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 $360 million to more than 8,174 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

$8,215,883 in total funding
180 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: 180 grants
- 37 Research and Education
- 7 Sustainable Community Innovation
- 10 Professional Development Program
- 27 Farmer/Rancher
- 69 Graduate Student
- 30 On Farm Research/Partnership

Total funding: $8,215,883
- $5,867,779 Research and Education
- $87,296 Sustainable Community Innovation
- $651,193 Professional Development Program
- $262,085 Farmer/Rancher
- $874,074 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 $8,215,883 grants to support 178 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>
</table>
| LS22-370  | Using rootstocks to increase blueberry farming sustainability in the South East | $371,000     | Dr.Gerardo Nunez University of Florida  
Dr.John Diaz University of Florida  
Dr.Islam El-Sharkawy Florida A&M University  
Gabriel Maltais-Landry University of Florida  
Dr.Zilfina Rubio Ames University of Georgia  
Ariel Singerman University of Florida |
Octavious Carr The Herban Bee  
Mallory Schott Clara White Harvest Farms |
| 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     | 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 |
<table>
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<tr>
<th>Project Code</th>
<th>Title</th>
<th>Budget</th>
<th>Investigators</th>
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| LS21-360    | Specialty Pumpkin: Laying the Groundwork for an Emerging Crop and Lucrative Products       | $399,999| Dr. Geoffrey Meru  
Dr. Carlene Chase  
Dr. Andre da Silva  
Dr. Andrew MacIntosh  
Dr. Angela Ramirez  
Dr. Jorge Ruiz-Menjivar  
University of Florida |
Kevin Athearn  
Eban Bean  
Agricultural and Biological Engineering, UF/IFAS  
Dr. Carlene Chase  
University of Florida  
Tatiana Sanchez  
UF/IFAS Extension Alachua County |
| LS20-342    | Enhancing Hedgerow Systems in Fruit Tree Production to Improve Beneficial Insect Diversity and Abundance | $311,118| Dr. Xavier Martini  
Dr. Michael Andreu  
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 |
<table>
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<tr>
<th>Project Number</th>
<th>Project Title</th>
<th>Amount</th>
<th>Principal Investigator</th>
<th>Institution</th>
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<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>
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<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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<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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<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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<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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<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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<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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<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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</table>
Development of Cropping Systems for Nematode Management on Agronomic and Horticultural Crops

Biological Control and its Economics in the Southern United States

Intensive Short Course on Grant Preparation for Future Applicants to the LISA Competitive Grants Program

An Educational Program in Low-input Sustainable Agriculture Production Technology and Philosophy

Bridging the Food Supply and Sustainable Agriculture Systems with the Nonprofit Sector

Moving nursery producers toward sustainable production practices

What Service Providers Must Know About Organic Rules and Regulations

Growing with the Community: A Hands-on Training Design for Agricultural Educators, Farmers and Community Leaders

Delivery of Biological Control Information and Technology in Florida

Training in production and utilization of composted waste materials in warm, humid climates to improve soils for horticultural cropping systems

Integrated Production of Sustainable Crops for Small Farmers in North Florida

Sustainable Agriculture Training Initiative for Texas

Facilitating Farmer to Farmer Networks: An Experimental Approach

Evaluating Sustainability: Gaining Insights

PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

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

FARMER/RANCHER GRANTS
Methodology to enhance nutrition and economics of microalgae use as live feeds in marine aquaculture

FS22-339
$14,985
Nicole Kirchhoff, PhD
Live Advantage Bait LLC

Evaluating Mobile Slaughter Access for Producers and Local Partners

FS20-323
$10,700
Sheila Austin
Red Boot Goat Farm

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

FS19-317
$9,971
Heather Martin
Hyldemoer & Co., LLC

Season Extension and Increased Economic Sustainability for South Florida Growers: Using high tunnels to extend tomato production

FS19-314
$9,665
Moses Kashem
St. Simon's Farm; Urban Vegetable Project Produce Sales LLC

Sweet Potatoes and Their Vines: A nutritional and sustainable alternative for food and livestock feed

FS19-319
$9,926
April Singleton
L&B Farm

Florida Meat Goat Study

FS10-248
$9,996
Rita Pruette
Granny Smith Farms

Developing Model CSA Software for Multi-cropping and Harvesting

FS06-209
$9,800
Margaret Pikarsky
Bee Heaven Farm

Developing Guidelines for Farmers to Market Directly to Consumers at Community Farmers' Markets

FS03-176
$14,000
Sharon Yeago
Alachua County Farmers’ Market, Inc.

Ultraviolet Light absorbing films and nets for insect and disease control in an organic greenhouse

FS02-149
$8,010
Jim Gibbons

Development of Multi-Herd Management software for small farmers

FS01-129
$9,949
Dee Blaha

Soil Fertility improvement in Fruit Orchards by Windrowing Urban Plant Debris and Poultry Litter

FS01-135
$8,644
William Graves, IV
Tetley Groves, Inc.

Developing a model to increase support for organic farming research at Land Grant Institutions

FS01-138
$14,999
Marty Mesh
FL Certified Organic Growers and Consumers, (FOG)

Composted Yard Waste as a Replacement for Pine Bark Mulch in Blueberry Production

FS01-139
$9,800
Richard Nogaj
Harvest for Humanity

Using companion plants to increase biological control for thrips in pepper crops

FS01-140
$9,300
Chuck Obern

Practical Evaluation of Vermicompost on Horticultural Crops

FS00-112
$9,820
Cynthia L. Connolly

Marketing to the Department of Defense Food Service

FS00-121
$15,000
Glyen Holmes
New North Florida Coop

Does Compost Use Affect Post-Harvest Quality of Vegetables?

FS00-125
$9,960
Nancy Roe
### Alternative Production Methods for Increasing Sustainability of North Florida Strawberry Producers
- Project #: FS00-127
- SARE Support: $9,964
- Project Leaders: Larry Gillard, South Georgia Farmers Co-op

### Developing a Model for Successful Direct Marketing in Southern Communities
- Project #: FS99-089
- SARE Support: $7,020
- Project Leaders: Trace Giornelli

### Alternative Parasite Control Methods for Goat Producers: A Comparative Analysis
- Project #: FS99-093
- SARE Support: $5,960
- Project Leaders: Charles Johnson, C&M Farms

### Developing an Organically Approved Soil Mix for Use in Vegetable Transplant Production
- Project #: FS99-094
- SARE Support: $7,660
- Project Leaders: Rosalie Koenig, University of Florida

### Feasibility of Indoor Culture and Production of Ornamental Goldfish
- Project #: FS98-067
- SARE Support: $2,216
- Project Leaders: Robert Draughon

### Effect of Limited Environmental Controls on Shiitake Mushroom Production in the Southern Coastal Plain
- Project #: FS97-057
- SARE Support: $9,990
- Project Leaders: Charles McRae

### Development of Potting Soil Mixes from Local Wastes
- Project #: FS95-025
- SARE Support: $9,600
- Project Leaders: Steve Garrison, Almond Tree Nursery

### Testing the Efficacy of Alternative Methods of Whitefly Control in Organic Vegetable Production
- Project #: FS95-026
- SARE Support: $5,200
- Project Leaders: Rosalie Koenig, University of Florida

### Management of Artificial and Restored Wetlands to Improve Water Quality
- Project #: FS95-030
- SARE Support: $10,000
- Project Leaders: A. Glenn Simpson, Big Island Grove

### Biological Control of Flower Thrips in Pepper Fields
- Project #: FS94-019
- SARE Support: $9,950
- Project Leaders: Ted & Trudy Winsberg, Green Cay Farms

#### GRADUATE STUDENT GRANTS

<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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<tr>
<td>GS22-254</td>
<td>Integration of Root-knot Nematode Resistant Pepper Cultivars into an Organic and Sustainable Production System in Florida</td>
<td>$16,232</td>
<td>Dr. Bala Rathinasabapathi, University of Florida</td>
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<td>GS22-255</td>
<td>Beetle Herding: Development of Strategies to Optimize Biological Control of Air Potato Using Attractants</td>
<td>$12,921</td>
<td>Dr. Xavier Martini, University of Florida</td>
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<td>GS22-256</td>
<td>Sustainable Strategies to Alleviate Heat Stress in Lettuce</td>
<td>$16,392</td>
<td>Alfred Huo, University of Florida</td>
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<td>GS22-262</td>
<td>How Do Soil Microbes Respond to Chickpea Replacing a Bare Fallow Period in Southeastern Row Crop Agroecosystems?</td>
<td>$16,484</td>
<td>Gabriel Maltais-Landy, University of Florida</td>
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<td>GS22-267</td>
<td>Improving Blueberry Farming Sustainability Through Better Fertilizer Timing</td>
<td>$15,620</td>
<td>Dr. Gerardo Nunez, University of Florida</td>
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<td>GS22-268</td>
<td>Identifying the Microbial-mediated Strategies for Optimum Phosphorus Uptake in Bahiagrass and Rhizoma Peanut Mixture</td>
<td>$16,454</td>
<td>Dr. Hui-Ling Liao, University of Florida</td>
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<td>Principal Investigator(s)</td>
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<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&lt;br&gt;Yong Liu&lt;br&gt;University of Florida</td>
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<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&lt;br&gt;Megan Donovan, M.S.&lt;br&gt;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&lt;br&gt;Joshua Anderson&lt;br&gt;University of Florida TREC</td>
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<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&lt;br&gt;Zachary Ray&lt;br&gt;University of Florida</td>
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<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&lt;br&gt;Caitlin Clarke&lt;br&gt;University of Florida</td>
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<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. John Ternest&lt;br&gt;University of Florida Department of Entomology and Nematology</td>
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<td>GS21-247</td>
<td>Small-scale Farmer Networks in Florida: Understanding and measuring their impacts and exploring the role of extension in their success</td>
<td>$15,930</td>
<td>Paul Monaghan&lt;br&gt;Jose Perez&lt;br&gt;University of Florida</td>
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<td>GS21-249</td>
<td>Forecasting Pasture Productivity from Satellite Imagery for Use in Adaptive Grazing Management</td>
<td>$16,445</td>
<td>Chris Wilson&lt;br&gt;Hunter Smith&lt;br&gt;University of Florida</td>
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<td>GS20-219</td>
<td>Translating Grazing: Calculating Nitrogen Credits from Cool-Season Integrated Crop Livestock Systems</td>
<td>$16,493</td>
<td>Dr. Marcelo Wallau&lt;br&gt;Kacey Aukema&lt;br&gt;University of Florida</td>
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<td>GS20-221</td>
<td>Assessing Anaerobic Soil Disinfestation for Improving Weed and Soilborne Disease Management in High-tunnel and Open-field Salad Green Production</td>
<td>$16,499</td>
<td>Dr. Xin Zhao&lt;br&gt;Isaac Vincent&lt;br&gt;University of Florida</td>
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<td>GS20-222</td>
<td>Agroecological Intensification of Warm-season Pastures for Improved Productivity and Quality and Ecosystem Services</td>
<td>$16,173</td>
<td>Chris Wilson&lt;br&gt;Hannah Rusch&lt;br&gt;University of Florida</td>
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<td>GS20-223</td>
<td>Intercropping for Pest Control in Organic Kale in Northern Florida</td>
<td>$16,279</td>
<td>Nora Underwood&lt;br&gt;Penelope Ales&lt;br&gt;Florida State University</td>
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<td>GS20-224</td>
<td>Determining How the Ubiquitous Fungi Mortierella Regulates Belowground N Dynamics Under Different Crop Rotation Systems</td>
<td>$16,144</td>
<td>Dr. Hui-Ling Liao&lt;br&gt;Kaile Zhang&lt;br&gt;University of Florida</td>
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<td>GS20-225</td>
<td>Deploying Oak Mulch to Contain and Suppress HLB Disease in Citrus</td>
<td>$12,347</td>
<td>Lorenzo Rossi, Ph.D.&lt;br&gt;University of Florida&lt;br&gt;Lukas Hallman&lt;br&gt;UF/IFAS</td>
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| 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  
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 | 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 |
| GS18-181       | Integrated Weed Management for Long-Term Nutedge Control and Its Economic Impact in Florida Vegetable Production                      | $15,361 | Peter Dittmar University of Florida  
Ranjeet Randhawa University of Florida |
| 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

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
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<td>GS11-100</td>
<td>Efficacy of Entomopathogenic Fungi in Controlling the Small Hive Beetle; a Destructive and Invasive Pest of Honey Bee Colonies</td>
<td>$9,996</td>
<td>Lambert Kanga Florida A&amp;M University Saundra Wheeler Penn State University</td>
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<td>GS11-101</td>
<td>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</td>
<td>$9,828</td>
<td>Dr.Norman Leppla University of Florida Dr.Erika Machtinger Pennsylvania State University</td>
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<td>GS11-105</td>
<td>Strategies for Increasing Rhizoma Peanut Contribution to Productivity and Ecosystem Services of Low-Input Pasture Systems</td>
<td>$9,978</td>
<td>Dr.Kim Mullenix Auburn University/Alabama Cooperative Ex Dr.Lynn Sollenberger University of Florida</td>
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<td>GS10-092</td>
<td>Do Human-modified Landscapes Affect Solitary Bee Diversity, Foraging, and Reproduction in Northern Florida?</td>
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<td>Dr.Katie Sieving Wildlife Ecology / UF Rosalyn Johnson University of Florida</td>
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<td>GS10-093</td>
<td>Improving nutrient retention with biochar</td>
<td>$9,852</td>
<td>Dr.Danielle Treadwell University of Florida Seth Friedman Univ of Florida</td>
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<td>GS10-096</td>
<td>Integrated Use of Grafting Technology to Improve Disease Resistance, Yield and Fruit Quality in Organic Heirloom Tomato Production</td>
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<td>GS10-097</td>
<td>Enhancing nitrogen and water use efficiency in tomato production by using grafting technique</td>
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<td>GS09-082</td>
<td>The Smells and Sounds of a Subterranean Sessid: Mating disruption and acoustic detection of grape root borer</td>
<td>$9,434</td>
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<td>GS09-087</td>
<td>Bioenergy and Biofertilizer for Small-Farm Enterprises</td>
<td>$10,000</td>
<td>Dr.Ann C. Wilkie University of Florida-IFAS Ryan E. Graunke University of Florida-IFAS</td>
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<td>GS08-075</td>
<td>Comprehensive evaluation of windbreaks of fast-growing trees</td>
<td>$9,191</td>
<td>Donald L Rockwood University of Florida Bijay Tamang University of Florida</td>
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<td>GS07-057</td>
<td>Optimizing buckwheat use as a weed suppressive cover crop for sustainable cropping systems in Florida</td>
<td>$10,000</td>
<td>Dr.Carlene Chase University of Florida Pei-wen Huang University of Florida</td>
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<td>GS07-063</td>
<td>Reducing nutrient loss below the root zone of drip-irrigated vegetables using low-pressure, increased irrigation time</td>
<td>$9,966</td>
<td>Bee Ling Poh University of Florida Eric Simonne University of Florida</td>
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<td>GS06-053</td>
<td>Are bluebirds good for farms, and are farms good for bluebirds?</td>
<td>$10,000</td>
<td>Dr.Katie Sieving Wildlife Ecology / UF John Deluca Dept. of Wildlife Ecology and Conservation, UF</td>
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<td>GS05-045</td>
<td>Development of an IPM Program for Control of Flower-Thrips in Blueberries in Southeastern United States</td>
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<td>Dr.Oscar Liburd University of Florida Hector Arevalo University of Florida</td>
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<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 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>
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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 Disinfestation 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>
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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 Whitefly and Aphid Pests in Organic Squash</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>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>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>
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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>
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<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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<td>OS12-063</td>
<td>Offseason Management for Organic High Tunnels for Improved Pest Suppression and Soil Health</td>
<td>$14,967</td>
<td>Dr. Carlene Chase</td>
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<td>OS11-060</td>
<td>Investigating various tactics of intercropping buckwheat with squash to increase natural enemy populations, reduce pest and disease pressure and increase yield</td>
<td>$14,978</td>
<td>Dr. Oscar Liburd</td>
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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

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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 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>
<td>Susan Kelly UF/IFAS Sumter Co. Extension</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 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>
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<td>Mark Hostetler University of Florida</td>
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<td>CS03-010</td>
<td>“Santa Rosa Fresh” Marketing Assistance</td>
<td>$10,000</td>
<td>Paula Davis Santa Rosa County Joan Hughes TEAM Santa Rosa EDC</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>
<td>$5,200</td>
<td>Richard Nogaj Harvest for Humanity</td>
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Total funding from the USDA SARE program to Florida
$8,215,883

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).