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 $354 million to more than 8,043 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 in Florida
southern.sare.org/sare-in-your-state/florida

$8,121,936 in total funding
174 grant projects
(since 1988)

For more information on this project, see sare.org/projects, and search for project number OS13-083.

Project Highlight: Grafted Specialty Tomatoes More Resilient

Demand for organic heirloom and specialty tomatoes grown in high tunnels is rising, making them high-value crops. Unfortunately, growers of such tomatoes in Florida face challenges in managing soil-borne diseases. Due to Fusarium wilt, one farm faced the complete crop failure of a tomato popular in the local market. University of Florida researcher Xin Zhao partnered with the farm, Frog Song Organics, to see if grafting with resistant rootstocks would control soil-borne diseases in organic high tunnel production systems.

Their experiment compared grafted and non-grafted specialty tomatoes for soil-borne disease resistance, yield and fruit quality. They found that grafting was an effective tool for managing Fusarium wilt and improving the overall health of tomato plants. Yields significantly improved in grafted tomato production compared with non-grafted controls. Even with higher production costs associated with the grafting, the grafted plants resulted in increased net profits.

One hundred professionals and 450 farmers learned of the rewarding research findings at workshops and presentations. Zhao views this on-farm research project as a successful demonstration of technology transfer through a collaborative and productive partnership with local growers to address production issues.

For more information on this project, see sare.org/projects, and search for project number OS13-083.
SARE Grants in Florida

Total awards: 174 grants
- 37 Research and Education
- 7 Sustainable Community Innovation
- 10 Professional Development Program
- 27 Farmer/Rancher
- 63 Graduate Student
- 30 On Farm Research/Partnership

Total funding: $8,121,936
- $5,867,935 Research and Education
- $87,296 Sustainable Community Innovation
- $651,193 Professional Development Program
- $262,085 Farmer/Rancher
- $779,971 Graduate Student
- $473,456 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: southern.sare.org/sare-in-your-state/florida

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 southern.sare.org/state-pages/florida to learn more.

Cassel Gardner
Florida A & M University
(850) 599-3594
cassel.gardner@famu.edu

Marilyn (Mickie) Swisher
University of Florida
(352) 273-3538
mesw@ufl.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.
Florida has been awarded $8,121,936 grants to support 172 projects, including but not limited to, 35 research and/or education projects, 10 professional development projects and 27 producer-led projects. Florida 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>LS22-370</td>
<td>Using rootstocks to increase blueberry farming sustainability in the South East</td>
<td>$371,000</td>
<td>Dr. Gerardo Nunez University of Florida, Dr. John Diaz University of Florida, Dr. Islam El-Sharkawy Florida A&amp;M University, Gabriel Maltais-Landry University of Florida, Dr. Zilfina Rubio Ames University of Georgia, Ariel Singerman University of Florida, Gabriel Maltais-Landry University of Florida, Dr. Jorge Ruiz-Menjivar University of Florida, Dr. Marilyn Swisher University of Florida, Chris Wilson University of Florida, Alejandro Bolques Florida A&amp;M University, Gabriel Maltais-Landry University of Florida</td>
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<tr>
<td>LS21-354</td>
<td>The Use of Cyanobacteria Biofertilizers to Increase Crop Productivity, Improve Soil Health, and Agricultural Sustainability in Florida</td>
<td>$242,000</td>
<td>Dr. Sanku Dattamudi Florida International University, Dr. Mahadev Bhat Florida International University, Dr. Saoli Chanda Florida International University, Dr. Krishnaswamy Jayachandran Florida International University, Dr. Leonard Scinto Florida International University</td>
</tr>
</tbody>
</table>
Specialty Pumpkin: Laying the Groundwork for an Emerging Crop and Lucrative Products

Optimizing Nutrient and Water Management for Organic Mixed Vegetable Production Systems

Enhancing Hedgerow Systems in Fruit Tree Production to Improve Beneficial Insect Diversity and Abundance

Harnessing Microbes for Sustainable Food Production

Enhancing Seed Production of Regionally Adapted Crops in the Southeastern Farmer Seed System

Managing Plant-parasitic Nematodes and Promoting Beneficial Soil Organisms Through Sod-based Crop Rotation

Shade and Ground Cover Growing Systems for Tea Production in Florida

Educational Materials for Cover Crop Adoption and Use in the Subtropics and Tropics

Cover Crop Diversity through Evaluation and Increase from Breeder Stocks and Germplasm Repositories

Taking advantage of pest thrips ecology to increase sustainability of vegetable crop production

Educating and Training Future Farmers, Researchers and Extension Personnel in Sustainable Agriculture
<table>
<thead>
<tr>
<th>Proposal ID</th>
<th>Title</th>
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<th>PI</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>LS10-233</td>
<td>Integrated Use of Grafting Technology to Improve Disease Resistance and Fruit Yield in Specialty Melon Production</td>
<td>$223,000</td>
<td>Dr.Xin Zhao</td>
<td>University of Florida</td>
</tr>
<tr>
<td>LS10-235</td>
<td>Preparing Small Scale Limited Resource Vegetable Farmers for Organic Farming in North Florida</td>
<td>$15,000</td>
<td>Dr.Odemari Mbuya</td>
<td>Florida A&amp;M University</td>
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<tr>
<td>LS09-216</td>
<td>Improving the quality of life for Southern organic farmers and farm workers</td>
<td>$190,000</td>
<td>Leah Cohen</td>
<td>Florida Organic Growers</td>
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<tr>
<td>LS08-205</td>
<td>Selecting a sunn hemp cover crop genotype for weed suppression and seed production</td>
<td>$170,000</td>
<td>Dr.Carlene Chase</td>
<td>University of Florida</td>
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<tr>
<td>LS07-199</td>
<td>Integrating plant essential oils and kaolin for the sustainable management of thrips and tomato spotted wilt on tomato</td>
<td>$185,000</td>
<td>Dr.Stuart Reitz</td>
<td>USDA-ARS</td>
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<tr>
<td>LS06-187</td>
<td>Silicon soil amendments for enhancing disease resistance while improving overall crop health for cucurbits in organic farming systems</td>
<td>$180,000</td>
<td>Dr.Robert McGovern</td>
<td>UF-IFAS</td>
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<tr>
<td>LS06-192</td>
<td>Biorational approaches for management of bacterial wilt and bacterial spot on tomato</td>
<td>$150,000</td>
<td>Dr.Jeffrey Jones</td>
<td>University of Florida</td>
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<tr>
<td>LS05-170</td>
<td>Integrated Management of Purple and Yellow Nutsedge in Organic Vegetable Production</td>
<td>$125,000</td>
<td>Dr.Carlene Chase</td>
<td>University of Florida</td>
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<tr>
<td>LS04-168</td>
<td>Development of Florida Native Plants as Farmscaping Cover Crops and Value-added Crops for Limited-Resource Farmers in Central Florida</td>
<td>$15,000</td>
<td>Robert Kluson</td>
<td>Florida Native Solutions, Inc.</td>
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<tr>
<td>LS03-148</td>
<td>Development of sustainable vegetable production systems for south Florida and Virginia based on use of cover crops and precision irrigation</td>
<td>$179,776</td>
<td>Waldemar Klassen</td>
<td>Tropical Research and Education Center</td>
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<tr>
<td>LS02-136</td>
<td>Enhancing the Economic and Environmental Competitiveness of Small Farms Through Agroforestry</td>
<td>$189,600</td>
<td>Shibu Jose</td>
<td>University of Florida</td>
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<tr>
<td>LS02-140</td>
<td>A System Approach for Improved Integration of Green Manure in Commercial Vegetable Production Systems</td>
<td>$171,800</td>
<td>Johannes Scholberg</td>
<td>Agronomy Department, University of Florida</td>
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<tr>
<td>LS00-118</td>
<td>Management of Small Rural Holdings as Economic and Ecological Units</td>
<td>$21,406</td>
<td>David Zimet</td>
<td>North Florida Research and Extension Center Inst.</td>
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<tr>
<td>LS99-101</td>
<td>Developing Effective Methods to Assess the Impact of Community Food Security Programs on Purchases of Local Farm Produce in Three Southern Communities</td>
<td>$20,000</td>
<td>Ellen Huntley</td>
<td>Florida Organic Growers</td>
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<tr>
<td>AS95-019</td>
<td>Biological Control Methods for Citrus Rust Mites and Spider Mites on Florida Citrus Utilizing Predaceous Arthropods as Part of IPM</td>
<td>$75,000</td>
<td>Carl C. Childers</td>
<td>IFAS Citrus Research</td>
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<tr>
<td>Project #</td>
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<td>Project Leaders</td>
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</tbody>
</table>
| LS92-046 | Development of Cropping Systems for Nematode Management on Agronomic and Horticultural Crops | $155,000     | D.W. Dickson  
University of Florida  
R. McSorley  
Dept. of Entomology & Nematology, U of Florida  
Rodrigo Rodriguez-Kabana  
Auburn University, Plant Pathology |
| LS91-031 | Biological Control and its Economics in the Southern United States            | $49,970      | J. Howard Frank  
University of Florida, Entomology and Nematology |
| LS91-042 | Intensive Short Course on Grant Preparation for Future Applicants to the LISA Competitive Grants Program | $39,000      | Carl Barfield  
University of Florida |
| LS90-021 | An Educational Program in Low-input Sustainable Agriculture Production Technology and Philosophy | $18,000      | Stephen A. Ford  
University of Florida |

**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>
| SPDP21-03 | Bridging the Food Supply and Sustainable Agriculture Systems with the Nonprofit Sector | $77,867      | Dr. Kimberly Wiley  
University of Florida  
Dr. Jennifer Jones  
University of Florida  
Dr. Marilyn Swisher  
University of Florida |
| ES09-097 | Moving nursery producers toward sustainable production practices             | $76,237      | Gary Knox  
University of Florida |
| ES03-067 | What Service Providers Must Know About Organic Rules and Regulations         | $133,762     | Rosalie Koenig  
University of Florida |
| ES01-054 | Growing with the Community: A Hands-on Training Design for Agricultural Educators, Farmers and Community Leaders | $49,735      | Ellen Huntley  
Florida Organic Growers |
| ES01-055 | Delivery of Biological Control Information and Technology in Florida         | $49,919      | James Cuda  
University of Florida |
| ES01-056 | Training in production and utilization of composted waste materials in warm, humid climates to improve soils for horticultural cropping systems | $47,896      | Monica Ozores-Hampton  
University of Florida/SWFREC |
| ES97-030 | Integrated Production of Sustainable Crops for Small Farmers in North Florida | $8,375       | Gary Knox  
University of Florida |
| ES97-036 | Sustainable Agriculture Training Initiative for Texas                       | $70,136      | Nancy Roe |
| LST96-012 | Facilitating Farmer to Farmer Networks: An Experimental Approach             | $80,997      | Dr. Marilyn Swisher  
University of Florida |
| LST94-007 | Evaluating Sustainability: Gaining Insights                                   | $56,269      | Dr. Marilyn Swisher  
University of Florida |

**FARMER/RANCHER GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| ES97-030 | Integrated Production of Sustainable Crops for Small Farmers in North Florida | $8,375       | Gary Knox  
University of Florida |
| ES97-036 | Sustainable Agriculture Training Initiative for Texas                       | $70,136      | Nancy Roe |
| LST96-012 | Facilitating Farmer to Farmer Networks: An Experimental Approach             | $80,997      | Dr. Marilyn Swisher  
University of Florida |
| LST94-007 | Evaluating Sustainability: Gaining Insights                                   | $56,269      | Dr. Marilyn Swisher  
University of Florida |
<table>
<thead>
<tr>
<th>Grant Number</th>
<th>Project Title</th>
<th>Funding</th>
<th>Principal Investigator</th>
<th>Organization</th>
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</thead>
<tbody>
<tr>
<td>FS22-339</td>
<td>Methodology to enhance nutrition and economics of microalgae use as live feeds in marine aquaculture</td>
<td>$14,985</td>
<td>Nicole Kirchhoff, PhD</td>
<td>Live Advantage Bait LLC</td>
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<tr>
<td>FS20-323</td>
<td>Evaluating Mobile Slaughter Access for Producers and Local Partners</td>
<td>$10,700</td>
<td>Sheila Austin</td>
<td>Red Boot Goat Farm</td>
</tr>
<tr>
<td>FS19-314</td>
<td>Season Extension and Increased Economic Sustainability for South Florida Growers: Using high tunnels to extend tomato production</td>
<td>$9,665</td>
<td>Moses Kashem</td>
<td>St. Simon's Farm; Urban Vegetable Project Produce Sales LLC</td>
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<tr>
<td>FS19-319</td>
<td>Sweet Potatoes and Their Vines: A nutritional and sustainable alternative for food and livestock feed</td>
<td>$9,926</td>
<td>April Singleton</td>
<td>L&amp;B Farm</td>
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<tr>
<td>FS10-248</td>
<td>Florida Meat Goat Study</td>
<td>$9,996</td>
<td>Rita Pruette</td>
<td>Granny Smith Farms</td>
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<tr>
<td>FS06-209</td>
<td>Developing Model CSA Software for Multi-cropping and Harvesting</td>
<td>$9,800</td>
<td>Margaret Pikarsky</td>
<td>Bee Heaven Farm</td>
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<tr>
<td>FS03-176</td>
<td>Developing Guidelines for Farmers to Market Directly to Consumers at Community Farmers’ Markets</td>
<td>$14,000</td>
<td>Sharon Yeago</td>
<td>Alachua County Farmers’ Market, Inc.</td>
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<td>FS02-149</td>
<td>Ultraviolet Light absorbing films and nets for insect and disease control in an organic greenhouse</td>
<td>$8,010</td>
<td>Jim Gibbons</td>
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<tr>
<td>FS01-129</td>
<td>Development of Multi-Herd Management software for small farmers</td>
<td>$9,949</td>
<td>Dee Blaha</td>
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<tr>
<td>FS01-135</td>
<td>Soil Fertility improvement in Fruit Orchards by Windrowing Urban Plant Debris and Poultry Litter</td>
<td>$8,644</td>
<td>William Graves, IV</td>
<td>Tetley Groves, Inc.</td>
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<tr>
<td>FS01-138</td>
<td>Developing a model to increase support for organic farming research at Land Grant Institutions</td>
<td>$14,999</td>
<td>Marty Mesh</td>
<td>FL Certified Organic Growers and Consumers, (FOG)</td>
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<tr>
<td>FS01-139</td>
<td>Composted Yard Waste as a Replacement for Pine Bark Mulch in Blueberry Production</td>
<td>$9,800</td>
<td>Richard Nogaj</td>
<td>Harvest for Humanity</td>
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<tr>
<td>FS01-140</td>
<td>Using companion plants to increase biological control for thrips in pepper crops</td>
<td>$9,300</td>
<td>Chuck Obern</td>
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<tr>
<td>FS00-112</td>
<td>Practical Evaluation of Vermicompost on Horticultural Crops</td>
<td>$9,820</td>
<td>Cynthia L. Connolly</td>
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<tr>
<td>FS00-121</td>
<td>Marketing to the Department of Defense Food Service</td>
<td>$15,000</td>
<td>Glyen Holmes</td>
<td>New North Florida Coop</td>
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<tr>
<td>FS00-125</td>
<td>Does Compost Use Affect Post-Harvest Quality of Vegetables?</td>
<td>$9,960</td>
<td>Nancy Roe</td>
<td></td>
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</tbody>
</table>
Alternative Production Methods for Increasing Sustainability of North Florida Strawberry Producers

Larry Gillard
South Georgia Farmers Co-op

$9,964

Developing a Model for Successful Direct Marketing in Southern Communities

Trace Giornelli

$7,020

Alternative Parasite Control Methods for Goat Producers: A Comparative Analysis

Charles Johnson
C&M Farms

$5,960

Developing an Organically Approved Soil Mix for Use in Vegetable Transplant Production

Rosalie Koenig
University of Florida

$7,660

Feasibility of Indoor Culture and Production of Ornamental Goldfish

Robert Draughon

$2,216

Effect of Limited Environmental Controls on Shiitake Mushroom Production in the Southern Coastal Plain

Charles McRae

$9,990

Development of Potting Soil Mixes from Local Wastes

Steve Garrison
Almond Tree Nursery

$9,600

Testing the Efficacy of Alternative Methods of Whitefly Control in Organic Vegetable Production

Rosalie Koenig
University of Florida

$5,200

Management of Artificial and Restored Wetlands to Improve Water Quality

A. Glenn Simpson
Big Island Grove

$10,000

Biological Control of Flower Thrips in Pepper Fields

Ted & Trudy Winsberg
Green Cay Farms

$9,950

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GRADUATE STUDENT GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>GS21-235</td>
<td>Examining Field Crop Farmers’ Climate Change Perceptions, Adaptation Strategies, and Resilience in Florida: A spatial econometric approach</td>
<td>$15,775</td>
<td>Dr. Jorge Ruiz-Menjivar University of Florida Yong Liu University of Florida</td>
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<tr>
<td>GS21-237</td>
<td>Agricultural Water Resource Management in Puerto Rico and the U.S. Virgin Islands</td>
<td>$13,076</td>
<td>Dr. Marilyn Swisher University of Florida Megan Donovan, M.S. University of Florida</td>
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<tr>
<td>GS21-238</td>
<td>Sustainable Management Practices for Vanilla Cultivation</td>
<td>$16,499</td>
<td>Dr. Alan Chambers University of Florida TREC Joshua Anderson University of Florida</td>
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<tr>
<td>GS21-239</td>
<td>Quantifying and Understanding Factors Affecting Tissue Nitrate Accumulation in Organic Celery</td>
<td>$16,497</td>
<td>Dr. Xin Zhao University of Florida Zachary Ray University of Florida</td>
</tr>
<tr>
<td>GS21-243</td>
<td>Arbuscular Mycorrhizal Fungal Associations in Tea Under Sustainable Production Systems in Florida</td>
<td>$16,444</td>
<td>Dr. Bala Rathinasabapathi University of Florida Caitlin Clarke University of Florida</td>
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<tr>
<td>GS21-244</td>
<td>What’s the Buzz? Assessing Efficacy, Synergisms, and Sustainability of Pollinators in Southern Highbush Blueberry (Vaccinium corymbosum L.)</td>
<td>$16,493</td>
<td>Rachel Mallinger, Dr. University of Florida John Ternest University of Florida Department of Entomology and Nematology</td>
</tr>
<tr>
<td>Project Code</td>
<td>Title</td>
<td>Funding Amount</td>
<td>Principal Investigator(s)</td>
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</table>
| GS21-247     | Small-scale Farmer Networks in Florida: Understanding and measuring their impacts and exploring the role of extension in their success | $15,930        | Paul Monaghan  
University of Florida  
Jose Perez  
University of Florida |
| GS21-249     | Forecasting Pasture Productivity from Satellite Imagery for Use in Adaptive Grazing Management | $16,445        | Chris Wilson  
University of Florida  
Hunter Smith  
University of Florida |
| GS20-219     | Translating Grazing: Calculating Nitrogen Credits from Cool-Season Integrated Crop Livestock Systems | $16,493        | Dr. Marcelo Wallau  
University of Florida  
Kacey Aukema  
University of Florida |
| GS20-221     | Assessing Anaerobic Soil Disinfestation for Improving Weed and Soilborne Disease Management in High-tunnel and Open-field Salad Green Production | $16,499        | Dr. Xin Zhao  
University of Florida  
Isaac Vincent  
University of Florida |
| GS20-222     | Agroecological Intensification of Warm-season Pastures for Improved Productivity and Quality and Ecosystem Services | $16,173        | Chris Wilson  
University of Florida  
Hannah Rusch  
University of Florida |
| GS20-223     | Intercropping for Pest Control in Organic Kale in Northern Florida | $16,279        | Nora Underwood  
Florida State University  
Penelope Ales  
Florida State University |
| GS20-224     | Determining How the Ubiquitous Fungi Mortierella Regulates Belowground N Dynamics Under Different Crop Rotation Systems | $16,144        | Dr. Hui-Ling Liao  
University of Florida  
Kaile Zhang  
University of Florida |
| GS20-225     | Deploying Oak Mulch to Contain and Suppress HLB Disease in Citrus | $12,347        | Lorenzo Rossi, Ph.D.  
University of Florida  
Lukas Hallman  
UF/IFAS |
| GS20-231     | Evaluating Local Food Hubs as Alternative Food Systems to Preserve Specialty Crop Producers and Build Resilient Communities in North Central Florida | $14,028        | Dr. Jonathan Watson  
University of Florida  
BHAGATVEER SANGHA  
University of Florida |
| GS20-234     | Development of Push-pull System for Ambrosia Beetles, Vectors of Laurel Wilt Disease in Florida Avocado | $11,564        | Dr. Xavier Martini  
University of Florida  
Derrick Conover  
University of Florida |
| GS19-199     | Sustainable Strategies to Combat the Papaya Ringspot Virus | $16,495        | Dr. Alan Chambers  
University of Florida TREC  
Sarah Brewer  
University of Florida |
| GS19-206     | Developing Efficient Probiotics for Microbiota of Diarrhea-Resistant Livestock | $16,266        | Dr. Kwangcheol Jeong  
University of Florida  
Peixin Fan  
University of Florida |
| GS19-210     | Toward the Development of a Push-Pull Strategy to Control Whiteflies in Florida Vegetables | $9,308         | Dr. Xavier Martini  
University of Florida  
Nicholas Johnston  
University of Florida, North Florida Research and Education Center |
| GS19-203     | Evaluation of Cladosporium cladosporioides and Its Extracts for the Management of Pathogenic Bipolaris Species | $14,332        | Dr. Erica Goss  
University of Florida  
Ashish Adhikari  
University of Florida, Plant Pathology |
<table>
<thead>
<tr>
<th>Grant Number</th>
<th>Project Title</th>
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<th>PI/Co-PIs</th>
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</table>
| GS18-184     | Evaluation of Biopesticides to Manage Silverleaf Whitefly (Hemiptera: Aleyrodidae) in Tomatoes in Florida | $16,500        | Muhammad Haseeb  
Center for Biological Control, College of Agriculture and Food Sciences, Florida A&M University  
Jermaine Perier  
Florida A&M University |
| GS18-190     | Innovations in Spotted Wing Drosophila (Drosophila suzukii Matsumura) Monitoring and Attract-and-Kill for Development of More Targeted IPM Programs | $16,334        | Dr.Oscar Liburd  
University of Florida  
Gabrielle LaTora  
University of Georgia |
| GS18-191     | Developing Attract and Reward Strategy to Control Thrips and Whiteflies in Florida Tomato | $10,316        | Dr.Xavier Martini  
University of Florida  
Iris Strzyzewski  
University of Florida NFREC |
| GS18-195     | Elucidating the Effects of Organic vs. Conventional Cropping Practice and Rhizobia Inoculation on Peanut Yield and Rhizosphere Microbial Diversity | $16,496        | Dr.Jianping Wang  
University of Florida  
Dev Paudel  
University of Florida |
| GS18-191     | Developing Attract and Reward Strategy to Control Thrips and Whiteflies in Florida Tomato | $10,316        | Dr.Xavier Martini  
University of Florida  
Iris Strzyzewski  
University of Florida NFREC |
| GS17-169     | Identifying Marketing Opportunities Under the New Organic Transitional Certification Program | $16,492        | Zhifeng Gao  
University of Florida  
Xuqi Chen  
University of Florida |
| GS17-170     | Companion Planting of Native Insectary Plants to Benefit Crop Plants: The promotion of beneficial insects in agricultural communities via trophic resource enhancement | $10,332        | Dr.Suzanne Koptur  
Florida International University  
Andrea Salas  
Florida International University |
| GS17-171     | Development of an Integrated Pest and Disease Management Program Utilizing Companion Plants and Inundative Biological Control for Organic Squash Production | $16,245        | Dr.Oscar Liburd  
University of Florida  
Lorena Lopez  
Virginia Tech |
| GS17-172     | Effects of Herbivore-Induced Plant Volatiles in Various Maturity Stages of Pepper on the Attractiveness of Orius insidiosus | $9,787         | Dr.Xavier Martini  
University of Florida  
Edward Traczyk  
University of Florida |
| GS17-173     | Genetic Markers for Resistance to Gastrointestinal Nematode Infections for a Sustainable Florida Native Sheep Production | $16,500        | Raluca Mateescu  
University of Florida  
Zaira Magdalena Estrada Reyes  
University of Florida |
| GS17-178     | Overcoming Microclimate Challenges to Improve Organic Spinach Production in Florida | $16,495        | Dr.Xin Zhao  
University of Florida  
Craig Frey  
University of Florida |
| GS15-141     | Creating successful Farm to School Programs in Florida: A County-wide Feasibility Study of Direct, Local Procurement | $11,000        | Ray Bucklin  
University of Florida  
Dr.Jonathan Watson  
University of Florida |
| GS15-145     | Sustainable Management Strategies for Management of Key Insect and Nematode Pests in Squash Cropping Systems | $10,121        | Dr.Oscar Liburd  
University of Florida  
Lorena Lopez  
Virginia Tech |
| GS15-146     | Investigating New Management Approaches for Picture-Winged Flies in Sweet Corn | $7,432         | Dr.Gregg Nuessly  
University of Florida/IFAS/EREC  
Dr.David Owens  
University of Delaware |
<table>
<thead>
<tr>
<th>Project ID</th>
<th>Title</th>
<th>Funding</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
</table>
| GS15-149  | Natural essential oil compounds with heat treatment to control stem-end rot on grapefruit during postharvest handling and marketing | $10,948 | Dr. Mark Ritenour, markritenour University of Florida  
Jiaqi Yan University of Florida |
| GS15-151  | Legume Proportion of Grass-Legume Mixtures Affects Greenhouse Gas Emissions from Animals Grazing Pasture | $11,000 | Dr. Lynn Sollenberger University of Florida  
Dr. Jose Dubeux, Jr. University of Florida - NFREC  
Marta Kohmann University of Florida |
| GS14-129  | Potential use of seeded peanuts as warm-season legumes in the U.S. southern Coastal Plains | $10,687 | Dr. Jose Dubeux, Jr. University of Florida - NFREC  
Edwin Mozley University of Florida |
| GS14-134  | Effect of Nematode Suppression Using Cover Crops Resistant to Nematodes on Peanut Production | $10,429 | Dr. Patricio Munoz University of Florida  
Lin Xing University of Florida |
| GS14-137  | Impacts of land use intensification on soil organic carbon stocks, soil carbon fractions and microbial activities in subtropical grazing land ecosystems | $10,982 | Dr. Maria Silveira University of Florida  
Sutie Xu University of Florida |
| GS13-119  | Nitrogen dynamics of cover crops with sorghum for increased sustainability | $10,997 | Dr. John Erickson University of Florida  
Jeffrey Fedenko University of Florida |
| GS12-114  | Developing an integrated pest management program for a newly introduced pest in Florida blueberries: the spotted wing drosophila, Drosophila suzukii | $10,837 | Dr. Oscar Liburd University of Florida  
Lindsay Iglesias University of Florida |
| GS12-117  | Assessment of long-term management impact on soil C dynamics in subtropical grasslands | $10,879 | Dr. Maria Silveira University of Florida  
Julius Adewopo University of Florida |
| GS11-100  | Efficacy of Entomopathogenic Fungi in Controlling the Small Hive Beetle; a Destructive and Invasive Pest of Honey Bee Colonies | $9,996 | Lambert Kanga Florida A&M University  
Saundra Wheeler Penn State University |
| GS11-101  | Understanding olfactory cues in host location and dispersal range of the filth fly parasitoid Spalangia cameroni (Hymenoptera:Pteromalidae) to improve the use as sustainable biological control agents for fly control on livestock operations | $9,828 | Dr. Norman Leppa University of Florida  
Dr. Erika Machtigter Pennsylvania State University |
| GS11-105  | Strategies for Increasing Rhizoma Peanut Contribution to Productivity and Ecosystem Services of Low-Input Pasture Systems | $9,978 | Dr. Kim Mullenix Auburn University/Alabama Cooperative Ex  
Dr. Lynn Sollenberger University of Florida |
| GS10-092  | Do Human-modified Landscapes Affect Solitary Bee Diversity, Foraging, and Reproduction in Northern Florida? | $10,000 | Dr. Katie Sieving Wildlife Ecology / UF  
Roslyn Johnson University of Florida |
| GS10-093  | Improving nutrient retention with biochar | $9,852 | Dr. Danielle Treadwell University of Florida  
Seth Friedman Univ of Florida |
| GS10-096  | Integrated Use of Grafting Technology to Improve Disease Resistance, Yield and Fruit Quality in Organic Heirloom Tomato Production | $10,000 | Dr. Danielle Treadwell University of Florida  
Charles Barrett University of Florida |
Enhancing nitrogen and water use efficiency in tomato production by using grafting technique

The Smells and Sounds of a Subterranean Sessid: Mating disruption and acoustic detection of grape root borer

Bioenergy and Biofertilizer for Small-Farm Enterprises

Comprehensive evaluation of windbreaks of fast-growing trees

Optimizing buckwheat use as a weed suppressive cover crop for sustainable cropping systems in Florida

Reducing nutrient loss below the root zone of drip-irrigated vegetables using low-pressure, increased irrigation time

Are bluebirds good for farms, and are farms good for bluebirds?

Development of an IPM Program for Control of Flower-Thrips in Blueberries in Southeastern United States

Potential for nitrate-nitrogen leaching in a silvopastoral system compared with open pasture and loblolly pine plantation

Developing a System to Produce Organic Plug Transplants for Organic Strawberry Production

Analysis of a Biological Control Strategy and its Potential in a Pest Management Program in Florida Cabbage

Chemical Ecology of Microtheca ochroloma

Competition for Nitrogen and Groundwater Nitrate Levels in Temperate Alley Cropping Systems

Induction of Volatile Emissions from Peanut Plants in Response to Fungal and Insect Damage
Investigating the potential use of Trichogramma, a hymenopteran egg parasitoid, in the integrated management of lepidopteran pests of cabbage in Puerto Rico

<table>
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<tr>
<td>OS22-153</td>
<td>Enhancing Stink Bug Biological Control for Increased Sustainability of Rice Production in Florida</td>
<td>$19,982</td>
<td>Dr. Julien Beuzelin, University of Florida, Institute of Food and Agricultural Sciences Everglades Research and Education Center</td>
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<td>OS21-142</td>
<td>Bridging the Fall Forage Gap with Stockpiled Limnograss Along the Southern Gulf Coast</td>
<td>$19,981</td>
<td>Dr. Jose Dubeux, Jr., University of Florida - NFREC</td>
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<td>OS21-146</td>
<td>Evaluating Sorrel (Hibiscus sabdariffa) Varieties for Production in Florida</td>
<td>$19,708</td>
<td>Dr. Norma Samuel, UF/IFAS Extension</td>
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<td>OS21-147</td>
<td>Development of a Push-Pull System in Avocado Groves in South Florida</td>
<td>$19,923</td>
<td>Dr. Xavier Martini, University of Florida</td>
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<td>OS21-148</td>
<td>Plant Sap Analysis as a Tool to Optimize Fertilizer Application for Sustainable Citrus Production</td>
<td>$20,000</td>
<td>Lorenzo Rossi, Ph.D., University of Florida</td>
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<td>OS20-132</td>
<td>Fertilizer Mismanagement Impacts on Pasture Health</td>
<td>$19,828</td>
<td>Cheryl Mackowiak, University of Florida</td>
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<td>OS20-135</td>
<td>On-farm Evaluation of an Innovative Anaerobic Soil Disinfection Practice for Improving Organic Carrot Production in North Florida</td>
<td>$19,995</td>
<td>Dr. Xin Zhao, University of Florida</td>
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<td>OS20-137</td>
<td>Combining Non-crop Habitat and Semiochemical Lures to Increase Natural Enemy Recruitment and Retention in Florida Vegetable Crops</td>
<td>$18,164</td>
<td>Dr. Xavier Martini, University of Florida</td>
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<td>OS18-113</td>
<td>Trap Assisted Scouting for Asian Cockroach Management in Florida</td>
<td>$14,782</td>
<td>Dr. Julien Beuzelin, University of Florida, Institute of Food and Agricultural Sciences Everglades Research and Education Center</td>
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<td>OS18-114</td>
<td>Assisting Vegetable Growers in Florida with Soil Health Evaluation Associated with Cover Cropping/Green Manure Practice During Summer</td>
<td>$15,000</td>
<td>Jehangir Bhadha, University of Florida, Institute of Food and Agricultural Sciences Everglades Research and Education Center</td>
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<td>OS17-104</td>
<td>Evaluating the Effect of Biological Control and Planting Mixed Varieties to Manage Whitefly and Aphid Pests in Organic Squash</td>
<td>$14,821</td>
<td>Dr. Oscar Liburd, University of Florida</td>
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<td>OS17-106</td>
<td>Developing Sustainable and New Alternative Non-chemical Weed Control Strategies for Container Nursery Growers</td>
<td>$15,000</td>
<td>Dr. Stephen Christopher Marble, University of Florida/Institute of Food and Agricultural Sciences</td>
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<td>OS17-110</td>
<td>Farmers’ Evaluation of Cover Crop Effects on Sandy Soils in the Suwannee River Basin in North Florida</td>
<td>$14,744</td>
<td>Kevin Ateharn, University of Florida</td>
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<tr>
<td>OS16-098</td>
<td>Using Flowering Plants on Strawberry Field Edges to Enhance Natural Enemies and Pollinators and Improve Pest Control and Fruit Quality</td>
<td>$14,996</td>
<td>Justin Renkema, University of Florida</td>
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</table>
OS14-086 Use of non-native invasive tree logs for commercial mushroom production on small farms $14,984 Dr. Stephen Hight USDA-ARS

OS13-075 Large Scale Recycling of Used Potting Media with Solarization $3,161 Shawn Steed UF/IFAS Extension

OS13-078 Novel approaches to establish rhizome peanut (Arachis glabrata Benth) on bahiagrass (Paspalum notatum Flugge) pasture: from research to on-farm application $14,945 Dr. Jose Dubeux, Jr. University of Florida - NFREC

OS13-079 Establishing and Evaluating Selected Cover Crops on Small Farms to Increase the Impact of Beneficial Arthropods on Crop Pests $14,984 Robert Hochmuth University of Florida

OS13-082 Propagation of edible Pecan Truffle (Tuber lyonii) in pecan nurseries $14,978 Dr. Matthew Smith University of Florida

OS13-083 Grafting heirloom tomatoes for organic high tunnel production to improve season extension, disease control, and fruit yield: A partnership with local growers for technology transfer $14,999 Dr. Xin Zhao University of Florida

OS12-063 Offseason Management for Organic High Tunnels for Improved Pest Suppression and Soil Health $14,967 Dr. Carlene Chase University of Florida

OS11-060 Investigating various tactics of intercropping buckwheat with squash to increase natural enemy populations, reduce pest and disease pressure and increase yield $14,978 Dr. Oscar Liburd University of Florida

OS10-054 Evaluating compost and lime effects on soil organic matter, soil microbial communities and the control of Fusarium wilt in commercial tomato grown in Florida’s sandy soils $14,955 Amy Shober University of Florida

OS10-056 Improving Cover Crop Management in Florida Row, Vegetable and Organic Citrus Systems $14,940 Dr. Danielle Treadwell University of Florida

OS08-043 Monitoring Nutrient Availability and Leaching Below the Root Zone in Organic Vegetable Production $14,900 Dr. Danielle Treadwell University of Florida Bee Ling Poh University of Florida Eric Simonne University of Florida

OS06-029 Development and implementation of a trap cropping system to suppress stink bugs in the southern Coastal Plain $15,000 Dr. Russell Mizell, III NFREC-Quincy, University of Florida

OS05-026 Optimization of Irrigation Practices in Organic and Sustainable Vegetable Production with Soluble Dye as an Educational Tool $14,663 Eric Simonne University of Florida

OS04-022 A Low Cost Trapping System for Control of the Small Hive Beetle Aethina Tumida Murray, A Pest of Honey Bee Colonies $15,000 Peter Teal USDA-ARS/CMAVE

OS03-015 Performance of Various Forage Combinations Under Thinned Pine Canopies in North Florida $14,982 Ann Blount
SUSTAINABLE COMMUNITY INNOVATION GRANTS

<table>
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<tr>
<td>CS15-094</td>
<td>Who’s Connected? Sustainable Producers in the North Central Florida Food System</td>
<td>$34,665</td>
<td>Dr. Kathryn Stofer</td>
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<td>CS09-072</td>
<td>Wildwood Growers’ Market - Starting a Local Food System</td>
<td>$7,910</td>
<td>Susan Kelly</td>
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<td>CS06-044</td>
<td>Florida Farm Link – Building the Foundation of a Sustainable Community Food System by Connecting Sustainable Agriculture to Economic Development Initiatives</td>
<td>$9,521</td>
<td>Laura Morton</td>
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<td>CS04-023</td>
<td>Youth as Community Organizers</td>
<td>$10,000</td>
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<td>CS04-028</td>
<td>Farming and Conservation Easements: A Win-Win Partnership</td>
<td>$10,000</td>
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<td>CS03-010</td>
<td>“Santa Rosa Fresh” Marketing Assistance</td>
<td>$10,000</td>
<td>Paula Davis</td>
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<td>Joan Hughes</td>
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<td>TEAM Santa Rosa EDC</td>
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<tr>
<td>CS02-008</td>
<td>Test Marketing of New Label in Southwest Florida for USA Grown/Living Wage Produce</td>
<td>$5,200</td>
<td>Richard Nogaj</td>
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<td>Harvest for Humanity</td>
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Total funding from the USDA SARE program to Florida $8,121,936

For further information on projects, contact 770-412-4787 or ssare@uga.edu.
Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).