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 $333 million to more than 7,794 initiatives.

SARE is grassroots with far-reaching impact

Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

SARE communicates results

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

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

Florida

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 in Florida

southern.sare.org/sare-in-your-state/florida

$7,666,012 in total funding

170 grant projects

(since 1988)

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

Total awards: 170 grants
- 35 Research and Education
- 7 Sustainable Community Innovation
- 10 Professional Development Program
- 26 Farmer/Rancher
- 63 Graduate Student
- 29 On Farm Research/Partnership

Total funding: $7,666,012
- $5,446,978 Research and Education
- $87,296 Sustainable Community Innovation
- $651,193 Professional Development Program
- $247,100 Farmer/Rancher
- $453,474 Graduate Student
- $779,971 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 $7,666,012 grants to support 168 projects, including but not limited to, 33 research and/or education projects, 10 professional development projects and 26 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>
</table>
| LS21-353  | Evaluating the Dual-Purpose of Chickpea: A Cash and Cover Crop for Agricultural Production Systems in the Southeast | $397,648     | md ali babar  
University of Florida  
Dr.Oscar Liburd  
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&M University |
| LS21-354  | The Use of Cyanobacteria Biofertilizers to Increase Crop Productivity, Improve Soil Health, and Agricultural Sustainability in Florida | $242,000     | 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 |
| LS21-360  | Specialty Pumpkin: Laying the Groundwork for an Emerging Crop and Lucrative Products | $399,999     | Dr.Geoffrey Meru  
University of Florida  
Dr.Carlene Chase  
University of Florida  
Dr.Andre da Silva  
University of Georgia  
Dr.Andrew MacIntosh  
University of Florida  
Dr.Angela Ramirez  
University of Puerto Rico  
Dr.Jorge Ruiz-Menjivar  
University of Florida |
University of Florida  
Kevin Ateharn  
University of Florida  
Eban Bean  
Agricultural and Biological Engineering, UF/IFAS  
Dr.Carlene Chase  
University of Florida  
Tatiana Sanchez  
UF/IFAS Extension Alachua County |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
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<th>Principal Investigator(s)</th>
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<tbody>
<tr>
<td>LS20-342</td>
<td>Enhancing Hedgerow Systems in Fruit Tree Production to Improve Beneficial Insect Diversity and Abundance</td>
<td>$311,118</td>
<td>Dr. Xavier Martini (University of Florida), Dr. Michael Andreu (University of Florida), Brett Blaauw (University of Georgia), Dr. Lauren Diepenbrock (University of Florida), Dr. Rachel Mallinger, Dr. Brett Blaauw (University of Florida)</td>
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<tr>
<td>LS19-308</td>
<td>Harnessing Microbes for Sustainable Food Production</td>
<td>$44,468</td>
<td>Masanori Fujimoto (University of Florida)</td>
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<tr>
<td>LS19-315</td>
<td>Enhancing Seed Production of Regionally Adapted Crops in the Southeastern Farmer Seed System</td>
<td>$310,537</td>
<td>Dr. Hector Perez (University of Florida)</td>
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<td>LS18-291</td>
<td>Managing Plant-parasitic Nematodes and Promoting Beneficial Soil Organisms Through Sod-based Crop Rotation</td>
<td>$198,669</td>
<td>Zane Grabau (University of Florida)</td>
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<td>LS18-297</td>
<td>Shade and Ground Cover Growing Systems for Tea Production in Florida</td>
<td>$200,000</td>
<td>Brantlee Richter (University of Florida)</td>
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<td>LS18-302</td>
<td>Educational Materials for Cover Crop Adoption and Use in the Subtropics and Tropics</td>
<td>$46,999</td>
<td>Dr. Danielle Treadwell (University of Florida)</td>
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<tr>
<td>LS16-270</td>
<td>Cover Crop Diversity through Evaluation and Increase from Breeder Stocks and Germplasm Repositories</td>
<td>$201,249</td>
<td>Dr. Carlene Chase (University of Florida)</td>
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<tr>
<td>LS11-244</td>
<td>Taking advantage of pest thrips ecology to increase sustainability of vegetable crop production</td>
<td>$235,000</td>
<td>Dr. Stuart Reitz (USDA-ARS), Dr. Stephen Hight (USDA-ARS)</td>
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<tr>
<td>LS10-228</td>
<td>Educating and Training Future Farmers, Researchers and Extension Personnel in Sustainable Agriculture</td>
<td>$245,000</td>
<td>Rosalie Koenig (University of Florida)</td>
</tr>
<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 (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 (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 (Florida Organic Growers)</td>
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<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 (University of Florida)</td>
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<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 (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 (UF-IFAS), Amanda Gevens (University of Florida)</td>
</tr>
</tbody>
</table>
LS06-192  Biorational approaches for management of bacterial wilt and bacterial spot on tomato $150,000  Dr.Jeffrey Jones
University of Florida

LS05-170  Integrated Management of Purple and Yellow Nutsedge in Organic Vegetable Production $125,000  Dr.Carlene Chase
University of Florida

LS04-168  Development of Florida Native Plants as Farmscaping Cover Crops and Value-added Crops for Limited-Resource Farmers in Central Florida $15,000  Robert Kluson
Florida Native Solutions, Inc.

LS03-148  Development of sustainable vegetable production systems for south Florida and Virginia based on use of cover crops and precision irrigation $179,776  Waldemar Klassen
Tropical Research and Education Center

LS02-136  Enhancing the Economic and Environmental Competitiveness of Small Farms Through Agroforestry $189,600  Shibu Jose
University of Florida

LS02-140  A System Approach for Improved Integration of Green Manure in Commercial Vegetable Production Systems $171,800  Johannes Scholberg
Agronomy Department, University of Florida

LS00-118  Management of Small Rural Holdings as Economic and Ecological Units $21,406  David Zimet
North Florida Research and Extension Center Inst.

LS99-101  Developing Effective Methods to Assess the Impact of Community Food Security Programs on Purchases of Local Farm Produce in Three Southern Communities $20,000  Ellen Huntley
Florida Organic Growers

Full Circle Solutions, Inc.

AS95-019  Biological Control Methods for Citrus Rust Mites and Spider Mites on Florida Citrus Utilizing Predaceous Arthropods as Part of IPM $75,000  Carl C. Childers
IFAS Citrus Research

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>
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</table>
| LS06-192  | Biorational approaches for management of bacterial wilt and bacterial spot on tomato | $150,000 | Dr.Jeffrey Jones
University of Florida |
| LS05-170  | Integrated Management of Purple and Yellow Nutsedge in Organic Vegetable Production | $125,000 | Dr.Carlene Chase
University of Florida |
| LS04-168  | Development of Florida Native Plants as Farmscaping Cover Crops and Value-added Crops for Limited-Resource Farmers in Central Florida | $15,000 | Robert Kluson
Florida Native Solutions, Inc. |
| LS03-148  | Development of sustainable vegetable production systems for south Florida and Virginia based on use of cover crops and precision irrigation | $179,776 | Waldemar Klassen
Tropical Research and Education Center |
| LS02-136  | Enhancing the Economic and Environmental Competitiveness of Small Farms Through Agroforestry | $189,600 | Shibu Jose
University of Florida |
| LS02-140  | A System Approach for Improved Integration of Green Manure in Commercial Vegetable Production Systems | $171,800 | Johannes Scholberg
Agronomy Department, University of Florida |
| LS00-118  | Management of Small Rural Holdings as Economic and Ecological Units | $21,406 | David Zimet
North Florida Research and Extension Center Inst. |
| LS99-101  | Developing Effective Methods to Assess the Impact of Community Food Security Programs on Purchases of Local Farm Produce in Three Southern Communities | $20,000 | Ellen Huntley
Florida Organic Growers |
Full Circle Solutions, Inc. |
| AS95-019  | Biological Control Methods for Citrus Rust Mites and Spider Mites on Florida Citrus Utilizing Predaceous Arthropods as Part of IPM | $75,000 | Carl C. Childers
IFAS Citrus Research |
| 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
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<tr>
<th>Project #</th>
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<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
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</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                             |
| ES01-057 | Integrated Production of Sustainable Crops for Small Farmers in North Florida                                                                 | $8,375       | Gary Knox University of Florida                                                  |
| ES01-058 | 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**

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<th>Project #</th>
<th>Project Title</th>
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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 Red Boot Goat Farm</td>
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<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 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 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 Granny Smith Farms</td>
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<td>Project Code</td>
<td>Project Title</td>
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<td>Principal Investigator</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>
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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>
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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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<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>
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<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>
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<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>
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<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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<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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<td>FS00-121</td>
<td>Marketing to the Department of Defense Food Service</td>
<td>$15,000</td>
<td>Glyen Holmes</td>
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<td>FS00-125</td>
<td>Does Compost Use Affect Post-Harvest Quality of Vegetables?</td>
<td>$9,960</td>
<td>Nancy Roe</td>
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<td>FS00-127</td>
<td>Alternative Production Methods for Increasing Sustainability of North Florida Strawberry Producers</td>
<td>$9,964</td>
<td>Larry Gillard</td>
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<td>FS99-089</td>
<td>Developing a Model for Successful Direct Marketing in Southern Communities</td>
<td>$7,020</td>
<td>Trace Giornelli</td>
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<td>FS99-094</td>
<td>Developing an Organically Approved Soil Mix for Use in Vegetable Transplant Production</td>
<td>$7,660</td>
<td>Rosalie Koenig</td>
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<td>FS98-067</td>
<td>Feasibility of Indoor Culture and Production of Ornamental Goldfish</td>
<td>$2,216</td>
<td>Robert Draughon</td>
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<td>FS97-057</td>
<td>Effect of Limited Environmental Controls on Shiitake Mushroom Production in the Southern Coastal Plain</td>
<td>$9,990</td>
<td>Charles McRae</td>
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<td>FS95-025</td>
<td>Development of Potting Soil Mixes from Local Wastes</td>
<td>$9,600</td>
<td>Steve Garrison</td>
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<td>Project Leaders</td>
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</table>
| GS21-235   | Examining Field Crop Farmers’ Climate Change Perceptions, Adaptation Strategies, and Resilience in Florida: A spatial econometric approach | $15,775      | Dr. Jorge Ruiz-Menjivar
                                                        Yong Liu
                                                        University of Florida |
| GS21-237   | Agricultural Water Resource Management in Puerto Rico and the U.S. Virgin Islands | $13,076      | Dr. Marilyn Swisher
                                                        Megan Donovan, M.S.
                                                        University of Florida |
| GS21-238   | Sustainable Management Practices for Vanilla Cultivation                       | $16,499      | Dr. Alan Chambers
                                                        Joshua Anderson
                                                        University of Florida TREC
                                                        University of Florida |
| GS21-239   | Quantifying and Understanding Factors Affecting Tissue Nitrate Accumulation in Organic Celery | $16,497      | Dr. Xin Zhao
                                                        Zachary Ray
                                                        University of Florida |
| GS21-243   | Arbuscular Mycorrhizal Fungal Associations in Tea Under Sustainable Production Systems in Florida | $16,444      | Dr. Bala Rathinasabapathi
                                                        Caitlin Clarke
                                                        University of Florida |
| GS21-244   | What’s the Buzz? Assessing Efficacy, Synergisms, and Sustainability of Pollinators in Southern Highbush Blueberry (Vaccinium corymbosum L.) | $16,493      | Rachel Mallinger, Dr.
                                                        John Ternest
                                                        University of Florida Department of Entomology and Nematology |
| 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
                                                        Jose Perez
                                                        University of Florida |
| GS21-249   | Forecasting Pasture Productivity from Satellite Imagery for Use in Adaptive Grazing Management | $16,445      | Chris Wilson
                                                        Hunter Smith
                                                        University of Florida |
| GS20-219   | Translating Grazing: Calculating Nitrogen Credits from Cool-Season Integrated Crop Livestock Systems | $16,493      | Dr. Marcelo Wallau
                                                        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
                                                        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
                                                        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

GS18-184  Evaluation of Biopesticides to Manage Silverleaf Whitefly (Hemiptera: Aleyrodidae) in Tomatoes in Florida  $16,500  Dr. 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, North Florida Research and Education Center

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

GS18-181  Integrated Weed Management for Long-Term Nutsedge Control and Its Economic Impact in Florida Vegetable Production  $15,361  Peter Dittmar
University of Florida
Ranjeet Randhawa
University of Florida
<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Project Title</th>
<th>Funding</th>
<th>PI/Co-PIs</th>
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</table>
| 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 |
| 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 |
Nitrogen dynamics of cover crops with sorghum for increased sustainability

Developing an integrated pest management program for a newly introduced pest in Florida blueberries: the spotted wing drosophila, Drosophila suzukii

Assessment of long-term management impact on soil C dynamics in subtropical grasslands

Efficacy of Entomopathogenic Fungi in Controlling the Small Hive Beetle; a Destructive and Invasive Pest of Honey Bee Colonies

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

Strategies for Increasing Rhizoma Peanut Contribution to Productivity and Ecosystem Services of Low-Input Pasture Systems

Do Human-modified Landscapes Affect Solitary Bee Diversity, Foraging, and Reproduction in Northern Florida?

Improving nutrient retention with biochar

Integrated Use of Grafting Technology to Improve Disease Resistance, Yield and Fruit Quality in Organic Heirloom Tomato Production

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
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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</thead>
</table>
| GS07-063   | Reducing nutrient loss below the root zone of drip-irrigated vegetables using low-pressure, increased irrigation time | $9,966       | Bee Ling Poh  
University of Florida  
Eric Simonne  
University of Florida |
| GS06-053   | Are bluebirds good for farms, and are farms good for bluebirds?               | $10,000      | Dr.Katie Sieving  
Wildlife Ecology / UF  
John Deluca  
Dept. of Wildlife Ecology and Conservation, UF |
| GS05-045   | Development of an IPM Program for Control of Flower-Thrips in Blueberries in Southeastern United States | $9,914       | Dr.Oscar Liburd  
University of Florida  
Hector Arevalo  
University of Florida |
| GS04-039   | Potential for nitrate-nitrogen leaching in a silvopastoral system compared with open pasture and loblolly pine plantation | $9,998       | Ann Blount  
Susan Bambo  
University of Florida |
| GS02-013   | Developing a System to Produce Organic Plug Transplants for Organic Strawberry Production | $9,500       | Daniel Cantliffe  
University of Florida  
Ashwin Paranjpe  
University of Florida |
| GS02-018   | Analysis of a Biological Control Strategy and its Potential in a Pest Management Program in Florida Cabbage | $10,000      | Dr.Stuart Reitz  
USDA-ARS  
Nathan Herrick  
USDA-ARS-CMAVE |
| GS02-019   | Chemical Ecology of Microtheca ochroloma                                      | $3,057       | Susan Webb  
University of Florida  
Dr.Marilyn Swisher  
University of Florida  
Kristen Bowers  
USDA-ARS-CMAVE |
| GS01-009   | Competition for Nitrogen and Groundwater Nitrate Levels in Temperate Alley Cropping Systems | $10,000      | Shibu Jose  
University of Florida  
Samuel Allen  
University of Florida |
| GS00-001   | Induction of Volatile Emissions from Peanut Plants in Response to Fungal and Insect Damage | $10,000      | James Tumlinson  
Insect Attractants Unit  
Yasmin Cardoza  
Department of Entomology and Nematology |
| GS00-005   | Investigating the potential use of Trichogramma, a hymenopteran egg parasitoid, in the integrated management of lepidopteran pests of cabbage in Puerto Rico | $10,000      | Richard Pluke  
University of Florida  
Richard Pluke  
University of Florida |

**ON FARM RESEARCH/PARTNERSHIP GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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</table>
| OS21-142   | Bridging the Fall Forage Gap with Stockpiled Limpograss Along the Southern Gulf Coast | $19,981      | Dr.Jose Dubeux, Jr.  
University of Florida - NFREC |
| OS21-146   | Evaluating Sorrel (Hibiscus sabdariffa) Varieties for Production in Florida | $19,708      | Dr.Norma Samuel  
UF/IFAS Extension |
| OS21-147   | Development of a Push-Pull System in Avocado Groves in South Florida         | $19,923      | Dr.Xavier Martini  
University of Florida |
| OS21-148   | Plant Sap Analysis as a Tool to Optimize Fertilizer Application for Sustainable Citrus Production | $20,000      | Rhuanito Ferrarezi  
University of Florida, IFAS, Indian River REC |
<table>
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<tr>
<th>Project Code</th>
<th>Description</th>
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<tr>
<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 Disinestation 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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<tr>
<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>
</tr>
<tr>
<td>OS17-104</td>
<td>Evaluating the Effect of Biological Control and Planting Mixed Varieties to Manage Whitely 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 Athearn University of Florida</td>
</tr>
<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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<td>OS14-086</td>
<td>Use of non-native invasive tree logs for commercial mushroom production on small farms</td>
<td>$14,984</td>
<td>Dr. Stephen Hight USDA-ARS</td>
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<td>OS13-075</td>
<td>Large Scale Recycling of Used Potting Media with Solarization</td>
<td>$3,161</td>
<td>Shawn Steed UF/IFAS Extension</td>
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<td>OS13-078</td>
<td>Novel approaches to establish rhizome peanut (Arachis glabrata Benth) on bahiagrass (Paspalum notatum Flugge) pasture from research to on-farm application</td>
<td>$14,945</td>
<td>Dr. Jose Dubeux, Jr. University of Florida - NFREC</td>
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<tr>
<td>OS13-079</td>
<td>Establishing and Evaluating Selected Cover Crops on Small Farms to Increase the Impact of Beneficial Arthropods on Crop Pests</td>
<td>$14,984</td>
<td>Robert Hochmuth University of Florida</td>
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<td>OS13-082</td>
<td>Propagation of edible Pecan Truffle (Tuber lyonii) in pecan nurseries</td>
<td>$14,978</td>
<td>Dr. Matthew Smith University of Florida</td>
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<tr>
<td>OS13-083</td>
<td>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</td>
<td>$14,999</td>
<td>Dr. Xin Zhao University of Florida</td>
</tr>
</tbody>
</table>
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 Simmonne 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 Simmonne 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

OS03-017 Soil Water Movement in Vegetables Grown with Plasticulture $14,096 Eric Simmone Univ. of Florida IFAS

**SUSTAINABLE COMMUNITY INNOVATION GRANTS**

<table>
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<th>Project Title</th>
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</thead>
<tbody>
<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 University of Florida</td>
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<tr>
<td>CS09-072</td>
<td>Wildwood Growers’ Market – Starting a Local Food System</td>
<td>$7,910</td>
<td>Susan Kelly UF/IFAS Sumter Co. Extension</td>
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<tr>
<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 NRCS/Florida West Coast RC&amp;D</td>
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<tr>
<td>CS04-023</td>
<td>Youth as Community Organizers</td>
<td>$10,000</td>
<td>Ellen Huntley Florida Organic Growers</td>
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<tr>
<td>CS04-028</td>
<td>Farming and Conservation Easements: A Win-Win Partnership</td>
<td>$10,000</td>
<td>Mark Hostetler University of Florida</td>
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CS03-010  “Santa Rosa Fresh” Marketing Assistance $10,000 Paula Davis
Santa Rosa County
Joan Hughes
TEAM Santa Rosa EDC

CS02-008  Test Marketing of New Label in Southwest Florida for USA Grown/Living Wage Produce $5,200 Richard Nogaj
Harvest for Humanity

Total funding from the USDA SARE program to Florida
$7,666,012

For further information on projects, contact Candace Pollock, Southern SARE public relations coordinator, at (770) 412-4786 or cpollock@uga.edu. Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).