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 $410 million to more than 8,827 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.

www.sare.org

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/state-profiles/texas/

$5,586,321 in total funding

52 grant project

(since 1988)

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

### Grants awarded 2019–2024

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Farmer/Rancher</td>
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<tr>
<td>Research and Education</td>
<td>11</td>
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<tr>
<td>Professional Development Program</td>
<td>7</td>
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<tr>
<td>On Farm Research/Partnership</td>
<td>11</td>
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<tr>
<td>Graduate Student</td>
<td>15</td>
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**Total awards:** 52 grants

**Total funding:** $5,586,321

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<tr>
<td>Farmer/Rancher</td>
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<td>Research and Education</td>
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<td>Professional Development Program</td>
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<td>On Farm Research/Partnership</td>
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</table>

Find a complete list of projects on page 3.

---

### Farmer and rancher impacts 2019–2024

SARE grantees have reported the following impacts from their projects:

- **8,480 farmers participated in a SARE-funded project**
- **785 farmers reported a change in knowledge, awareness, skills or attitude**
- **150 farmers changed a practice**

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**Photo credit:** Jack Rabin

Learn about local impacts at: [southern.sare.org/sare-in-your-state/texas/](southern.sare.org/sare-in-your-state/texas/)

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## 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-profiles/texas/](southern.sare.org/state-profiles/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

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**For detailed information on SARE projects, go to [www.SARE.org](www.SARE.org)**

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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 $11,713,743 grants to support 147 projects, including but not limited to, 41 research and/or education projects, 13 professional development projects and 29 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>
| LS24-399  | Fostering climate-friendly sustainable farming through integration of biochar and cover crops in Texas and Florida | $399,220     | Dr. Sanku Dattamudi (Texas A&M University - Kingsville)  
Dr. Mahendra Bhandari (Texas A&M AgriLife Research)  
Dr. Saoli Chanda (Florida International University)  
Dr. Yuncong Li (University of Florida)  
Dr. Greta Schuster (Texas A&M University - Kingsville (TAMUK))  
Dr. Benjamin Turner (Texas A&M University-Kingsville and King Ranch Institute for Ranch Management)  
Xiaoying Li (University of Florida, Tropical Research and Education Center) |
| 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 AgriLife Research)  
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)) |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Title</th>
<th>Amount</th>
<th>Principal Investigator(s)</th>
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</thead>
</table>
| 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 |
| 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  
Dr. 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  
Dr. Eric S. 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 |
<table>
<thead>
<tr>
<th>Project Code</th>
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<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, Dr.Nelson Daniels, Dr.Marco Robinson, Prairie View A&amp;M University</td>
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<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>
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<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>
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<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>
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<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>
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<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>
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<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>
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<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, Texas 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, Texas Tech University</td>
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<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>
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<td>LS12-249</td>
<td>Improving Soil Quality to Increase Yield and Reduce Diseases in Organic Rice Production</td>
<td>$225,000</td>
<td>Dr.Fugen Dou, Texas A&amp;M AgriLife Research</td>
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<tr>
<td>Project Code</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, Texas Tech University, and Philip Brown, 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, 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, Virginia Tech, and Kathryn Boys, Clemson University</td>
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<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>
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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, 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>
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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, Texas A&amp;M AgriLife Research</td>
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<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>
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<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>
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<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>
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<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>
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<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>
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</table>
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 Turfgrass Sod $16,854 Donald Vietor, PhD Texas A&M University, Soil & Crop Sciences

LS98-097 Introducing Alternative Crops Into Traditional Cotton-Grain Farming to Aid Transition To “Freedom to Farm” Agriculture $114,279 Roland E. Roberts Texas A&M University Research and Extension Center

LS97-082 Sustainable Crop/Livestock Systems in the Texas High Plains $222,125 Dr. Vivien Allen Texas Tech University

LS95-069 Managing Soil Phosphorous Accumulation From Poultry Litter Application Through Vegetable/Legume Rotations $135,000 D. R. Earhart Texas Agricultural Experiment Station

LS92-047 Farm Scale Evaluation of Alternative Cotton Production Systems $60,000 William M. Lyle Texas Agricultural Experiment Station

LS92-048 Developing Environmentally Sound Poultry Litter Management Practices for Sustainable Cropping Systems $140,000 D. R. Earhart Texas Agricultural Experiment Station

LS89-015 Enhancement of the Stability of Southern Region Agroecosystems Through Profitable Transition to Sustainable Agriculture $121,989 Keith Jones Texas Department of Agriculture

LS88-002 Whole-farm Low/Reduced Input Farming Systems and Educational Program $90,000 Hoover Carden Prairie View A & M University

LS88-010 Solarization and Living Mulch to Optimize Low-Input Production Systems for Small Fruits (88-87-4) $80,000 Charles Long Texas A & M University

PROFESSIONAL DEVELOPMENT PROGRAM 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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<tr>
<td>SPDP24-026</td>
<td>Supporting a Central Texas Sustainable Farm Incubator Collaborative</td>
<td>$77,032</td>
<td>Michelle Akindiya Farmshare Austin Savannah Rugg Austin Community College</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
J. Boone Holladay
Texas A&M AgriLife Extension - Fort Bend County
Truman Lamb
Texas A&M AgriLife Extension Service - Anderson 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
<table>
<thead>
<tr>
<th>Project Code</th>
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<th>Principal Investigators</th>
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<tr>
<td>SPDP22-10</td>
<td>Certificate Program for Sustainable Cotton Production for County Agents</td>
<td>$30,349</td>
<td>Wayne Smith, Texas A&amp;M University, 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>
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<tr>
<td>SPDP21-06</td>
<td>Sustainable Aquatic Habitat Management on Agricultural Lands</td>
<td>$60,000</td>
<td>Brittany Chesser, Texas A&amp;M AgriLife Extension Service, Mikayla Killam, Texas A&amp;M University</td>
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<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>
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</table>
## Ranching with Wildlife:
**Teaching Sustainable Livestock Production Practices for Wildlife Habitat**
-
**Project #:** ES17-136
**SARE Support:** $78,838
**Project Leaders:** John Tomecek
Texas A&M Agrilife Extension Service

## Farming for the Future:
**Adopting Sustainable Agriculture Practices**
-
**Project #:** ES13-120
**SARE Support:** $55,904
**Project Leaders:** Dr. Megan Clayton
Texas A&M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management

## Achieving Rangeland Sustainability Through Total Resource Management
-
**Project #:** ES99-045
**SARE Support:** $157,061
**Project Leaders:** William Fox, Ph.D.
Texas Cooperative Extension
C. Wayne Hanselka, Ph.D.
Texas Cooperative Extension

## Environmentally and Economically Sustainable Use of Rangeland
-
**Project #:** LST94-002
**SARE Support:** $72,570
**Project Leaders:** 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>
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</table>
| FS24-369  | Chicken Changes: Mobile meat birds for soil health study                      | $19,988      | Ross & Kelly McGarva
McGarva Ranch Pasture Division                                        |
| FS24-376  | Regenerating South Texas Plains with Poultry-Inoculated Biochar               | $15,717      | Sandy Smith
Smith Pastures, LLC                                                    |
| FS23-348  | Increasing Financial Sustainability on the Farm by Employing Moringa as a Drought Tolerant, Cost-Reducing Lamb Feed Supplement | $15,000      | Diana Padilla
Padilla Farm LLC DBA Yahweh's All Natural Farm and Garden             |
| FS22-338  | New Design of Two Queen Horizontal Honey Bee Hive Bases for Commercial and Small Scale Beekeeping Operations | $14,662      | Daniel Brantner
Texas Honey Company                                                     |
| 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                                        |
<table>
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<th>Project Code</th>
<th>Description</th>
<th>Cost</th>
<th>Principal Investigator(s)</th>
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| 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.             |
| 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            |
<p>| FS99-088     | Internal Parasite Resistance Selection Method for Sheep                     | $4,844 | Ray Cloudt                                                   |
| FS99-090     | Crop Rotation and Rotational Grazing Study                                   | $9,876 | Ken Graff                                                    |</p>
<table>
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<td>FS98-075</td>
<td>An Intensive Marketing Workshop for Growers and Ranchers</td>
<td>$7,561</td>
<td>Sue Johnson</td>
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<td>Texas Organic Growers Association</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>FS95-021</td>
<td>Pecan IPM Using Black-Eyed Peas as a Trap Crop</td>
<td>$4,000</td>
<td>Kyle Brooksheir</td>
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<td>FS94-001</td>
<td>Controlling Aphids with Harmonia Lady Beetle in Pecan Orchards</td>
<td>$4,600</td>
<td>Cindy Wise</td>
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<td>FS94-010</td>
<td>Site Specific Applications of Seed/Fertilizer/Chemicals</td>
<td>$10,000</td>
<td>Ricky &amp; Becky Meinen</td>
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<tr>
<td>GS23-280</td>
<td>Plants Attracting Killers: Using Resistance Traits that Attract Insect Predators to Suppress Sorghum Aphids</td>
<td>$16,116</td>
<td>Anjel Helms</td>
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<td>Emily Russavage</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>Dr. Caitlyn Cooper-Norris</td>
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<td>Shaelyn Rainey</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</td>
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<td>Micayla Lamb</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</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</td>
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<td>Lingyi Li</td>
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Native Texas Perennial Bunchgrass for Bioenergy Feedstock and Ruminant Nutrition $14,432
Dr. James Muir
Texas A&M AgriLife Research
Olivia Lasater
Tarleton State University

Harnessing the Wild Relatives of Rice for Novel Adaptive Phenotypes: Genetics and breeding for agricultural sustainability beyond the Green Revolution
$16,500
Dr. Benildo Reyes
Texas Tech University
Swarupa Nanda Mandal
Texas Tech University

African American Absentee Landowners in Houston and Their Knowledge of Rural Land Ownership Conservation Practices: A needs assessment
$14,532
Dr. Chanda Elbert
Texas A&M University
Ashley Pellerin
Texas A&M University

Effectiveness of Tarping and Tillage as Weed Management Strategies in South Texas
$16,499
Dr. Alexis Racelis
University of Texas - Rio Grande Valley
Christopher De la Rosa
University of Texas Rio Grande Valley

Comparing the Effects of Forage Mix and Nutrient Management on Soil Greenhouse Gas Flux in Semi-arid Improved Pastures
$16,450
Lindsey Slaughter
Texas Tech University
Billi Petermann
Texas Tech University

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

Cannabis sativa L. as a Feed Source in Backyard Rabbit Production
$16,419
Dr. Frank Owsley
Tarleton State University
Kristen Jacobson
Tarleton State University

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
Tennessee State University

Roadblocks to Success: Needs assessment of small producers in Texas
$10,132
Dr. Ken Mix
Texas State University
Katie Tritsch
Texas Local Food

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, PhD
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 Vanderburg  
Purdue Global University / Unity Environmental University / West Texas A&M University |
| 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  
Madiline 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 |
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<tr>
<th>Project #</th>
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<th>Project Leaders</th>
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| GS12-109   | Factors contributing to the economic impact of cotton fleahoppers, 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 |
| GS07-056   | 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 |
| GS07-064   | 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 |
| GS04-040   | 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 |
| 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

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<td>OS24-178</td>
<td>Evaluating a Non-antibiotic Treatment of Mastitis in Organic Dairy Cows</td>
<td>$29,938</td>
<td>Dr. Sushil Paudyal Texas A&amp;M University</td>
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<td>OS24-179</td>
<td>Evaluating the impact of cover crop type and termination timing on soil nitrogen storage and nitrogen loss from fields</td>
<td>$29,647</td>
<td>Dr. Pushpa Soti University of Texas Rio Grande Valley</td>
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<td>OS24-181</td>
<td>Huitlacoche delicacy: turning the lost corn crop into a high value delicacy vegetable</td>
<td>$30,000</td>
<td>Dr. Wenwei Xu Texas A&amp;M AgriLife Research</td>
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| OS23-162     | Assessing Impacts of Grazing Management on Pollinator Conservation in Rangeland | $30,000 | Dr. Elinor Lichtenberg  
University of North Texas |
| OS23-165     | Hi-A Corn and Management Practices for Nutritional and Food and Feed          | $29,998 | Dr. Wenwei Xu  
Texas A&M AgriLife Research |
| OS22-156     | Promoting Water Sustainable Agriculture by Combining In-situ Soil Moisture and Remote Sensing Data for Irrigation Scheduling | $19,987 | T. Allen Berthold  
Texas A&M AgriLife, Texas Water Resources Institute  
Juan Enciso  
Texas A&M AgriLife Extension |
| 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 |
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<td>OS17-108</td>
<td>Using Mycorrhizal Fungi to Improve Soil Health and Increase Yield in Organic Vegetable Farms</td>
<td>$14,995</td>
<td>Dr. Alexis Racelis</td>
<td>University of Texas - Rio Grande Valley</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</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</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>
<td>$15,000</td>
<td>Dr. Alexis Racelis</td>
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<td>OS13-072</td>
<td>Huitlacoche Production as an Alternative Crop in South Texas</td>
<td>$14,962</td>
<td>Dr. Alexis Racelis</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</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>
<td>Allen Knutson</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>
<td>$15,000</td>
<td>Dr. Russell Wallace</td>
<td>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>
<td>$15,000</td>
<td>Peggy Korth</td>
<td>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>
<td>$14,645</td>
<td>Larry Redmon</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>
<td>$15,000</td>
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<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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<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>
<td>$10,000</td>
<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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**EDUCATION ONLY GRANTS**

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<td>EDS24-059</td>
<td>Learning on the Land: A Texas Farm-Based Education Handbook</td>
<td>$49,932</td>
<td>Sue Beckwith Texas Center for Local Food Anna Marie Rosenlieb Texas Center for Local Food</td>
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<td>EDS23-048</td>
<td>Field day trainings to enhance sheep health and productivity</td>
<td>$45,000</td>
<td>Dr. Reid Redden Texas A&amp;M AgriLife Extension Jake Thorne Texas A&amp;M AgriLife Extension</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 Texas A&amp;M AgriLife Extension Service</td>
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**Total funding from the USDA SARE program to Texas**

$11,713,743

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).