What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $332 million to more than 7,748 initiatives.

SARE is grassroots with far-reaching impact

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

SARE communicates results

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

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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
- $779,971 Graduate Student
- $453,474 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 Athearn  
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 ID</th>
<th>Project Title</th>
<th>Amount</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
</table>
| LS20-342   | Enhancing Hedgerow Systems in Fruit Tree Production to Improve Beneficial Insect Diversity and Abundance | $311,118 | Dr. Xavier Martini  
University of Florida  
Dr. Michael Andreu  
University of Florida  
Brett Blaauw  
University of Georgia  
Dr. Lauren Diepenbrock  
University of Florida  
Rachel Mallinger, Dr.  
University of Florida |
| LS19-308   | Harnessing Microbes for Sustainable Food Production                            | $44,468 | Masanori Fujimoto  
University of Florida |
| LS19-315   | Enhancing Seed Production of Regionally Adapted Crops in the Southeastern Farmer Seed System | $310,537 | Dr. Hector Perez  
University of Florida |
| LS18-291   | Managing Plant-parasitic Nematodes and Promoting Beneficial Soil Organisms Through Sod-based Crop Rotation | $198,669 | Zane Grabau  
University of Florida |
| LS18-297   | Shade and Ground Cover Growing Systems for Tea Production in Florida           | $200,000 | Brantlee Richter  
University of Florida |
| LS18-302   | Educational Materials for Cover Crop Adoption and Use in the Subtropics and Tropics | $46,999  | Dr. Danielle Treadwell  
University of Florida |
| LS16-270   | Cover Crop Diversity through Evaluation and Increase from Breeder Stocks and Germplasm Repositories | $201,249 | Dr. Carlene Chase  
University of Florida |
| LS11-244   | Taking advantage of pest thrips ecology to increase sustainability of vegetable crop production | $235,000 | Dr. Stuart Reitz  
USDA-ARS  
Dr. Stephen Hight  
USDA-ARS |
| LS10-228   | Educating and Training Future Farmers, Researchers and Extension Personnel in Sustainable Agriculture | $245,000 | Rosalie Koenig  
University of Florida |
| LS10-233   | Integrated Use of Grafting Technology to Improve Disease Resistance and Fruit Yield in Specialty Melon Production | $223,000 | Dr. Xin Zhao  
University of Florida |
| LS10-235   | Preparing Small Scale Limited Resource Vegetable Farmers for Organic Farming in North Florida | $15,000  | Dr. Odemari Mbuya  
Florida A&M University |
| LS09-216   | Improving the quality of life for Southern organic farmers and farm workers   | $190,000 | Leah Cohen  
Florida Organic Growers |
| LS08-205   | Selecting a sunn hemp cover crop genotype for weed suppression and seed production | $170,000 | Dr. Carlene Chase  
University of Florida |
| LS07-199   | Integrating plant essential oils and kaolin for the sustainable management of thrips and tomato spotted wilt on tomato | $185,000 | Dr. Stuart Reitz  
USDA-ARS |
| LS06-187   | Silicon soil amendments for enhancing disease resistance while improving overall crop health for cucurbits in organic farming systems | $180,000 | Dr. Robert McGovern  
UF-IFAS  
Amanda Gevens  
University of Florida |
<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
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<th>Project Leaders</th>
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<tbody>
<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, 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, 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, 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, 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, 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, Agronomy Department, University of Florida</td>
</tr>
<tr>
<td>LS00-118</td>
<td>Management of Small Rural Holdings as Economic and Ecological Units</td>
<td>$21,406</td>
<td>David Zimet, North Florida Research and Extension Center Inst.</td>
</tr>
<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, Florida Organic Growers</td>
</tr>
<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, IFAS Citrus Research</td>
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<tr>
<td>LS92-046</td>
<td>Development of Cropping Systems for Nematode Management on Agronomic and Horticultural Crops</td>
<td>$155,000</td>
<td>D.W. Dickson, University of Florida</td>
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<tr>
<td></td>
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<td></td>
<td>R. McSorley, Dept. of Entomology &amp; Nematology, U of Florida</td>
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<td></td>
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<td>Rodrigo Rodriguez-Kabana, Auburn University, Plant Pathology</td>
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<tr>
<td>LS91-031</td>
<td>Biological Control and its Economics in the Southern United States</td>
<td>$49,970</td>
<td>J. Howard Frank, University of Florida, Entomology and Nematology</td>
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<tr>
<td>LS91-042</td>
<td>Intensive Short Course on Grant Preparation for Future Applicants to the LISA Competitive Grants Program</td>
<td>$39,000</td>
<td>Carl Barfield, University of Florida</td>
</tr>
<tr>
<td>LS90-021</td>
<td>An Educational Program in Low-input Sustainable Agriculture Production Technology and Philosophy</td>
<td>$18,000</td>
<td>Stephen A. Ford, University of Florida</td>
</tr>
</tbody>
</table>

**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>
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</table>
| FS20-323   | Evaluating Mobile Slaughter Access for Producers and Local Partners            | $10,700      | Sheila Austin  
Red Boot Goat Farm |
| FS19-317   | Analysis of the Antioxidant Qualities of Flowers and Fruits of Several Commercial Varieties of Sambucus nigra ssp. Canadensis (The North American Black Elderberry) in Florida | $9,971       | Heather Martin  
Hyldemoer & Co., LLC |
| FS19-314   | Season Extension and Increased Economic Sustainability for South Florida Growers: Using high tunnels to extend tomato production | $9,665       | Moses Kashem  
St. Simon’s Farm; Urban Vegetable Project Produce Sales LLC |
| FS19-319   | Sweet Potatoes and Their Vines: A nutritional and sustainable alternative for food and livestock feed | $9,926       | April Singleton  
L&B Farm |
| FS10-248   | Florida Meat Goat Study                                                       | $9,996       | Rita Pruette  
Granny Smith Farms |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Funding</th>
<th>Principal Investigator</th>
<th>Institution/Project Name</th>
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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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<tr>
<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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<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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<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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<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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<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>
<td>South Georgia Farmers Co-op</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>
<td>University of Florida</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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<tr>
<td>FS95-025</td>
<td>Development of Potting Soil Mixes from Local Wastes</td>
<td>$9,600</td>
<td>Steve Garrison</td>
<td>Almond Tree Nursery</td>
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<tr>
<td>Project #</td>
<td>Project Title</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  
University of Florida  
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  
University of Florida  
Megan Donovan, M.S.  
University of Florida |
| GS21-238  | Sustainable Management Practices for Vanilla Cultivation                      | $16,499      | Dr.Alan Chambers  
University of Florida TREC  
Joshua Anderson  
University of Florida |
| GS21-239  | Quantifying and Understanding Factors Affecting Tissue Nitrate Accumulation in Organic Celery | $16,497      | Dr.Xin Zhao  
University of Florida  
Zachary Ray  
University of Florida |
| GS21-243  | Arbuscular Mycorrhizal Fungal Associations in Tea Under Sustainable Production Systems in Florida | $16,444      | Dr.Bala Rathinasabapathi  
University of Florida  
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.  
University of Florida  
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  
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 Cladospori um 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>
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<tr>
<th>Project Code</th>
<th>Title</th>
<th>Grant Amount</th>
<th>Principal Investigator(s)</th>
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<tr>
<td>GS17-169</td>
<td>Identifying Marketing Opportunities Under the New Organic Transitional Certification Program</td>
<td>$16,492</td>
<td>Zhifeng Gao, Xuqi Chen</td>
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<tr>
<td>GS17-170</td>
<td>Companion Planting of Native Insectary Plants to Benefit Crop Plants: The promotion of beneficial insects in agricultural communities via trophic resource enhancement</td>
<td>$10,332</td>
<td>Dr. Suzanne Koptur, Andrea Salas</td>
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<td>GS17-171</td>
<td>Development of an Integrated Pest and Disease Management Program Utilizing Companion Plants and Inundative Biological Control for Organic Squash Production</td>
<td>$16,245</td>
<td>Dr. Oscar Liburd, Lorena Lopez, Virginia Tech</td>
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<td>GS17-172</td>
<td>Effects of Herbivore-Induced Plant Volatiles in Various Maturity Stages of Pepper on the Attractiveness of Orius insidiosus</td>
<td>$9,787</td>
<td>Dr. Xavier Martini, Edward Traczyk</td>
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<td>GS17-173</td>
<td>Genetic Markers for Resistance to Gastrointestinal Nematode Infections for a Sustainable Florida Native Sheep Production</td>
<td>$16,500</td>
<td>Raluca Mateescu, Zaira Magdalena Estrada Reyes</td>
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<td>GS17-178</td>
<td>Overcoming Microclimate Challenges to Improve Organic Spinach Production in Florida</td>
<td>$16,495</td>
<td>Dr. Xin Zhao, Craig Frey</td>
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<td>GS15-141</td>
<td>Creating successful Farm to School Programs in Florida: A County-wide Feasibility Study of Direct, Local Procurement</td>
<td>$11,000</td>
<td>Ray Bucklin, Dr. Jonathan Watson</td>
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<td>GS15-145</td>
<td>Sustainable Management Strategies for Management of Key Insect and Nematode Pests in Squash Cropping Systems</td>
<td>$10,121</td>
<td>Dr. Oscar Liburd, Lorena Lopez, Virginia Tech</td>
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<td>GS15-146</td>
<td>Investigating New Management Approaches for Picture-Winged Flies in Sweet Corn</td>
<td>$7,432</td>
<td>Dr. Gregg Nuessly, Dr. David Owens</td>
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<td>GS15-149</td>
<td>Natural essential oil compounds with heat treatment to control stem-end rot on grapefruit during postharvest handling and marketing</td>
<td>$10,948</td>
<td>Dr. Mark Ritenour, Jiaqi Yan</td>
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<td>GS15-151</td>
<td>Legume Proportion of Grass-Legume Mixtures Affects Greenhouse Gas Emissions from Animals Grazing Pasture</td>
<td>$11,000</td>
<td>Dr. Lynn Sollenberger, Marta Kohmann, Sutie Xu</td>
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<td>GS14-129</td>
<td>Potential use of seeded peanuts as warm-season legumes in the U.S. southern Coastal Plains</td>
<td>$10,687</td>
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<td>GS14-134</td>
<td>Effect of Nematode Suppression Using Cover Crops Resistant to Nematodes on Peanut Production</td>
<td>$10,429</td>
<td>Dr. Patricio Munoz, Lin Xing</td>
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<td>GS14-137</td>
<td>Impacts of land use intensification on soil organic carbon stocks, soil carbon fractions and microbial activities in subtropical grazing land ecosystems</td>
<td>$10,982</td>
<td>Dr. Maria Silveira, Sutie Xu</td>
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| 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  
Lindsy 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 Leppla  
University of Florida  
Dr. Erika Machtinger  
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  
Rosalyn 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 |
| GS10-097   | Enhancing nitrogen and water use efficiency in tomato production by using grafting technique | $10,000        | Dr. Xin Zhao  
University of Florida  
Desire Djidonou  
Horticultural Science Uvi Florida |
| GS09-082   | The Smells and Sounds of a Subterranean Sessid: Mating disruption and acoustic detection of grape root borer | $9,434         | Dr. Oscar Liburd  
University of Florida  
William Sanders  
University of Florida |
| GS09-087   | Bioenergy and Biofertilizer for Small-Farm Enterprises                  | $10,000        | Dr. Ann C. Wilkie  
University of Florida-IFAS  
Ryan E. Graunke  
University of Florida-IFAS |
| GS08-075   | Comprehensive evaluation of windbreaks of fast-growing trees           | $9,191         | Donald L Rockwood  
University of Florida  
Bijay Tamang  
University of Florida |
| GS07-057   | Optimizing buckwheat use as a weed suppressive cover crop for sustainable cropping systems in Florida | $10,000        | Dr. Carlene Chase  
University of Florida  
Pei-wen Huang  
University of 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

Investigating the potential use of Trichogramma, a hymenopteran egg parasitoid, in the integrated management of lepidopteran pests of cabbage in Puerto Rico

Bridging the Fall Forage Gap with Stockpiled Limpograss Along the Southern Gulf Coast

Evaluating Sorrel (Hibiscus sabdariffa) Varieties for Production in Florida

Development of a Push-Pull System in Avocado Groves in South Florida

Plant Sap Analysis as a Tool to Optimize Fertilizer Application for Sustainable Citrus Production

ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
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<th>Project Leaders</th>
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<td>OS21-142</td>
<td>Bridging the Fall Forage Gap with Stockpiled Limpograss 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>Rhuanito Ferrarezi University of Florida, IFAS, Indian River REC</td>
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<td>OS20-132</td>
<td>Fertilizer Mismanagement Impacts on Pasture Health</td>
<td>$19,828</td>
<td>Cheryl Mackowiak</td>
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<td>OS20-135</td>
<td>On-farm Evaluation of an Innovative Anaerobic Soil Disinfestation Practice for Improving Organic Carrot Production in North Florida</td>
<td>$19,995</td>
<td>Dr. Xin Zhao</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</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</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</td>
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<td>OS17-104</td>
<td>Evaluating the Effect of Biological Control and Planting Mixed Varieties to Manage Whitley and Aphid Pests in Organic Squash</td>
<td>$14,821</td>
<td>Dr. Oscar Liburd</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</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</td>
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<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</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>
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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</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.</td>
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<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</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</td>
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<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</td>
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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 Simmone 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 Simmone 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

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<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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<td>CS09-072</td>
<td>Wildwood Growers’ Market - Starting a Local Food System</td>
<td>$7,910</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>
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<td>Laura Morton NRCS/Florida West Coast RC&amp;D</td>
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<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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<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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<td>CS03-010</td>
<td>“Santa Rosa Fresh” Marketing Assistance</td>
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<td>Paula Davis</td>
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<td>Joan Hughes</td>
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<td>CS02-008</td>
<td>Test Marketing of New Label in Southwest Florida for USA Grown/Living Wage Produce</td>
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**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).