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 $332 million to more than 7,748 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, grantee-produced information products and other educational materials.

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

Hawaii

Project Highlight: Finding Success with Local Fertilizers

Because they rely on imported food, Hawaii and the other Pacific Islands face food insecurity issues. Pacific Island farmers also rely on expensive imported fertilizers with prices that continue to increase substantially. The issue is so important that participants in a 2008 Western SARE listening session in Hawaii ranked replacing imported fertilizers with local resources as the highest research, education and development priority. Local organic sources of nutrients have promise—including compost, tankage (rendered animal products), biochar and seaweeds—but more research is needed on their use.

Three SARE-funded projects on locally produced organic fertilizers are taking a step in that direction. One project evaluated quality, maturity, nitrogen-release pattern and crop growth for 10 composts through a series of lab, greenhouse and on-farm trials. It led to an increased demand for locally produced tankage and a reported increase in taro and sweet potato yields and quality when using invasive algae as a fertilizer.

The second project followed up on the promise of tankage but using it as a solution for fertigation. There was some benefit from using this recipe compared to imported liquid organic fertilizer. The third project is continuing the momentum by evaluating biochar combined with compost.

For more information on these projects, see sare.org/projects, and search for project numbers SW11-055, SW14-026 and SW16-021.

SARE in Hawaii

western.sare.org/sare-in-your-state/hawaii

$6,602,355 in total funding

116 grant projects (since 1988)

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

Total awards: 116 grants
- 28 Research and Education
- 18 Professional Development Program
- 51 Farmer/Rancher
- 8 Graduate Student
- 11 On Farm Research/Partnership

Total funding: $6,602,355
- $3,783,714 Research and Education
- $1,312,047 Professional Development Program
- $775,568 Farmer/Rancher
- $193,938 Graduate Student
- $537,088 On Farm Research/Partnership

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/hawaii

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/hawaii to learn more.

Amjad Ahmad
University of Hawaii at Manoa
(808) 956-7985
alobady@hawaii.edu

Jensen Uyeda
University of Hawaii at Manoa
(808) 384-7110
juyeda@hawaii.edu

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

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

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.
AGRICULTURE PROJECTS FUNDED IN HAWAII
by USDA's Sustainable Agriculture Research and Education (SARE) Program

Hawaii has been awarded $6,602,355 grants to support 115 projects, including but not limited to, 27 research and/or education projects, 18 professional development projects and 51 producer-led projects. Hawaii 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>
</table>
| SW21-920   | Economic Evaluation of Beef Cattle Production Models and Marketing Alternatives in Hawaii | $51,386      | Dr. Mark Thorne  
University of Hawaii at Manoa  
Dr. Dillon Feuz  
Utah State University |
| SW20-911   | Instant biofumigation using natural products from papaya seed waste for sustainable management of soil-borne plant pathogens | $349,995     | Dr. Wei Wen Su  
University of Hawaii at Manoa, College of Tropical Ag & Human Resources (CTAHR)  
Dr. Stuart Nakamoto Nakamoto  
U. of Hawaii Manoa, Human Nutrition, Food, and Animal Sciences  
Dr. Koon-Hui Wang  
University of Hawaii  
Dr. Tao Yan  
Dept. of Civil & Environ. Engineering, University of Hawaii at M |
| SW17-050   | Assessing and Sharing Breadfruit Management Practices                          | $220,811     | Dr. Noa Lincoln  
University of Hawaii at Manoa |
| SW16-021   | Improving Nitrogen Synchronization of Local Fertilizers, Soil Fertility, and Crop Quality with Biochar Application          | $259,816     | Dr. Nguyen Hue  
University of Hawaii at Manoa |
| SW16-023   | Development of Individual Free-Choice Mineral Supplementation Program for Sustainable Grazing Management of Hawaii’s Rangelands | $332,601     | Dr. Mark Thorne  
University of Hawaii at Manoa |
| SW14-026   | High nutrient solution fertilizers derived from local organic inputs for field and greenhouse application in the tropics   | $170,466     | Dr. Amjad Ahmad  
University of Hawaii at Manoa |
| SW12-040   | Low-input integrated management of tomato viruses in Hawaii                    | $297,296     | Dr. Mark Wright  
University of Hawaii |
| SW12-114   | Secondary Effects of Behavior-based Pasture Management                         | $37,125      | Matthew Stevenson  
University of Hawaii |
| SW11-052   | Developing sustainable pest management strategies against major pests of papaya in Hawaii     | $148,174     | Dr. Leyla Kaufman  
University of Hawaii at Manoa |
| SW11-055   | Reducing Pacific Island Growers’ Reliance on Off-island Fertilizer Sources Through Improved Awareness and Efficient Use of Local | $284,070     | Dr. Theodore Radovich  
University of Hawaii, Manoa |
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Cost</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
</table>
| SW09-102 | Voluntary Long-Term Protection of Agricultural Land in Hawaii         | $82,814 | Dr. Christopher Lepczyk  
University of Hawaii at Manoa |
| SW09-502 | Sustaining Molokai Native Hawaiian Family Farms                        | $47,420 | Alton Arakaki  
UH-College of Tropical Agriculture and Human Resources, Cooperative Extension Service  
Glenn Teves  
UH CTAHR Cooperative Extension Service |
| SW08-037 | Sunn hemp and its allelopathic compounds for vegetable production in Hawaii and beyond | $156,105 | Dr. Inga Zasada  
USDA-ARS Horticultural Crops Research Lab  
Dr. Koon-Hui Wang  
University of Hawaii  
Dr. Cerruti R. R. Hooks  
University of Maryland  
Dr. Ming Li Wang  
USDA-ARS, PGRCU  
Jari Sugano  
University of Hawaii, TPSS  
Dr. Mark Wright  
University of Hawaii |
| SW07-073 | Enhancing Phytonutrient Content, Yield and Quality of Vegetables with Compost Tea in the Tropics | $162,500 | Dr. Theodore Radovich  
University of Hawaii, Manoa |
| SW07-501 | Innovative SARE Coordinator Program: Virtual Field Days to Improve Farmer-Researcher-Extension Linkages | $25,000 | Jonathan Deeniki  
University of Hawaii at Manoa |
| SW07-604 | Improving and extending the superhero status of the sunn hemp to other growers in need of help | $10,000 | Dr. Cerruti R. R. Hooks  
University of Maryland  
Dr. Koon-Hui Wang  
University of Hawaii |
| SW04-064 | Management of Banana Bunchy Top in Hawaii                              | $90,458 | Dr. Cerruti R. R. Hooks  
University of Maryland |
| SW03-003 | Cropping Systems to Control Tropical Soil-Borne Pests in Dryland-Grown Taro | $257,827 | Dr. Susan Miyasaka  
University of Hawaii |
| SW03-010 | Neem and Papaya Fruit Extracts and Ferric Phosphate for Control of Golden Apple Snail in Wetland Taro: Efficacy Testing | $31,831 | Lance Santo  
Hawaii Agriculture Research Center  
Mel Jackson  
Hawaii Agriculture Research Center |
| SW03-055 | Development of a Sustainable Polyculture and Marketing System for Exotic Tropical Fruits | $156,800 | Richard Bowen  
Department of Nat Res and Envir Mngt |
| SW01-066 | Nature Farming at Wheeler Elementary                                  | $13,460 | Joe Lee  
Wheeler Elementary School |
| SW99-005 | Survival of Taro: Agronomic and Pathological Research For Sustainable Production | $146,700 | Janice Uchida  
Dept. of Plant Pathology, University of Hawaii |
| SW99-022 | Adaptation of a Natural Farming System to Vegetable Farm Production in Hawaii | $85,134 | Clyde Fukuyama  
HARC |
| SW97-001 | Management of Soil-borne Plant Parasitic Nematodes for Sustainable Production of Field Grown Tomatoes and Cucumbers by Cover Cropping | $21,900 | John McHugh  
Waikele Farms |
| SW96-003 | Evaluation of a Perennial Vegetable, Asparagus, as a New Commercial Crop for Hawaiian Farmers | $49,595 | Susan Schenck  
Hawaiian Agriculture Research Center |
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPDP19-21</td>
<td>Building Competencies in Hawaii’s Agricultural Professionals and Stakeholders in Under Represented Agricultural Communities Through Collaborative Partnerships. State of Hawaii.</td>
<td>$75,000</td>
<td>Joshua Silva University of Hawaii at Manoa, College of Tropical Agriculture a Jari Sugano University of Hawaii, TPSS Michelle Gorham West Oahu Soil and Water Conservation District Dr.Koon-Hui Wang University of Hawaii Jari Sugano University of Hawaii, TPSS Michelle Gorham West Oahu Soil and Water Conservation District Dr.Koon-Hui Wang University of Hawaii Jari Sugano University of Hawaii, TPSS Michelle Gorham West Oahu Soil and Water Conservation District Dr.Koon-Hui Wang University of Hawaii</td>
</tr>
<tr>
<td>EW18-023</td>
<td>Capacity building for Cooperative Extension in Micronesia to reduce Pacific Island food system vulnerability to climate variability</td>
<td>$74,858</td>
<td>Clay Trauernicht University of Hawaii</td>
</tr>
<tr>
<td>EW17-004</td>
<td>Breadfruit Agroforestry for Pacific Island Revitalization</td>
<td>$73,689</td>
<td>Craig Elevitch Permanent Agriculture Resources</td>
</tr>
<tr>
<td>EW16-008</td>
<td>Agroforestry Design for Sustainable Production Systems in the U.S.-Affiliated Pacific Islands</td>
<td>$73,970</td>
<td>Craig Elevitch Permanent Agriculture Resources</td>
</tr>
<tr>
<td>EW13-010</td>
<td>Pollinator Use and Management: Training in Sustainable Practices for Ag Professionals</td>
<td>$65,386</td>
<td>Dr.Ethel Villalobos University of Hawaii</td>
</tr>
<tr>
<td>EW11-014</td>
<td>Hawai’i Community-Based Food Security</td>
<td>$58,520</td>
<td>Craig Elevitch Hawaii Homegrown Food Network</td>
</tr>
<tr>
<td>EW08-013</td>
<td>Promoting Adaptive Management With ‘Tropic Sun’ sunn hemp (Crotolaria juncea) in Hawaii for Ecological Strategies in Weed Control, Nematode Suppression and Nutrient Management</td>
<td>$53,768</td>
<td>Dr.james leary University of Hawaii at Manoa Dr.Brent Sipes University of Hawaii Dr.james leary University of Hawaii at Manoa Dr.Brent Sipes University of Hawaii Dr.james leary University of Hawaii at Manoa Dr.Brent Sipes University of Hawaii</td>
</tr>
<tr>
<td>EW07-004</td>
<td>New Crops for Pacific Island Agroforestry</td>
<td>$80,000</td>
<td>Craig Elevitch Permanent Agriculture Resources Craig Elevitch Hawaii Homegrown Food Network Craig Elevitch Permanent Agriculture Resources Craig Elevitch Hawaii Homegrown Food Network Craig Elevitch Permanent Agriculture Resources</td>
</tr>
<tr>
<td>EW05-009</td>
<td>Pacific Island Agroforestry Workshops and Field Visits</td>
<td>$59,777</td>
<td>Craig Elevitch Permanent Agriculture Resources</td>
</tr>
<tr>
<td>EW03-002</td>
<td>New Farmers: Choosing the Road Less Traveled</td>
<td>$90,000</td>
<td>Samir El-Swaify University of Hawaii MANOA</td>
</tr>
</tbody>
</table>
**Species Profiles for Pacific Island Agroforestry**

- **Project #**: EW02-001
- **Project Title**: Species Profiles for Pacific Island Agroforestry
- **SARE Support**: $94,971
- **Project Leaders**: Craig Elevitch
  Permanent Agriculture Resources

**Sustainable Pest Control for the Tropics**

- **Project #**: EW00-026
- **Project Title**: Sustainable Pest Control for the Tropics
- **SARE Support**: $78,090
- **Project Leaders**: Richard Bowen
  Department of Nat Res and Envir Mngt

**Agroforestry Handbooks for Pacific Islands**

- **Project #**: EW98-004
- **Project Title**: Agroforestry Handbooks for Pacific Islands
- **SARE Support**: $57,885
- **Project Leaders**: Craig Elevitch
  Permanent Agriculture Resources

**Covering New Ground: Tropical Cover Crops for Improving Soil Quality**

- **Project #**: EW98-012
- **Project Title**: Covering New Ground: Tropical Cover Crops for Improving Soil Quality
- **SARE Support**: $84,500
- **Project Leaders**: Richard Bowen
  Department of Nat Res and Envir Mngt

**Tools for Sustainability: Sustainable Agriculture Video Training Tapes for the Pacific Islands Region**

- **Project #**: EW97-003
- **Project Title**: Tools for Sustainability: Sustainable Agriculture Video Training Tapes for the Pacific Islands Region
- **SARE Support**: $64,295
- **Project Leaders**: John Craven
  Common Heritage

**Continuation – “Training Agents” in On-Farm Implementation of Sustainable Management Systems for Tropical Agriculture in Hawaii and the Pacific Region**

- **Project #**: EW96-014
- **Project Title**: Continuation – “Training Agents” in On-Farm Implementation of Sustainable Management Systems for Tropical Agriculture in Hawaii and the Pacific Region
- **SARE Support**: $63,623
- **Project Leaders**: Po-Yung Lai
  University of Hawaii

**Tools for Sustainability: Sustainable Agriculture Video Training Tapes for the Pacific Islands Region**

- **Project #**: EW94-014
- **Project Title**: Training “Agents” in On-Farm Implementation of Sustainable Management Systems for Tropical Agriculture in Hawaii and the Pacific Region
- **SARE Support**: $89,000
- **Project Leaders**: Po-Yung Lai
  University of Hawaii

---

**FARMER/RANCHER GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW21-375</td>
<td>The Mango Loa Project phase two: Improving Hawaii’s mango industry by incorporating high density orchard management systems</td>
<td>$16,533</td>
<td>Umi Martin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Umi Martin</td>
</tr>
<tr>
<td>FW21-378</td>
<td>Growing Table Grape Varieties for Subtropical Hawaii Using Organic Practices</td>
<td>$25,000</td>
<td>Gerry Herbert</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kawanui Farm</td>
</tr>
<tr>
<td>FW21-381</td>
<td>Evaluating the Potential of Cover Crops to Mitigate the Impact of Phytophthora in Macadamia Orchards</td>
<td>$24,574</td>
<td>Andrew Trump</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Island Harvest Inc.</td>
</tr>
<tr>
<td>FW21-384</td>
<td>Regenerating Hawaii’s Soils - A Battalion of Hawaii’s Indigenous Microbes – Optimization and timeline to microbially regenerate our degraded soil.</td>
<td>$25,000</td>
<td>Regina Enea</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HAWAII AGRICULTURAL SOLUTIONS LLC</td>
</tr>
<tr>
<td>FW20-366</td>
<td>Integration of Multifunctional Dairy Water Buffalo (Bubalus bubalis) into a Whole Farm System in Hawaii: economic, ecological and social benefits.</td>
<td>$19,178</td>
<td>Donald Heacock</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kauai Organic Agroecosystems (KOA)</td>
</tr>
<tr>
<td>FW20-368</td>
<td>Mamaki - Fertilization and branch bending trials for continuous leaf flush and soil fertility</td>
<td>$20,000</td>
<td>Dr. Ming Wei Koh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mamaki Ola</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hawaii Tropical Fruit Growers</td>
</tr>
<tr>
<td>FW19-339</td>
<td>Demonstrating Viability of Cooperative Swine Aggregator Using Inoculated Deep Litter System</td>
<td>$25,000</td>
<td>Atto Assi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ohana Coffee Farm &amp; Assi Piggery</td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Budget</td>
<td>Investigator</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>FW19-344</td>
<td>Different Poultry Housing Options for Chickens to Determine Fastest Growth Rate</td>
<td>$13,700</td>
<td>Nicole Correa</td>
</tr>
<tr>
<td>FW19-349</td>
<td>Performance of novel clonal cacao accessions in Hawaii under sustainable farming conditions</td>
<td>$20,000</td>
<td>Dr. Pierre Broun</td>
</tr>
<tr>
<td>FW19-350</td>
<td>Comparing Bird Deterrent Strategies to Increase Sustainability and Production of Fruit Crops in Hawaii</td>
<td>$18,620</td>
<td>Paul De Filippi</td>
</tr>
<tr>
<td>FW18-052</td>
<td>A Living Mulch Income Enhancer</td>
<td>$19,092</td>
<td>Kevin Chan</td>
</tr>
<tr>
<td>FW18-034</td>
<td>Can Intensive Rotational Grazing in combination with Indigenous Microorganism Application improve soil condition (i.e., soil carbon, minerals, and microbial life)?</td>
<td>$19,953</td>
<td>Kyle Fisher</td>
</tr>
<tr>
<td>FW17-034</td>
<td>The Mango Loa Project</td>
<td>$19,878</td>
<td>Umi Martin</td>
</tr>
<tr>
<td>FW16-003</td>
<td>Establishing Profitable Durian Crops in Hawaii</td>
<td>$28,192</td>
<td>Ken Love</td>
</tr>
<tr>
<td>FW16-023</td>
<td>Malama Kou Kino</td>
<td>$20,000</td>
<td>Melanie Holt</td>
</tr>
<tr>
<td>FW15-035</td>
<td>Producing Triploid Oysters</td>
<td>$24,992</td>
<td>David Nisbet</td>
</tr>
<tr>
<td>FW12-034</td>
<td>Grapes for tropical Hawaii</td>
<td>$17,370</td>
<td>Ken Love</td>
</tr>
<tr>
<td>FW10-040</td>
<td>Relocating swarms for pollination: How feral bees can be integrated into sustainable farming strategies</td>
<td>$29,975</td>
<td>Jennifer Bach</td>
</tr>
<tr>
<td>FW10-056</td>
<td>Use of Cover Crops with Medicinal Herbs in North Hawaii</td>
<td>$20,117</td>
<td>Dr. Katherine Pomeroy</td>
</tr>
<tr>
<td>FW09-002</td>
<td>No Chill Stone Fruit for Hawaii</td>
<td>$9,528</td>
<td>Ken Love</td>
</tr>
<tr>
<td>FW09-004</td>
<td>Integrating Existing Crop and Livestock Enterprises on a Native Hawaiian Homestead Farm</td>
<td>$12,580</td>
<td>Conrad Aquino</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FW09-012</td>
<td>Project Fresh: Mountain View Community Gardens</td>
<td>$30,000</td>
<td>Neena Roumell</td>
</tr>
<tr>
<td>FW09-025</td>
<td>Maximizing the Utilization of Bamboo in the Hawaiian Islands</td>
<td>$14,460</td>
<td>Rich von Wellsheim</td>
</tr>
<tr>
<td>Project Code</td>
<td>Title</td>
<td>Budget</td>
<td>Principal Investigator(s)</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FW09-027</td>
<td>Evaluating New Windbreaks and Cover Crops for Tropical Fruit Crops</td>
<td>$12,206</td>
<td>Jane Teves Puakala Farms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jane Teves Puakala Farms</td>
</tr>
<tr>
<td>FW09-308</td>
<td>Quantifying Secondary Compounds in Common Pasture Vegetation for Behavior Based Grazing Management in Hawaii</td>
<td>$41,760</td>
<td>Dr. Mark Thorne University of Hawaii at Manoa</td>
</tr>
<tr>
<td>FW09-311</td>
<td>Diversifying Hawai‘i Aquaculture with Clam and Oyster Culture</td>
<td>$50,000</td>
<td>Dr. Maria Haws Pacific Aquaculture and Coastal Resources Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maria Haws Pacific Aquaculture &amp; Coastal Resources Center</td>
</tr>
<tr>
<td>FW08-049</td>
<td>Healthy Foundation, Healthy Bees, Making Organic Wax Foundation for Beekeepers</td>
<td>$13,999</td>
<td>Richard Spiegel Volcano Island Honey Co.</td>
</tr>
<tr>
<td>FW07-034</td>
<td>Choosing the Best Figs for Hawaii</td>
<td>$25,000</td>
<td>Ken Love Hawaii Tropical Fruit Growers</td>
</tr>
<tr>
<td>FW05-314</td>
<td>A Superhero without a Cape: Using the Cover Crop Sunn Hemp to Feed the Soil, Suppress Nematodes and Smother Weeds</td>
<td>$7,716</td>
<td>Hooks Cerruti University of Hawaii</td>
</tr>
<tr>
<td>FW04-011</td>
<td>Conversion of Fish Processing Waste to Fish/Animal Feed, Chum and Fertilizer</td>
<td>$6,695</td>
<td>Takumi Shirakawa Shirakawa Farm</td>
</tr>
<tr>
<td>FW03-018</td>
<td>Recovery of Tropical Pasture Systems</td>
<td>$6,875</td>
<td>Dwayne Cypriano</td>
</tr>
<tr>
<td>FW03-025</td>
<td>DDT Removal Using Biodynamic Agricultural Methods</td>
<td>$6,932</td>
<td>Marie Mauger Spirit of the Earth Farm</td>
</tr>
<tr>
<td>FW03-205</td>
<td>Field Management/Mulch Project</td>
<td>$5,232</td>
<td>Fernand Severi</td>
</tr>
<tr>
<td>FW03-206</td>
<td>Grow Your Own Sustainable Barn</td>
<td>$7,396</td>
<td>Robert Layer</td>
</tr>
<tr>
<td>FW02-008</td>
<td>Increasing Marketable Production of Exotic Tropical Fruit with Protective Covering</td>
<td>$12,850</td>
<td>Ken Love Hawaii Tropical Fruit Growers</td>
</tr>
<tr>
<td>FW02-040</td>
<td>Increasing Sustainable Agricultural Production in High Polynesian Islands</td>
<td>$7,500</td>
<td>Ivona Ballard Whutnutsamoia</td>
</tr>
<tr>
<td>FW01-021</td>
<td>Increasing the value of products from small family farms by enriching the culinary experience of the local consumers</td>
<td>$4,000</td>
<td>Glenn Shinsato Univ of HI</td>
</tr>
<tr>
<td>FW00-077</td>
<td>Rejuvenation of a 60 Year Old Lychee Orchard by Pruning and Fertilizer Applications to Maximize Production</td>
<td>$4,000</td>
<td>Elisabeth Ladoux</td>
</tr>
<tr>
<td>FW00-335</td>
<td>An On-Farm Educational Approach to Directly Marketing “the Other White Meat”</td>
<td>$9,900</td>
<td>Daphne McKeehan</td>
</tr>
<tr>
<td>FW99-056</td>
<td>Hot Water Immersion Unit for Disinfestation of Hawaii-Grown Lychee and Longan</td>
<td>$5,000</td>
<td>Michael Strong</td>
</tr>
</tbody>
</table>
FW99-059  Flower Induction of Rambutan $2,100  Liloa Willard

FW99-066  Lone Palm Sprouts Water Recapture and Recycle System $5,000  Davide Rotstein

FW98-004  The Conversion of Agricultural Waste into Plant and Fish Food $3,400  Robert Gann

FW98-062  Free Range Pork Production $5,390  Samuel Okami

FW98-063  Total Utilization of Swine Waste for Crop and Hog Productivity $4,985  Rondald McKeehan

FW98-075  High Quality Perennial Forage Peanut (Arachis pintal) Pastures for Sustainable Cattle Production in Hawaii $5,000  Zach Gibson

FW97-004  Sustainable Alternatives To Herbicide for Weed Control: Using Cover Crops To Combat Panicum repens and Panicum maximum In Lowland, Eastern Hawaii $3,500  Paul Acciavatti Wailea Spring Farm

FW97-017  Growing Ring-Spot Virus-Free Papayas Using Anti-transpirants and Other Sustainable Techniques $4,000  Jon Biloon

FW96-049  Sustainable Greenhouse Tomato Production: Evaluating Alternatives to Pesticide Use for Controlling Tomato Pinworm Larvae in Hawaii $3,520  Shari Tresky Mariah Farm

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>GW20-211</td>
<td>A key to sustainable Hawaiian agricultural production resides with the endemic sandalwood species</td>
<td>$24,997</td>
<td>Dr.Travis Idol University of Hawaii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emily Thyroff University of Hawai'i Mānoa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emily Thyroff University of Hawai'i</td>
</tr>
<tr>
<td>GW20-212</td>
<td>Evaluate sorghum and sorghum-sudangrass hybrids as soil builders and microbial enhancer crops in the tropic.</td>
<td>$25,000</td>
<td>Dr.Koon-Hui Wang University of Hawaii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr.Amjad Ahmad University of Hawaii at Manoa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roshan Paudel University of Hawaii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Joshua Silva University of Hawaii at Manoa, College of Tropical Agriculture</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Philip Waisen University of Hawaii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roshan Paudel University of Hawaii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University of Hawaii at Manoa</td>
</tr>
<tr>
<td>GW19-201</td>
<td>A Hawai'i Soil Health Index to Guide Farmer Adoption of Sustainable Management Practices</td>
<td>$23,036</td>
<td>Jamie (Jayme) Barton, M.A. Hawaii Agriculture Research Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr.Susan Crow University of Hawaii Mānoa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jonathan Deeniki University of Hawaii at Manoa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elaine Vizka University of Hawaii at Manoa</td>
</tr>
</tbody>
</table>

GRADUATE STUDENT GRANTS
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| GW18-026   | Cover Crop "5-in-1 Approach" for Nematode Management Using Mustard and Oil Radish | $24,998      | Dr. Koon-Hui Wang  
University of Hawaii  
Philip Waisen  
University of Hawaii |
| GW18-014   | Conditioning Sheep to Avoid Koa Foliage: An opportunity for productive silvopastures in Hawaii. | $24,920      | Rebecca Ryals  
University of Hawaii - Manoa  
Nicholas Krueger  
University of Hawaii - Manoa |
| GW18-104   | Conservation Biological Control of Coffee Berry Borer by Applying Nitrogen Fixing Tree Mulch to Enhance Indigenous Entomopathogenic Nematodes | $24,948      | Dr. Brent Sipes  
University of Hawaii  
Dr. Brent Sipes  
University of Hawaii |
| GW18-187   | Quantifying the Environmental Impact of Doubling Hawaii’s Local Food Supply | $21,119      | Dr. Kimberly Carlson  
University of Hawaii  
Tanya Torres  
University of Hawaii |
| GW14-007   | Evaluating the Potential of Oyster Mushroom Compost Waste for Plant-Parasitic Nematode Management | $24,920      | Dr. Koon-Hui Wang  
University of Hawaii  
Shelby Ching  
University of Hawaii at Manoa |

### ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| OW20-354   | Healthy Soils Hawai‘i: Building Better Soil on Agricultural Lands through Soil Health Planning | $49,557      | Dave Elliott  
Oahu RC&D  
Hannah Hubanks  
Oahu RC&D |
| OW19-344   | Breadfruit Disease Identification and Varietal Resistance in Hawai‘i          | $49,971      | Dr. Noa Lincoln  
University of Hawaii at Manoa  
Eli Isele  
University of Hawaii  
Dana Shapiro  
Hawaii Ulu Producers Cooperative  
Janice Uchida  
Dept. of Plant Pathology, University of Hawaii |
| OW18-017   | Pest reduction on agricultural lands due to Hawaiian short-eared owls        | $49,755      | Dr. Melissa Price  
University of Hawaii |
| OW17-037   | Successful Cacao Establishment through Improved Soil Management              | $49,789      | Dave Elliott  
Oahu RC&D |
| OW16-022   | Cover Crop Cocktails: Evaluating Costs and Benefits of Mixed-Species Plantings | $41,606      | Dave Elliott  
Oahu RC&D |
| OW15-019   | Sustainable Pest Management Approaches for High Tunnel Screenhouse Production in the Tropics | $49,989      | Dr. Koon-Hui Wang  
University of Hawaii |
| OW13-034   | Enhancing the sustainability of grass-fed beef production in Hawaii via carcass and meat quality improvement | $49,948      | Dr. Yong soo Kim  
University of Hawaii |
| OW12-041   | Effectiveness of Beauveria bassiana on coffee berry borer in different agroclimatic zones | $49,403      | Dr. Elsie Burbano Greco  
University of Hawaii at Manoa |
| OW11-308   | Control of coffee berry borer and increase of coffee yields using Surround WP (kaolin) | $47,648      | Dr. Shawn Steiman  
Coffea Consulting |
OW11-309  Training Livestock to Eat Weeds in the Tropical Pacific and Evaluating the Effects on Meat Quality for Stronger Ranch Profits  $49,610  Matthew Stevenson  University of Hawaii

OW11-310  Master Farmer Workshop Series  $49,812  Dave Elliott  Oahu RC&D

---

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

$6,602,355

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).