What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $389 million to more than 8,542 initiatives.

SARE is grassroots with far-reaching impact

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

SARE communicates results

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

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

$11,062,269 in total funding

140 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: 140 grants

- 41 Research and Education
- 4 Sustainable Community Innovation
- 12 Professional Development Program
- 27 Farmer/Rancher
- 32 Graduate Student
- 21 On Farm Research/Partnership
- 3 Education Only

Total funding: $11,062,269

- $8,961,600 Research and Education
- $40,000 Sustainable Community Innovation
- $892,240 Professional Development Program
- $271,338 Farmer/Rancher
- $410,026 Graduate Student
- $358,398 On Farm Research/Partnership
- $128,667 Education Only

Find a complete list of projects on page 3.

SARE's Impact

- 53 percent of producers report using a new production technique after reading a SARE publication.
- 79 percent of producers said they improved soil quality through their SARE project.
- 64 percent of producers said their SARE project helped them achieve higher sales.

Learn about local impacts at: southern.sare.org/sare-in-your-state/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.

Clarence Bunch
Prairie View A&M University
(936) 261-5117
clbunch@pvamu.edu

Vanessa Corriher-Olson
Texas A&M University
(903) 834-6191
vacorriher@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 $11,062,269 grants to support 139 projects, including but not limited to, 40 research and/or education projects, 12 professional development projects and 27 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  
Texas 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 |
| LS22-375 | Sheep integration for diverse and resilient organic cotton systems | $370,998 | Dr.Reagan Noland  
Texas A&M AgriLife Extension  
Dr.Justin Benavidez  
Texas A&M AgriLife Extension Service  
Caitlyn Cooper-Norris  
Texas Tech University  
Dr.Holli Leggette  
Texas A&M University  
Dr.Reid Redden  
Texas A&M AgriLife Extension  
Dr.Cody Scott  
Angelo State University  
Bob Whitney  
Texas A&M AgriLife Extension |
|----------|-------------------------------------------------|----------|------------------------------------------------|
| 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 |
| 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 |
| LS16-271 | Intensifying Cropping Systems in Semi-Arid Environments to Enhance Soil Health and Profitability | $232,827 | Dr.Paul DeLaune  
Texan A&M AgriLife Research / Soil and Crop Sciences |
| LS14-261 | Long-term AgroEcosystems Research and Adoption in the Texas Southern High Plains – Phase II | $300,000 | Dr.Charles West  
Texas Tech University |
<table>
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<tr>
<th>Project ID</th>
<th>Title</th>
<th>Cost</th>
<th>Principal Investigators</th>
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</table>
| LS14-264  | Beyond Fresh: Expanding Markets for Sustainable Value-added Food Products in Texas | $220,000 | Mike Morris  
National Center for Appropriate Technology |
| LS12-249  | Improving Soil Quality to Increase Yield and Reduce Diseases in Organic Rice Production | $225,000 | Fugen Dou  
Texas A&M AgriLife Research |
| LS11-238  | Long-term AgroEcosystems Research and Adoption in the Texas Southern High Plains – Phase I | $329,999 | Dr.Charles West  
Texas Tech University  
Philip Brown  
Texas Tech University |
| LS10-229  | Integrated Crop and Livestock Systems for Enhanced Soil Carbon Sequestration and Microbial Diversity in the Semiarid Texas High Plains | $160,000 | Dr.Jennifer Moore-Kucera  
Texas Tech University |
| LS10-236  | Traceability in Specialty Crop Production and Supply Chains: Distilling a Research and Extension Agenda | $33,000 | Kathryn Boys  
Virginia Tech  
Kathryn Boys  
Clemson University |
| LS08-202  | Crop-livestock Systems for Sustainable High Plains Agriculture | $200,000 | Dr.Vivien Allen  
Texas Tech University |
| LS08-208  | Marketing of locally produced sustainable animal fiber products | $140,000 | John Bernard  
University of Delaware  
Hikaru Hanawa Peterson  
Kansas State University  
Gwendolyn Hustvedt  
Texas State University |
| LS07-201  | Pigeon pea: a multipurpose, drought resistant forage, grain and vegetable crop for sustainable southern farms | $200,000 | Dr.John Sloan  
Texas AgriLife Research |
| LS05-175  | Sustainable and profitable control of invasive plant species by small ruminants | $178,000 | Dr.James Muir  
Texas A&M AgriLife Research |
| LS05-214  | SARE Research and Education Program Impacts and Diffusion | $31,526 | Marari Suvedi  
CARRS Center for Evaluative Studies |
| LS03-144  | Expanding the Marketing Opportunities for Organic Growers in Texas | $19,924 | Douglas Constance  
Sam Houston State University |
| LS03-150  | Sustainable and profitable control of invasive species by browsing goats on small farms | $14,199 | Dr.James Muir  
Texas A&M AgriLife Research |
| LS02-131  | Forage and Livestock Systems for Sustainable High Plains Agriculture | $251,805 | Dr.Vivien Allen  
Texas Tech University |
| LS00-117  | System for value-added export of manure nitrogen and phosphorus through turfgrass sod | $149,726 | Donald Vietor, PhD  
Texas A&M University, Soil & Crop Sciences |
| LS99-100  | Systems for sustainability of alfalfa production on acid, Coastal Plain soils using various harvesting strategies | $149,750 | Vincent Haby  
Texas Agricultural Experiment Station |
| LS99-108  | System for Conserving and Adding Value to Manure Sources of Nutrients in Turf-grass Sod | $16,854 | Donald Vietor, PhD  
Texas A&M University, Soil & Crop Sciences |
<table>
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<th>Project #</th>
<th>Project Title</th>
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<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>
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<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>
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<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>
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<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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<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>
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<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>
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<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>
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<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>
SPDP23-017 Modernizing Our Roots: Sustainable range and pasture result demonstrations to encourage local education and adoption $78,924
Dr. Megan Clayton
Texas A&M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management
Dr. Jason Cleere
Department of Animal Science, Texas A&M AgriLife Extension Service
Dr. Vanessa Corriher-Olson
Texas A&M AgriLife Extension
Dr. Jacob Dykes
Department of Rangeland, Wildlife and Fisheries Management, Texas A&M AgriLife Extension - Fort Bend County
Truman Lamb
Texas A&M AgriLife Extension Service - Fort Bend County
Dr. M. Shane McLellan
Texas A&M AgriLife Extension Service, McLennan County
Rogelio Mercado
Texas A&M AgriLife Extension Service, Jim Wells County
Ashley Pellerin
Prairie View A&M University
Larry Pierce, Jr.
Texas A&M AgriLife Extension Service
Robert Pritz
Texas A&M AgriLife Extension Service
Dr. Jeff Ripley
Texas A&M AgriLife Extension Service
Roy Walston
Walston Ranch, Mill Creek Beef
Sam Womble
Texas A&M AgriLife Extension Service - Bexar County

SPDP22-09 Carbon Farm Planning to Promote Sustainable Agriculture in Texas $79,309
Elise Haschke
NCAT

SPDP22-10 Certificate Program for Sustainable Cotton Production for County Agents $30,349
Steve Hague
Texas A&M University - Department of Soil & Crop Sciences
Dr. Jourdan Bell
Texas A&M AgriLife Research and Extension
Dr. Seth Byrd
Oklahoma State University
Dr. Matthew Foster
LSU AgCenter
Emi Kimura
Murilo Maeda
Texas A&M AgriLife Extension
Dr. Josh McGinty
Texas A&M AgriLife Extension
Dr. Ben McKnight
Texas A&M AgriLife Extension
Dr. Jake Mowrer
Texas A&M AgriLife Extension
Dr. Reagan Noland
Texas A&M AgriLife Extension
Dr. Scott Nolte
Texas A&M AgriLife Extension

SPDP21-06 Sustainable Aquatic Habitat Management on Agricultural Lands $60,000
Brittany Chesser
Texas A&M AgriLife Extension Service
Mikayla Killam
Texas A&M University
**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

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**FARMER/RANCHER GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
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<tr>
<td>FS23-348</td>
<td>Increasing Financial Sustainability on the Farm by Employing Moringa as a Drought Tolerant, Cost-Reducing Lamb Feed Supplement</td>
<td>$15,000</td>
<td>Diana Padilla Padilla Farm LLC DBA Yahweh's All Natural Farm and Garden</td>
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<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>
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<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>
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<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>
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<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>
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<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>
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<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</td>
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<tr>
<td>FS12-262</td>
<td>Development of an innovative forage crop system for pasture raised swine</td>
<td>$8,303</td>
<td>Ron Luce</td>
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<td>FS10-246</td>
<td>Low Cost Geothermal Greenhouse Heating System for Southern Climates</td>
<td>$9,999</td>
<td>Tanya Miller</td>
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<td>FS07-219</td>
<td>Treating Soil Compaction Using Woven Weed Fabric</td>
<td>$9,886</td>
<td>Roy Riddle</td>
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<td>FS06-198</td>
<td>Evaluation of Mulches for Organic Cantaloupe Production in Semi-Arid Regions</td>
<td>$9,855</td>
<td>John Chandler</td>
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<td>FS06-205</td>
<td>Cover Crop Optimization for Sustainable Forage Systems on a Southern Dairy Farm</td>
<td>$9,872</td>
<td>Neil R. Miller</td>
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<tr>
<td>FS05-190</td>
<td>Addressing Cedar Infestations - Using Animal Impact to Increase Forage Production and Improve Soil Health</td>
<td>$14,987</td>
<td>Peggy Cole Jones</td>
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<td>FS05-196</td>
<td>Weed Control for Row Crops Using Corrugating Linerboard/Medium Paper</td>
<td>$7,399</td>
<td>Michael E. Tolbert</td>
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<td>FS03-161</td>
<td>Sustainable Pastured Layer Research Project</td>
<td>$14,992</td>
<td>Graciela Alvardo</td>
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<td>FS03-174</td>
<td>Goat Range-Nutrition Performance Test</td>
<td>$13,113</td>
<td>Marvin F. Shurley</td>
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<td>FS02-151</td>
<td>Increase Soil Organic Matter in Citrus Soils</td>
<td>$8,112</td>
<td>Jim Hoffimann</td>
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<td>FS01-142</td>
<td>Pepitas de Ajo: permanent ground cover in garlic production</td>
<td>$14,132</td>
<td>Lydia Villanueva</td>
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<td>FS99-088</td>
<td>Internal Parasite Resistance Selection Method for Sheep</td>
<td>$4,844</td>
<td>Ray Cloudt</td>
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<td>FS99-090</td>
<td>Crop Rotation and Rotational Grazing Study</td>
<td>$9,876</td>
<td>Ken Graff</td>
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<td>FS98-075</td>
<td>An Intensive Marketing Workshop for Growers and Ranchers</td>
<td>$7,561</td>
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<td>FS97-050</td>
<td>Effects of Conservation Tillage on Water Quality in Southern Texas</td>
<td>$8,000</td>
<td>Charles Eubanks</td>
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<td>FS97-053</td>
<td>Cool Season and Warm Season Grasses to Stabilize Erodible Soils and Increase Profitability</td>
<td>$10,000</td>
<td>David Kearney</td>
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<td>FS96-036</td>
<td>Native Warm Season Grasses As Alternative Hay Source to Annual Sorghum/Sudan Grasses on Family-Operated Goat Dairy</td>
<td>$9,640</td>
<td>Lee B. Dexter</td>
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<td>GS23-280</td>
<td>Plants Attracting Killers: Using Resistance Traits that Attract Insect Predators to Suppress Sorghum Aphis</td>
<td>$16,116</td>
<td>Micky Eubanks Texas A&amp;M University Emily Russavage Texas A&amp;M University</td>
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<td>GS23-292</td>
<td>Effect of Waste Milk Application on Reclaimed CRP Grassland Health and Ecosystem Services</td>
<td>$14,874</td>
<td>Caitlyn Cooper-Norris Texas Tech University Shaelyn Rainey TTU NRM</td>
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<td>GS23-295</td>
<td>Development of active root system architecture of upland cotton for improved sub-surface water uptake during drought conditions</td>
<td>$15,900</td>
<td>Dr. Gunvant Patil Texas Tech University Micayla Lamb Texas Tech University</td>
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<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>
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<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>
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<td>GS22-273</td>
<td>Native Texas Perennial Bunchgrass for Bioenergy Feedstock and Ruminant Nutrition</td>
<td>$14,432</td>
<td>Dr. James Muir Texas A&amp;M AgriLife Research Olivia Lasater Tarleton State University</td>
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<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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<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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<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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<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>
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<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>
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| 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 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 |
| GS11-107 | Managing Climate Change on Apple Orchards                                  | $9,954        | Dr. James Veteto  
University of North Texas  
Stephen Carlson  
University of North Texas |
| GS11-108 | Evaluating functional diversity in an organic intercropping system         | $10,000       | Dr. Astrid Volder  
Texas A&M University  
Jose Franco  
Texas A&M University |
<table>
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<tr>
<th>Project #</th>
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<th>Project Leaders</th>
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<tbody>
<tr>
<td>GS07-056</td>
<td>Allelopathic effects of small grain cover crops on cotton plant growth and yields</td>
<td>$10,000</td>
<td>Dr. Vivien Allen, Texas Tech University, Yue Li, Texas Tech University</td>
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<td>GS07-064</td>
<td>Cropping systems for sustainable nutrient management and dairy production</td>
<td>$10,000</td>
<td>Donald Vietor, PhD, Texas A&amp;M University, Soil &amp; Crop Sciences, Ronnie Schnell, Texas A&amp;M University, Soil &amp; Crop Sciences</td>
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<tr>
<td>GS04-040</td>
<td>Cycling of composted biosolids through turfgrass sod enhances sustainability across agricultural and urban landscapes</td>
<td>$10,000</td>
<td>Donald Vietor, PhD, Texas A&amp;M University, Soil &amp; Crop Sciences, Nels Hansen, Soil &amp; Crop Sciences Department</td>
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<td>GS03-021</td>
<td>Development of Methodology to Measure Net Feed Efficiency in Bulls to Enhance Profitability and Environmental Sustainability of Beef Production</td>
<td>$10,000</td>
<td>Gordon Carstens, Texas A&amp;M University</td>
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<tr>
<td>GS02-012</td>
<td>Optimizing Water Use for Three Old World Bluestems in the Texas High Plains</td>
<td>$10,000</td>
<td>Dr. Vivien Allen, Texas Tech University, Dirk Philipp, Texas Tech University</td>
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**ON FARM RESEARCH/PARTNERSHIP GRANTS**

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<tr>
<td>OS23-162</td>
<td>Assessing Impacts of Grazing Management on Pollinator Conservation in Rangeland</td>
<td>$30,000</td>
<td>Dr. Elinor Lichtenberg, University of North Texas</td>
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<tr>
<td>OS23-165</td>
<td>Hi-A Corn and Management Practices for Nutritional and Food and Feed</td>
<td>$29,998</td>
<td>Dr. Wenwei Xu, Texas A&amp;M AgriLife Research</td>
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<tr>
<td>OS22-156</td>
<td>Promoting Water Sustainable Agriculture by Combining In-situ Soil Moisture and Remote Sensing Data for Irrigation Scheduling</td>
<td>$19,987</td>
<td>T. Allen Berthold, Texas A&amp;M AgriLife, Texas Water Resources Institute, Juan Enciso, Texas A&amp;M AgriLife Extension</td>
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<tr>
<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>
<td>Anjel Helms, Texas A&amp;M University</td>
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<tr>
<td>OS20-138</td>
<td>Strategic Management of Legume Cover-forage Crops to Optimize Utility in a Challenging Environment</td>
<td>$20,000</td>
<td>Dr. Reagan Noland, Texas A&amp;M AgriLife Extension</td>
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<td>OS20-139</td>
<td>Incorporating Native Plants in Insectary Strips to Promote Insect Diversity and Belowground Beneficial Microbes</td>
<td>$20,000</td>
<td>Dr. Pushpa Soti, University of Texas Rio Grande Valley</td>
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<tr>
<td>OS19-128</td>
<td>Sustainable Pasture Management in Texas: Optimizing forage production and nutrient use in various environments and soils</td>
<td>$14,298</td>
<td>Dr. James Kiniry, usda-ars</td>
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<td>OS19-131</td>
<td>Advancing the Frontier of Legume Cover Crops and Building Integrated System Resilience in Semi-arid West Texas</td>
<td>$15,000</td>
<td>Dr. Reagan Noland, Texas A&amp;M AgriLife Extension</td>
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<tr>
<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>
<td>Dr. Fernando Guillen-Portal, Sustainable Oils/Global Clean Energy Holdings</td>
</tr>
</tbody>
</table>
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 Huilaticoche 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 SALTEDAR ON WEST TEXAS RANCHES CONSERVES FORAGE AND WATER RESOURCES $14,965 Allen Knutson Texas AgriLife Extension Service (retired)

OS06-031 Use of Guar (Cyamopsis tetragonoloba (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 Rye Grass 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

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<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>
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<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>
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<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>
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</table>
**Sustainable Agriculture Innovations Lead to Rural Success**

**CS03-012**

Lead to Rural Success

**$10,000**

Gayla Kessinger

Canutillo Independent Schoo

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**EDUCATION ONLY GRANTS**

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<tr>
<td>EDS23-048</td>
<td>Field day trainings to enhance sheep health and productivity</td>
<td>$45,000</td>
<td>Dr. Reid Redden</td>
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<td>Jake Thorne</td>
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<td>Northeast Texas Community College</td>
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<td>EDS18-01</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</td>
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**Total funding from the USDA SARE program to Texas**

**$11,062,269**

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).