriate. Regular open houses, tours and seminars are be conducted at Whiskey Hill Farms. Project team prepares papers for submission to academic and educational journals and sends “pre-prints” to lists of agriculture educators around the United States.

F. Evaluation/Lessons Learned

Evaluation:

i. Participant assessments & visitor surveys: A regular schedule of participant assessments and visitor surveys will be conducted, in order to evaluate results, successes and problems, and permit adjustment of program as required.

ii. Track project progress: Maintain a record of tasks completed on time or not and the impact on those activities; survey and interview partners to record compliments, complaints and satisfaction.

iii. Platform & portal utilization: Document usage and activities in terms of volume of online information available, informational transactions conducted, creation of storage facilities and distribution opportunities, and surveys of partners and other users.

iv. Project goals & objectives: Record progress toward project goals and objectives, stage of achievement, success and failures, and pivots and corrections.

iv. Project deliverables: Completion and distribution of deliverables, including training curriculum, educational materials, technology, data analysis, documentation, reports and articles; number of publications; reader/user surveys and focus groups.

v. Project outreach: Records of web statistics, social media contacts, phone and mail inquiries; numbers of individuals (and their associations) attending events, requesting materials, participating in training, receiving webinars and lectures; numbers of project trainees and training sessions; numbers of presentations, visitors, volunteers and tours.

vi. Project impacts & outcomes: Completion of before and after survey by farming partners & other participants; data on increased productivity, sales, income, inputs and outputs; labor; effect of technologies; distribution of food to communities in need; interviews & feedback questionnaires.

Project continuation: Development activities and project success will generate the following income streams to sustain the program:

i. Business sponsorships: Solicit partnerships with and support from local agricultural businesses, agricultural organizations, individual farms, restaurants and markets, farmers markets.

ii. Registration fees for instructional modules and personnel costs (including scholarships as needed). Future participants will be charged registration fees for programs, based on ability to pay

iii. Memberships and subscription fees for access to online portal and platform. As online elements are developed and regional networks created, users will be asked to pay for access.

iv. Honoraria for external presentation, workshops, etc. presented by program personnel.

v. Public and private grants, private donors. Seek continuing support for a portion of the program through submitting proposals to funding agencies, soliciting public funds and seeking private donors.

G. Project Team roles & experience

Dr. Ronnie D. Lipschutz (Project Director) is professor emeritus of politics at UC Santa Cruz. He was Provost of Rachel Carson College from 2012-18, where he developed a minor in sustainability studies, incorporating instruction and experiential learning in urban agriculture. He has published on experiential education and taught environmental entrepreneurship.

David Blume (Project advisor) producer, educator, instructor and technical advisor. He will contribute to workshop and curriculum development, class and field instruction, technology development and installation, outreach to farmers, agricultural professionals and the public, and supervisor of the overall project team.

Dr. Molly Fyfe (Project manager & administrator) has 15 years of experience in educational research and program development. Her work has centered on education for workforce development and addressing needs of underserved groups. She has expertise in learning science, research design and development of impactful educational programs. She currently co-leads a program on regenerative agriculture for small scale, underserved farmers in California.

Ms. Josefina Lara Chavez (Outreach & communications associate) is a Farm-to-Market specialist and Senior Manager, Latinx Farmer Program for the Community Alliance for Family Farmers in Davis, California, based in Salinas. She has a graduate degree in Public Administration, from the Middlebury Institute of International Studies. She is a graduate of ALBA and operator of a farm and food hub in Hollister

Eréndira Sáenz (Translation & Social Media Developer) is cofounder of Globally You, and helps clients solve their linguistic needs in areas such as education, health, sports, housing, mental health, farming and agriculture. She holds a Master's Degree in Translation and Interpretation, with a specialization in Spanish Community Interpreting from the Middlebury Institute of International Studies at Monterey. She also provides technical and language social media assistance for Spanish-speaking clients.

The Sustainable Systems Research Foundation (SSRF; <https://sustainable-systems-foundation.org/>) is a 501(c)3 non-profit green think tank and project incubator in Santa Cruz, directed by two experienced educators who have designed science and technology curricula and taught Sustainability Studies, including food and agriculture, at the University of California, Santa Cruz. SSRF employs student and community volunteers and paid interns on its projects, with the goal of developing their capabilities and competence for post-graduate employment and complex problem solving.

Whiskey Hill Farms (WHF; <http://whiskeyhillfarms.com/>), the workshop site is a 14-acre organic farm on California's Central Coast, near Watsonville. WHF is a pioneer in developing a systems approach to agricultural technology by recycling and reusing various inputs and outputs in farming and demonstrating the technology and best practices of a circular food economy. Cultivation techniques are steeped in regenerative agricultural practices, with a particular focus on repairing damaged soil through composting.