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 8,519 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.

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

New Mexico

Project Highlight: Hill-Climbing Cows May Benefit Ranchers

Most would say that cows don’t go up steep slopes, climb hills or travel far from water, but some just take off for the hills. As grazers, cattle provide ecological benefits to natural areas and help control invasive weeds, but overgrazing can damage riparian areas and can affect downstream water quality. A possible solution? Hill-climbing cattle, which could increase ranchers’ stocking rates as much as 30 percent and improve the productivity of rangeland in the western United States.

New Mexico State University Range Science Professor Derek Bailey and his team of scientists across the West used SARE funding to look at the genetics of behavior—specifically to identify the genes linked to hill climbing—to develop an inexpensive screening test that allows ranchers to select stock with a genetic disposition to wander and climb. By tagging cattle on ranches with GPS collars, tracking their every move and drawing blood from the hill-climbers to identify genetic commonalities, Bailey’s team collected and analyzed enough data to believe that an affordable screening test is possible and that the hill-climbing trait does not come with significant genetic downsides. More hill-climbing cows would allow ranchers across the West to use harder-to-reach areas for grazing and to thus better manage their rangeland.

For more information on these projects, see sare.org/projects, and search for project number SW15-015.

SARE in New Mexico

western.sare.org/sare-in-your-state/new-mexico

$3,357,258 in total funding
84 grant projects
(since 1988)

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

Total awards: 84 grants
- 15 Research and Education
- 6 Professional Development Program
- 53 Farmer/Rancher
- 6 On Farm Research/Partnership
- 2 Research to Grass Roots
- 2 Graduate Student

Total funding: $3,357,258
- $1,745,247 Research and Education
- $317,629 Professional Development Program
- $727,923 Farmer/Rancher
- $324,314 On Farm Research/Partnership
- $191,533 Research to Grass Roots
- $50,612 Graduate Student

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: western.sare.org/sare-in-your-state/new-mexico

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 western.sare.org/state-pages/new-mexico to learn more.

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New Mexico State University
(575) 646-2571
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Stephanie Walker
New Mexico State University
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swalker@nmsu.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.
AGRICULTURE PROJECTS FUNDED IN NEW MEXICO
by USDA's Sustainable Agriculture Research and Education (SARE) Program

New Mexico has been awarded $3,357,258 grants to support 82 projects, including but not limited to, 13 research and/or education projects, 6 professional development projects and 53 producer-led projects. New Mexico 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>
| SW23-953 | The Future of Livestock Grazing on New Mexico's National Forests                                                                                                                                                                                                                                                                             | $273,591     | Dr. Cristóbal Valencia  
Northern New Mexico Stockman's Association  
Dr. Casey Spackman  
New Mexico State University  
Dr. Cristobal Valencia  
Northern New Mexico Stockman's Association |
| SW18-059 | On-Farm Investigations of Stale Seedbeds with Biofumigation for Improved Management of Weeds and Soil-Borne Diseases in Chile Pepper                                                                                                                                                                                                     | $131,461     | Dr. Brian Schutte  
New Mexico State University |
| SW15-015 | Implementation of Genetic Selection for Grazing Distribution to Make Cattle Grazing in the Western US More Sustainable                                                                                                                                                                                                                 | $271,217     | Dr. Derek Bailey  
New Mexico State University |
| SW09-041 | Winter Production of Leafy Greens in the Southwestern USA using High Tunnels                                                                                                                                                                                                                                                              | $193,879     | Dr. Steven Guldan  
New Mexico State University |
| SW09-054 | Enhancement of Sustainable Livestock Grazing through Selection and Training                                                                                                                                                                                                                                                             | $229,527     | Dr. Derek Bailey  
New Mexico State University |
| SW07-606 | Extending the Grazing Season and Integrating Crops and Livestock to Sustain Small Farms and Ranches in the Southern Rockies                                                                                                                                                                                                                  | $7,381       | Dr. Steven Guldan  
New Mexico State University |
| SW04-144 | Southwest Marketing Network: Expanding Markets for Small-Scale Alternative and Minority Farmers and Ranchers                                                                                                                                                                                                                         | $124,817     | Pamela Roy  
Farm to Table |
| SW02-053 | Ganados del Valle Family Ranch Sustainability Program                                                                                                                                                                                                                                                                                    | $70,000      | Arlene Valdez  
Ganados Del Valle; Los Ojos, NM  
Melinda Salazar  
Ganados Del Valle; Los Ojos, NM |
| SW01-004 | Field-to-Table Technical Outreach Package for Smaller-Scale Farmers & Ranchers in the Front range                                                                                                                                                                                                                                       | $48,500      | Greg Shultz  
NewFarms |
| SW98-060 | Acequia Conservation Management                                                                                                                                                                                                                                                                                                             | $49,272      | Stephen Reichert  
Tierra y Montes Soil & Water Cons. District |
| SW96-027 | The Production of New, Existing, and Native Crops Under Conventional and Organic Production Practices in Costilla, New Mexico, Garcia, Colorado, and at Taos Pueblo                                                                                                                                       | $100,000     | Craig Mapel  
New Mexico Department of Agriculture |
<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW95-018</td>
<td>Extending the Grazing Season and Integrating Crops and Livestock to Sustain Small Farms and Ranches in the Southern Rockies</td>
<td>$141,602</td>
<td>Dr. Steven Guldan&lt;br&gt;New Mexico State University</td>
</tr>
<tr>
<td>LW93-033</td>
<td>Development of Sustainable Crop and Livestock Production Systems for Land in the Conservation Reserve Program (CRP)</td>
<td>$104,000</td>
<td>Rex E. Kirksey&lt;br&gt;New Mexico State University, Agricultural Science Center</td>
</tr>
</tbody>
</table>

### RESEARCH TO GRASS ROOTS GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
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<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRGR22-006</td>
<td>Building Comb from Castle to Castle: Collaborations between Queen Breeders &amp; Researchers for supporting Adaptive Reproductive Practices</td>
<td>$100,000</td>
<td>Melanie Kirby&lt;br&gt;Zia Queenbees Farm &amp; Field Institute</td>
</tr>
<tr>
<td>WRGR21-005</td>
<td>Native Habitat Enhancement for IPM in New Mexico Vineyards</td>
<td>$91,533</td>
<td>Maryel Lopez&lt;br&gt;New Mexico State University&lt;br&gt;Gill Giese&lt;br&gt;Arkansas State University</td>
</tr>
</tbody>
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### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW15-011</td>
<td>Developing Digital Tools to Improve Soil Sampling and Analysis for Sustainable Agriculture in the Western U.S</td>
<td>$59,356</td>
<td>Dr. Robert Flynn&lt;br&gt;New Mexico State University</td>
</tr>
<tr>
<td>EW13-021</td>
<td>A Distance Learning Approach to Whole Farm Planning</td>
<td>$60,400</td>
<td>Dr. Ann Adams&lt;br&gt;Holistic Management International</td>
</tr>
<tr>
<td>EW08-016B</td>
<td>Professional Training for Developing a Hands-On Organic Weed Management Learning Center for Commercial Market Gardens in Local Communities</td>
<td>$47,934</td>
<td>Beth LaShell&lt;br&gt;Fort Lewis College</td>
</tr>
<tr>
<td>EW04-006</td>
<td>Increasing the Effectiveness of Field Agent Response to Producer Requests for Alternative Marketing Assistance</td>
<td>$95,939</td>
<td>Teresa Mauerer&lt;br&gt;NCAT</td>
</tr>
<tr>
<td>EW02-006</td>
<td>Here Forever Farm and Ranch Education</td>
<td>$30,000</td>
<td>Jaime Castillo&lt;br&gt;New Mexico State University</td>
</tr>
<tr>
<td>EW95-001</td>
<td>Educational Video on Watershed Management Practices for Pinyon-Juniper Ecosystems</td>
<td>$24,000</td>
<td>Howard Shanks&lt;br&gt;South Central Resource Cons</td>
</tr>
</tbody>
</table>

### 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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</thead>
<tbody>
<tr>
<td>FW23-430</td>
<td>Regenerating Desertified Agricultural Land in Northern New Mexico</td>
<td>$25,000</td>
<td>Juliana Ciano&lt;br&gt;Reunity Resources</td>
</tr>
<tr>
<td>FW23-427</td>
<td>Regreennig the Waterfall Meadow at Hacienda Dominguez &amp; Chelenzo Farms</td>
<td>$25,000</td>
<td>Lorenzo Dominguez&lt;br&gt;Hacienda Dominguez &amp; Chelenzo Farms</td>
</tr>
<tr>
<td>FW23-411</td>
<td>Virtual fencing to build soil health, range productivity, and rancher wellbeing in drought-prone ranches</td>
<td>$24,999</td>
<td>Jorge Ramirez&lt;br&gt;Taiban Ranch</td>
</tr>
<tr>
<td>FW22-404</td>
<td>On-Field Trial of Cover Cropping and Johnson-Su Microbial Inoculations</td>
<td>$24,760</td>
<td>Carl Richard&lt;br&gt;Pata Viva Farm Management Inc.</td>
</tr>
</tbody>
</table>
FW22-403  Extensive vs Intensive Kidding practices of goats in multi-species grazing programs in North East New Mexico $24,445  Sydney Franz
K&C Boer Goats

FW22-399  Optimizing Monitoring and Biostimulant Practices for Sustainability in Orchards Contaminated by Herbicide Drift $24,974  Mary Lucero
JAL Farms

FW20-363  Compost application on rangeland in the semi-arid southwest for increased soil C storage and forage production $19,981  Zachary Withers
Polk’s Folly Farm

FW19-357  The use of goat herding techniques to reduce the effects of predation while improving rangeland health in the high plains of New Mexico $20,000  Emily Cornell
Sol Ranch LLC

FW18-019  Provencio Soil Improvement Project $19,976  Ed Provencio
Ed Provencio

FW18-023  Establishing and Maintaining Mite Resistant Nucleus Colonies for the Sustainable Apiary Using USDA Russian and VSH Queen Bees $16,980  John Gagne
San Juan Apiaries

FW18-028  Greenhouse Energy Storage & Transfer using Water $7,565  Kemper Barkhurst
Bluefly Farms, LLC

FW16-035  A Comparative Study of Shading Systems to Control the Beet Leafhopper and Reduce Beet Curly Top Virus in Heirloom Tomato Fields $19,909  Peter Sinanian
TomatoCulture LLC

FW16-028  Passive Solar Herb Drying Project $18,999  Dr.Tomas Enos
El Milagro Herbs, Inc.

FW15-045  Lavender Intercropping and Soil Management $13,665  Kemper Barkhurst
Bluefly Farms, LLC

FW15-037  Aerated Compost Tea- Field Guide $14,560  Minor Morgan
North Valley Organics

FW13-122  Making Roller Crimping a Reality in the Southwest $9,155  Dale Rhoads
Rhoads Farm
Joran Viers
New Mexico State University

FW12-096  The Rocky Mountain Survivor Queenbee Cooperative $25,000  Melanie Kirby
Zia Queenbee Co.
Julie McIntyre
US Fish & Wildlife Service

FW12-039  Distilling Essential Oils from Southwest Medicinal Plants $15,000  Dr.Tomas Enos
El Milagro Herbs, Inc.

FW11-043  Assessment of the Economic Viability of High-Value Greenhouse Production $14,743  Margaret C Campos
Comida de Campos

FW11-030  Pepper (Capsicum annum) Cultivation, Conservation, and Soil Ecology in Low-Input and Certified Organic Agricultural Systems $19,585  Loretta Sandoval
Owner

FW11-027  Testing Traditional Methods of Pest Mitigation $29,434  Joseph Alfaro
Valle Encantado
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Funding</th>
<th>Principal Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW11-021</td>
<td>Trials and Informing Regional Farmers about Organic Weed Control Methods</td>
<td>$13,163</td>
<td>Dale Rhoads (Rhoads Farm)</td>
</tr>
<tr>
<td>FW11-018</td>
<td>Cotton Gin By-Products (CGB)/Dairy Manure Composting for Desert Farming</td>
<td>$13,336</td>
<td>Dr. Robert Woody</td>
</tr>
<tr>
<td>FW11-005</td>
<td>Pollinator Forage Development</td>
<td>$15,000</td>
<td>Heather Harrell (For the Love of Bees, Les Crowder (For the Love of Bees)</td>
</tr>
<tr>
<td>FW10-010</td>
<td>Operation of a Subsurface Drip Irrigation (SDI) system under National Organic Plan (NOP) Standards</td>
<td>$14,560</td>
<td>Minor Morgan (North Valley Organics)</td>
</tr>
<tr>
<td>FW10-038</td>
<td>Restoring Conservation Reserve Program Land to Health and Productivity</td>
<td>$13,112</td>
<td>Kelly Boney (Outlaw Land Improvement Company, Inc)</td>
</tr>
<tr>
<td>FW09-049</td>
<td>Organic Weed Control in Perennial Navajo Tea Greenthread</td>
<td>$15,000</td>
<td>Steve Heil</td>
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<tr>
<td>FW09-047</td>
<td>La Placita Gardens Composting Research Project</td>
<td>$15,000</td>
<td>Abino Garcia Mayordomo (La Placita Gardens, Andrea Botero (LA PLAZITA INSTITUTE)</td>
</tr>
<tr>
<td>FW09-041</td>
<td>Camino de Paz Orchard &amp; Berry Research &amp; Education Program</td>
<td>$15,000</td>
<td>Greg Nussbaum (Camino de Paz Farm)</td>
</tr>
<tr>
<td>FW09-008</td>
<td>The Use of Two Mesilla Valley, NM Agricultural Byproducts to Create a Needed Organic Material Soil Amendment</td>
<td>$14,750</td>
<td>Dr. Robert Woody (New Mexico State University Dr. Nancy Flores) (new mexico state university)</td>
</tr>
<tr>
<td>FW08-320</td>
<td>Small Acreage Farms Enlisting Organic and Good Agriculture Practices (SAFE O-GAPs),</td>
<td>$29,750</td>
<td>Nancy Flores (New Mexico State University Dr. Nancy Flores) (new mexico state university)</td>
</tr>
<tr>
<td>FW08-004</td>
<td>Manipulating Sandpaper Oak for Livestock and Wildlife Forage and Cover</td>
<td>$15,000</td>
<td>Cheryl Goodloe (Carrizon Valley Ranch, Sid Goodloe (Carrizon Valley Ranch)</td>
</tr>
<tr>
<td>FW07-032</td>
<td>Southwest Survivor Queenbee Project</td>
<td>$15,000</td>
<td>Melanie Kirby (Zia Queenbee Co.)</td>
</tr>
<tr>
<td>FW06-321</td>
<td>Growing and Marketing Dye Plants as Alternative Crops</td>
<td>$20,000</td>
<td>Charles Martin (New Mexico State University Del Jiminez (New Mexico State University)</td>
</tr>
<tr>
<td>FW05-011</td>
<td>Solar Energy for Sustainable Year-round Production</td>
<td>$9,683</td>
<td>Don Bustos (Santa Cruz Farm)</td>
</tr>
<tr>
<td>FW02-018</td>
<td>Desert Shrimp</td>
<td>$12,000</td>
<td>R. Mack Bell</td>
</tr>
<tr>
<td>FW01-036</td>
<td>Regional Producer’s Improvement Project for High Quality Eggs and Other Poultry Products</td>
<td>$10,500</td>
<td>Steve Warshawer (Beneficial Farm)</td>
</tr>
<tr>
<td>FW01-014</td>
<td>Alternative Crops for the Costilla Valley in New Mexico Adoption, Application, Added Value of Product</td>
<td>$10,000</td>
<td>Teresa Young (NMSU Coop Ext)</td>
</tr>
</tbody>
</table>
FW01-002  Northeast New Mexico Pecan Research  $2,000  Lem Chesher  USDA-ARS

FW00-099  Comparing Irrigation Methods for Organic Wheat Production  $10,000  Lonnie Roybal  Sangre de Cristo Growers Coop.

FW99-008  Passive Solar Greenhouse Construction and Growing Trial  $5,000  Cathy Hope

FW99-044  Verification of Bat Predation of Pests on a 60,000 Acre Irrigated Farm  $4,000  James Dangler

FW99-078  A Temporary Step to a Permanent Solution: Use of Strawbales to Construct a Wind Barrier and System of Terrace Planting Beds  $1,760  Fatou Gueye

FW98-032  The Sustainable Use of Cover Crops in an Annual Vegetable Production System in Northern New Mexico  $4,289  Don Bustos  Santa Cruz Farm

FW98-030  Permanent Irrigated Pasture Demonstration Project Reducing Irrigation Water Use  $3,100  Milford Denetclaw

FW98-019  Using a Cultivable Catchment System to Establish a Dryland Commercial Truck Farm  $2,700  John Leaf

FW97-057  Limiting Gopher Deprivation By Time-Control Livestock Grazing  $3,500  Matt Schneberger

FW97-042  Value Added Wheat Production  $3,500  Tom Seibel

FW96-001  Increasing the Value of Irrigated Pastures  $4,200  Darrell Baker

FW96-046  Test Plot Demonstration for Organically Produced Small Grains, Phase II  $5,000  Lonnie Roybal  Sangre de Cristo Growers Coop.

FW95-007  Municipal Sludge and Legumes as Soil Builders  $4,290  Pete Tatschl

FW95-003  Test Plot Demonstration for Organically Produced Small Grains, Phase I  $5,000  Lonnie Roybal  Sangre de Cristo Growers Coop.

FW95-017  Gila Permitees Association Elk Study  $5,000  Matt Schneberger

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**GRADUATE STUDENT GRANTS**

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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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</thead>
<tbody>
<tr>
<td>GW21-220</td>
<td>Phytochemical Changes and Product Potential of NM Grown Hemp Varieties as Influenced by Production Location and Cultural Practices</td>
<td>$30,000</td>
<td>Dr. Catherine Brewer  New Mexico State University  Hanah Rheay  New Mexico State University</td>
</tr>
</tbody>
</table>
GW21-226  Cover Crops for Improving Nitrogen Use Efficiency in a Semiarid Irrigated Forage Rotation  $20,612  Dr.Rajan Ghimire New Mexico State University Pramod Acharya New Mexico State University Vance Dewbre Kiva Farms, LLC Pramod Acharya New Mexico State University

**ON FARM RESEARCH/PARTNERSHIP GRANTS**

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<th>Project #</th>
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<tbody>
<tr>
<td>OW23-379</td>
<td>Compost-derived microbial dispersal in rangelands</td>
<td>$74,858</td>
<td>Dr.Eva Stricker University of New Mexico</td>
</tr>
<tr>
<td>OW21-362</td>
<td>Building productivity and soil health with erosion control structures in arid rangelands: effects of organic amendments and seeding.</td>
<td>$74,932</td>
<td>Eva Stricker Quivira Coalition</td>
</tr>
<tr>
<td>OW20-353</td>
<td>Initiation of a New Mexico Participatory Vegetable Breeding Program</td>
<td>$49,571</td>
<td>Dr.Charles Havlik NMSU Agricultural Science Center at Los Lunas Dr.Bradley Tonnesen New Mexico State University Dr.Stephanie Walker New Mexico State University</td>
</tr>
<tr>
<td>OW19-341</td>
<td>Evaluation of water and feed intake of purebred cattle in confinement and on arid rangelands, and its implications on selection principles</td>
<td>$49,958</td>
<td>Dr.Marcy Ward New Mexico State University Dr.Craig Gifford New Mexico State University Dr.Samuel Smallidge New Mexico State University</td>
</tr>
<tr>
<td>OW18-034</td>
<td>Pairing Groundwater and Climate Data to Inform Sustainable Ranch Management in Uncertain Times</td>
<td>$49,995</td>
<td>Dr.Rossana Sallenave New Mexico State University</td>
</tr>
<tr>
<td>OW12-024</td>
<td>The Rocky Mountain Survivor Queenbee Cooperative</td>
<td>$25,000</td>
<td>Melanie Kirby Zia Queenbee Co.</td>
</tr>
</tbody>
</table>

**Total funding from the USDA SARE program to New Mexico**

$3,357,258

For further information on projects, contact Western SARE at (406) 994-4789 or wsare@montana.edu.

Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).