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 $307 million to more than 7,384 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.

www.sare.org

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

$6,534,472 in total funding

114 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: 114 grants
- 3 Enhanced State Grants
- 47 Farmer/Rancher
- 8 Graduate Student
- 11 On Farm Research/Partnership
- 18 Professional Development Program
- 27 Research and Education

Total funding: $6,534,472
- $74,610 Enhanced State Grants
- $684,461 Farmer/Rancher
- $193,938 Graduate Student
- $537,088 On Farm Research/Partnership
- $1,312,047 Professional Development Program
- $3,732,328 Research and Education

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.

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

Sharon Wages Motomura
University of Hawaii - Manoa
(808) 969-8250
smotomur@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.
Hawaii has been awarded $6,459,862 grants to support 110 projects, including but not limited to, 26 research and/or education projects, 18 professional development projects and 47 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>
<tbody>
<tr>
<td>SW20-911</td>
<td>Instant biofumigation using natural products from papaya seed waste for sustainable management of soil-borne plant pathogens</td>
<td>$349,995</td>
<td>Wei Wen Su&lt;br&gt;University of Hawaii at Manoa, College of Tropical Ag &amp; Human Resources (CTAHR)&lt;br&gt;Dr. Stuart Nakamoto Nakamoto&lt;br&gt;U. of Hawaii Manoa, Human Nutrition, Food, and Animal Sciences&lt;br&gt;Dr. Koon-Hui Wang&lt;br&gt;University of Hawaii&lt;br&gt;Dr. Tao Yan&lt;br&gt;Dept. of Civil &amp; Environ. Engineering, University of Hawaii at Manoa</td>
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<tr>
<td>SW17-050</td>
<td>Assessing and Sharing Breadfruit Management Practices</td>
<td>$220,811</td>
<td>Dr. Noa Lincoln&lt;br&gt;University of Hawaii at Manoa</td>
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<tr>
<td>SW16-021</td>
<td>Improving Nitrogen Synchronization of Local Fertilizers, Soil Fertility, and Crop Quality with Biochar Application</td>
<td>$259,816</td>
<td>Dr. Nguyen Hue&lt;br&gt;University of Hawaii at Manoa</td>
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<tr>
<td>SW16-023</td>
<td>Development of Individual Free-Choice Mineral Supplementation Program for Sustainable Grazing Management of Hawaii’s Rangelands</td>
<td>$332,601</td>
<td>Dr. Mark Thorne&lt;br&gt;University of Hawaii at Manoa</td>
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<tr>
<td>SW14-026</td>
<td>High nutrient solution fertilizers derived from local organic inputs for field and greenhouse application in the tropics</td>
<td>$170,466</td>
<td>Dr. Amjad Ahmad&lt;br&gt;University of Hawaii at Manoa</td>
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<tr>
<td>SW12-040</td>
<td>Low-input integrated management of tomato viruses in Hawaii</td>
<td>$297,296</td>
<td>Dr. Mark Wright&lt;br&gt;University of Hawaii</td>
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<td>SW12-114</td>
<td>Secondary Effects of Behavior-based Pasture Management</td>
<td>$37,125</td>
<td>Matthew Stevenson&lt;br&gt;University of Hawaii</td>
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<tr>
<td>SW11-052</td>
<td>Developing sustainable pest management strategies against major pests of papaya in Hawaii</td>
<td>$148,174</td>
<td>Dr. Leyla Kaufman&lt;br&gt;University of Hawaii at Manoa</td>
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<tr>
<td>SW11-055</td>
<td>Reducing Pacific Island Growers’ Reliance on Off-island Fertilizer Sources Through Improved Awareness and Efficient Use of Local</td>
<td>$284,070</td>
<td>Dr. Theodore Radovich&lt;br&gt;University of Hawaii, Manoa</td>
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<tr>
<td>SW09-102</td>
<td>Voluntary Long-Term Protection of Agricultural Land in Hawaii</td>
<td>$82,814</td>
<td>Dr. Christopher Lepczyk&lt;br&gt;University of Hawaii at Manoa</td>
</tr>
</tbody>
</table>
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 CTAAHR 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

SW03-055  Development of a Sustainable Polyculture and Marketing System for Exotic Tropical Fruits  $156,800  Richard Bowen  
Department of Nat Res and Envir Mngt

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

SW01-066  Nature Farming at Wheeler Elementary  $13,460  Joe Lee  
Wheeler Elementary School

SW99-022  Adaptation of a Natural Farming System to Vegetable Farm Production in Hawaii.  $85,134  Clyde Fukuyama  
HARC

SW99-005  Survival of Taro: Agronomic and Pathological Research For Sustainable Production  $146,700  Janice Uchida  
Dept. of Plant Pathology, University of Hawaii

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  
Waieke 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

LWE92-002  Integrated Hog Farming and Market Gardening for Small Farmers in Tropical Areas of the Western Region  $36,000  Kent Fleming  
University of Hawaii at Manoa
**PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| WPDP19-21 | Building Competencies in Hawaii’s Agricultural Professionals and Stakeholders in Under Represented Agricultural Communities Through Collaborative Partnerships. State of Hawaii. | $75,000      | Joshua Silva  
University of Hawaii at Manoa, College of Tropical Agriculture  
Jari Sugano  
University of Hawaii, TPSS  
Michelle Gorham  
West Oahu Soil and Water Conservation District  
Dr.Koon-Hui Wang  
University of Hawaii |
| WPDP19-24 | Co-Managing Food Safety and Land Stewardship on Hawaii Farms                   | $74,715      | Dave Elliott  
Oahu RC&D  
Frankie Koethe  
Oahu Resource Conservation and Development Council  
Jean Brokish  
Oahu Resource Conservation and Development Council |
| EW18-023  | Capacity building for Cooperative Extension in Micronesia to reduce Pacific Island food system vulnerability to climate variability | $74,858      | Clay Trauernicht  
University of Hawaii |
| EW17-004  | Breadfruit Agroforestry for Pacific Island Revitalization                      | $73,689      | Craig Elevitch  
Permanent Agriculture Resources |
| EW16-008  | Agroforestry Design for Sustainable Production Systems in the U.S.-Affiliated Pacific Islands | $73,970      | Craig Elevitch  
Permanent Agriculture Resources |
| EW13-010  | Pollinator Use and Management: Training in Sustainable Practices for Ag Professionals | $65,386  | Dr.Ethel Villalobos  
University of Hawaii |
| EW11-014  | Hawai'i Community-Based Food Security                                          | $58,520      | Craig Elevitch  
Hawaii Homegrown Food Network |
| EW08-013  | Promoting Adaptive Management With ‘Tropic Sun’ sunn hemp (Crotolaria juncea) in Hawaii for Ecological Strategies in Weed Control, Nematode Suppression and Nutrient Management | $53,768      | Dr.James Leary  
University of Hawaii at Manoa  
Dr.Brent Sipes  
University of Hawaii |
| EW07-004  | New Crops for Pacific Island Agroforestry                                     | $80,000      | Craig Elevitch  
Permanent Agriculture Resources  
Craig Elevitch  
Hawaii Homegrown Food Network |
| EW05-009  | Pacific Island Agroforestry Workshops and Field Visits                        | $59,777      | Craig Elevitch  
Permanent Agriculture Resources |
| EW03-002  | New Farmers: Choosing the Road Less Traveled                                 | $90,000      | Samir El-Swaify  
University of Hawaii MANOA |
| EW02-001  | Species Profiles for Pacific Island Agroforestry                             | $94,971      | Craig Elevitch  
Permanent Agriculture Resources |
### Sustainable Pest Control for the Tropics
- **Project #:** EW00-026
- **SARE Support:** $78,090
- **Project Leaders:** Richard Bowen
  - Department of Nat Res and Envir Mngt

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

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

### Tools for Sustainability: Sustainable Agriculture Video Training Tapes for the Pacific Islands Region
- **Project #:** EW97-003
- **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
- **SARE Support:** $63,623
- **Project Leaders:** Po-Yung Lai
  - University of Hawaii

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

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#### FARMER/RANCHER GRANTS

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<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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<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>
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<td>Kauai Organic Agroecosystems (KOA)</td>
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<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>
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<td>Mamaki Ola</td>
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<tr>
<td>FW20-370</td>
<td>Establishing “Bush Tucker” in Hawaii</td>
<td>$22,870</td>
<td>Ken Love</td>
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<td>Tropical Fruit Growers</td>
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<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>
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<td>Double D Farm and Ranch L.L.C.</td>
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<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>
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<td>Ninole Cacao LLC</td>
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<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>
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<td>Mauka Vista Farms LLC</td>
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<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>
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<td>Ohana Coffee Farm &amp; Assi Piggery</td>
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<tr>
<td>FW18-052</td>
<td>A Living Mulch Income Enhancer</td>
<td>$19,092</td>
<td>Kevin Chan</td>
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<td>Kevin Chan</td>
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<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>
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<td>Graze and Sprout Farm</td>
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<td>FW17-034</td>
<td>The Mango Loa Project</td>
<td>$19,878</td>
<td>Umi Martin</td>
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<td>Umi Martin</td>
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<td>Project Title</td>
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<td>Principal Investigator(s)</td>
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<tr>
<td>FW16-003</td>
<td>Establishing Profitable Durian Crops in Hawaii</td>
<td>$28,192</td>
<td>Ken Love, Hawaii Tropical Fruit Growers</td>
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<tr>
<td>FW16-023</td>
<td>Malama Kou Kino</td>
<td>$20,000</td>
<td>Melanie Holt, Real Farm</td>
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<td>FW15-035</td>
<td>Producing Triploid Oysters</td>
<td>$24,992</td>
<td>David Nisbet, Goosepoint Oyster Co.</td>
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<tr>
<td>FW12-034</td>
<td>Grapes for tropical Hawaii</td>
<td>$17,370</td>
<td>Ken Love, Hawaii Tropical Fruit Growers</td>
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<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, Honeybee Education Program</td>
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<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, Kohala Medicinal Herb Farm</td>
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<tr>
<td>FW09-012</td>
<td>Project Fresh: Mountain View Community Gardens</td>
<td>$30,000</td>
<td>Neena Roumell, Eden Earthworks</td>
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<td>FW09-025</td>
<td>Maximizing the Utilization of Bamboo in the Hawaiian Islands</td>
<td>$14,460</td>
<td>Rich von Wellsheim, Whispering Winds Bamboo</td>
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<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, Jane Teves, Puakala Farms</td>
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<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>
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<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, Maria Haws, Pacific Aquaculture &amp; Coastal Resources Center</td>
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<td>FW09-002</td>
<td>No Chill Stone Fruit for Hawaii</td>
<td>$9,528</td>
<td>Ken Love, Hawaii Tropical Fruit Growers</td>
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<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, Alton Arakaki, UH-College of Tropical Agriculture and Human Resources, Cooperative Extension Service</td>
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<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>
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<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>
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<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>
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<td>Project Code</td>
<td>Project Title</td>
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<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>
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<tr>
<td>FW03-205</td>
<td>Field Management/Mulch Project</td>
<td>$5,232</td>
<td>Fernand Severi</td>
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<tr>
<td>FW03-206</td>
<td>Grow Your Own Sustainable Barn</td>
<td>$7,396</td>
<td>Robert Layer</td>
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<tr>
<td>FW03-018</td>
<td>Recovery of Tropical Pasture Systems</td>
<td>$6,875</td>
<td>Dwayne Cypriano</td>
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<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>
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<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>
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<tr>
<td>FW02-040</td>
<td>Increasing Sustainable Agricultural Production in High Polynesian Islands</td>
<td>$7,500</td>
<td>Ivona Ballard Whutnutsamoa</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>
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<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>
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<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>
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<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>
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<td>FW99-059</td>
<td>Flower Induction of Rambutan</td>
<td>$2,100</td>
<td>Liloa Willard</td>
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<td>FW99-066</td>
<td>Lone Palm Sprouts Water Recapture and Recycle System</td>
<td>$5,000</td>
<td>Davide Rotstein</td>
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<td>FW98-075</td>
<td>High Quality Perennial Forage Peanut (Arachis pintal) Pastures for Sustainable Cattle Production in Hawaii</td>
<td>$5,000</td>
<td>Zach Gibson</td>
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<tr>
<td>FW98-004</td>
<td>The Conversion of Agricultural Waste into Plant and Fish Food</td>
<td>$3,400</td>
<td>Robert Gann</td>
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<td>FW98-062</td>
<td>Free Range Pork Production</td>
<td>$5,390</td>
<td>Samuel Okami</td>
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<tr>
<td>FW98-063</td>
<td>Total Utilization of Swine Waste for Crop and Hog Productivity</td>
<td>$4,985</td>
<td>Rondald McKeehan</td>
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### GRADUATE STUDENT GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| GW20-211 | A key to sustainable Hawaiian agricultural production resides with the endemic sandalwood species | $24,997       | Dr. Travis Idol  
University of Hawaii  
Emily Thyroff  
University of Hawaiʻi Mānoa  
Emily Thyroff  
University of Hawaiʻi |
| GW20-212 | Evaluate sorghum and sorghum-sudangrass hybrids as soil builders and microbial enhancer crops in the tropic. | $25,000       | Dr. Koon-Hui Wang  
University of Hawaii  
Dr. Amjad Ahmad  
University of Hawaii at Manoa  
Roshan Paudel  
University of Hawaii  
Joshua Silva  
University of Hawaii at Manoa, College of Tropical Agriculture  
Philip Waisen  
University of Hawaii  
Roshan Paudel  
University of Hawaii |
| GW19-201 | A Hawaiʻi Soil Health Index to Guide Farmer Adoption of Sustainable Management Practices | $23,036       | Jamie (Jayme) Barton, M.A.  
Hawaii Agriculture Research Center  
Dr. Susan Crow  
University of Hawaii Manoa  
Jonathan Deeniki  
University of Hawaii at Manoa  
Elaine Vizka  
University of Hawaii at Manoa |
| GW18-026 | Cover Crop "5-in-1 Approach" for Nematode Management Using Mustard and Oil Radish | $24,988       | Dr. Koon-Hui Wang  
University of Hawaii  
Philip Waisen  
University of Hawaii |
| 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 |
| GW18-014 | Conditioning Sheep to Avoid Koa Foilage: An opportunity for productive silvopastures in Hawaii. | $24,920       | Rebecca Ryals  
University of Hawaii - Manoa  
Nicholas Krueger  
University of Hawaii - Manoa |
| 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 |
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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<tr>
<td>OW20-354</td>
<td>Healthy Soils Hawai’i: Building Better Soil on Agricultural Lands through Soil Health Planning</td>
<td>$49,557</td>
<td>Dave Elliott, Oahu RC&amp;D, Hannah Hubanks, Oahu RC&amp;D</td>
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<td>OW19-344</td>
<td>Breadfruit Disease Identification and Varietal Resistance in Hawai’i</td>
<td>$49,971</td>
<td>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</td>
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<td>OW18-017</td>
<td>Pest reduction on agricultural lands due to Hawaiian short-eared owls</td>
<td>$49,755</td>
<td>Dr. Melissa Price, University of Hawaii</td>
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<td>OW17-037</td>
<td>Successful Cacao Establishment through Improved Soil Management</td>
<td>$49,789</td>
<td>Dave Elliott, Oahu RC&amp;D</td>
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<td>OW16-022</td>
<td>Cover Crop Cocktails: Evaluating Costs and Benefits of Mixed-Species Plantings</td>
<td>$41,606</td>
<td>Dave Elliott, Oahu RC&amp;D</td>
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<td>OW15-019</td>
<td>Sustainable Pest Management Approaches for High Tunnel Screenhouse Production in the Tropics</td>
<td>$49,989</td>
<td>Dr. Koon-Hui Wang, University of Hawaii</td>
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<td>OW13-034</td>
<td>Enhancing the sustainability of grass-fed beef production in Hawaii via carcass and meat quality improvement</td>
<td>$49,948</td>
<td>Dr. Yong soo Kim, University of Hawaii</td>
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<td>OW12-041</td>
<td>Effectiveness of Beauveria bassiana on coffee berry borer in different agroclimatic zones</td>
<td>$49,403</td>
<td>Dr. Elsie Burbano Greco, University of Hawaii at Manoa</td>
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<td>OW11-309</td>
<td>Training Livestock to Eat Weeds in the Tropical Pacific and Evaluating the Effects on Meat Quality for Stronger Ranch Profits</td>
<td>$49,610</td>
<td>Matthew Stevenson, University of Hawaii</td>
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<td>OW11-310</td>
<td>Master Farmer Workshop Series</td>
<td>$49,812</td>
<td>Dave Elliott, Oahu RC&amp;D</td>
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<td>OW11-308</td>
<td>Control of coffee berry borer and increase of coffee yields using Surround WP (kaolin)</td>
<td>$47,648</td>
<td>Dr. Shawn Steiman, Coffea Consulting</td>
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</tbody>
</table>

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

$6,459,862

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).