**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 $404 million to more than 8,774 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

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**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.

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**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

Total awards: **52 grants**
- 5 Farmer/Rancher
- 11 Research and Education
- 7 Professional Development Program
- 11 On Farm Research/Partnership
- 15 Graduate Student
- 3 Education Only

Total funding: **$5,586,321**
- $75,037 Farmer/Rancher
- $4,410,404 Research and Education
- $482,126 Professional Development Program
- $258,868 On Farm Research/Partnership
- $229,287 Graduate Student
- $130,599 Education Only

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**
- **127 farmers changed a practice**

![Photo credit: Jack Rabin](image)

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

For detailed information on SARE projects, go to [www.SARE.org](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 $11,713,743 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>
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<tbody>
<tr>
<td>LS24-399</td>
<td>Fostering climate-friendly sustainable farming through integration of biochar and cover crops in Texas and Florida</td>
<td>$399,220</td>
<td>Dr. Sanku Dattamudi&lt;br&gt;Texas A&amp;M University - Kingsville&lt;br&gt;Dr. Mahendra Bhandari&lt;br&gt;Texas A&amp;M AgriLife Research&lt;br&gt;Dr. Saoli Chanda&lt;br&gt;Florida International University&lt;br&gt;Dr. Yuncong Li&lt;br&gt;University of Florida&lt;br&gt;Dr. Greta Schuster&lt;br&gt;Texas A&amp;M University - Kingsville (TAMUK)&lt;br&gt;Dr. Benjamin Turner&lt;br&gt;Texas A&amp;M University-Kingsville and King Ranch Institute for Ranch Management&lt;br&gt;Xiaoying Li&lt;br&gt;University of Florida, Tropical Research and Education Center</td>
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<tr>
<td>LS22-364</td>
<td>Development of Sustainable Organic Rice Ratoon Production Systems in the Southern US</td>
<td>$340,000</td>
<td>Dr. Tanumoy Bera&lt;br&gt;Texas A&amp;M AgriLife Research&lt;br&gt;Dr. Fugen Dou&lt;br&gt;Texas A&amp;M AgriLife Research&lt;br&gt;Dr. Lloyd T. Wilson&lt;br&gt;Texas A&amp;M University&lt;br&gt;Dr. Yubin Yang&lt;br&gt;Texas A&amp;M University&lt;br&gt;Dr. Xin-Gen (Shane) Zhou&lt;br&gt;Texas A&amp;M University</td>
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<tr>
<td>LS22-371</td>
<td>Evaluating Cover Crops for Weed Reduction throughout the Southern States</td>
<td>$360,000</td>
<td>Justin Duncan&lt;br&gt;National Center for Appropriate Technology&lt;br&gt;Dorothy Barker&lt;br&gt;Operation Spring Plant (OSP)&lt;br&gt;Jahi Chappell&lt;br&gt;Southeastern African American Farmers Organic Network (SAAFON)</td>
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<tr>
<td>Project Code</td>
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<tr>
<td>LS22-372</td>
<td>Sustainable Soil Resource Management and Produce Marketing on Resource-limited Urban Farms</td>
<td>$371,000</td>
<td>Dr. Omar Harvey, Dr. Esayas Gebremichael, Dr. Stacy Grau, Jesse Herrera</td>
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<tr>
<td>LS22-373</td>
<td>Converting to alternative annual and perennial forage based systems for sustainable grazing in semi-arid environments</td>
<td>$371,000</td>
<td>Dr. Paul DeLaune, Dr. Francisco Abello, Dr. Marco Palma, Dr. William Pinchak</td>
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<tr>
<td>LS22-375</td>
<td>Sheep integration for diverse and resilient organic cotton systems</td>
<td>$370,998</td>
<td>Dr. Reagan Noland, Dr. Justin Benavidez, Dr. Caitlyn Cooper-Norris, Dr. Holli Leggette</td>
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<td>LS21-345</td>
<td>Soil for Water</td>
<td>$1,000,000</td>
<td>Mike Morris, Dr. Eric S. Bendfeldt, Dr. Rocky Lemus, Dr. Reid Redden</td>
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<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, Dr. Veronica Acosta-Martinez</td>
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<tr>
<td>Project Code</td>
<td>Title</td>
<td>Budget</td>
<td>Principal Investigator(s)</td>
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</table>
| 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  
Texas 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 |
| 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 | Dr. 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 |
<table>
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<tr>
<th>Project #</th>
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<th>Project Leaders</th>
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<tbody>
<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>
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<tr>
<td>LS99-108</td>
<td>System for Conserving and Adding Value to Manure Sources of Nutrients in Turf-grass Sod</td>
<td>$16,854</td>
<td>Donald Vietor, PhD Texas A&amp;M University, Soil &amp; Crop Sciences</td>
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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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<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>
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<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>
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<tr>
<td>LS92-047</td>
<td>Farm Scale Evaluation of Alternative Cotton Production Systems</td>
<td>$60,000</td>
<td>William M. Lyle Texas Agricultural Experiment Station</td>
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<tr>
<td>LS92-048</td>
<td>Developing Environmentally Sound Poultry Litter Management Practices for Sustainable Cropping Systems</td>
<td>$140,000</td>
<td>D. R. Earhart Texas Agricultural Experiment Station</td>
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<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>
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<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>
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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>
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**PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**

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<th>Project #</th>
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<tbody>
<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>
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
Dr. 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

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 |
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<th>Project #</th>
<th>Project Title</th>
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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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<tr>
<td>ES13-120</td>
<td>Farming for the Future: Adopting Sustainable Agriculture Practices</td>
<td>$55,904</td>
<td>Dr. Megan Clayton Texas A&amp;M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management</td>
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<tr>
<td>LST94-002</td>
<td>Environmentally and Economically Sustainable Use of Rangeland</td>
<td>$72,570</td>
<td>James F. Cadenhead Texas A &amp; M Research and Extension</td>
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**FARMER/RANCHER GRANTS**

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<th>Project #</th>
<th>Project Title</th>
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<tr>
<td>FS24-369</td>
<td>Chicken Changes: Mobile meat birds for soil health study</td>
<td>$19,988</td>
<td>Ross &amp; Kelly McGarva McGarva Ranch Pasture Division</td>
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<td>FS24-376</td>
<td>Regenerating South Texas Plains with Poultry-Inoculated Biochar</td>
<td>$15,717</td>
<td>Sandy Smith Smith Pastures, LLC</td>
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<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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<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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<td>FS14-281</td>
<td>Organic Cultivation Methods for Asparagus as an Alternative Crop in South Texas</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>
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<td>FS12-262</td>
<td>Development of an innovative forage crop system for pasture raised swine</td>
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<td>FS10-246</td>
<td>Low Cost Geothermal Greenhouse Heating System for Southern Climates</td>
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<td>FS07-219</td>
<td>Treating Soil Compaction Using Woven Weed Fabric</td>
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<td>FS06-198</td>
<td>Evaluation of Mulches for Organic Cantaloupe Production in Semi-Arid Regions</td>
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<td>FS06-205</td>
<td>Cover Crop Optimization for Sustainable Forage Systems on a Southern Dairy Farm</td>
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<td>FS05-190</td>
<td>Addressing Cedar Infestations - Using Animal Impact to Increase Forage Production and Improve Soil Health</td>
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<td>FS05-196</td>
<td>Weed Control for Row Crops Using Corrugating Linerboard/Medium Paper</td>
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<td>FS03-161</td>
<td>Sustainable Pastured Layer Research Project</td>
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<td>FS03-174</td>
<td>Goat Range-Nutrition Performance Test</td>
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<td>FS02-151</td>
<td>Increase Soil Organic Matter in Citrus Soils</td>
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<td>FS01-142</td>
<td>Pepitas de Ajo: permanent ground cover in garlic production</td>
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<tr>
<td>Project #</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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<tr>
<td>FS98-075</td>
<td>An Intensive Marketing Workshop for Growers and Ranchers</td>
<td>$7,561</td>
<td>Sue Johnson, Texas Organic Growers Association</td>
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<tr>
<td>FS97-050</td>
<td>Effects of Conservation Tillage on Water Quality in Southern Texas</td>
<td>$8,000</td>
<td>Charles Eubanks, Cameron County Field</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, Wichita County Field Crops Committee</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 Go</td>
<td>$9,640</td>
<td>Lee B. Dexter, White Egret Farm</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, Texas Pecan Growers Assoc.</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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**GRADUATE STUDENT GRANTS**

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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, 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>Dr. 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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| GS22-260   | Quantifying the Risks of Pesticide Exposure to Squash Bee Behavior and Pollination Services | $16,500 | Dr. Shalene Jha  
University of Texas at Austin  
Leeah Richardson  
University of Texas at Austin |
| GS22-261   | Climate Change Impacts on the U.S. Livestock Sector and Possible Adaptations | $16,500 | Dr. Bruce A. McCarl  
Texas A&M University  
Lingyi Li  
Texas A&M University |
| GS22-273   | 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 |
| GS21-241   | 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 |
| GS21-248   | 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 |
| GS21-251   | 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 |
| GS20-226   | 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 |
| GS20-227   | Texas Little Bluestem (Schizachyrium scoparium) Phenotypic Attribute Correlations to Collection Site Environment Characteristics | $11,889 | Dr. James Muir  
Texas A&M AgriLife Research  
Kimberlee Howell  
Tarleton State University |
| GS20-229   | Cannabis sativa L. as a Feed Source in Backyard Rabbit Production | $16,419 | Dr. Frank Owsley  
Tarleton State University  
Kristen Jacobson  
Tarleton State University |
| GS19-198   | The Success of Organic and Other Sustainable Dual-Purpose Wheat Systems Depend on Access to Adapted Varieties | $16,500 | Dr. Bill Pinchak  
Texas A&M AgriLife Research  
Philip Hinson  
Tennessee State University |
**GS19-211**  
Roadblocks to Success: Needs assessment of small producers in Texas  
$10,132  
Dr. Ken Mix  
Texas State University  
Katie Tritsch  
Texas Local Food

**GS19-209**  
Improving Resilience, Sustainability and Nutritional Properties of Specialty Crops Using Composted Spent Coffee Grounds  
$16,044  
Dr. David Reed  
Texas A&M University  
Amanda Birnbaum, 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)
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<tr>
<td>GS14-133</td>
<td>Effects of Simulated and Insect Herbivory on Total and Protein Percipitable Phenolic Concentrations of Two Legumes</td>
<td>$9,040</td>
<td>Dr. James Muir&lt;br&gt; Texas A&amp;M AgriLife Research&lt;br&gt; Tiana Blackmon&lt;br&gt; Tarleton State University</td>
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<td>GS14-138</td>
<td>Use of Artificial Lighting to Increase Photoperiod Length for Pasture-Raised Laying Hens to Improve Egg Productivity and Quality</td>
<td>$10,997</td>
<td>Dr. Jackie Wahrmund&lt;br&gt; University of Kentucky&lt;br&gt; Margaret Morgan&lt;br&gt; Texas A&amp;M University-Commerce</td>
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<td>GS12-109</td>
<td>Factors contributing to the economic impact of cotton fleahoppers, Pseudatomoscelis seriatus</td>
<td>$9,336</td>
<td>Micky Eubanks&lt;br&gt; Auburn University&lt;br&gt; Loriann Garcia&lt;br&gt; Texas A&amp;M University</td>
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<td>GS11-107</td>
<td>Managing Climate Change on Apple Orchards</td>
<td>$9,954</td>
<td>Dr. James Veteto&lt;br&gt; University of North Texas&lt;br&gt; Stephen Carlson&lt;br&gt; University of North Texas</td>
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<td>GS11-108</td>
<td>Evaluating functional diversity in an organic intercropping system</td>
<td>$10,000</td>
<td>Dr. Astrid Volder&lt;br&gt; Texas A&amp;M University&lt;br&gt; Jose Franco&lt;br&gt; Texas A&amp;M University</td>
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<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&lt;br&gt; Texas Tech University&lt;br&gt; Yue Li&lt;br&gt; 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&lt;br&gt; Texas A&amp;M University, Soil &amp; Crop Sciences&lt;br&gt; Ronnie Schnell&lt;br&gt; Texas A&amp;M University, Soil &amp; Crop Sciences</td>
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<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&lt;br&gt; Texas A&amp;M University, Soil &amp; Crop Sciences&lt;br&gt; Nels Hansen&lt;br&gt; 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&lt;br&gt; Texas A&amp;M University</td>
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<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&lt;br&gt; Texas Tech University&lt;br&gt; Dirk Philipp&lt;br&gt; Texas Tech University</td>
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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</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</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</td>
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<td>OS23-162</td>
<td>Assessing Impacts of Grazing Management on Pollinator Conservation in Rangeland</td>
<td>$30,000</td>
<td>Dr. Elinor Lichtenberg</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</td>
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<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</td>
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<td>OS21-140</td>
<td>Introducing Beneficial Entomopathogenic Nematodes for Biological Control and Enhanced Plant Resistance to Improve Pest Management in Cucurbit Crops</td>
<td>$20,000</td>
<td>Anjel Helms</td>
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<td>OS20-138</td>
<td>Strategic Management of Legume Cover-forage Crops to Optimize Utility in a Challenging Environment</td>
<td>$20,000</td>
<td>Dr. Reagan Noland</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</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</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</td>
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<td>OS18-119</td>
<td>Supporting Alternative Crop Options Through Improved Fertility Recommendations for Canola in Central and South Texas</td>
<td>$14,811</td>
<td>Dr.Fernando Guillen-Portal</td>
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<td>OS18-121</td>
<td>Integrating Cover Crops as Potential Weed and Pest Management Strategy in Organic Vegetable Farms in South Texas</td>
<td>$15,000</td>
<td>Dr.Pushpa Soti</td>
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<td>OS17-108</td>
<td>Using Mycorrhizal Fungi to Improve Soil Health and Increase Yield in Organic Vegetable Farms</td>
<td>$14,995</td>
<td>Dr.Alexis Racelis</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>
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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>
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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>
<td>$10,000</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**
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).