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 $310 million to more than 7,431 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.

SARE in Alabama

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

$3,827,523 in total funding

71 grant projects

(project numbers)

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

Project Highlight: Physical Pest Exclusion with Shade Cloth

Insect pressure is one of the major challenges of vegetable production in the Deep South, where the weather is warm and humid. Repeated applications of pesticides are expensive and time consuming for the farmer, unappealing to many consumers and potentially harmful to the environment. Yet pest damage significantly lowers the value of fresh market produce, presenting growers with a difficult problem to solve.

Seeking a good alternative to repeated pesticide applications, Fairhope, Ala., farmer Will Mastin used a SARE grant to experiment with physical pest exclusion inside an existing high tunnel. Working with an Alabama Extension entomologist, Mastin outfitted a high tunnel with a woven mesh fabric and compared tomato production inside the tunnel to the open field. In one season, the result was impressive: In the tunnel, only 10-20 percent of tomatoes were lost to pests, whereas in the field losses were 80-100 percent.

Pest exclusion with shade cloth holds promise for Alabama growers as Mastin has identified areas to continue exploring. Air temperature is one issue, because it gets hot inside the tunnel when airflow is diminished. Another is the most effective way of including beneficial insects, since they cannot get into the tunnel on their own.

For more information on this project, see sare.org/projects, and search for project number FS13-275.
SARE Grants in Alabama

Total awards: 71 grants
- 20 Farmer/Rancher
- 9 Graduate Student
- 9 On Farm Research/Partnership
- 10 Professional Development Program
- 23 Research and Education

Total funding: $3,827,523
- $182,565 Farmer/Rancher
- $92,264 Graduate Student
- $107,779 On Farm Research/Partnership
- $706,401 Professional Development Program
- $2,738,514 Research and Education

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/alabama

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/alabama to learn more.

Ayanava Majumdar
Auburn University/Alabama Extension
(251) 331-8416
azm0024@auburn.edu

Rudy Pacumbaba
Alabama Cooperative Extension System
(256) 372-4266
rop0001@aces.edu

Franklin Quarcoo
Tuskegee University
fquarcool@tuskegee.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.
Alabama has been awarded $3,972,479 grants to support 82 projects, including but not limited to, 22 research and/or education projects, 10 professional development projects and 20 producer-led projects. Alabama has also received additional SARE support through multi-state projects.

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS20-331</td>
<td>Building Grassroots Infrastructure for Peer-to-Peer Learning and Support for Sustainable Farmers in Alabama</td>
<td>$49,992</td>
<td>Alice Evans</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alabama Sustainable Agriculture Network</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alabama Cooperative Extension System, Auburn University</td>
</tr>
<tr>
<td>LS19-307</td>
<td>Biofertilization of Bermudagrass: A step toward sustainable forage production</td>
<td>$221,115</td>
<td>Dr. Leanne Dillard</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Auburn University</td>
</tr>
<tr>
<td>LS18-289</td>
<td>Development and Implementation of Ecologically Sound, System-based Tactics for Managing Pests and Insect-vectored Diseases in Cucurbit Production in the Southeast</td>
<td>$270,000</td>
<td>Henry Fadamiro</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Auburn University</td>
</tr>
<tr>
<td>LS11-242</td>
<td>Adoption of Sustainable Farming and Ranching Practices among African-American Farmers: Helping and Hindering Factors and the Role of the 2008 Farm Bill</td>
<td>$126,770</td>
<td>Heather Gray</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Federation of Southern Cooperatives/Land Assistant Fund</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Federation of Southern Cooperatives</td>
</tr>
<tr>
<td>LS10-234</td>
<td>Enhancing the Economic Stability of Select Limited Resource Farms through the Establishment of Micropropagated Pecan Orchards Integrated with Crops and Animals</td>
<td>$15,000</td>
<td>Dr. Leonard Githinji</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tuskegee University</td>
</tr>
<tr>
<td>LS10-237</td>
<td>Understanding Small Landowners’ Perspectives in Adoption of Goat-Agroforestry Land Management System</td>
<td>$27,961</td>
<td>Dr. Buddhi Gyawali</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>LS09-218</td>
<td>A farmer-researcher collaborative effort to design no-till systems appropriate for small-scale organic producers in Alabama and the Deep South</td>
<td>$250,000</td>
<td>Joseph Kloepper</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Auburn University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Jan Garrett</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Auburn University</td>
</tr>
<tr>
<td>LS09-223</td>
<td>Nutrient optimization for sustainable goat production systems in the southeastern U.S.</td>
<td>$170,000</td>
<td>Dr. Sandra Solaiman</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tuskegee University</td>
</tr>
<tr>
<td>LS08-207</td>
<td>Enhancing the long-term sustainability and profitability of small, limited resource farmers in the Black Belt South through marketing research &amp; education</td>
<td>$122,000</td>
<td>Dr. Tasha Hargrove</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tuskegee University</td>
</tr>
</tbody>
</table>
### Producing, processing and marketing forage-finished beef for consumers in the southeastern United States

- **Project #**: LS08-209
- **SARE Support**: $151,000
- **Project Leaders**: Chris Kerth
  - Auburn University, Department of Animal Sciences
  - Chris Kerth
  - Texas A&M University

### Understanding Plant-Soil-Livestock Interactions: A Key to Enhanced Sustainability in Southern-Pine Silvopasture Systems

- **Project #**: LS05-174
- **SARE Support**: $120,000
- **Project Leaders**: Mary Goodman
  - Auburn University

### The use of renewable energy to improve the sustainability of Southeastern U.S. pond aquaculture: technical, economic, and industry evaluations of solar power options

- **Project #**: LS05-181
- **SARE Support**: $14,850
- **Project Leaders**: Barrett Temple-Vaughan
  - Tuskegee University

### Barriers to the Adoption of Sustainable Agricultural Practices: Working Farmer and Change Agent Perspectives

- **Project #**: LS03-183
- **SARE Support**: $50,000
- **Project Leaders**: Robin Fazio
  - Sonrisa Farm

### Participatory Implementation of Sustainable Vegetable Systems for Small and Limited Resource Farmers

- **Project #**: LS02-137
- **SARE Support**: $161,280
- **Project Leaders**: Joseph Kloepper
  - Auburn University

### Sustainable Year-Round Forage System for Goat Production in the Southern USA

- **Project #**: LS02-141
- **SARE Support**: $178,120
- **Project Leaders**: Dr. Sandra Solaiman
  - Tuskegee University

### Development of Sustainable Cropping Systems for Canola on Limited-Resource Farms in Alabama

- **Project #**: LS98-092
- **SARE Support**: $124,488
- **Project Leaders**: Udaí R. Bishnoi
  - Alabama A&M University

### Intercropping Small Grains and Lupin for Sustainable On-Farm Utilization

- **Project #**: LS94-062
- **SARE Support**: $143,151
- **Project Leaders**: Edzard Van Santen
  - Auburn University

### Warm-Season Forage Grasses as Rotations for Sustaining Profitable Peanut Production

- **Project #**: LS93-051
- **SARE Support**: $183,000
- **Project Leaders**: Rodrigo Rodríguez-Kabana
  - Auburn University, Plant Pathology

### Sustainable Whole Farm Grain/Silage Production Systems for the Southeast

- **Project #**: LS93-053
- **SARE Support**: $240,639
- **Project Leaders**: D. Wayne Reeves
  - USDA-ARS

### Reference Manual of LISA Resource Management Strategy Budgets for the Mid-South Region

- **Project #**: LS91-033
- **SARE Support**: $50,000
- **Project Leaders**: Larry A. Johnson
  - Tennessee Valley Authority Agricultural Institute

### Total Resource Budgeting of LISA Related Management Strategies

- **Project #**: LS91-034
- **SARE Support**: $19,500
- **Project Leaders**: Jerry R. Crews
  - Auburn University

### 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>
| ES18-143   | Cattle and Small Ruminant IPM Educational Materials: A systems approach that will lead to a sustainable future | $79,900      | Kelly Palmer
  - Auburn University |
| ES16-129   | The Systems 360° Initiative: Curriculum development and delivery of land management educational tools for Alabama cattle producers | $74,298      | Dr. Kim Mullenix
  - Auburn University/Alabama Cooperative Ex |
| ES13-114   | Trainer’s Training in Agroforestry Practices in the Southeastern Region: 1890 Agroforestry Consortium Initiative | $99,540      | Dr. Uma Karki
  - Tuskegee University |
| ES12-111   | Tuskegee University Goat Production Training Programs                        | $71,164      | Olga Bolden-Tiller
  - Tuskegee University |
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES12-112</td>
<td>Expanding the Expertise of Agricultural Professionals to Serve New Constituents: Practical Training on Organic Horticulture and High Tunnels</td>
<td>$99,736</td>
<td>Jim Lukens, Southern Sustainable Agriculture Working Group</td>
</tr>
<tr>
<td>ES11-107</td>
<td>Training for sustainable year-round forage production and grazing/browsing management in the Southern Region</td>
<td>$69,843</td>
<td>Dr. Uma Karki, Tuskegee University</td>
</tr>
<tr>
<td>ES10-102</td>
<td>Organic Agriculture Hands-on Training and Educational Materials for Extension Professionals in the Southeast</td>
<td>$98,850</td>
<td>Dr. Leonard Githinji, Tuskegee University</td>
</tr>
<tr>
<td>ES09-099</td>
<td>Developing Successful Organic Horticulture Farms: Practical Training for Agricultural Professionals</td>
<td>$62,915</td>
<td>Jean Mills, Southern SAWG</td>
</tr>
<tr>
<td>ES00-050</td>
<td>We can do something about fire ants — Training Professionals and Developing Teaching Materials in Sustainable Fire Ant Management</td>
<td>$40,155</td>
<td>Kathy Flanders, Auburn University</td>
</tr>
<tr>
<td>LST94-005</td>
<td>Sustainable Cotton Production for the South</td>
<td>$10,000</td>
<td>Elizabeth Ann Guertal, Auburn University</td>
</tr>
</tbody>
</table>

**FARMER/RANCHER GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS20-322</td>
<td>Increasing Sustainability of Crawfish and Low Salinity Shrimp Production in West Alabama</td>
<td>$12,581</td>
<td>DAVID CODDINGTON, GREENE PRAIRIE AQUAFARM</td>
</tr>
<tr>
<td>FS17-302</td>
<td>Soil Effects of Animal Grazing for Selected Summer Crops in the Southern United States</td>
<td>$9,955</td>
<td>Franklin Randle, Farmer</td>
</tr>
<tr>
<td>FS17-304</td>
<td>Use of Probiotics to Increase Survival and Sustainable Yield of Inland Farmed Shrimp</td>
<td>$14,869</td>
<td>DAVID CODDINGTON, GREENE PRAIRIE AQUAFARM</td>
</tr>
<tr>
<td>FS13-275</td>
<td>Insect Exclusion Using Woven Shade Cloth</td>
<td>$9,320</td>
<td>Will Mastin, Local Appetite Growers LLC</td>
</tr>
<tr>
<td>FS13-272</td>
<td>Increasing Sustainability of Goats Production through Management of Gastrointestinal Nematodes</td>
<td>$10,000</td>
<td>Samuel Fairley, Farmer</td>
</tr>
<tr>
<td>FS09-235</td>
<td>Water Catchment Systems for Mobile and Permanent Farm Structures</td>
<td>$9,970</td>
<td>Lima Santiago</td>
</tr>
<tr>
<td>FS08-224</td>
<td>Organic Strawberry Production: Extending the Season with Low Tunnels</td>
<td>$10,000</td>
<td>Carol Garrett, Auburn University, Jan Garrett</td>
</tr>
<tr>
<td>FS08-226</td>
<td>Native-Grass Prairie Restoration and Soil Remediation Program</td>
<td>$9,995</td>
<td>Fitz Hudson</td>
</tr>
<tr>
<td>FS07-215</td>
<td>Diversify Production Methods of Medicinal Herb Crops with Tissue Culture</td>
<td>$9,946</td>
<td>Mary Janis</td>
</tr>
<tr>
<td>FS06-201</td>
<td>Evaluating Poultry Breeds Suitable for Pastured Production</td>
<td>$7,988</td>
<td>Bill Findley, Rough House Farm</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FS06-202</td>
<td>Small Scale Rabbit, Production, and Marketing Project</td>
<td>$10,000</td>
<td>Jeanette Grayson</td>
</tr>
<tr>
<td>FS05-195</td>
<td>Alternative techniques for harvesting inland saltwater shrimp</td>
<td>$6,557</td>
<td>DAVID CODDINGTON, GREENE PRAIRIE AQUAFARM</td>
</tr>
<tr>
<td>FS05-187</td>
<td>Soil Building and Fertility through Cover Cropping among Limited Resource Farmers</td>
<td>$11,968</td>
<td>John Brown, Selma-Dallas Small Farmers Association</td>
</tr>
<tr>
<td>FS02-159</td>
<td>Improving Stocking and Insect Control Procedures to Increase Survival of Saltwater ShrimpPost-larvae in Inland Ponds</td>
<td>$6,667</td>
<td>DAVID CODDINGTON, GREENE PRAIRIE AQUAFARM</td>
</tr>
<tr>
<td>FS00-122</td>
<td>Using Caged Filter-Feeding Fish to Increase Production and Profits from Fertile Catfish Ponds</td>
<td>$3,282</td>
<td>William R. Odom, Jr.</td>
</tr>
<tr>
<td>FS98-080</td>
<td>Establishment of a Grazing Management School for Producers</td>
<td>$9,760</td>
<td>Kenneth Rogers</td>
</tr>
<tr>
<td>FS97-049</td>
<td>Crop Production Systems for Nonchemical Control of Reniform Nematodes</td>
<td>$8,892</td>
<td>Richard Edgar</td>
</tr>
<tr>
<td>FS97-052</td>
<td>Sustainable Pumpkin Production in the Southeast</td>
<td>$4,655</td>
<td>Dwight James</td>
</tr>
<tr>
<td>FS97-064</td>
<td>Evaluation of a Low-Cost Innovative Ensiling System for Small- to Medium-Sized Dairy Operations</td>
<td>$10,000</td>
<td>David and Leianne Wright, Canebrake Farms</td>
</tr>
<tr>
<td>FS94-011</td>
<td>Clover Clippings as Replacement for Chicken Litter in Compost</td>
<td>$6,160</td>
<td>Jean Mills, Southern SAWG</td>
</tr>
</tbody>
</table>

**GRADUATE STUDENT GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS20-220</td>
<td>Novel Bio Sensor Derived from Cotton Biomass to Monitor Real-Time Moisture and Nitrate</td>
<td>$16,500</td>
<td>Byungjin Min, Tuskegee University, Naresh Shahi, Tuskegee University</td>
</tr>
<tr>
<td>GS16-165</td>
<td>Development of Sustainable Seaweed Aquaculture on Alabama’s Gulf Coast</td>
<td>$9,392</td>
<td>Dr. William Walton, Auburn University, Pandora Wadsworth, Auburn University</td>
</tr>
<tr>
<td>GS11-098</td>
<td>Dewatering Aquaculture Effluent For The Hydroponic Production of Pak Choi (Brassica rapa chinensis) and Production of Vegetable Seedlings</td>
<td>$9,932</td>
<td>Dr. Jesse Chappell, Auburn University, Jason Danaher, Auburn University</td>
</tr>
<tr>
<td>GS08-069</td>
<td>Effects of Forage-finished Beef on Cool- or Warm-Season Forages</td>
<td>$9,685</td>
<td>Chris Kerth, Auburn University, Department of Animal Sciences, Clint Rowe, Auburn University, Department of Animal Sciences</td>
</tr>
<tr>
<td>GS05-049</td>
<td>Organic mulches and high residue no-till for collard production in Alabama</td>
<td>$10,000</td>
<td>Wes Wood, Auburn University Dept of Agronomy and Soils, Michael Mulvaney, Auburn University, Dept. of Agronomy and Soils</td>
</tr>
</tbody>
</table>
### ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| OS20-136  | Validation of a Spotted Wing Drosophila Growing Degree Day Model for the Southeast for Sustainable Blueberry Production | $16,581      | Dr.Edgar Vinson, III  
Department of Horticulture, Auburn University & Alabama Cooperative Extension System |
| OS18-117  | Evaluation of High-residue Cover Crop Systems and Biodegradable Mulches for Weed Control in Vegetable Production in Alabama | $14,977      | Steve Li  
Auburn University |
| OS14-088  | On-Farm Evaluation and Use of Sunn Hemp (Crotalaria juncea L.) legume to Improve Sustainable Meat Goat Production and Health in Southern USA | $15,000      | Dr.Byeng ryel Min  
Tuskegee University |
| OS13-071  | Comparison of on-farm winter feeding strategies for sustainable meat goat production | $14,500      | Dr.Nar Gurung  
Tuskegee University |
| OS11-059  | Sustainable goat farming: Pasture enhancement and diet selection by goats      | $14,493      | Dr.Uma Karki  
Tuskegee University |
| OS08-040  | Sustainable Irrigation Methods for Alternative Crop Production                | $15,000      | Dr.Elina Coneva  
Auburn University |
| OS04-018  | Recirculating Production Pond Inflows to Increase Production and Reduce Effluents on Small-Scale Fish Farms | $14,145      | David Cline  
Alabama Cooperative Extension System |
| OS02-003  | Central Alabama Soil Quality Improvement for Cotton Growers                   | $2,116       | Leonard Kuykendall  
AL Cooperative Extension System/Autauga County |
| OS02-004  | Incorporation of Triticale/Clover into Existing Grazing Management Systems to Enhance Beef Cattle Production Sustainability | $967         | Perry Mobley |

### SUSTAINABLE COMMUNITY INNOVATION GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| OS02-003  | Central Alabama Soil Quality Improvement for Cotton Growers                   | $2,116       | Leonard Kuykendall  
AL Cooperative Extension System/Autauga County |

Sustainable Irrigation Methods for Alternative Crop Production  
Dr.Elina Coneva  
Auburn University |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Funding</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
</table>
| CS10-083    | United Cherokee Ani-Yun-Wiya Nation Blackberry Development Project (UCANBD Project) | $10,000 | Judy Dixon  
United Cherokee Ani-Yun-Wiya Nation  
Gina Williamson  
United Cherokee Ani-Yun-Wiya Nation |
| CS09-074    | Producers/Buyers Cooperative: Linking Family Farms and Institutions         | $10,000 | Kathryn Strickland  
Food Bank of North Alabama |
| CS08-067    | The Alabama Blackbelt Community Food System Project                          | $10,000 | Andrew Williams  
The United Christian Community Association |
| CS08-068    | Training for Sustainable Community Development: Phase IIIb                   | $5,000  | Dr. Robert Zabawa  
Tuskegee University |
| CS07-060    | Training for Sustainable Community Development: Phase III                    | $10,000 | Dr. Robert Zabawa  
Tuskegee University |
| CS06-051    | The Clean Food Network                                                        | $40,000 | Dove Stackhouse  
ASAN (Alabama Sustainable Agricultural Network) |
| CS06-046    | Training for Sustainable Community Development: Phase II                     | $10,000 | Dr. Robert Zabawa  
Tuskegee University  
Dr. Tasha Hargrove  
Tuskegee University |
| CS05-037    | Agritourism and Agribusiness Entrepreneur Training, Assistance and Product Marketing in the Eastern Alabama Black Belt | $9,956  | Barrett Temple-Vaughan  
Tuskegee University |
| CS05-039    | Partnerships for Sustainable Communities                                     | $10,000 | Dr. Robert Zabawa  
Tuskegee University |
| CS04-019    | Sustainable Agriculture for Future Economics (SAFE)                          | $10,000 | Wendy Allen  
Mobile Bay National Estuary Program |
| CS04-032    | Developing a Marketing Network for Central Alabama                            | $10,000 | Karen Wynne  
Alabama Sustainable Agriculture Network |
| CS03-016    | Taylor Community Supported Agriculture Project                               | $10,000 | Evelyn Williams  
The United Christian Community Association, Inc. |

**Total funding from the USDA SARE program to Alabama**  
$3,972,479

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).