What is SARE?
Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $310 million to more than 7,431 initiatives.

SARE is grassroots with far-reaching impact
Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

SARE communicates results
SARE shares project results by requiring grantees to conduct outreach and grower engagement, and by maintaining an online library of practical publications, granteeproduced information products and other educational materials.

SARE: Advancing the Frontier of Sustainable Agriculture in... California

Managing nitrogen (N) effectively helps farmers raise a high-quality crop, avoid wasting dollars and protect water quality. Yet in the highly productive Salinas Valley of Monterey County, many farmers who use organic practices lack complete information on effective N management. This is particularly true of beginning farmers and those who have a language barrier or otherwise have limited access to support services. Organic agriculture is booming in Monterey County: organic sales volume was $151 million in 2012. Ensuring that all organic growers have the best opportunity to succeed in a lucrative market was the motivation behind the Agriculture and Land-Based Training Association’s (ALBA) SARE grant.

ALBA collaborated with experienced farmers and Extension specialists to hold workshops on organic N management and on-farm research principles. It also provided in-depth, bilingual training and support to nine beginning farmers participating in its incubator program. ALBA’s grant allowed 500 growers and educators to benefit from workshops and publications focused on N management, and 91 percent of surveyed farmers reported adopting at least one new practice. By improving their knowledge on the subject and integrating new practices, the growers have positioned themselves for success.

For more information on this project, see sare.org/projects, and search for project number OW13-062.

SARE in California
western.sare.org/sare-in-your-state/california

$12,895,028 in total funding
211 grant projects
(since 1988)

For a complete list of grant projects state by state, go to www.sare.org/state-summaries
**SARE Grants in California**

**Total awards:** 211 grants
- 2 Enhanced State Grants
- 61 Farmer/Rancher
- 34 Graduate Student
- 13 On Farm Research/Partnership
- 36 Professional Development Program
- 63 Research and Education
- 2 Research to Grass Roots

**Total funding:** $12,895,028
- $49,734 Enhanced State Grants
- $763,088 Farmer/Rancher
- $695,716 Graduate Student
- $634,140 On Farm Research/Partnership
- $2,345,551 Professional Development Program
- $8,320,099 Research and Education
- $86,700 Research to Grass Roots

Find a complete list of projects on page 3.

**SARE's Impact**

53 percent of producers report using a new production technique after reading a SARE publication.

79 percent of producers said they improved soil quality through their SARE project.

64 percent of producers said their SARE project helped them achieve higher sales.

Learn about local impacts at: western.sare.org/sare-in-your-state/california

**Contact Your SARE State Coordinator**

SARE sustainable ag coordinators run state-level educational programs for Extension and other ag professionals, and many help grant applicants and recipients with planning and outreach. Visit western.sare.org/state-pages/california to learn more.

Sonja Brodt  
University of California Sustainable Agriculture Research & Education Program  
sbbrodt@ucdavis.edu

Jeffery Stackhouse  
UCCE Livestock Advisor  
(707) 445-7351  
jwstackhouse@ucanr.edu

**USDA SARE**

SARE is funded by the USDA’s National Institute of Food and Agriculture (NIFA).

For detailed information on SARE projects, go to www.SARE.org

This report includes summaries of competitive grant programs only. Some competitive grant programs that are no longer offered may be included or excluded from the totals in this report depending on the grant program and SARE region.
California has been awarded $12,845,294 grants to support 201 projects, including but not limited to, 55 research and/or education projects, 36 professional development projects and 61 producer-led projects. California has also received additional SARE support through multi-state projects.

### RESEARCH AND EDUCATION GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW20-912</td>
<td>Use of Almond Hull and Shell as Organic Matter Amendments in Advanced Orchard Management</td>
<td>$349,807</td>
<td>Dr. Sat Darshan Khalsa, University of California Davis, Dr. Patrick Brown, University of California Davis, Dr. Amelie Gaudin, University of California, Davis</td>
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<tr>
<td>SW20-913</td>
<td>Effective Management of Thousand Cankers Disease of Walnut through Disruption of Insect Vector Behavior</td>
<td>$349,770</td>
<td>Dr. Richard Bostock, University of California, Dr. Daniel Kluepfel, USDA - ARS, Crops Pathology and Genetics Research Unit, Dr. Steven Seybold, USDA Forest Service</td>
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<tr>
<td>SW20-919</td>
<td>Biointensive no-till farming in California: farmer-driven research and education on soil health, water efficiency and economic resiliency</td>
<td>$251,036</td>
<td>Dr. Timothy Bowles, University of California Berkeley, Amanda Hodson, University of California, Davis, Dr. Paul Rogé, MESA, Inc.</td>
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<tr>
<td>SW19-902</td>
<td>Potential Economic and Nitrogen Benefits of Fababean as a Double Purpose Cash and Cover Crop in Northern California</td>
<td>$348,772</td>
<td>Dr. Hossein Zakeri, California State University- Chico</td>
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<tr>
<td>SW19-908</td>
<td>Quantifying the effects of rangeland conversion on ecosystem functions: Linking land use systems to enhance farm profitability</td>
<td>$349,327</td>
<td>Fadzayi Elizabeth Mashiri, University of California</td>
</tr>
<tr>
<td>SW18-063</td>
<td>Quantifying the frequency and effects of secondary exposure to rodenticides in barn owls</td>
<td>$249,546</td>
<td>Dr. Joshua Hull, UC Davis</td>
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<tr>
<td>SW17-060</td>
<td>UAS (Unmanned Aerial System)-guided releases of predatory mites for management of spider mites in strawberry</td>
<td>$249,878</td>
<td>Dr. Elvira de Lange, University of California Davis</td>
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<tr>
<td>SW14-011</td>
<td>Farming for Native Bees</td>
<td>$247,649</td>
<td>Dr. Gordon Frankie, UC Berkeley</td>
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<tr>
<td>SW12-110</td>
<td>The interaction of rangeland management and environmental conditions in regulating forage quality &amp; quantity and other ecosystem services</td>
<td>$265,414</td>
<td>Valerie Eviner, UC Davis</td>
</tr>
<tr>
<td>SW11-116</td>
<td>Integrated rotation systems for soil borne disease, weed and fertility management in strawberry/vegetable production</td>
<td>$218,424</td>
<td>Joji Muramoto, University of California, Santa Cruz</td>
</tr>
<tr>
<td>Grant Number</td>
<td>Project Title</td>
<td>Funding Amount</td>
<td>Principal Investigator(s)</td>
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<tr>
<td>SW10-013</td>
<td>Control of Bacterial Wilt Disease of Ginger through an Integrated Pest Management Program</td>
<td>$289,245</td>
<td>Dr. Susan Miyasaka</td>
</tr>
<tr>
<td>SW10-801</td>
<td>A San Joaquin Valley Quilt: Stitching Together a Region’s Prosperity, Nutrition and Sustainability</td>
<td>$14,935</td>
<td>Daniel O’Connell</td>
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<tr>
<td>SW10-803</td>
<td>Sierra CRAFT</td>
<td>$30,653</td>
<td>Bill Bennett</td>
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<tr>
<td>SW10-810</td>
<td>Developing regional distribution networks to enhance farmer prosperity: Retail value chains</td>
<td>$24,906</td>
<td>Dr. Gail Feenstra</td>
</tr>
<tr>
<td>SW08-060</td>
<td>Triple-cropping Dairy Forage Production Systems Through Conservation Tillage in California’s San Joaquin Valley</td>
<td>$118,100</td>
<td>Dr. Jeff Mitchell</td>
</tr>
<tr>
<td>SW07-022</td>
<td>Using Nectar Cover Cropping in Vineyards for Sustainable Pest Management</td>
<td>$178,300</td>
<td>Mark Hoddle</td>
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<tr>
<td>SW06-033</td>
<td>Toward a Broader Vision of Sustainability: Social Equity in Sustainable Agriculture</td>
<td>$10,000</td>
<td>Ron Strochlic</td>
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<td>SW06-038</td>
<td>Grazing Strategies to Control Medusahead in California</td>
<td>$138,539</td>
<td>Dr. Emilio Laca</td>
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<tr>
<td>SW06-091</td>
<td>Alternaria Control Using Biocontrol Yeast in Organic Pistachio Production Systems</td>
<td>$110,286</td>
<td>Dr. Dan Parfitt</td>
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<tr>
<td>SW05-078</td>
<td>Smart Energy Management in Agriculture</td>
<td>$68,208</td>
<td>Karyn Wolf Lynn</td>
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<tr>
<td>SW04-121</td>
<td>Farmland Tenure: A Tool Kit</td>
<td>$103,130</td>
<td>Steve Schwartz</td>
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<td>SW04-127</td>
<td>Educational Workshops on Organic Dairy Management</td>
<td>$39,377</td>
<td>Ken Andersen</td>
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<tr>
<td>SW04-058</td>
<td>Fresh, From Our Family to Yours: Direct Marketing Education for Producers</td>
<td>$98,395</td>
<td>Molly Johnson</td>
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<tr>
<td>SW03-037</td>
<td>Confirmation of Riparian Friendly Grazing Project Results and Development of Achievable, Site Specific Reference Conditions for Grazed Riparian Areas</td>
<td>$93,184</td>
<td>Dr. Kenneth Tate</td>
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<tr>
<td>SW02-008</td>
<td>Evaluation of the Effects of Vineyard Floor Management Practices on Soil Microbiology</td>
<td>$27,496</td>
<td>Richard Smith</td>
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<tr>
<td>SW02-020</td>
<td>Management of Vine Mealybugs in California’s San Joaquin Valley Through the Integration of Chemical and Biological Controls</td>
<td>$117,286</td>
<td>Kent Daane</td>
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<td>SW02-034</td>
<td>Development and Dissemination of a Cowpea Cultivar for Cover Crops</td>
<td>$43,686</td>
<td>Dr. Milt McGiffen, Jr.</td>
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<tr>
<td>Code</td>
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<td>Amount</td>
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<td>SW02-035</td>
<td>Control of Western Tarnished Plant Bug (WTPB) Lygus hesperus Knight in Organic Strawberry Production Systems Using Trap Crops and Tractor-mounted Vacuums</td>
<td>$31,280</td>
<td>Dr. Sean Swezey</td>
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<tr>
<td>SW01-044</td>
<td>Riparian Friendly Grazing Project</td>
<td>$24,714</td>
<td>Dr. Kenneth Tate</td>
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<tr>
<td>SW01-057</td>
<td>Transition to Organic Vegetable Production by Large-Scale Conventional Farmers</td>
<td>$123,399</td>
<td>Louise Jackson</td>
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<tr>
<td>SW99-008</td>
<td>The Transition from Conventional to Low-Input or Organic Farming Systems: Soil Biology, Soil Chemistry, Soil Physics, Energy Utilization, Economics, and Risk</td>
<td>$153,962</td>
<td>Steven Temple</td>
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<tr>
<td>SW99-009</td>
<td>Rotations with Broccoli – A Sustainable Alternative to Soil Chemical Fumigants</td>
<td>$145,750</td>
<td>Krishna Subbarao</td>
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<tr>
<td>SW98-044</td>
<td>Cropping Systems for Intensive Desert Vegetable Production</td>
<td>$130,672</td>
<td>Charles Sanchez</td>
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<tr>
<td>SW97-021</td>
<td>Reducing Insecticide Use on Celery Through Low Input Pest Management Strategies</td>
<td>$100,000</td>
<td>John T. Trumble</td>
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<tr>
<td>SW97-045</td>
<td>Decomposition and Nutrient Release Dynamics of Cover Crop Materials</td>
<td>$41,064</td>
<td>Dr. Jeff Mitchell</td>
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<tr>
<td>SW97-049</td>
<td>Development and Implementation of Trap Cropping Strategies for Control of Hemipteran Pests in Pistachio Orchards</td>
<td>$79,858</td>
<td>Kent Daane</td>
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<tr>
<td>SW96-021</td>
<td>Controlled Grazing on Foothill Rangelands</td>
<td>$40,750</td>
<td>Roger Ingram</td>
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<tr>
<td>SW96-012</td>
<td>The Transition from Conventional to Low-input or Organic Farming Systems: Soil Biology, Soil Chemistry, Soil Physics, Energy Utilization, Economics and Risk</td>
<td>$100,000</td>
<td>Steven Temple</td>
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<tr>
<td>SW96-016</td>
<td>Tillage Practices for Improving Nitrogen Cycling and Soil Quality</td>
<td>$102,000</td>
<td>Louise Jackson</td>
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<tr>
<td>SW95-012</td>
<td>A Cover Crop System for Sustainable Grape Production in California – Beyond the Transition Phase</td>
<td>$122,559</td>
<td>Frank G. Zalom</td>
</tr>
<tr>
<td>SW95-019</td>
<td>Development of a Farm-Wide System for Control of Many of the Principal Lepidopterous Pests of Grapes and Tree Fruits Based on Disruption of Premating Pheromone Communication Between Male and Female Moths</td>
<td>$120,770</td>
<td>Harry H. Shorey</td>
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<tr>
<td>SW95-024</td>
<td>Managing Soil Biota in Low-Input and Organic Farming Systems to Enhance Soil Fertility</td>
<td>$175,000</td>
<td>Kate Scow</td>
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<tr>
<td>SW94-022</td>
<td>Western Region Community Supported Agriculture (CSA) Conference</td>
<td>$23,991</td>
<td>Jered Lawson</td>
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</table>
RESEARCH TO GRASS ROOTS GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGR20-010</td>
<td>Potter Valley Tribe’s Native Mushroom Cultivation from Waste Byproduct Substrate for Food Sovereignty</td>
<td>$12,106</td>
<td>Jade Swor, Salvador Rosales, Sr., Salvador Rosales, Jr., Gregg Young, Potter Valley Tribe</td>
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<tr>
<td>RGR20-006</td>
<td>Building on Farmer Experience to Increase Cover Crops Adoption in Orchards and Vineyards</td>
<td>$74,594</td>
<td>Dr. Sonja Brodt, University of California Sustainable Agriculture Research &amp; Education Program, Lucas Patzek, Napa County Resource Conservation District</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
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<tr>
<td>PDP20-009</td>
<td>Filling the Gap – Exposing Agricultural Professionals to New and Innovative Small-Farm Tools</td>
<td>$74,982</td>
<td>Jamie Fanous&lt;br&gt;National Center for Appropriate Technology&lt;br&gt;Linda Coffey&lt;br&gt;National Center for Appropriate Technology</td>
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<tr>
<td>EW20-037</td>
<td>California Professional Development Program 2021-2023</td>
<td>$90,000</td>
<td>Jeffrey Stackhouse&lt;br&gt;University of California Cooperative Extension&lt;br&gt;Dr.Sonja Brodt&lt;br&gt;University of California Sustainable Agriculture Research and Ed</td>
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<tr>
<td>WPDP19-25</td>
<td>Business of Farming (BoF) - Train the Trainer Program</td>
<td>$74,984</td>
<td>Carolina Martinez&lt;br&gt;California Association for Micro Enterprise Opportunity&lt;br&gt;Carla Holland&lt;br&gt;San Diego Small Business Development Center&lt;br&gt;Andrew Seko&lt;br&gt;CAMEO</td>
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<tr>
<td>WPDP19-12</td>
<td>From Classroom to the Field: Soil Health Bottom Line: Expanding Adoption of Healthy Soils Practices by Quantifying the Economic and Environmental Benefits to Growers</td>
<td>$75,000</td>
<td>Kara Heckert&lt;br&gt;Anelkis Royce&lt;br&gt;American Farmland Trust&lt;br&gt;Anelkis Royce&lt;br&gt;American Farmland Trust</td>
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<tr>
<td>EW18-024</td>
<td>Organic Soil Health Education Resources for Agricultural Professionals in the Western Region</td>
<td>$74,138</td>
<td>Brise Tencer&lt;br&gt;Organic Farming Research Foundation</td>
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<tr>
<td>EW17-012</td>
<td>Growing California Agritourism Communities</td>
<td>$73,010</td>
<td>Dr.Gail Feenstra&lt;br&gt;UC SAREP/ASI</td>
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<tr>
<td>EW17-014</td>
<td>Building Knowledge of Cover Cropping Techniques for Increased Adoption Rates</td>
<td>$52,172</td>
<td>Trina Walley&lt;br&gt;East Stanislaus Resource Conservation District</td>
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<tr>
<td>EW16-015</td>
<td>Harmonizing Organic Standards and Food Safety Metrics</td>
<td>$74,970</td>
<td>Dave Runsten&lt;br&gt;Community Alliance with Family Farmers</td>
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<td>EW16-026</td>
<td>Assessment of Soil Biology and Plant Available Nitrogen for Soil Health and Water Quality</td>
<td>$49,690</td>
<td>Hunter Francis&lt;br&gt;CAFES Center for Sustainability</td>
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<td>EW16-018</td>
<td>Facilitating Food Safety for Small, Sustainable Farms</td>
<td>$55,000</td>
<td>nathan harkleroad&lt;br&gt;ALBA&lt;br&gt;Kaley Grimland&lt;br&gt;ALBA</td>
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<td>EW14-036</td>
<td>Supporting Farmer Training Programs in the Western States through Professional Development and Collaboration</td>
<td>$29,977</td>
<td>nathan harkleroad&lt;br&gt;ALBA</td>
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<td>EW13-008</td>
<td>High Residue Farming in the Irrigated Far West</td>
<td>$26,400</td>
<td>Andrew McGuire&lt;br&gt;Washington State University Extension</td>
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<td>EW13-022</td>
<td>Development and training of a national spray application work group</td>
<td>$57,862</td>
<td>Gwen-Alyn Hoheisel&lt;br&gt;Washington State University</td>
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<tr>
<td>EW13-025</td>
<td>Building Tools and Technical Capacity to Improve Irrigation and Nutrient Management on California’s Central Coast</td>
<td>$39,564</td>
<td>Pamela Krone-Davis&lt;br&gt;Monterey Bay Sanctuary Foundation</td>
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<tr>
<td>Code</td>
<td>Title</td>
<td>Funding</td>
<td>Principal Investigator(s)</td>
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</tbody>
</table>
| EW13-027  | Application of Lessons Learned from NRCS Rangeland CEAP: A site-specific, Low Cost System for Medusahead Control | $68,469 | Jeremy James  
|           | University of California                                             |         |                                                                                           |
| EW12-033  | FARMING STRATEGIES FOR COPING WITH CLIMATE CHANGE                     | $19,000 | Renata Brillinger  
|           | California Climate & Agriculture Network                             |         |                                                                                           |
| EW12-017  | Training Manuals and Professional Development Activities for Teaching Organic Farming and Marketing | $98,782 | Dr. Daniel Press  
|           | University of California Santa Cruz  
|           | Ann Lindsey  
|           | University of California Santa Cruz                                  |         |                                                                                           |
| EW11-029  | Cal Poly Professional Development Compost Training and Establishment of the Cal Poly Compost Project | $57,582 | Hunter Francis  
|           | CAFES Center for Sustainability                                       |         |                                                                                           |
| EW10-004  | Capacity Building Workshops: Developing Regional Agritourism Networks for Agricultural Sustainability and Education | $59,558 | Penny Leff  
|           | UC Sustainable Agriculture Research and Education Program (UC SAREP)   |         |                                                                                           |
| EW10-005  | Understanding the Climate Benefits of Sustainable Agriculture        | $11,905 | Jeanne Merrill  
|           | CA Climate & Agriculture Network (CalCAN)  
|           | Renata Brillinger  
|           | California Climate & Agriculture Network                             |         |                                                                                           |
| EW09-004  | Ecology and Management of Grazing, An Online Course                  | $84,826 | Melvin George  
|           | University of California                                             |         |                                                                                           |
| EW04-012  | Adding Value to Grassfed Beef Niche Marketing Efforts                | $60,000 | Cynthia Daley  
|           | California State University, Chico                                   |         |                                                                                           |
| EW03-004  | Field Course for Agricultural Professionals on the Common Goals and Strategies of USDA’s National organic Standards and Resource Conservation Programs | $60,000 | Rex Doufour  
|           | National Center for Appropriate Technology (NCAT)                    |         |                                                                                           |
| EW03-007  | Extending Hedgerow Systems in California Agriculture                 | $60,000 | Mark Cady  
|           | Community Alliance with Family Farmers                                |         |                                                                                           |
| EW02-005  | Organic Farming Principles, Practices, and Materials: Resources for Western Region Extension and USDA Professionals | $101,907| Dr. Sean Swezey  
|           | Center for Agroecology and Sustainable Food System                  |         |                                                                                           |
|           | David Chaney  
|           | SAREP                                                                |         |                                                                                           |
| EW01-010  | Training and Education Outreach to NRCS and University of California CES staff to Convey Animal Nutrition | $81,950 | Thomas Wehri  
|           | CA Association Resource Conservation Districts                       |         |                                                                                           |
| EW01-013  | Promotion of Intergenerational Farm Transfers for Agricultural Sustainability and Farmland Production | $56,000 | Steve Schwartz  
|           | California FarmLink                                                  |         |                                                                                           |
| EW00-012  | Sharing Resources to Help Connect Farmers to Direct Marketing Niches | $96,578 | David Chaney  
|           | SAREP                                                                |         |                                                                                           |
| EW98-001  | Broadening the Audience: Providing Sustainable Agriculture Education for Pest Control Advisers and Agricultural Consultants in California and Oregon | $80,100 | David Chaney  
|           | SAREP                                                                |         |                                                                                           |
| EW97-002  | Sustainable Range & Pasture Livestock & Dairy Production Training For Resource Professionals | $29,000 | Roger Ingram  
|           | University of California Cooperative Extension                        |         |                                                                                           |
## MULTIDISCIPLINARY ON-SITE TRAINING IN SUSTAINABLE AGRICULTURE EDUCATION

**EW96-005**  
Multidisciplinary On-Site Training in Sustainable Agriculture Education  
$97,432  
Steven Temple  
University of California

**EW96-009**  
Sustainable Agriculture Curriculum Development Project for Extension Professionals in California’s San Joaquin Valley and Central Coast Regions  
$98,773  
David Chaney  
SAREP

**EW96-010**  
Sustainable Arid Land Grazing Systems: Training for Managers of Public Land and Reserves  
$29,000  
William Olkowski  
Bio-Integral Resource Center (South)

**EW96-011**  
Professional Training in Biologically Integrated Orchard Systems  
$155,940  
Jill Klein  
Com. Alliance w/ Family Farmers/BIOS Training Prop. for SARE

**EW94-003**  
Multidisciplinary On-Site Training in Sustainable Agriculture Education  
$71,000  
Steven Temple  
University of California

### FARMER/RANCHER GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| FW20-364  | Adding value to grassfed cattle operations by restoring rangeland health with targeted grazing on California's Central Coast | $19,673      | Elizabeth Reikowski  
Willow Creek Land and Cattle, LLC |
| FW20-365  | Mitigating on-farm toxins using fungi: a case study on two farms.              | $19,881      | Christopher Tchudi  
TurkeyTail Farm |
| FW19-346  | Grazing of annual brassicas to extend grazing season in summer-dry pastures in Northern California | $19,109      | Cody Wood  
Willamette Valley Lamb |
| FW19-355  | Drill-seeding blue oak acorns: a new method for restoration in California’s rangelands. | $19,920      | Alex Palmerlee  
Far View Ranch Inc. |
| FW18-027  | Farm-to-Glass: Performance Testing Different Varieties of Malting Barley       | $19,908      | Bob Adams  
Bob Adams |
| FW18-042  | Converting tree nut byproducts into gourmet mushrooms and mulches             | $19,952      | Charlie Long Chen  
Nature Prize LLC |
| FW18-044  | Examining the practical on-ranch application and benefits of low-stress herding and stockmanship techniques | $19,980      | Michael Williams  
Diamond W Cattle Company |
| FW17-054  | Honeybee Regeneration Project                                                  | $19,851      | Aidan Wing  
Aidan Wing |
| FW16-033  | Sorrel Pesto: The Positive Implications of Sorrel as a Substitute for Basil in Pesto Production | $19,710      | David Ceaser  
Green Skies Vertical Farm |
| FW16-034  | Sustainable Irrigation Demonstration Project: Demonstrating Irrigation Efficiency in California Winegrapes through Advanced Practices and Technologies | $19,180      | Jason Melvin  
Zabala Vineyards |
FW16-036  Improving Water Use Efficiency in Conventional and Organic Almonds through Data Driven Irrigation  $19,878  Pat Ricchiuti  P R Farms, Inc.

FW15-029  High Desert High Tunnels  $5,183  Laurie Wayne  Locavore Farms

FW14-024  Vines And Ovines: Benefits of Target Grazing to Sheep and Vineyard Industries  $14,991  Jaime Irwin  Kaos Sheep Outfit

FW11-037  Use of Wood Ash as Soil Amendment on Annual Rangelands  $28,995  Mel Thompson  Sierra Farms  Glenn Nader  University of California Cooperative Extension

FW10-037  Woolgathering on the Farm  $7,165  Sophie Sheppard  Woolgathering

FW08-324  Placer Ag Futures Project  $25,670  Bill Bennett  High Sierra RC&D Council, Inc.  Kay Joy Barge  High Sierra Resource

FW08-030  Creating and Marketing Value-Added Orchard Products  $15,000  Nicholas Salle  Salle Orchards  Billie Jean Salle  Salle Orchards

FW08-047  Sierra Nevada Small Farm Progress Days  $27,370  Dan Macon

FW08-311  Restoring Plant Diversity and Soil Health in Napa and Sonoma Vineyards: scaling up an agroecologically based pest management strategy  $30,000  Houston Wilson  UC Berkeley – ESPM  Miguel Altieri  University of California, Berkeley

FW08-312  Effects of Aleutian Geese on Humboldt County Pastures  $28,540  Alan Bower  University of California Davis

FW08-315  Vines and Ovines: Using Trained Sheep for Vineyard Floor Grazing  $29,193  Morgan Doran  University of California

FW07-303  Farm Direct Distribution  $25,444  Brigitte Moran  Marin Farmers Market Association

FW07-311  Building on Organic Knowledge: On-Farm Transfer of a Trap Cropping Method to Control Lygus Bug in Conventional Strawberry Production  $14,864  Dr. Sean Swezey  Center for Agroecology and Sustainable Food System

FW07-324  Management Challenges for Dairy Goat Sustainability  $15,360  Deborah Giraud  University of California

FW06-304  Using Molasses as an Attractant for Concentrating Grazing on Medusahead  $3,479  Morgan Doran  University of California

FW06-308  Conservation Tillage Forage Production in California’s San Joaquin Valley  $9,400  Dr. Jeff Mitchell  University of California, Davis

FW05-020  Goats in the Chaparral  $19,990  Bill Burrows
FW05-026  Sustaining an Agricultural Region: Capay Valley Grown  $14,980  Judith Redmond  Full Belly Farm

FW05-030  Evaluation of abalone effluent for reclamation  $7,685  Douglas Bush  The Cultured Abalone

FW04-024  A pilot project for zero discharge farming  $3,250  Alan Haight  Riverhill Farm

FW04-028  Organic Vineyard/Orchard Weed and Grass Management Using Miniature Sheep  $7,472  Deborah Walton  Canvas Ranch

FW04-111  Marketing Locally Grown  $10,000  Mary Ann Vasconcellos

FW03-007  Integrated Pest Management and Sustainable Grape Production in Sonoma County  $13,000  Nick Frey  Sonoma County Grape Growers Assn.

FW03-009  Unconventional Conversion: Cultivating Sustainability in Citrus and Avocado Orchards  $7,500  Zachary Griffin

FW03-010  Increasing Adoption of Sustainable Practices in Central Coast Vineyards  $13,000  Kris Beal  Vineyard Team

FW03-013  Can Llamas Be an Effective Tool for Predator Control?  $6,500  Jill Hackett  Howe Creek Ranch

FW03-015  Pastured Pork: Economics of Intensive Grazing in the Western United States  $6,550  John Currey  CR Pigs

FW03-105  Bay Area Agricultural Cooperative  $13,000  John Lagier  Lagier Ranches

FW03-107  Marin Organics Cooperative Marketing Program  $13,500  Warren Weber  Star Route Farms

FW03-318  Conservation of Groundwater Resources in the Mojave High Desert Region through Producer Education of Irrigation Management  $6,285  Grant Poole  University of California Cooperative Extension

FW02-211  Marin Organic’s Cooperative Marketing Outreach  $9,191  Warren Weber  Star Route Farms

FW02-213  Establishing a Market for Sustainable Agricultural Products in Sierra Nevada Foothill Counties  $12,900  Ed Rich

FW01-089  Symphylans: A growing menace. A look into its detection, damage, and control in a small-scale Biointensive Community Supported Agriculture Project.  $6,270  Michelle Vesser  Small Farm / Specialty Crops

FW00-010  Soil Solarization for Weed and Disease Control in Specialty Crops  $4,975  Mike Smith

FW00-021  Water Use of Wine Grapes in the Granitic Soils of the Fair Play Wine Region in the Sierra Foothills  $10,000  Brian Fitzpatrick
FW00-080  Moving From Selling Through Intermediaries to Direct Marketing Using Cause Related Marketing Strategy  $4,447  Maria Ines Catalan

FW00-210  Test Marketing Pasture Produced Artisan Cheeses  $7,910  Tim Pedrozo

FW00-299  Good Humus Produce Farm to School Project  $5,300  Annie Main

FW00-005  Production of Strawberry Plants using Sterile Soil Amendments  $5,000  Allen Albaugh

FW00-008  Tracking Costs and Returns in a Transition to Grass-Based Dairying  $1,139  Dean Martin

FW99-073  Converting Dairy Waste into More Usable Products through Vermiculture  $4,300  Charmaine Harris

FW99-108  Central Coast Vineyard Team Positive Points System Evaluation and Education Program  $10,000  Dana Merrill

FW98-009  Soil Solarization as a Methyl Bromide Alternative in Strawberries  $4,000  Touxia Thauxaochay

FW98-012  Solarization for Small Farm "Specialty Crops"  $4,000  Mike Smith

FW98-072  Goats as a Source of Weed and Brush Control in Forest Plantations  $5,000  Allen Albaugh

FW97-012  Individual Confinement Rearing vs. Pasture-Based Group Rearing of Dairy Calves  $3,248  Jim Wackerman

FW97-016  Vermicomposting Demonstration Project  $5,000  Dave Renner Diamond Point Dairy

FW97-030  Pheromone Foggers for Pesticide Replacement  $5,000  Willis Thompson

FW97-011  Feasibility of Soil Solarization for Strawberry Production on the Central Coast of California  $5,000  Larry Galper

FW96-053  Farming, Agriculture, and Resource Management for Sustainability (F.A.R.M.S.)  $5,000  Craig McNamara Sierra Orchards

FW95-089  Monitoring Program for Biologically Integrated Orchard Systems (BIOS) in Walnuts  $5,000  Liza Lewis Community Alliance with Family Farmers Foundation

GRADUATE STUDENT GRANTS

<table>
<thead>
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<th>Project #</th>
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| GW20-216 | Network analysis of organic seed systems: a systems-level analysis for resilience | $24,997 | University of California, Davis  
Liza Wood  
University of California, Davis  
Jared Zystro  
Organic Seed Alliance  
Liza Wood  
University of California, Davis |
| GW20-203 | Grazing for change: Connecting soil health and ranch viability using adaptive multi-paddock grazing | $24,867 | Dr. Timothy Bowles  
University of California Berkeley  
Lynn Huntsinger, PhD  
University of California, Berkeley  
Paige Stanley  
University of California, Berkeley  
Paige Stanley  
University of California, Berkeley |
| GW20-207 | Cover crops to enhance control of leaf-footed bug, Leptoglossus zonatus, in California tree nut crops | $24,796 | Houston Wilson  
University of California, Riverside  
Dr. Kent Daane  
University of California, Berkeley  
Rob Straser  
University of California, Riverside |
| GW20-209 | Testing efficacy of anaerobic soil disinfestation (ASD) in managing bacterial wilt disease of Hawaiian ginger, turmeric, and tomato crops | $25,000 | University of California, Davis  
Sharon Motomura-Wages  
University of Hawaii  
Dr. Mohammad Arif  
University of Hawaii  
Jonathan Beutler  
University of California, Davis  
Dr. Jonathan Jacobs, Ph.D.  
Ohio State University  
Dr. Amisha Poret-Peterson, Ph.D.  
USDA Agricultural Research Service  
Jonathan Beutler  
University of California, Davis |
| GW20-213 | Linking Adaptive Rangeland Decision-Making and Vulnerability to Drought and Wildfire | $13,394 | Leslie Roche  
UC Davis  
Grace Woodmansee  
University of California, Davis, Department of Plant Sciences, UC Rangelands Lab  
Grace Woodmansee  
University of California, Davis, Department of Plant Sciences, UC Rangelands Lab |
| GW19-191 | Systems approaches to co-manage disease, water and soil health for sustainable processing tomato production in the Western region | $25,000 | Dr. Cassandra Swett  
UC Davis  
Justine Beaulieu  
UC Davis |
| GW19-193 | Conventional vs. regenerative almond orchards, with regards to invertebrate biomass and biodiversity, soil health, food safety, and profitability | $25,000 | Dr. Jonathan Lundgren, PhD  
Ecdysis Foundation  
Dr. Patty Oikawa  
California State University East Bay  
Dr. Erica Wildy  
California State University East Bay  
Thomas Fenster  
California State University East Bay |
| GW19-194 | Sustainable orchard intensification: Cover crops and management intensity | $24,944 | Bradley Hanson  
University of California, Davis  
Steven Haring  
University of California, Davis |
| GW19-200 | Natural pest control in a working agricultural landscape: Investigating the impact of rodent control on beneficial hawks and owls | $24,997 | Dr. Joshua Hull  
UC Davis  
Dr. Sara Kross  
Columbia University  
Breanna Martinico  
UC Davis |
GW18-142 Cover Crop Systems for Almond Orchards: Exploring Benefits and Tradeoffs to Inform Management $24,852 Dr. Amelie Gaudin University of California, Davis Cynthia Creze University of California, Davis

GW18-126 Increasing the sustainability of dairy cattle by providing genetic tools to reduce lameness, improving welfare and production $23,623 Dr. Anita Oberbauer University of California, Davis Ellen Lai University of California, Davis

GW18-062 Development of New Selection Tools and Crop Varieties for Sustainable Agriculture $24,443 Paul Gepts University of California - Davis Travis Parker University of California - Davis

GW18-020 New Ranchers, New Needs: Why are first-generational ranchers deciding against traditional climate adaptation strategies? $24,982 Leslie Roche UC Davis Katherine Munden-Dixon University of California - Davis

GW18-041 Insect Discovery and Breeding as Tools for Sustainable Solutions to Organic Waste Management $24,942 Dr. Christian Nansen University of California, Davis Trevor Fowles University of California - Davis

GW17-032 Management of Fusarium Wilt of Strawberry through Crop Rotation $24,999 Dr. Thomas Gordon UC Davis Dept. Plant Pathology Peter Henry University of California at Davis

GW16-044 A Collaborative Approach to Integrated Pest Management of Tadpole Shrimp in California Rice Fields. $24,928 Larry Godfrey University of California, Davis Joanna Bloese University of California, Davis

GW13-011 Compost-Induced Disease Suppressive Soils for Control of Verticillium Wilt of Strawberry $24,992 Tom Gordon UC Davis Margaret Lloyd University of California, Davis

GW13-018 Best management practices that promote sustainable crop pollination: the role of crop rotations and tillage depth $24,954 Neal Williams University of California, Davis Katharina Ullmann University of California, Davis

GW12-024 Ecosystem Services in Hedgerow Restorations: Pollination Function and Nesting Habitat $17,882 Dr. Claire Kremen University of California, Berkeley Hillary Sardinas UC Berkeley

GW11-001 Pastured Poultry/Crop Systems and Their Effect on Food Safety, Farm Economy, and Soil Quality $24,807 Dr. Kathleen Hilimire University of California, Santa Cruz Stephen R. Gliessman University of California

GW11-012 Facilitating Integrated Weed Management in California Rice: Predicting E. spp. and C. difformis emergence across heterogeneous growing environments $17,120 Dr. Chris van Kessel University of California, Davis Dr. Mark Lundy University of California Cooperative Extension

GW10-010 Irrigation Alternatives for Sustainable Water Use of Processing Tomatoes $25,000 Louise Jackson UC Davis Felipe Barrios Masias Board of Regents, NSHE, obo University of Nevada, Reno

GW09-018 Promoting Native Bumblebees in Agricultural systems for conservation and ecosystem service $20,074 Dr. Claire Kremen University of California, Berkeley Dr. Alexandra Harmon-Threatt University of Illinois, Urbana-Champaign

GW08-015 Screening for non-host rotation crops of Colletotrichum acutatum for strawberry nurseries in California $19,535 W. Douglas Gubler University of California, Davis Joseph Jerberg UC Davis Plant Pathology Department
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<td>OW20-360</td>
<td>Solarization and Biosolarization: Harnessing the Sun and Organic Matter to Control Weeds</td>
<td>$49,956</td>
<td>Linda Coffey&lt;br&gt;National Center for Appropriate Technology</td>
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<td>OW19-339</td>
<td>Collaboration to demonstrate the potential use and value of electronic identification and DNA testing in the sheep industry</td>
<td>$50,000</td>
<td>Julie Finzel&lt;br&gt;The Regents of the University of California, Agriculture and Natural Resources&lt;br&gt;Dr. Alison Van Eenennaam&lt;br&gt;UCANR</td>
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<tr>
<td>OW19-345</td>
<td>Effects of Occultation on Weed Pressure, Labor Costs, Product Quality, and Yield in Sustainable Vegetable Production in Northern California</td>
<td>$49,994</td>
<td>Dave Runsten&lt;br&gt;Community Alliance with Family Farmers&lt;br&gt;Kali Feiereisel&lt;br&gt;Community Alliance With Family Farmers</td>
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<td>OW19-349</td>
<td>Amador Rangeland Soil Health Research and Education Project</td>
<td>$49,139</td>
<td>Amanda Watson&lt;br&gt;Amador Resource Conservation District</td>
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<td>OW19-351</td>
<td>A Collaborative Beneficial Insect and Pheromone Mating Disruption Demonstration Project</td>
<td>$50,000</td>
<td>Dr. Stephanie Bolton&lt;br&gt;Lodi Winegrape Commission</td>
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| OW18-013    | Early Weaning of Beef Calves: A Drought Management Strategy on Annual Rangelands | $41,184 | Dan Macon  
University of California Cooperative Extension                                          |
| OW17-043    | Beginning-farmer Research and Instruction on Growing in High Tunnels         | $49,999 | nathan harkleroad  
ALBA                                                                                       |
| OW17-054    | Advancing sustainable nitrogen management in strawberries through participatory research and education | $49,937 | Sacha Lozano  
Resource Conservation District of Santa Cruz County                                       |
| OW16-013    | Irrigated Pastureland Enhancement Program                                    | $49,774 | Leslie Roche  
UC Davis  
Dan Macon  
UC Cooperative Extension                                                             |
| OW14-032    | Selecting and Managing Vineyard Cover Crops to Reduce Consumption of Net Basin Water | $49,467 | Fritz Westover  
Vineyard Team  
Kris Beal  
Vineyard Team                                                               |
| OW13-062    | Empowering Socially-Disadvantaged Farmers to Investigate Nitrogen Management in High-Value Vegetable Crops | $45,527 | nathan harkleroad  
ALBA                                                                                       |
| OW12-008    | Water Management in Sonoma County Grape Production                           | $49,200 | Karen Thomas  
Sonoma County Winegrape Commission                                                   |
| OW11-318    | Pomo Tribal Supported Agriculture Program                                     | $49,963 | Rachel Whetstone  
Hopland Band of Pomo Indians  
Terri McCartney  
Coordinator                                                              |

**Total funding from the USDA SARE program to California**

$12,845,294

For further information on projects, contact Western SARE at (435) 797-2257 or wsare@usu.edu.
Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).