What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $360 million to more than 8,174 initiatives.

SARE is grassroots with far-reaching impact

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

SARE communicates results

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

SARE: Advancing the Frontier of Sustainable Agriculture in...

Texas

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

$10,817,232 in total funding

132 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: 132 grants
- 43 Research and Education
- 4 Sustainable Community Innovation
- 11 Professional Development Program
- 26 Farmer/Rancher
- 29 Graduate Student
- 19 On Farm Research/Partnership

Total funding: $10,817,232
- $9,045,269 Research and Education
- $40,000 Sustainable Community Innovation
- $814,221 Professional Development Program
- $256,338 Farmer/Rancher
- $363,004 Graduate Student
- $298,400 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.

Vanessa Corriher-Olson
Texas A&M University
(903) 834-6191
vcorrriher@ag.tamu.edu

Nelson Daniels
Prairie View A&M University
(936) 261-5112
ndaniels@ag.tamu.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.
Texas has been awarded $10,817,232 grants to support 131 projects, including but not limited to, 42 research and/or education projects, 11 professional development projects and 26 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>
| LS22-364     | Development of Sustainable Organic Rice Ratoon Production Systems in the Southern US | $340,000     | Dr. Tanumoy Bera  
Texas A&M AgriLife Research  
Dr. Fugen Dou  
Texas A&M University  
Dr. Lloyd T. Wilson  
Texas A&M University  
Dr. Yubin Yang  
Texas A&M University  
Dr. Xin-Gen (Shane) Zhou  
Texas A&M University |
| LS22-371     | Evaluating Cover Crops for Weed Reduction throughout the Southern States       | $360,000     | Justin Duncan  
National Center for Appropriate Technology  
Dorothy Barker  
Operation Spring Plant (OSP)  
Jahi Chappell  
Southeastern African American Farmers Organic Network (SAAFON) |
| LS22-372     | Sustainable Soil Resource Management and Produce Marketing on Resource-limited Urban Farms | $371,000     | Dr. Omar Harvey  
Texas Christian University  
Dr. Esayas Gebremichael  
Texas Christian University  
Dr. Stacy Grau  
Texas Christian University  
Jesse Herrera  
CoAct |
| LS22-373     | Converting to alternative annual and perennial forage based systems for sustainable grazing in semi-arid environments | $371,000     | Dr. Paul DeLaune  
Texan A&M AgriLife Research / Soil and Crop Sciences  
Francisco Abello  
Texas A&M AgriLife Extension Service  
Emi Kimura  
Dr. Dariusz Malinowski  
Texas AgriLife Research  
Dr. Marco Palma  
Texas A&M AgriLife Research  
Dr. William Pinchak  
Texas A&M AgriLife Research |
<table>
<thead>
<tr>
<th>Grant Number</th>
<th>Project Title</th>
<th>Budget</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS22-375</td>
<td>Sheep integration for diverse and resilient organic cotton systems</td>
<td>$371,000</td>
<td>Dr.Reagan Noland Texas A&amp;M AgriLife Extension Dr.Justin Benavidez Texas A&amp;M AgriLife Extension Service Caitlyn Cooper-Norris Texas Tech University Dr.Holli Leggette Texas A&amp;M University Dr.Reid Redden Texas A&amp;M AgriLife Extension Dr.Cody Scott Angelo State University Bob Whitney Texas A&amp;M AgriLife Extension</td>
</tr>
<tr>
<td>LS21-345</td>
<td>Soil for Water</td>
<td>$1,000,000</td>
<td>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</td>
</tr>
<tr>
<td>LS20-341</td>
<td>Assessing Water Use Efficiency, Soil Health, and Pollinators within a Transition from Irrigation to Dryland Management in the Texas High Plains</td>
<td>$299,208</td>
<td>Dr.Scott Longing Texas Tech University Dr.Veronica Acosta-Martinez USDA-ARS</td>
</tr>
<tr>
<td>LS20-343</td>
<td>Toward Culturally Responsive Disaster Management for Limited Resource Producers: The Role of Person, Place and Professional Agencies</td>
<td>$300,000</td>
<td>Dr.Noel Estwick Prairie View A&amp;M University Dr.Nelson Daniels Prairie View A&amp;M University Dr.Marco Robinson Prairie View A&amp;M University</td>
</tr>
<tr>
<td>LS19-313</td>
<td>Organic and Conventional Agriculture: Learning from Each Other to Promote Soil Health and Economic Viability in West Texas</td>
<td>$299,667</td>
<td>Dr.Katie Lewis Texas A&amp;M AgriLife Research</td>
</tr>
<tr>
<td>LS19-312</td>
<td>Regional Food Transportation for Texas Farmers</td>
<td>$299,311</td>
<td>Caroline Krejci The University of Texas at Arlington</td>
</tr>
<tr>
<td>LS18-288</td>
<td>A Southern Regional Water Conference to Improve Producer Adoption of Sustainable Water Management Practices</td>
<td>$48,000</td>
<td>Dr.Diane Boellstorff Texas A&amp;M AgriLife Extension Service</td>
</tr>
<tr>
<td>LS17-277</td>
<td>Indicators and Soil Conservation Practices for Soil Health and Carbon Sequestration</td>
<td>$312,000</td>
<td>Dr.Barbara Bellows Tarleton State University/ TIAER</td>
</tr>
<tr>
<td>LS17-283</td>
<td>Developing Organic Cropping Systems for Grain Production in Texas</td>
<td>$276,000</td>
<td>Ronnie Schnell Texas A&amp;M University, Soil &amp; Crop Sciences</td>
</tr>
<tr>
<td>LS17-286</td>
<td>Long-term Agroecosystems Research and Adoption in the Texas Southern High Plains - Phase III</td>
<td>$300,000</td>
<td>Dr.Charles West Texas Tech University</td>
</tr>
<tr>
<td>LS16-275</td>
<td>Evaluating Organic Pest Control Products for Strawberries in Combination with High and Low Tunnels for Limited Resource Farmers in the Mid-South</td>
<td>$246,413</td>
<td>Dr.Russell Wallace Texas A&amp;M University AgriLife Extension</td>
</tr>
<tr>
<td>Project Code</td>
<td>Project Title</td>
<td>Funding Amount</td>
<td>Principal Investigator(s)</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<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, Texan A&amp;M AgriLife Research / Soil and Crop Sciences</td>
</tr>
<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, Texas Tech University</td>
</tr>
<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, National Center for Appropriate Technology</td>
</tr>
<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, Texas A&amp;M AgriLife Research</td>
</tr>
<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, Texas Tech University, Philip Brown, Texas Tech University</td>
</tr>
<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, Texas Tech University</td>
</tr>
<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, Virginia Tech, Kathryn Boys, 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, Texas Tech University</td>
</tr>
<tr>
<td>LS08-208</td>
<td>Marketing of locally produced sustainable animal fiber products</td>
<td>$140,000</td>
<td>John Bernard, University of Delaware, Hikaru Hanawa Peterson, Kansas State University, Gwendolyn Hustvedt, Texas State University</td>
</tr>
<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, Texas AgriLife Research</td>
</tr>
<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, 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, 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, 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, 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, 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, Texas A&amp;M University, Soil &amp; Crop Sciences</td>
</tr>
<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, Texas Agricultural Experiment Station</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>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 “Freedom to Farm” 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>
</tr>
<tr>
<td>LS92-048</td>
<td>Developing Environmentally Sound Poultry Litter Management Practices for Sustainable Cropping Systems</td>
<td>$140,000</td>
<td>D. R. Earhart, Texas Agricultural Experiment Station</td>
</tr>
<tr>
<td>LS89-015</td>
<td>Enhancement of the Stability of Southern Region Agroecosystems Through Profitable Transition to Sustainable Agriculture</td>
<td>$121,989</td>
<td>Keith Jones, Texas Department of Agriculture</td>
</tr>
<tr>
<td>LS88-002</td>
<td>Whole-farm Low/Reduced Input Farming Systems and Educational Program</td>
<td>$90,000</td>
<td>Hoover Carden, Prairie View A &amp; M University</td>
</tr>
<tr>
<td>LS88-010</td>
<td>Solarization and Living Mulch to Optimize Low-Input Production Systems for Small Fruits (88-87-4)</td>
<td>$80,000</td>
<td>Charles Long, Texas A &amp; M University</td>
</tr>
</tbody>
</table>

### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPDP22-09</td>
<td>Carbon Farm Planning to Promote Sustainable Agriculture in Texas</td>
<td>$79,529</td>
<td>Kara Kroeger, National Center for Appropriate Technology</td>
</tr>
<tr>
<td>SPDP22-10</td>
<td>Certificate Program for Sustainable Cotton Production for County Agents</td>
<td>$31,034</td>
<td>Steve Hague, Texas A&amp;M University - Department of Soil &amp; Crop Sciences, Dr. Jourdan Bell, Texas A&amp;M AgriLife Research and Extension, Dr. Seth Byrd, Oklahoma State University, Dr. Matthew Foster, LSU AgCenter, Emi Kimura, Murilo Maeda, Texas A&amp;M AgriLife Extension, Dr. Josh McGinty, Texas A&amp;M AgriLife Extension, Dr. Ben McKnight, Texas A&amp;M AgriLife Extension, Dr. Jake Mowrer, Texas A&amp;M AgriLife Extension, Dr. Reagan Noland, Texas A&amp;M AgriLife Extension, Dr. Scott Nolte, Texas A&amp;M AgriLife Extension</td>
</tr>
<tr>
<td>PDP21-06</td>
<td>Sustainable Aquatic Habitat Management on Agricultural Lands</td>
<td>$60,000</td>
<td>Brittnie Chesser, Texas A&amp;M AgriLife Extension Service, Mikayla Killam, Texas A&amp;M University</td>
</tr>
</tbody>
</table>
**ES20-151**  Beekeeping Curriculum and Training for Texas Agricultural Extension Agents and 4-H Youth Leaders  $79,516  Nicole Gueck  AgriLogic Consulting, LLC  Elizabeth "Wizzie" 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

**ES19-147**  Training Texas County Extension Agents and Mentor Ranchers to Improve Small Ruminant Health and Productivity Through Natural Genetic Selection Strategies  $76,996  Dr. Reid Redden  Texas A&M AgriLife Extension

**ES18-139**  Natural Resource Management for Sustainable Agriculture Production in East Texas  $42,773  Dr. Vanessa Corriher-Olson  Texas A&M AgriLife Extension

**ES18-142**  Promotion and Adoption of Sustainable Agriculture Practices in Texas: Training the Trainers  $80,000  Dr. Jake Mowrer  Texas A&M Agrilife Extension

**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>
<tbody>
<tr>
<td>FS22-338</td>
<td>New Design of Two Queen Horizontal Honey Bee Hive Bases for Commercial and Small Scale Beekeeping Operations</td>
<td>$14,662</td>
<td>Daniel Brantner  Texas Honey Company</td>
</tr>
<tr>
<td>FS19-312</td>
<td>Tagasaste: A new feed source for West Texas</td>
<td>$9,670</td>
<td>Malinda Beeman  Marfa Maid Dairy</td>
</tr>
<tr>
<td>FS18-306</td>
<td>Subsoiling as an Effective and Affordable Water Capture Tool</td>
<td>$9,720</td>
<td>Amanda Krause  Parker Creek Ranch</td>
</tr>
<tr>
<td>FS17-299</td>
<td>Organic Sweet Potato as a Commercial Crop in South Texas</td>
<td>$10,000</td>
<td>Lois Kim  Farmer</td>
</tr>
<tr>
<td>FS14-281</td>
<td>Organic Cultivation Methods for Asparagus as an Alternative Crop in South Texas</td>
<td>$14,736</td>
<td>Gilbert Garza  Texas/Mexico Border Coalition CBO</td>
</tr>
<tr>
<td>FS13-277</td>
<td>Evaluating switchgrass in marginal land as a beneficial insect habitat and as compost source for vegetable production</td>
<td>$8,379</td>
<td>Cynthia Remsing  Lynn Remsing</td>
</tr>
</tbody>
</table>
| 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 Alvardo  
Texas/Mexico Border Coalition Community Based Org. |
| FS03-174 | Goat Range-Nutrition Performance Test | $13,113 | Marvin F. Shurley  
Meat Goat Association |
| FS02-151 | Increase Soil Organic Matter in Citrus Soils | $8,112 | Jim Hoffimann |
| FS01-142 | Pepitas de Ajo: permanent ground cover in garlic production | $14,132 | Lydia Villanueva  
Comm. Approaching Sustainability w/ Agroecology |
| FS99-088 | Internal Parasite Resistance Selection Method for Sheep | $4,000 | Ray Cloudt |
| FS99-090 | Crop Rotation and Rotational Grazing Study | $9,876 | Ken Graff |
| FS98-075 | An Intensive Marketing Workshop for Growers and Ranchers | $7,561 | Sue Johnson  
Texas Organic Growers Association |
| FS97-050 | Effects of Conservation Tillage on Water Quality in Southern Texas | $8,000 | Charles Eubanks  
Cameron County Field |
| FS97-053 | Cool Season and Warm Season Grasses to Stabilize Erodible Soils and Increase Profitability | $10,000 | David Kearney  
Wichita County Field Crops Committee |
| FS96-036 | Native Warm Season Grasses As Alternative Hay Source to Annual Sorghum/Sudan Grasses on Family-Operated Goat Dairy | $9,640 | Lee B. Dexter  
White Egret Farm |
| FS95-021 | Pecan IPM Using Black-Eyed Peas as a Trap Crop | $4,000 | Kyle Brooksheir |
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>GS22-260</td>
<td>Quantifying the Risks of Pesticide Exposure to Squash Bee Behavior and Pollination Services</td>
<td>$16,500</td>
<td>Dr. Shalene Jha University of Texas at Austin Leeah Richardson University of Texas at Austin</td>
</tr>
<tr>
<td>GS22-261</td>
<td>Climate Change Impacts on the U.S. Livestock Sector and Possible Adaptations</td>
<td>$16,500</td>
<td>Dr. Bruce A. McCarl Texas A&amp;M University Muxi Cheng Texas A&amp;M University</td>
</tr>
<tr>
<td>GS22-273</td>
<td>Native Texas Perennial Bunchgrass for Bioenergy Feedstock and Ruminant Nutrition</td>
<td>$14,300</td>
<td>Dr. James Muir Texas A&amp;M AgriLife Research Olivia Lasater Tarleton State University</td>
</tr>
<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>
</tr>
<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>
</tr>
<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>
</tr>
<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>
</tr>
<tr>
<td>GS20-227</td>
<td>Texas Little Bluestem (Schizachyrium scoparium) Phenotypic Attribute Correlations to Collection Site Environment Characteristics</td>
<td>$11,889</td>
<td>Dr. James Muir Texas A&amp;M AgriLife Research Kimberlee Howell Tarleton State University</td>
</tr>
<tr>
<td>GS20-229</td>
<td>Cannabis sativa L. as a Feed Source in Backyard Rabbit Production</td>
<td>$16,419</td>
<td>Dr. Frank Owsley Tarleton State University Kristen Jacobson Tarleton State University</td>
</tr>
<tr>
<td>GS19-198</td>
<td>The Success of Organic and Other Sustainable Dual-Purpose Wheat Systems Depend on Access to Adapted Varieties</td>
<td>$16,500</td>
<td>Dr. Bill Pinchak Texas A&amp;M AgriLife Research Philip Hinson Texas A&amp;M University</td>
</tr>
<tr>
<td>GS19-211</td>
<td>Roadblocks to Success: Needs assessment of small producers in Texas</td>
<td>$10,132</td>
<td>Dr. Ken Mix Texas State University Katie Tritsch Texas State University</td>
</tr>
<tr>
<td>GS19-209</td>
<td>Improving Resilience, Sustainability and Nutritional Properties of Specialty Crops Using Composted Spent Coffee Grounds</td>
<td>$16,044</td>
<td>Dr. David Reed Texas A&amp;M University Amanda Birnbaum Texas A&amp;M University</td>
</tr>
</tbody>
</table>
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

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

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

Agroecological methods to manage brassica pests on organic farms $11,000
Dr. Alexis Racelis
University of Texas - Rio Grande Valley
Madeline Marshall
Corteva Agriscience

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

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

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)

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

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

Factors contributing to the economic impact of cotton fleahoppers, Pseudatomoscelis seriatus $9,954
Micky Eubanks
Auburn University
Loriann Garcia
Texas A&M University

Managing Climate Change on Apple Orchards $9,954
Dr. James Veteto
University of North Texas
Stephen Carlson
University of North Texas

Evaluating functional diversity in an organic intercropping system $10,000
Dr. Astrid Volder
Texas A&M University
Jose Franco
Texas A&M University

Allelopathic effects of small grain cover crops on cotton plant growth and yields $10,000
Dr. Vivien Allen
Texas Tech University
Yue Li
Texas Tech University

Cropping systems for sustainable nutrient management and dairy production $10,000
Donald Vietor, PhD
Texas A&M University, Soil & Crop Sciences
Ronnie Schnell
Texas A&M University, Soil & Crop Sciences

Cycling of composted biosolids through turfgrass sod enhances sustainability across agricultural and urban landscapes $10,000
Donald Vietor, PhD
Texas A&M University, Soil & Crop Sciences
Nels Hansen
Soil & Crop Sciences Department
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| GS03-021  | Development of Methodology to Measure Net Feed Efficiency in Bulls to Enhance Profitability and Environmental Sustainability of Beef Production | $10,000      | Gordon Carstens  
Texas A&M University                                                                                     |
| GS02-012  | Optimizing Water Use for Three Old World Bluestems in the Texas High Plains    | $10,000      | Dr.Vivien Allen  
Texas Tech University  
Dirk Philipp  
Texas Tech University                                                                             |

### 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>
| OS22-156  | Promoting Water Sustainable Agriculture by Combining In-situ Soil Moisture and Remote Sensing Data for Irrigation Scheduling | $19,987      | Dr.Ali Ajaz  
Texas Water Resources Institute, Texas A&M  
AgriLife Extension Services                                                                 |
| OS21-140  | Introducing Beneficial Entomopathogenic Nematodes for Biological Control and Enhanced Plant Resistance to Improve Pest Management in Cucurbit Crops | $20,000      | Anjel Helms  
Texas A&M University                                                                                     |
| OS20-138  | Strategic Management of Legume Cover-forage Crops to Optimize Utility in a Challenging Environment | $20,000      | Dr.Reagan Noland  
Texas A&M AgriLife Extension                                                                                   |
| OS20-139  | Incorporating Native Plants in Insectary Strips to Promote Insect Diversity and Belowground Beneficial Microbes | $20,000      | Dr.Pushpa Soti  
University of Texas Rio Grande Valley                                                               |
| OS19-128  | Sustainable Pasture Management in Texas: Optimizing forage production and nutrient use in various environments and soils | $14,298      | Dr.James Kiniry  
usda-ars                                                                                                   |
| OS19-131  | Advancing the Frontier of Legume Cover Crops and Building Integrated System Resilience in Semi-arid West Texas | $15,000      | Dr.Reagan Noland  
Texas A&M AgriLife Extension                                                                                   |
| OS18-119  | Supporting Alternative Crop Options Through Improved Fertility Recommendations for Canola in Central and South Texas | $14,811      | Dr.Fernando Guillen-Portal  
Sustainable Oils/Global Clean Energy Holdings                                                                 |
| OS18-121  | Integrating Cover Crops as Potential Weed and Pest Management Strategy in Organic Vegetable Farms in South Texas | $15,000      | Dr.Pushpa Soti  
University of Texas Rio Grande Valley                                                               |
| OS17-108  | Using Mycorrhizal Fungi to Improve Soil Health and Increase Yield in Organic Vegetable Farms | $14,995      | Dr.Alexis Racelis  
University of Texas - Rio Grande Valley                                                               |
| OS16-095  | Deep Soil Profile Sampling of Nitrate for Residual Nitrogen Credit in Winter Wheat - Texas Blacklands | $15,000      | Dr.Jake Mowrer  
Texas A&M Agrilife Extension                                                                                   |
| OS14-087  | Determining accurate nitrate level requirements in an aquaponic system.        | $9,737       | Dr.JOSEPH MASABNI  
Texas A&M                                                                                                    |
| OS14-089  | Developing farmer- appropriate integrated pest management strategies in South Texas: The potential of push-pull technologies to regulate organic brassica pest | $15,000      | Dr.Alexis Racelis  
University of Texas - Rio Grande Valley                                                               |
| OS13-072  | Huitlacoche Production as an Alternative Crop in South Texas                   | $14,962      | Dr.Alexis Racelis  
University of Texas - Rio Grande Valley                                                               |
OS12-067  Adaptable Wide Stale Seedbed System Combining Precision Fertilizer Placement, Conservation Irrigation Management with Reduced Tillage Practices for Long Term Farm Sustainability  $15,000  Dionicio Valdez  Texas A&M AgriLife Extension Service

OS10-053  BIOLOGICAL CONTROL OF SALTCEDAR ON WEST TEXAS RANCHES CONSERVES FORAGE AND WATER RESOURCES  $14,965  Allen Knutson  Texas AgriLife Extension Service (retired)

OS06-031  Use of Guar (Cyamopsis tetragonolaba (L.) Taub) for cover crop rotation and green manuring  $15,000  Dr.Russell Wallace  Texas A&M University AgriLife Extension

OS05-023  Livestock and Feedstock: Distiller’s Grain and Fuel Ethanol  $15,000  Peggy Korth  Water Assurance Technology Energy Resources

OS04-021  Comparison of Stockpiled Bermudagrass + Annual Ryegrass and Traditional Hay-Only Winter Feeding Practices  $14,645  Larry Redmon  Texas Cooperative Extension

OS02-006  Evaluation and Maintenance of Sustainable Systems for Alfalfa Production and Marketing Strategies on Coastal Plain Soils  $15,000  Larry Redmon  Texas Cooperative Extension

**SUSTAINABLE COMMUNITY INNOVATION GRANTS**

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

**Total funding from the USDA SARE program to Texas**

$10,817,232

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).