Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $333 million to more than 7,800 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.

Project Highlight: Training for a Sustainable Agriculture Future

Thousands of Texas ranchers hurt by drought are seeking new ways to make their land profitable. Large Texas farms are being subdivided. Farms of all sizes are now in closer contact with non-agricultural communities due to urban growth. Agriculture in Texas is changing, and the technical professionals who support producers must keep up by learning innovative, research-based production and marketing strategies relevant to their clientele’s interests. This need prompted Texas A&M Extension educators to organize a SARE-funded training program on the sustainable and organic practices that are of emerging interest to Texas’ farmers and ranchers. The program reached 45 employees of Texas A&M and Prairie View A&M Extension, and the USDA Natural Resources Conservation Service. It included hands-on farm training conducted at six locations, with classroom presentations and discussions over four days. Eleven farmers and ranchers served as trainers during the on-site visits. Participants reported back on what they did in their communities as a result of their involvement in the program. Five months after conclusion of the training, they brought information about sustainable and organic practices to 1,000 farmers in 37 different counties through a combination of events and one-on-one outreach.

For more information on this project, see sare.org/projects, and search for project number ES13-120.

SARE in Texas

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

$8,776,053 in total funding

119 grant projects

(since 1988)

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

Total awards: 119 grants
- 37 Research and Education
- 4 Sustainable Community Innovation
- 9 Professional Development Program
- 25 Farmer/Rancher
- 26 Graduate Student
- 18 On Farm Research/Partnership

Total funding: $8,776,053
- $7,196,602 Research and Education
- $40,000 Sustainable Community Innovation
- $703,658 Professional Development Program
- $241,676 Farmer/Rancher
- $315,704 Graduate Student
- $278,413 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/texas

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/texas to learn more.

Nelson Daniels
Prairie View A&M University
(936) 261-5112
ndaniels@ag.tamu.edu

Larry Redmon
Texas A&M University
(979) 845-4008
l-redmon@tamu.edu

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.

For detailed information on SARE projects, go to www.SARE.org
Texas has been awarded $8,776,053 grants to support 118 projects, including but not limited to, 36 research and/or education projects, 9 professional development projects and 25 producer-led projects. Texas has also received additional SARE support through multi-state projects.

### RESEARCH AND EDUCATION GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| LS21-345  | Soil for Water                                                                                                                                       | $1,000,000   | Mike Morris  
National Center for Appropriate Technology  
Eric Bendfeldt  
Virginia Cooperative Extension  
Dr. Dirk Philipp  
University of Arkansas  
Dr. Rocky Lemus  
Mississippi State University, Department of Plant and Soil Sciences |
| LS20-341  | Assessing Water Use Efficiency, Soil Health, and Pollinators within a Transition from Irrigation to Dryland Management in the Texas High Plains    | $299,208     | Dr. Scott Longing  
Texas Tech University  
Dr. Veronica Acosta-Martinez  
USDA-ARS |
| LS20-343  | Toward Culturally Responsive Disaster Management for Limited Resource Producers: The Role of Person, Place and Professional Agencies              | $300,000     | Dr. Noel Estwick  
Prairie View A&M University  
Dr. Nelson Daniels  
Prairie View A&M University  
Dr. Marco Robinson  
Prairie View A&M University |
| LS19-313  | Organic and Conventional Agriculture: Learning from Each Other to Promote Soil Health and Economic Viability in West Texas                        | $299,667     | Dr. Katie Lewis  
Texas A&M AgriLife Research |
| LS19-312  | Regional Food Transportation for Texas Farmers                                                                                                     | $299,311     | Caroline Krejci  
The University of Texas at Arlington |
| LS18-288  | A Southern Regional Water Conference to Improve Producer Adoption of Sustainable Water Management Practices                                           | $48,000      | Dr. Diane Boellstorff  
Texas A&M AgriLife Extension Service |
| LS17-277  | Indicators and Soil Conservation Practices for Soil Health and Carbon Sequestration                                                              | $312,000     | Dr. Barbara Bellows  
Tarleton State University/ TIAER |
| LS17-283  | Developing Organic Cropping Systems for Grain Production in Texas                                                                                 | $276,000     | Ronnie Schnell  
Texas A&M University, Soil & Crop Sciences |
| LS17-286  | Long-term Agroecosystems Research and Adoption in the Texas Southern High Plains - Phase III                                                      | $300,000     | Dr. Charles West  
Texas Tech University |
| LS16-275  | Evaluating Organic Pest Control Products for Strawberries in Combination with High and Low Tunnels for Limited Resource Farmers in the Mid-South | $246,413     | Dr. Russell Wallace  
Texas A&M University AgriLife Extension |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Amount</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS16-271</td>
<td>Intensifying Cropping Systems in Semi-Arid Environments to Enhance Soil Health and Profitability</td>
<td>$232,827</td>
<td>Dr. Paul DeLaune&lt;br&gt;Texan A&amp;M AgriLife Research / Soil and Crop Sciences</td>
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<tr>
<td>LS14-261</td>
<td>Long-term AgroEcosystems Research and Adoption in the Texas Southern High Plains – Phase II</td>
<td>$300,000</td>
<td>Dr. Charles West&lt;br&gt;Texas Tech University</td>
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<tr>
<td>LS14-264</td>
<td>Beyond Fresh: Expanding Markets for Sustainable Value-added Food Products in Texas</td>
<td>$220,000</td>
<td>Mike Morris&lt;br&gt;National Center for Appropriate Technology</td>
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<tr>
<td>LS12-249</td>
<td>Improving Soil Quality to Increase Yield and Reduce Diseases in Organic Rice Production</td>
<td>$225,000</td>
<td>Fugen Dou&lt;br&gt;Texas A&amp;M AgriLife Research</td>
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<tr>
<td>LS11-238</td>
<td>Long-term AgroEcosystems Research and Adoption in the Texas Southern High Plains – Phase I</td>
<td>$329,999</td>
<td>Dr. Charles West&lt;br&gt;Texas Tech University Philip Brown&lt;br&gt;Texas Tech University</td>
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<tr>
<td>LS10-229</td>
<td>Integrated Crop and Livestock Systems for Enhanced Soil Carbon Sequestration and Microbial Diversity in the Semiarid Texas High Plains</td>
<td>$160,000</td>
<td>Dr. Jennifer Moore-Kucera&lt;br&gt;Texas Tech University</td>
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<tr>
<td>LS10-236</td>
<td>Traceability in Specialty Crop Production and Supply Chains: Distilling a Research and Extension Agenda</td>
<td>$33,000</td>
<td>Kathryn Boys&lt;br&gt;Virginia Tech Kathryn Boys&lt;br&gt;Clemson University</td>
</tr>
<tr>
<td>LS08-202</td>
<td>Crop-livestock Systems for Sustainable High Plains Agriculture</td>
<td>$200,000</td>
<td>Dr. Vivien Allen&lt;br&gt;Texas Tech University</td>
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<tr>
<td>LS08-208</td>
<td>Marketing of locally produced sustainable animal fiber products</td>
<td>$140,000</td>
<td>John Bernard&lt;br&gt;University of Delaware Hikaru Hanawa Peterson Kansas State University Gwendolyn Hustvedt&lt;br&gt;Texas State University</td>
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<tr>
<td>LS07-201</td>
<td>Pigeon pea: a multipurpose, drought resistant forage, grain and vegetable crop for sustainable southern farms</td>
<td>$200,000</td>
<td>Dr. John Sloan&lt;br&gt;Texas AgriLife Research</td>
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<tr>
<td>LS05-175</td>
<td>Sustainable and profitable control of invasive plant species by small ruminants</td>
<td>$178,000</td>
<td>Dr. James Muir&lt;br&gt;Texas A&amp;M AgriLife Research</td>
</tr>
<tr>
<td>LS05-214</td>
<td>SARE Research and Education Program Impacts and Diffusion</td>
<td>$31,526</td>
<td>Marari Suvedi&lt;br&gt;CARRS Center for Evaluative Studies</td>
</tr>
<tr>
<td>LS03-144</td>
<td>Expanding the Marketing Opportunities for Organic Growers in Texas</td>
<td>$19,924</td>
<td>Douglas Constance&lt;br&gt;Sam Houston State University</td>
</tr>
<tr>
<td>LS03-150</td>
<td>Sustainable and profitable control of invasive species by browsing goats on small farms</td>
<td>$14,199</td>
<td>Dr. James Muir&lt;br&gt;Texas A&amp;M AgriLife Research</td>
</tr>
<tr>
<td>LS02-131</td>
<td>Forage and Livestock Systems for Sustainable High Plains Agriculture</td>
<td>$251,805</td>
<td>Dr. Vivien Allen&lt;br&gt;Texas Tech University</td>
</tr>
<tr>
<td>LS00-117</td>
<td>System for value-added export of manure nitrogen and phosphorus through turfgrass sod</td>
<td>$149,726</td>
<td>Donald Vietor, PhD&lt;br&gt;Texas A&amp;M University, Soil &amp; Crop Sciences</td>
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<tr>
<td>LS99-100</td>
<td>Systems for sustainability of alfalfa production on acid, Coastal Plain soils using various harvesting strategies</td>
<td>$149,750</td>
<td>Vincent Haby&lt;br&gt;Texas Agricultural Experiment Station</td>
</tr>
<tr>
<td>Project #</td>
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<td>Project Leaders</td>
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<tr>
<td>LS99-108</td>
<td>System for Conserving and Adding Value to Manure Sources of Nutrients in Turf-grass Sod</td>
<td>$16,854</td>
<td>Donald Vietor, PhD Texas A&amp;M University, Soil &amp; Crop Sciences</td>
</tr>
<tr>
<td>LS98-097</td>
<td>Introducing Alternative Crops Into Traditional Cotton-Grain Farming to Aid Transition To &quot;Freedom to Farm&quot; Agriculture</td>
<td>$114,279</td>
<td>Roland E. Roberts Texas A&amp;M University Research and Extension Center</td>
</tr>
<tr>
<td>LS97-082</td>
<td>Sustainable Crop/Livestock Systems in the Texas High Plains</td>
<td>$222,125</td>
<td>Dr. Vivien Allen Texas Tech University</td>
</tr>
<tr>
<td>LS95-069</td>
<td>Managing Soil Phosphorous Accumulation From Poultry Litter Application Through Vegetable/Legume Rotations</td>
<td>$135,000</td>
<td>D. R. Earhart Texas Agricultural Experiment Station</td>
</tr>
<tr>
<td>LS92-047</td>
<td>Farm Scale Evaluation of Alternative Cotton Production Systems</td>
<td>$60,000</td>
<td>William M. Lyle Texas Agricultural Experiment Station</td>
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<tr>
<td>LS92-048</td>
<td>Developing Environmentally Sound Poultry Litter Management Practices for Sustainable Cropping Systems</td>
<td>$140,000</td>
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<td>D. R. Earhart Texas Agricultural Experiment Station</td>
</tr>
<tr>
<td>ES20-151</td>
<td>Beekeeping Curriculum and Training for Texas Agricultural Extension Agents and 4-H Youth Leaders</td>
<td>$79,516</td>
<td>Nicole Gueck AgriLogic Consulting, LLC Elizabeth &quot;Wizzie&quot; Brown Texas AgriLife Extension Service Leesa Hyder Texas Beekeepers Association Molly Keck Texas AgriLife Extension Service Ashley Ralph Texas Beekeepers Association Mary Reed Texas Apiary Inspection Services</td>
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<tr>
<td>ES19-147</td>
<td>Training Texas County Extension Agents and Mentor Ranchers to Improve Small Ruminant Health and Productivity Through Natural Genetic Selection Strategies</td>
<td>$76,996</td>
<td>Dr. Reid Redden Texas A&amp;M AgriLife Extension</td>
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<tr>
<td>ES18-139</td>
<td>Natural Resource Management for Sustainable Agriculture Production in East Texas</td>
<td>$42,773</td>
<td>Dr. Vanessa Corriher-Olson Texas A&amp;M AgriLife Extension</td>
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<tr>
<td>ES18-142</td>
<td>Promotion and Adoption of Sustainable Agriculture Practices in Texas: Training the Trainers</td>
<td>$80,000</td>
<td>Dr. Jake Mowrer Texas A&amp;M AgriLife Extension</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
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</tbody>
</table>
| ES17-136   | Ranching with Wildlife; Teaching Sustainable Livestock Production Practices for Wildlife Habitat | $78,838      | John Tomecek  
Texas A&M Agrilife Extension Service                                               |
| ES13-120   | Farming for the Future: Adopting Sustainable Agriculture Practices            | $55,904      | Dr. Megan Clayton  
Texas A&M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management |
| ES99-045   | Achieving Rangeland Sustainability Through Total Resource Management          | $157,061     | William Fox, Ph.D.  
Texas Cooperative Extension  
C. Wayne Hanselka, Ph.D.  
Texas Cooperative Extension                                                         |
| LST94-002  | Environmentally and Economically Sustainable Use of Rangeland                | $72,570      | James F. Cadenhead  
Texas A & M Research and Extension                                                  |

**FARMER/RANCHER GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| FS19-312   | Tagasaste: A new feed source for West Texas                                    | $9,670       | Malinda Beeman  
Marfa Maid Dairy                                                                   |
| FS18-306   | Subsoiling as an Effective and Affordable Water Capture Tool                   | $9,720       | Amanda Krause  
Parker Creek Ranch                                                             |
| FS17-299   | Organic Sweet Potato as a Commercial Crop in South Texas                       | $10,000      | Lois Kim  
Farmer                                                                   |
| FS14-281   | Organic Cultivation Methods for Asparagus as an Alternative Crop in South Texas | $14,736      | Gilbert Garza  
Texas/Mexico Border Coalition CBO                                                |
| FS13-277   | Evaluating switchgrass in marginal land as a beneficial insect habitat and as compost source for vegetable production | $8,379       | Cynthia Remsing  
Lynn Remsing                                                                |
| FS12-262   | Development of an innovative forage crop system for pasture raised swine       | $8,303       | Ron Luce  
Poppa Skinny's Farm                                                         |
| FS10-246   | Low Cost Geothermal Greenhouse Heating System for Southern Climates            | $9,999       | Tanya Miller  
Millican Farms, LLC                                                            |
| FS07-219   | Treating Soil Compaction Using Woven Weed Fabric                               | $9,886       | Roy Riddle                                                    |
| FS06-198   | Evaluation of Mulches for Organic Cantaloupe Production in Semi-Arid Regions   | $9,855       | John Chandler                                                    |
| FS06-205   | Cover Crop Optimization for Sustainable Forage Systems on a Southern Dairy Farm | $9,872       | Neil R. Miller  
World Hunger Relief, Inc.                                                        |
| FS05-190   | Addressing Cedar Infestations - Using Animal Impact to Increase Forage Production and Improve Soil Health | $14,987      | Peggy Cole Jones  
Holistic Resource Management of Texas, Inc                                        |
| FS05-196   | Weed Control for Row Crops Using Corrugating Linerboard/Medium Paper          | $7,399       | Michael E. Tolbert  
The Landowners Association of Texas-Tyler Chapter                               |
| FS03-161   | Sustainable Pastured Layer Research Project                                    | $14,992      | Graciela Alvarado  
Texas/Mexico Border Coalition Community Based Org.                               |
**Goat Range-Nutrition Performance Test**
- Project #: FS03-174
- SARE Support: $13,113
- Project Leaders: Marvin F. Shurley (Meat Goat Association)

**Increase Soil Organic Matter in Citrus Soils**
- Project #: FS02-151
- SARE Support: $8,112
- Project Leaders: Jim Hoffimann

**Pepitas de Ajo: permanent ground cover in garlic production**
- Project #: FS01-142
- SARE Support: $14,132
- Project Leaders: Lydia Villanueva (Comm. Approaching Sustainability w/ Agroecology)

**Internal Parasite Resistance Selection Method for Sheep**
- Project #: FS99-088
- SARE Support: $4,844
- Project Leaders: Ray Cloudt

**Crop Rotation and Rotational Grazing Study**
- Project #: FS99-090
- SARE Support: $9,876
- Project Leaders: Ken Graff

**An Intensive Marketing Workshop for Growers and Ranchers**
- Project #: FS98-075
- SARE Support: $7,561
- Project Leaders: Sue Johnson (Texas Organic Growers Association)

**Effects of Conservation Tillage on Water Quality in Southern Texas**
- Project #: FS97-050
- SARE Support: $8,000
- Project Leaders: Charles Eubanks (Cameron County Field)

**Cool Season and Warm Season Grasses to Stabilize Erordable Soils and Increase Profitability**
- Project #: FS97-053
- SARE Support: $10,000
- Project Leaders: David Kearney (Wichita County Field Crops Committee)

**Native Warm Season Grasses As Alternative Hay Source to Annual Sorghum/Sudan Grasses on Family-Operated Goat Dairy**
- Project #: FS96-036
- SARE Support: $9,640
- Project Leaders: Lee B. Dexter (White Egret Farm)

**Pecan IPM Using Black-Eyed Peas as a Trap Crop**
- Project #: FS95-021
- SARE Support: $4,000
- Project Leaders: Kyle Brooksheir

**Controlling Aphids with Harmonia Lady Beetle in Pecan Orchards**
- Project #: FS94-001
- SARE Support: $4,600
- Project Leaders: Cindy Wise (Texas Pecan Growers Assoc.)

**Site Specific Applications of Seed/Fertilizer/Chemicals**
- Project #: FS94-010
- SARE Support: $10,000
- Project Leaders: Ricky & Becky Meinen

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### 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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</thead>
<tbody>
<tr>
<td>GS21-241</td>
<td>Harnessing the Wild Relatives of Rice for Novel Adaptive Phenotypes: Genetics and breeding for agricultural sustainability beyond the Green Revolution</td>
<td>$16,500</td>
<td>Dr. Benildo Reyes (Texas Tech University) Swarupa Mandal (Texas Tech University)</td>
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<tr>
<td>GS21-248</td>
<td>African American Absentee Landowners in Houston and Their Knowledge of Rural Land Ownership Conservation Practices: A needs assessment</td>
<td>$14,532</td>
<td>Dr. Chanda Elbert (Texas A&amp;M University) Ashley Pellerin (Texas A&amp;M University)</td>
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<tr>
<td>GS21-251</td>
<td>Effectiveness of Tarping and Tillage as Weed Management Strategies in South Texas</td>
<td>$16,499</td>
<td>Dr. Alexis Racelis (University of Texas - Rio Grande Valley) Christopher De la Rosa (University of Texas Rio Grande Valley)</td>
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<tr>
<td>GS20-226</td>
<td>Comparing the Effects of Forage Mix and Nutrient Management on Soil Greenhouse Gas Flux in Semi-arid Improved Pastures</td>
<td>$16,450</td>
<td>Lindsey Slaughter (Texas Tech University) Billi Petermann (Texas Tech University)</td>
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<tr>
<td>Grant</td>
<td>Title</td>
<td>Budget</td>
<td>Principal Investigator(s)</td>
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</table>
| GS20-227 | **Texas Little Bluestem (Schizachyrium scoparium) Phenotypic Attribute Correlations to Collection Site Environment Characteristics** | $11,889 | Dr. James Muir
|        |                                                                    |        | Texas A&M AgriLife Research
|        |                                                                    |        | Kimberlee Howell
|        |                                                                    |        | Tarleton State University
| GS20-229 | **Cannabis sativa L. as a Feed Source in Backyard Rabbit Production** | $16,419 | Frank Owsley
|        |                                                                    |        | Tarleton State University
|        |                                                                    |        | Kristen Jacobson
|        |                                                                    |        | Tarleton State University
| GS19-198 | **The Success of Organic and Other Sustainable Dual-Purpose Wheat Systems Depend on Access to Adapted Varieties** | $16,500 | Dr. Bill Pinchak
|        |                                                                    |        | Texas A&M AgriLife Research
|        |                                                                    |        | Philip Hinson
|        |                                                                    |        | Texas A&M University
| GS19-211 | **Roadblocks to Success: Needs assessment of small producers in Texas** | $10,132 | Dr. Ken Mix
|        |                                                                    |        | Texas State University
|        |                                                                    |        | Katie Tritsch
|        |                                                                    |        | Texas State University
| GS19-209 | **Improving Resilience, Sustainability and Nutritional Properties of Specialty Crops Using Composted Spent Coffee Grounds** | $16,044 | Dr. David Reed
|        |                                                                    |        | Texas A&M University
|        |                                                                    |        | Amanda Birnbaum
|        |                                                                    |        | Texas A&M University
| GS18-193 | **Investigating Controls Over Nodulation and Nitrogen Fixation in Leguminous Cover Crops in Subtropical South Texas** | $16,500 | Dr. Alexis Racelis
|        |                                                                    |        | University of Texas - Rio Grande Valley
|        |                                                                    |        | Stephanie Kasper
|        |                                                                    |        | University of Texas Rio Grande Valley
| GS18-196 | **Effects of Cumulative Cattle Trampling on Soil Bulk Density and Infiltration of Rain Water on an Annual Forage Crop Pasture** | $9,001 | Dr. Charles West
|        |                                                                    |        | Texas Tech University
|        |                                                                    |        | Dr. Kathryn Radicke-Vanderburg
|        |                                                                    |        | West Texas A&M University / Purdue Global University/ Unity College
| GS18-179 | **Developing Suitable Cover Crop Systems for South Texas: Evaluating Different Late-Summer and Winter Cover Crop Species** | $16,352 | Muthu Bagavathiannan
|        |                                                                    |        | Texas A&M University
|        |                                                                    |        | Spencer Samuelson
|        |                                                                    |        | Corteva Agriscience
| GS16-160 | **Agroecological methods to manage brassica pests on organic farms** | $11,000 | Dr. Alexis Racelis
|        |                                                                    |        | University of Texas - Rio Grande Valley
|        |                                                                    |        | Madeline Marshall
|        |                                                                    |        | Corteva Agriscience
| GS16-161 | **Examining the role of bats in pest management in agroecosystems of south Texas** | $10,223 | Dr. Alexis Racelis
|        |                                                                    |        | University of Texas - Rio Grande Valley
|        |                                                                    |        | Katharine Jones
|        |                                                                    |        | The University of Texas at Rio Grande Valley
| GS15-148 | **Multifunctionality of Cover Crops in South Texas: Looking at multiple benefits of cover cropping on small farms in a subtropical climate** | $8,953 | Dr. Alexis Racelis
|        |                                                                    |        | University of Texas - Rio Grande Valley
|        |                                                                    |        | Savannah Rugg
|        |                                                                    |        | University of Texas Pan-American
| GS15-152 | **Evaluation of winter annual cover crops under multiple residue managements: Impacts on land management, soil water depletion, and cash crop productivity.** | $9,383 | Dr. Charles West
|        |                                                                    |        | Texas Tech University
|        |                                                                    |        | Dr. Lisa Baxter
|        |                                                                    |        | University of Georgia (Tifton Campus)
| GS14-133 | **Effects of Simulated and Insect Herbivory on Total and Protein Percipitable Phenolic Concentrations of Two Legumes** | $9,040 | Dr. James Muir
|        |                                                                    |        | Texas A&M AgriLife Research
|        |                                                                    |        | Tiana Blackmon
|        |                                                                    |        | Tarleton State University
| GS14-138 | **Use of Artificial Lighting to Increase Photoperiod Length for Pasture-Raised Laying Hens to Improve Egg Productivity and Quality** | $10,997 | Dr. Jackie Wahrmund
|        |                                                                    |        | University of Kentucky
|        |                                                                    |        | Margaret Morgan
|        |                                                                    |        | Texas A&M University-Commerce
| GS12-109 | **Factors contributing to the economic impact of cotton flea hoppers, Pseudatomoscelis seriatus** | $9,336 | Micky Eubanks
|        |                                                                    |        | Auburn University
|        |                                                                    |        | Loriann Garcia
|        |                                                                    |        | Texas A&M University
Managing Climate Change on Apple Orchards

Evaluating functional diversity in an organic intercropping system

Allelopathic effects of small grain cover crops on cotton plant growth and yields

Cropping systems for sustainable nutrient management and dairy production

Cycling of composted biosolids through turfgrass sod enhances sustainability across agricultural and urban landscapes

Development of Methodology to Measure Net Feed Efficiency in Bulls to Enhance Profitability and Environmental Sustainability of Beef Production

Optimizing Water Use for Three Old World Bluestems in the Texas High Plains

Introducing Beneficial Entomopathogenic Nematodes for Biological Control and Enhanced Plant Resistance to Improve Pest Management in Cucurbit Crops

Strategic Management of Legume Cover-forage Crops to Optimize Utility in a Challenging Environment

Incorporating Native Plants in Insectary Strips to Promote Insect Diversity and Belowground Beneficial Microbes

Sustainable Pasture Management in Texas: Optimizing forage production and nutrient use in various environments and soils

Advancing the Frontier of Legume Cover Crops and Building Integrated System Resilience in Semi-arid West Texas

Supporting Alternative Crop Options Through Improved Fertility Recommendations for Canola in Central and South Texas

Integrating Cover Crops as Potential Weed and Pest Management Strategy in Organic Vegetable Farms in South Texas

ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
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<td>OS21-140</td>
<td>Introducing Beneficial Entomopathogenic Nematodes for Biological Control and Enhanced Plant Resistance to Improve Pest Management in Cucurbit Crops</td>
<td>$20,000</td>
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<td>OS20-138</td>
<td>Strategic Management of Legume Cover-forage Crops to Optimize Utility in a Challenging Environment</td>
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<td>Incorporating Native Plants in Insectary Strips to Promote Insect Diversity and Belowground Beneficial Microbes</td>
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<td>OS19-128</td>
<td>Sustainable Pasture Management in Texas: Optimizing forage production and nutrient use in various environments and soils</td>
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<td>OS18-119</td>
<td>Supporting Alternative Crop Options Through Improved Fertility Recommendations for Canola in Central and South Texas</td>
<td>$14,811</td>
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<td>OS18-121</td>
<td>Integrating Cover Crops as Potential Weed and Pest Management Strategy in Organic Vegetable Farms in South Texas</td>
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<td>OS17-108</td>
<td>Using Mycorrhizal Fungi to Improve Soil Health and Increase Yield in Organic Vegetable Farms</td>
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<td>OS16-095</td>
<td>Deep Soil Profile Sampling of Nitrate for Residual Nitrogen Credit in Winter Wheat - Texas Blacklands</td>
<td>$15,000</td>
<td>Dr. Jake Mowrer Texas A&amp;M Agrilife Extension</td>
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<td>OS14-087</td>
<td>Determining accurate nitrate level requirements in an aquaponic system.</td>
<td>$9,737</td>
<td>Dr. Joseph Masabni Texas A&amp;M</td>
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<td>OS14-089</td>
<td>Developing farmer-appropriate integrated pest management strategies in South Texas: The potential of push-pull technologies to regulate organic brassica pest</td>
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<td>OS13-072</td>
<td>Huitlacoche Production as an Alternative Crop in South Texas</td>
<td>$14,962</td>
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<td>OS12-067</td>
<td>Adaptable Wide Stale Seedbed System Combining Precision Fertilizer Placement, Conservation Irrigation Management with Reduced Tillage Practices for Long Term Farm Sustainability</td>
<td>$15,000</td>
<td>Dionicio Valdez Texas A&amp;M AgriLife Extension Service</td>
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<td>OS10-053</td>
<td>BIOLOGICAL CONTROL OF SALTCEDAR ON WEST TEXAS RANCHES CONSERVES FORAGE AND WATER RESOURCES</td>
<td>$14,965</td>
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<td>OS06-031</td>
<td>Use of Guar (Cyamopsis tetragonolaba (L.) Taub) for cover crop rotation and green manuring</td>
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<td>Dr. Russell Wallace Texas A&amp;M University AgriLife Extension</td>
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<td>OS05-023</td>
<td>Livestock and Feedstock: Distiller’s Grain and Fuel Ethanol</td>
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<td>Peggy Korth Water Assurance Technology Energy Resources</td>
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<td>OS04-021</td>
<td>Comparison of Stockpiled Bermudagrass + Annual Ryegrass and Traditional Hay-Only Winter Feeding Practices</td>
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<td>OS02-006</td>
<td>Evaluation and Maintenance of Sustainable Systems for Alfalfa Production and Marketing Strategies on Coastal Plain Soils</td>
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**SUSTAINABLE COMMUNITY INNOVATION GRANTS**

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<td>CS10-076</td>
<td>Investing in Community Linkages to Improve our Food System</td>
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<td>Jay Crossley Houston Tomorrow</td>
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<td>CS10-081</td>
<td>Establishing Sustainable Agriculture &amp; Community Development in Elgin Texas</td>
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<td>CS06-040</td>
<td>Building Local Food &amp; Local Communities in Western Oklahoma</td>
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<td>Darryl Birkenfield Ogallala Commons</td>
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<td>CS03-012</td>
<td>Sustainable Agriculture Innovations Lead to Rural Success</td>
<td>$10,000</td>
<td>Gayla Kessinger Canutillo Independent Schoo</td>
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</table>

**Total funding from the USDA SARE program to**
Texas
$8,776,053

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).