

WESTERN SARE FARMER/RANCHER GRANT PROGRAM

48 projects funded in 2023 and 2024
\$1,149,086 total in funding



74 on-farm
demonstrations



2,123
consultations



78 tours



15 press
articles and
newsletters



135 other
educational
activities



73 farmers
participated in
research



855 farmers
participated in
educational
activities



586 farmers
gained skills
and knowledge



795 ag service
providers
participated in
educational
activities



56 farmers
changed their
practice



98 new working
collaborations



23 grants
received

We work to advance innovations that promote environmental stewardship, enhance quality of life, and improve profitability by investing in groundbreaking agricultural research and education.

FARMERS' TALK

I always emphasize to any farmer that an important part for their farm is that they should all be writing SARE grants (Umi Martin, HI)

Sometimes the grant is just what you need to get something going
(Chris King, MT)

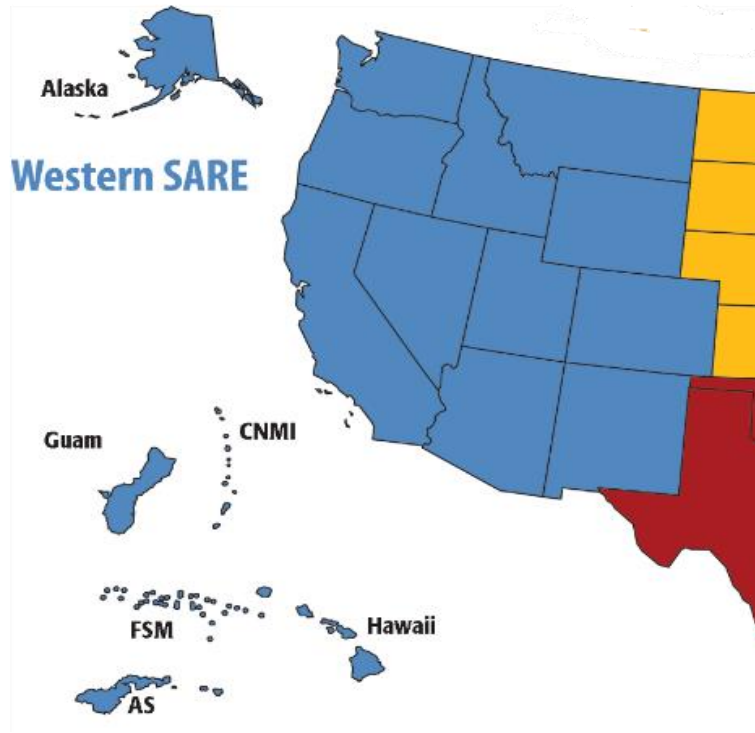
My main goal is to, at the end of this, have a number of people in the community who are growers, who are themselves soil health leaders, and who peers will go to and ask for advice. And, you know, will be recognized as good sources of information for people who want to improve their soil health. (Zach Thode, CO)

Verdant Phoenix Farm will continue the practice of occultation tarping and will conduct further research to evaluate the practice over multiple growing seasons through this project. (Rhianna Simes, OR)

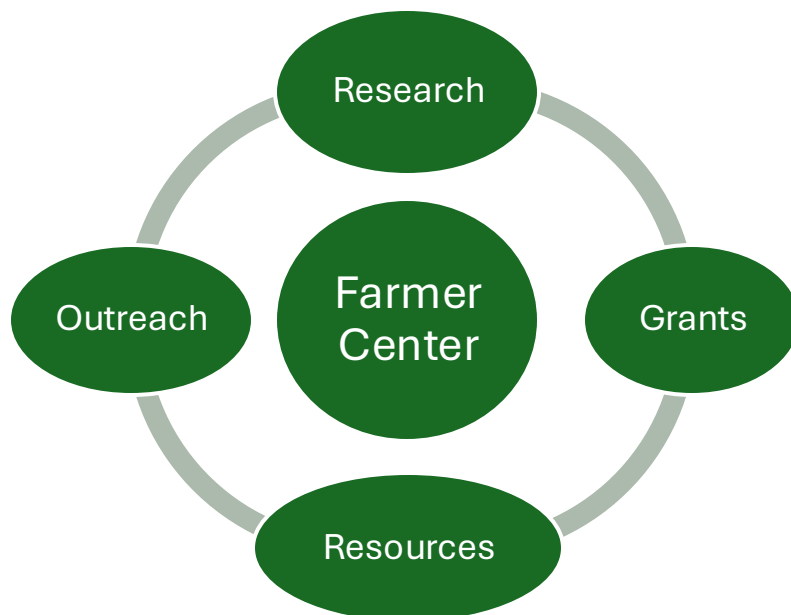
More producers became interested in growing jujubes after seeing the increased activity we were able to accomplish because of the grant funding and SARE support. (Alisha Taff, CA)



FARMERS' STORIES FROM THE FIELD



Alaska, American Samoa, Arizona, California, Colorado, Guam, Hawaii, Idaho, Micronesia, Montana, Nevada, New Mexico, Northern Mariana Islands, Oregon, Utah, Washington, Wyoming



Umi Martin, The Mango Loa Project phase two: Improving Hawaii's mango industry by incorporating high density orchard management systems.

- [Video here.](#)

According to Umi Martin, the focus in Hawaii is to increase their local production by 30% by the year 2025. He believes that by increasing the production of tropical fruits, especially by improving orchard management systems through the use of high-density orchards, Hawaiian farmers will be able to grow their industry. Martin's Mango Loa project is his attempt to increase Hawaii's mango production through better orchard management.



“That is the ultra-high density plantation technique and the open tatura trellis system,” says Martin. “With the conventional mango orchard, a realistic expectation of production is two to five tons/acre. The two new systems mentioned above have been producing eight to twenty tons/acre. Utilizing these high-density systems have the potential to double Hawaii's mango production with just 20 acres.”

Martin's first Western SARE grant evaluated the costs of installation per acre, the advantages and disadvantages of these systems versus the standard methods, the expected return on investment, potential increase of production, labor demands, and orchard management. His follow-up project demonstrated the two high-density orchard management systems and reported on the harvest and production of these systems, as well as demonstrated harvest and post-harvest practices to preserve the quality of the produce.

What was Discovered

In the first project, Martin was able to determine, and share, the best practices for irrigation, fertigation, training, and pruning. The benefits of the open tatura trellis system and ultra-high density compared to conventional orchard management were discovered. In the second project, the research demonstrated good yields, quicker production time, higher fruit quality, and easier harvest and post-harvest management.

Importantly, a reduction in labor was a key finding from his research. Martin found that through the use of the high-density plantation technique, one person could manage 10 acres by themselves. “In Hawaii we will always have a labor shortage, so introducing a technique that was going to reduce the demand of labor and increase the ease of harvest was what I was looking for.”

Farmer Participation and Outreach

As Martin experimented with the systems, local farmers showed great interest. Martin developed videos posted on YouTube; conducted seven on-line trainings; and conducted 24 on-farm demonstrations, field days, and workshops; and created a Facebook group.

“Through the interactions on YouTube and Facebook, I got the impression that there was real interest in high density orchard techniques both for farming and backyard growing, as the vast majority of responses were positive. I believe through the series of videos that were produced, we managed to thoroughly cover the subject of high-density orchard management systems for mango production, and contacts through social media also allowed me to interact with people, through messaging and video calls, that were interested in installing high density orchards on their farms.



Bill Minton, [Collaborative monitoring for ranch resilience and social-ecological sustainability in central Montana](#)

- [Video Here](#)



Rancher Chris King states that the range monitoring group (RMG) he participates in is a group of ranchers that wanted to get together and be able to share data. Bill Minton received funding from Western SARE for the RMG to improve the utility of monitoring and data sharing. This would allow landowners and managers to better understand the ecological, economic, and social impacts of various management practices. Because this project is led by a group of ranchers, dissemination of results happens through

immediate local networks as well as through regional and national non-profit partners.

King explains, “Initially there were three ranchers. Bill was trying to start this range monitoring group and thought ‘why don’t we try to work together and develop a format that we all agree is valuable. And that the state and federal agencies will agree is being done in a correct manner, such that they would accept the data as credible’. Which I think is really important because in this part of the country where the state and federal land is all intermixed with the private land it’s good to have everybody on board.”

They are specifically interested in exploring which monitoring indicators are commonly gathered and useful to ranchers, the best ways to view and visualize the data to support decision-making, and the possible impacts on ‘triple bottom line’ sustainability that sharing monitoring data across the landscape can have.

Their research objectives are to 1) operationalize monitoring indicators and information about management practices that are consistent, useful and feasible across landowners, and ensure that monitoring is interpretable and repeatable over space and time; 2) explore relationships between management practices and ecological indicators; and 3) develop and document data analysis and visualization approaches that make data actionable for decision-making that improves rangeland and ranching sustainability.

What was Discovered

Minton has seen a positive impact from the project. The data demonstrated that management practices have improved the quality of his rangeland. Much of his range is on Bureau of Land Management (BLM) land, and the BLM people agreed it is better. Due to trusting the data, the BLM has agreed to increase the numbers Bill can run on his allotment. The land can support more cattle now and still maintain good quality forage.

King states, “Increasingly we’re realizing that if you if you want to be sustainable in your business, then the first thing that has to happen is you have to have a sustainable resource for your cattle to graze out there, so those things have to go together. I think people realize that you must have a little bit of data to know that things really are going in the right direction.”

Farmer Participation and Outreach

The RMG is engaging with ranchers in self-education and a collaborative process of data sharing and discussion to better understand their own monitoring data and co-creating a process to look at monitoring data at a landscape scale to support decision-making. There is a core group of 10 farmers, and the RMG has held workshops and field days.



Maria de los Angeles Carrillo: [Evaluating feasibility of solarization for organic small-scale farmers in coastal California](#)



La Buena Tierra farmer Maria de los Angeles Carrillo (Angeles) produces her vegetables using as few chemical inputs as possible, working closely with natural systems. However, on her land in Salinas that she leases she struggled managing weeds and grasses such as purslane, coquillo, pigweed, and lamb's quarters, among others. While taking classes she learned about solarization - a non-chemical method that captures radiant energy from the sun and uses the heat to manage soilborne pests – as a popular practice by organic farmers in Spain. She first worked on an internship project to learn more about solarization, and then approached Aysha Peterson, Ag Technical Specialist at the Resource Conservation District, Monterey, about conducting further research on her own farm.

With Aysha's translation assistance and technical guidance, Angeles successfully applied for a Farmer/Rancher grant to lead an on-farm trial to determine the feasibility of using solarization as a pest control for small-scale organic farmers in the California Central Coast region. As the stakeholders for this project are principally the community of small-scale Spanish-speaking organic farmers and the technical assistance providers who support them, a focus of the research looks at the financial difference between farm areas managed with and without solarization.

What was Discovered

Angeles is delighted that her interest in researching a non-chemical pest management practice has reduced her weeds by 80%. Coquillo (nutgrass) was the exception and even that stubborn grass has been reduced greatly and grows weaker roots. Lab tests also demonstrated reduced Verticillium wilt in the soil; crucial as Angeles grows lettuce.

“For this project, I prepared the soil, bedded it up, and sent soil samples to a lab. I found plastic that lets light through and doesn't let air and humidity out. The soil temperature never went below 79 degrees, and I also measured the humidity of the soil. I even checked the temperature at night,” says Angeles.

Angeles expected to leave the plastic in place for 6-8 weeks, and to see results in her lettuce crop over the following 3-4 months. By the third week she started checking weed growth and removed the plastic at 7 weeks.

“What I saw was that the weed roots were very weak, and it was easy to pull the purslane.”

Her next idea is to continue with the solarization but incorporate chicken manure into the compost she applies before placing the plastic. She thinks testing this in winter would be helpful as most seeds and diseases are more dormant during that season. She'd like to get the organic material hot in the winter so that it will kill weeds and diseases when they start emerging.



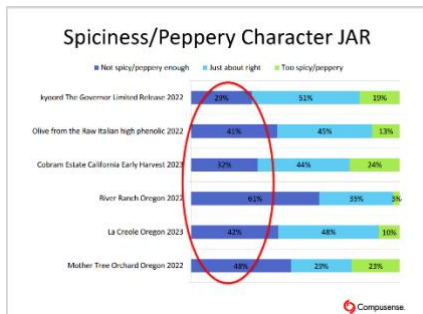
Farmer Participation and Outreach

Angeles hosted students in ALBA's PEPA (Farmer Education) program to show them the project, and other farmers in the area ask her questions about her plastic. She presented her findings at the EcoFarm Conference's Spanish Language Track.

Peterson notes, “This project have sparked excitement and a wide range of conversations among other small-scale, Spanish-speaking farmers in our region about innovative research ideas. Farmers have indicated that they had never thought of themselves as researchers and now feel inspired to experiment on their farms and seek out funding for research ideas.”

Beau Caceu, Improving the Marketing Edge for Small Producers of Olives and Extra Virgin Olive Oil in Oregon

Willamette Valley olive grower Beau Caceu received a Western SARE grant to explore ways to develop a marketing edge for small olive oil producers in Oregon and the West. Working with the Linus Pauling Institute at Oregon State University (OSU) and with Ann Colonna, sensory program director at the university's Food Innovation Center, Caceu's project included: 1) 2,257 detailed survey responses from olive oil consumers; 2) Three 90-minute focus groups were attended by 119 consumers; 3) Ten molecular comparisons of olive oils produced in the Western US, compared to high-end olive oils produced in Europe.



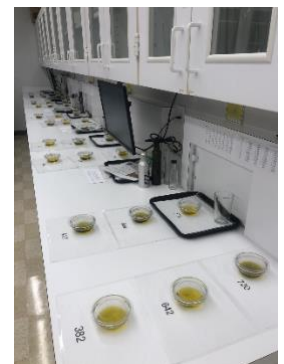
What was Discovered

That data not only produced a science-backed marketing message for U.S. olive oil producers, but this project can also serve as a “how-to” for any group of growers looking to engage consumers through agricultural research and education. To reach consumers motivated by healthy diet choices, some olive oil brands advertise their high phenolic content. Here's how that can help Oregon producers.

“Phenolics peak early in the season, early in the yearly lifecycle of the fruit and the oil that's made from that fruit,” Caceu said. “So growing trees in a climate like ours, where there's a shorter season, or harvesting early to avoid really hot weather, you capture more of those phenolics.” Caceu believed that consumers could be motivated by that knowledge, and the project data proved his hypothesis. “Producers in the Western United States have certain advantages given to us by nature that we can leverage,” he said. “We now have the data and with that a message.”

“There are imported products that are excellent because the importer knows quality, and they were transported properly and maybe came from a smaller family producer over there, but so much of what comes over is not good,” he said. “American producers really have an opportunity to stress quality.” Some of the findings from the surveys and focus groups are applicable to other crops and growers' groups looking to engage consumers around agricultural and food science topics. Here are some of those key points:

- Consumers who are passionate and knowledgeable about a product or a crop will provide high-quality, useful feedback.
- Those consumers are also more apt to understand marketing and promotion arguments, which is useful when testing marketing messages with them.
- At outreach events, providing tasting samples while talking about sustainable farming practices or product quality creates a synergistic effect between the sensory experience and the educational experience.
- Emotional attributes – the way consumers feel when experiencing a product – are important.
- When considering the choices people make about the food and beverages they consume on a daily basis, “health” was ranked second only to “sensory appeal.”



Farmer Participation and Outreach

Fifteen farmers participated in the project. Outreach included three on-farm demonstrations, webinars, and fact sheets. Outreach was conducted at food-related events where Caceu engaged with consumers while pouring samples of olive oil: at the Linus Pauling Institute at OSU; the marketplace; the Good Food Mercantile at the Oregon Convention Center; and the Good Food Awards.

IMPACTS OF WESTERN SARE GRANT PROGRAMS ON FARMERS 2023-2024

Graduate Students Reach Farmers



26 Graduate Student projects



24 farmers participated in research



2,028 farmers participated in outreach



58 farm demonstrations, tours, field days, and workshops



30 consultations



94 press articles and newsletters



61 webinars, talks, and presentations



86 farmers gained skills and knowledge



18 farmers changed their practice

Professionals Reach Farmers



23 Professional + Producer projects



94 farmers participated in research



1,548 farmers participated in outreach



72 farm demonstrations, tours, field days, and workshops



121 consultations



23 press articles and newsletters



59 webinars, talks, and presentations



359 farmers gained skills and knowledge



158 farmers changed their practice

IMPACTS OF WESTERN SARE GRANT PROGRAMS ON FARMERS 2023-2024

Researchers Reach Farmers



27 Research and Education projects



244 farmers participated in research



1,056 farmers participated in outreach



98 farm demonstrations, tours, field days, and workshops



126 consultations



32 press articles and newsletters



56 webinars, talks, and presentations



150 farmers gained skills and knowledge



69 farmers changed their practice

Educators Reach Farmers



29 PDP projects



1,234 farmers participated directly



4,095 farmers were reached



88 farm demonstrations, tours, field days, and workshops



169 consultations



170 press articles and newsletters



139 webinars, talks, and presentations



5,847 ag. service providers gained skills and knowledge



520 ag. service providers will change their practice

WESTERN SARE IMPACTS ON FARMING

Dry farmers are the experts in this system,... There hasn't been a lot of research conducted in dry farming with vegetables, so it's exciting to study some of the issues these innovative farmers have already identified. (Yvonne Socolar, GS, CA)

This grant has helped Idaho producers come closer to finding answers for a devastating plant parasitic nematode problem (Lindsay Schultz, GS, ID)

I'm actually more confident [in dry farming forages]. We learned a lot. We learn more from things that don't work as planned than we do from something that works... I am more confident now that we can find something that will work.(P+P Farmer, OR)

Due to demand, we increased the number of producer-to-producer webinars to monthly during the winter months. (Meagan Schipanski, R&E, CO)

