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 $389 million to more than 8,542 initiatives.

SARE is grassroots with far-reaching impact

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

SARE communicates results

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

SARE in Florida

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

$9,166,857 in total funding

192 grant projects

(since 1988)

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

Project Highlight: *Grafted Specialty Tomatoes More Resilient*

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

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

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

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

Total awards: 192 grants
- 36 Research and Education
- 7 Sustainable Community Innovation
- 10 Professional Development Program
- 27 Farmer/Rancher
- 77 Graduate Student
- 31 On Farm Research/Partnership
- 4 Education Only

Total funding: $9,166,857
- $6,492,511 Research and Education
- $87,296 Sustainable Community Innovation
- $651,193 Professional Development Program
- $262,085 Farmer/Rancher
- $988,051 Graduate Student
- $503,453 On Farm
- $182,268 Research/Partnership
- $4 Education Only

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.

Gilbert Queeley
Florida A&M University
(850) 412-5255
gilbert.queeley@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 $9,166,857 grants to support 190 projects, including but not limited to, 34 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>
| LS23-380   | Passionfruit: Laying the Groundwork for an Emerging Specialty Fruit Crop in Florida | $383,000     | Dr.Ali Sarkhosh  
University of Florida  
Mark Bailey  
University of Florida Cooperative Extension Service  
Dr.Jonathan Crane  
University of Florida/Tropical Research and Education Center  
Stafford Crossman  
University of The Virgin Islands  
David Dinkins  
University of Florida, Institute of Food and Agricultural Science  
Dr.Islam El-Sharkawy  
Florida A&M University  
Vanessa Forbes  
University of the Virgin Islands  
Tatiana Sanchez  
UF/IFAS Extension Alachua County  
Dr.Steven Sargent  
University of Florida/Horticultural Sciences Department  
Brandon White  
University of Florida, Institute of Food and Agricultural Sciences |
| LS23-381   | Establishing domestic vanilla cultivation in southern Florida, Puerto Rico, and the US Virgin Islands | $383,000     | Dr.Xingbo Wu  
University of Florida  
Dr.Paul Bayman  
Vanilla Castañer LLC  
Trent Blare  
Dr.Thomas Zimmerman  
University of the Virgin Islands |
| 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 |
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.Krishnaswamy Jayachandran  Florida International University  Dr.Mahadev Bhat  Florida International University  Dr.Saoli Chanda  Florida International University  Dr.Leonard Scinto  Florida International University  Dr.Sanku Dattamudi  Texas A&M University - Kingsville

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.Andrew MacIntosh  University of Florida  Dr.Angela Ramirez  University of Puerto Rico  Dr.Jorge Ruiz-Menjivar  University of Florida  Andre da Silva  Auburn University

LS20-334  Optimizing Nutrient and Water Management for Organic Mixed Vegetable Production Systems  $299,116  Gabriel Maltais-Landry  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

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  Dr.Rachel Mallinger  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
<table>
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<tr>
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<th>Institution(s)</th>
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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</td>
<td>University of Florida</td>
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<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 Dr. Stephen Hight</td>
<td>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</td>
<td>University of Florida</td>
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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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<tr>
<td>LS09-216</td>
<td>Improving the quality of life for Southern organic farmers and farm workers</td>
<td>$190,000</td>
<td>Leah Cohen</td>
<td>Florida Organic Growers</td>
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<td>LS08-205</td>
<td>Selecting a sunn hemp cover crop genotype for weed suppression and seed production</td>
<td>$170,000</td>
<td>Dr. Carlene Chase</td>
<td>University of Florida</td>
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<tr>
<td>LS07-199</td>
<td>Integrating plant essential oils and kaolin for the sustainable management of thrips and tomato spotted wilt on tomato</td>
<td>$185,000</td>
<td>Dr. Stuart Reitz</td>
<td>USDA-ARS</td>
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<tr>
<td>LS06-187</td>
<td>Silicon soil amendments for enhancing disease resistance while improving overall crop health for cucurbits in organic farming systems</td>
<td>$180,000</td>
<td>Dr. Robert McGovern Dr. Amanda Gevens</td>
<td>UF-IFAS</td>
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<tr>
<td>LS06-192</td>
<td>Biorational approaches for management of bacterial wilt and bacterial spot on tomato</td>
<td>$150,000</td>
<td>Dr. Jeffrey Jones</td>
<td>University of Florida</td>
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<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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</table>
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


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>
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<tr>
<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>
</tr>
<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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### FARMER/RANCHER GRANTS

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<tr>
<td>FS22-339</td>
<td>Methodology to enhance nutrition and economics of microalgae use as live feeds in marine aquaculture</td>
<td>$14,985</td>
<td>Nicole Kirchhoff, PhD Live Advantage Bait LLC</td>
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<tr>
<td>FS20-323</td>
<td>Evaluating Mobile Slaughter Access for Producers and Local Partners</td>
<td>$10,700</td>
<td>Sheila Austin 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>
</tr>
<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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<tr>
<td>FS06-209</td>
<td>Developing Model CSA Software for Multi-cropping and Harvesting</td>
<td>$9,800</td>
<td>Margaret Pikarsky 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 Alachua County Farmers’ Market, Inc.</td>
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<td>FS02-149</td>
<td>Ultraviolet Light absorbing films and nets for insect and disease control in an organic greenhouse</td>
<td>$8,010</td>
<td>Jim Gibbons</td>
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<tr>
<td>FS01-129</td>
<td>Development of Multi-Herd Management software for small farmers</td>
<td>$9,949</td>
<td>Dee Blaha</td>
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<tr>
<td>FS01-135</td>
<td>Soil Fertility improvement in Fruit Orchards by Windrowing Urban Plant Debris and Poultry Litter</td>
<td>$8,644</td>
<td>William Graves, IV 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 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 Harvest for Humanity</td>
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</tbody>
</table>
Using companion plants to increase biological control for thrips in pepper crops
$9,300
Chuck Obern

Practical Evaluation of Vermicompost on Horticultural Crops
$9,820
Cynthia L. Connolly

Marketing to the Department of Defense Food Service
$15,000
Glyen Holmes
New North Florida Co-op

Does Compost Use Affect Post-Harvest Quality of Vegetables?
$9,960
Nancy Roe

Alternative Production Methods for Increasing Sustainability of North Florida Strawberry Producers
$9,964
Larry Gillard
South Georgia Farmers Co-op

Developing a Model for Successful Direct Marketing in Southern Communities
$7,020
Trace Giornelli

Alternative Parasite Control Methods for Goat Producers: A Comparative Analysis
$5,960
Charles Johnson
C&M Farms

Developing an Organically Approved Soil Mix for Use in Vegetable Transplant Production
$7,660
Rosalie Koenig
University of Florida

Feasibility of Indoor Culture and Production of Ornamental Goldfish
$2,216
Robert Draughon

Effect of Limited Environmental Controls on Shiitake Mushroom Production in the Southern Coastal Plain
$9,990
Charles McRae

Development of Potting Soil Mixes from Local Wastes
$9,600
Steve Garrison
Almond Tree Nursery

Testing the Efficacy of Alternative Methods of Whitefly Control in Organic Vegetable Production
$5,200
Rosalie Koenig
University of Florida

Management of Artificial and Restored Wetlands to Improve Water Quality
$10,000
A. Glenn Simpson
Big Island Grove

Biological Control of Flower Thrips in Pepper Fields
$9,950
Ted & Trudy Winsberg
Green Cay Farms

**GRADUATE STUDENT GRANTS**

<table>
<thead>
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<tr>
<td>GS23-276</td>
<td>Heat Stress and Its Influence on Subtropical Annual Crops and Their Pollinators: Implications for agriculture in an era of climate change</td>
<td>$16,338</td>
<td>Dr.Krishnaswamy Jayachandran Florida International University Blaire Kleiman Florida International University</td>
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<tr>
<td>GS23-277</td>
<td>Sowing Seeds Abroad: Exploring the Lived Experiences of African Immigrant Farmers in the United States</td>
<td>$8,074</td>
<td>Dr.Matthew Benge University of Florida Willis Ochieng University of Florida</td>
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</table>
Genetic Analysis and Breeding as Tools for Sustainable Management of Neopestalotiopsis sp. Outbreaks in Strawberry

$13,660

Dr. Vance Whitaker
University of Florida
Elissar Alam
University of Florida

Toward an Optimum Legume Proportion in Legume-grass Pastures: From radiation use efficiency to animal performance

$15,029

Dr. Lynn Sollenberger
University of Florida
Nicolas Caram
University of Florida

Intercropping Cassava and Legumes for Local Food Security in Florida and Puerto Rico

$11,459

Gregory MacDonald
University of Florida
Micah Dettweiler
University of Florida

Examining Carbon-Farming Practices to Address Soil Sustainability in the Everglades Agricultural Area, South Florida

$16,500

Jehangir Bhadha
University of Florida, Institute of Food and Agricultural Sciences Everglades Research and Education Center
Noel Manirakiza
University of Florida

Cultivar and Soil Amendment Effects on Peanut (Arachis hypogaea L.) Grown with Organic Practices in Florida

$16,500

Dr. Jianping Wang
University of Florida
Sandaru Malaweera
University of Florida

Optimizing Planting Density to Increase the Sustainability of Blueberry Farms

$16,417

Dr. Gerardo Nunez
University of Florida
Martin Zapien
University of Florida

Integration of Root-knot Nematode Resistant Pepper Cultivars into an Organic and Sustainable Production System in Florida

$16,232

Dr. Bala Rathinasabapathi
University of Florida
Dominick Padilla
University of Florida

Beetle Herding: Development of Strategies to Optimize Biological Control of Air Potato Using Attractants

$12,921

Dr. Xavier Martini
University of Florida
Jessica Griesheimer
University of Florida

Sustainable Strategies to Alleviate Heat Stress in Lettuce

$16,392

Alfred Huo
University of Florida
Chi Nguyen
University of Florida

How Do Soil Microbes Respond to Chickpea Replacing a Bare Fallow Period in Southeastern Row Crop Agroecosystems?

$16,484

Gabriel Maltais-Landry
University of Florida
Julia Barra Netto-Ferreira
University of Florida

Improving Blueberry Farming Sustainability Through Better Fertilizer Timing

$15,620

Dr. Gerardo Nunez
University of Florida
Lauren Goldsby
University of Florida

Identifying the Microbial-mediated Strategies for Optimum Phosphorus Uptake in Bahiagrass and Rhizoma Peanut Mixture

$16,454

Dr. Hui-Ling Liao
University of Florida
Benjamin Reimer
University of Florida

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

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

Sustainable Management Practices for Vanilla Cultivation

$16,499

Dr. Xingbo Wu
University of Florida
Jesse Potts
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  Dr. Rachel Mallinger  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
<table>
<thead>
<tr>
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<tr>
<td>GS19-206</td>
<td>Developing Efficient Probiotics for Microbiota of Diarrhea-Resistant Livestock</td>
<td>$16,266</td>
<td>Dr. Kwangcheol Jeong (University of Florida) and Peixin Fan (University of Florida)</td>
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<tr>
<td>GS19-210</td>
<td>Toward the Development of a Push-Pull Strategy to Control Whiteflies in Florida Vegetables</td>
<td>$9,308</td>
<td>Dr. Xavier Martini (University of Florida) and Nicholas Johnston (University of Florida, North Florida Research and Education Center)</td>
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<td>GS19-203</td>
<td>Evaluation of Cladosporium cladosporioides and Its Extracts for the Management of Pathogenic Bipolaris Species</td>
<td>$14,332</td>
<td>Dr. Erica Goss (University of Florida) and Ashish Adhikari (University of Florida, Plant Pathology)</td>
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<td>GS18-184</td>
<td>Evaluation of Biopesticides to Manage Silverleaf Whitefly (Hemiptera: Aleyrodidae) in Tomatoes in Florida</td>
<td>$16,500</td>
<td>Muhammad Haseeb (Center for Biological Control, College of Agriculture and Food Sciences, Florida A&amp;M University) and Dr. Jermaine Perier (University of Georgia)</td>
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<td>GS18-190</td>
<td>Innovations in Spotted Wing Drosophila (Drosophila suzukii Matsumura) Monitoring and Attract-and-Kill for Development of More Targeted IPM Programs</td>
<td>$16,334</td>
<td>Dr. Oscar Liburd (University of Florida) and Gabrielle LaTora (University of Georgia)</td>
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<td>GS18-191</td>
<td>Developing Attract and Reward Strategy to Control Thrips and Whiteflies in Florida Tomato</td>
<td>$10,316</td>
<td>Dr. Xavier Martini (University of Florida) and Iris Strzyzewski (University of Florida NFREC)</td>
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<td>GS18-195</td>
<td>Elucidating the Effects of Organic vs. Conventional Cropping Practice and Rhizobia Inoculation on Peanut Yield and Rhizosphere Microbial Diversity</td>
<td>$16,496</td>
<td>Dr. Jianping Wang (University of Florida) and Dev Paudel (University of Florida)</td>
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<td>GS18-181</td>
<td>Integrated Weed Management for Long-Term Nutedge Control and Its Economic Impact in Florida Vegetable Production</td>
<td>$15,361</td>
<td>Peter Dittmar (University of Florida) and Ranjeet Randhawa (University of Florida)</td>
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<td>GS17-169</td>
<td>Identifying Marketing Opportunities Under the New Organic Transitional Certification Program</td>
<td>$16,492</td>
<td>Zhifeng Gao (University of Florida) and Xuqi Chen (University of Florida)</td>
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<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 (Florida International University) and Andrea Salas (Florida International University)</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 (University of Florida) and 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 (University of Florida) and Edward Traczyk (University of Florida)</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 (University of Florida) and Zaira Magdalena Estrada Reyes (University of Florida)</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 (University of Florida) and Craig Frey (University of Florida)</td>
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<tr>
<td>Project Number</td>
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| 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  
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 |
| GS11-100       | Efficacy of Entomopathogenic Fungi in Controlling the Small Hive Beetle; a Destructive and Invasive Pest of Honey Bee Colonies | $9,996  | Lambert Kanga  
Florida A&M University  
Saundra Wheeler  
Penn State University |
| GS11-101       | Understanding olfactory cues in host location and dispersal range of the filth fly parasitoid Spalangia cameroni (Hymenoptera:Pteromalidae) to improve the use as sustainable biological control agents for fly control on livestock operations | $9,828  | Dr. Norman Leppa  
University of Florida  
Dr. Erika 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 Mullinenx  
Auburn University/Alabama Cooperative Ex  
Dr. Lynn Sollenberger  
University of Florida |
<table>
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<th>Project #</th>
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<tr>
<td>OS23-164</td>
<td>On-farm Development of Innovative Compost-based Tabletop Systems for Improving Local Strawberry Production in Florida</td>
<td>$29,997</td>
<td>Dr. Xin Zhao</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</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.</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</td>
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<td>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</td>
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<td>OS21-148</td>
<td>Plant Sap Analysis as a Tool to Optimize Fertilizer Application for Sustainable Citrus Production</td>
<td>$20,000</td>
<td>Lorenzo Rossi, Ph.D.</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 Disinfection 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 Whitefly and Aphid Pests in Organic Squash</td>
<td>$14,821</td>
<td>Dr. Oscar Liburd</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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<tr>
<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</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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<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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<td>OS10-054</td>
<td>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</td>
<td>$14,955</td>
<td>Amy Shober</td>
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<td>OS10-056</td>
<td>Improving Cover Crop Management in Florida Row, Vegetable and Organic Citrus Systems</td>
<td>$14,940</td>
<td>Dr. Danielle Treadwell</td>
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<tr>
<td>OS08-043</td>
<td>Monitoring Nutrient Availability and Leaching Below the Root Zone in Organic Vegetable Production</td>
<td>$14,900</td>
<td>Dr. Danielle Treadwell</td>
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**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>
<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>
<td>$10,000</td>
<td>Mark Hostetler, University of Florida</td>
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<td>CS03-010</td>
<td>&quot;Santa Rosa Fresh&quot; Marketing Assistance</td>
<td>$10,000</td>
<td>Paula Davis, Santa Rosa County</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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**EDUCATION ONLY GRANTS**

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<tr>
<td>EDS23-046</td>
<td>Local Food Needs Local Seed: Increasing Production and Use of Locally Adapted Seed with a Farm to Community Network</td>
<td>$41,000</td>
<td>Melissa DeSa, Working Food</td>
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EDS19-10  Harnessing Microbes for Sustainable Food Production  $44,468  Masanori Fujimoto  University of Florida

EDS18-08  Educational Materials for Cover Crop Adoption and Use in the Subtropics and Tropics  $46,999  Dr. Danielle Treadwell  University of Florida

Total funding from the USDA SARE program to Florida  
$9,166,857

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).