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 $359 million to more than 8,143 initiatives.

SARE is grassroots with far-reaching impact
Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

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

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

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

$2,933,810 in total funding
79 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: 79 grants

- 14 Research and Education
- 6 Professional Development Program
- 50 Farmer/Rancher
- 5 On Farm Research/Partnership
- 2 Research to Grass Roots
- 2 Graduate Student

Total funding: $2,933,810

- $1,471,656 Research and Education
- $317,629 Professional Development Program
- $652,924 Farmer/Rancher
- $249,456 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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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.
New Mexico has been awarded $2,933,810 grants to support 77 projects, including but not limited to, 12 research and/or education projects, 6 professional development projects and 50 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>
<tbody>
<tr>
<td>SW18-059</td>
<td>On-Farm Investigations of Stale Seedbeds with Biofumigation for Improved Management of Weeds and Soil-Borne Diseases in Chile Pepper</td>
<td>$131,461</td>
<td>Dr. Brian Schutte New Mexico State University</td>
</tr>
<tr>
<td>SW15-015</td>
<td>Implementation of Genetic Selection for Grazing Distribution to Make Cattle Grazing in the Western US More Sustainable</td>
<td>$271,217</td>
<td>Dr. Derek Bailey New Mexico State University</td>
</tr>
<tr>
<td>SW09-054</td>
<td>Enhancement of Sustainable Livestock Grazing through Selection and Training</td>
<td>$229,527</td>
<td>Dr. Derek Bailey New Mexico State University</td>
</tr>
<tr>
<td>SW09-041</td>
<td>Winter Production of Leafy Greens in the Southwestern USA using High Tunnels</td>
<td>$193,879</td>
<td>Dr. Steven Guldan New Mexico State University</td>
</tr>
<tr>
<td>SW07-606</td>
<td>Extending the Grazing Season and Integrating Crops and Livestock to Sustain Small Farms and Ranches in the Southern Rockies</td>
<td>$7,381</td>
<td>Dr. Steven Guldan New Mexico State University</td>
</tr>
<tr>
<td>SW04-144</td>
<td>Southwest Marketing Network: Expanding Markets for Small-Scale Alternative and Minority Farmers and Ranchers</td>
<td>$124,817</td>
<td>Pamela Roy Farm to Table</td>
</tr>
<tr>
<td>SW02-053</td>
<td>Ganados del Valle Family Ranch Sustainability Program</td>
<td>$70,000</td>
<td>Arlene Valdez Ganados Del Valle; Los Ojos, NM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Melinda Salazar Ganados Del Valle; Los Ojos, NM</td>
</tr>
<tr>
<td>SW01-004</td>
<td>Field-to-Table Technical Outreach Package for Smaller-Scale Farmers &amp; Ranchers in the Front range</td>
<td>$48,500</td>
<td>Greg Shultz NewFarms</td>
</tr>
<tr>
<td>SW98-060</td>
<td>Acequia Conservation Management</td>
<td>$49,272</td>
<td>Stephen Reichert Tierra y Montes Soil &amp; Water Cons. District</td>
</tr>
<tr>
<td>SW96-027</td>
<td>The Production of New, Existing, and Native Crops Under Conventional and Organic Production Practices in Costilla, New Mexico, Garcia, Colorado, and at Taos Pueblo</td>
<td>$100,000</td>
<td>Craig Mapel New Mexico Department of Agriculture</td>
</tr>
<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 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 New Mexico State University, Agricultural Science Center</td>
</tr>
</tbody>
</table>
## RESEARCH TO GRASS ROOTS GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| WRGR22-006 | Building Comb from Castle to Castle: Collaborations between Queen Breeders & Researchers for supporting Adaptive Reproductive Practices                                                                                       | $100,000     | Melanie Kirby  
New Mexico State University  
Zia Queenbees Farm & Field Institute |
| WRGR21-005 | Native Habitat Enhancement for IPM in New Mexico Vineyards                                                                                                                                                              | $91,533      | William Giese  
New Mexico State University  
Miranda Kersten  
New Mexico State University |

## PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

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

## FARMER/RANCHER GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| FW22-404   | On-Field Trial of Cover Cropping and Johnson-Su Microbial Inoculations                                                                                                                                       | $24,760      | Carl Richard  
Pata Viva Farm Management Inc. |
| 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 |
<table>
<thead>
<tr>
<th>Project Number</th>
<th>Title</th>
<th>Funding</th>
<th>Principal Investigator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW18-023</td>
<td>Establishing and Maintaining Mite Resistant Nucleus Colonies for the Sustainable Apiary Using USDA Russian and VSH Queen Bees</td>
<td>$16,980</td>
<td>John Gagne San Juan Apiaries</td>
</tr>
<tr>
<td>FW18-028</td>
<td>Greenhouse Energy Storage &amp; Transfer using Water</td>
<td>$7,565</td>
<td>Kemper Barkhurst Bluefly Farms, LLC</td>
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<tr>
<td>FW16-035</td>
<td>A Comparative Study of Shading Systems to Control the Beet Leafhopper and Reduce Beet Curly Top Virus in Heirloom Tomato Fields</td>
<td>$19,909</td>
<td>Peter Sinanian TomatoCulture LLC</td>
</tr>
<tr>
<td>FW16-028</td>
<td>Passive Solar Herb Drying Project</td>
<td>$18,999</td>
<td>Dr.Tomas Enos El Milagro Herbs, Inc.</td>
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<tr>
<td>FW15-045</td>
<td>Lavender Intercropping and Soil Management</td>
<td>$13,665</td>
<td>Kemper Barkhurst Bluefly Farms, LLC</td>
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<tr>
<td>FW15-037</td>
<td>Aerated Compost Tea- Field Guide</td>
<td>$14,560</td>
<td>Minor Morgan North Valley Organics</td>
</tr>
<tr>
<td>FW13-122</td>
<td>Making Roller Crimping a Reality in the Southwest</td>
<td>$9,155</td>
<td>Dale Rhoads Rhoads Farm Joran Viers New Mexico State University</td>
</tr>
<tr>
<td>FW12-096</td>
<td>The Rocky Mountain Survivor Queenbee Cooperative</td>
<td>$25,000</td>
<td>Melanie Kirby Zia Queenbee Co. Julie McIntyre US Fish &amp; Wildlife Service</td>
</tr>
<tr>
<td>FW12-039</td>
<td>Distilling Essential Oils from Southwest Medicinal Plants</td>
<td>$15,000</td>
<td>Dr.Tomas Enos El Milagro Herbs, Inc.</td>
</tr>
<tr>
<td>FW11-043</td>
<td>Assessment of the Economic Viability of High-Value Greenhouse Production</td>
<td>$14,743</td>
<td>Margaret C Campos Comida de Campos</td>
</tr>
<tr>
<td>FW11-030</td>
<td>Pepper (Capsicum annum) Cultivation, Conservation, and Soil Ecology in Low-Input and Certified Organic Agricultural Systems</td>
<td>$19,585</td>
<td>Loretta Sandoval Owner</td>
</tr>
<tr>
<td>FW11-027</td>
<td>Testing Traditional Methods of Pest Mitigation</td>
<td>$29,434</td>
<td>Joseph Alfaro Valle Encantado</td>
</tr>
<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>FW10-038</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>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>
</tbody>
</table>
FW09-049  Organic Weed Control in Perennial Navajo Tea Greenthread  $15,000  Steve Heil
FW09-047  La Placita Gardens Composting Research Project  $15,000  Abino Garcia Mayordomo
La Placita Gardens
Andrea Botero
LA PLAZITA INSTITUTE
FW09-041  Camino de Paz Orchard & Berry Research & Education Program  $15,000  Greg Nussbaum
Camino de Paz Farm
FW09-008  The Use of Two Mesilla Valley, NM Agricultural Byproducts to Create a Needed Organic Material Soil Amendment  $14,750  Dr. Robert Woody
FW08-320  Small Acreage Farms Enlisting Organic and Good Agriculture Practices (SAFE O-GAPs),  $29,750  Nancy Flores
New Mexico State University
Dr. Nancy Flores
New Mexico State University
FW08-004  Manipulating Sandpaper Oak for Livestock and Wildlife Forage and Cover  $15,000  Cheryl Goodloe
Carrizon Valley Ranch
Sid Goodloe
Carrizon Valley Ranch
FW07-032  Southwest Survivor Queenbee Project  $15,000  Melanie Kirby
Zia Queenbee Co.
FW06-321  Growing and Marketing Dye Plants as Alternative Crops  $20,000  Charles Martin
New Mexico State University
Del Jiminez
New Mexico State University
FW05-011  Solar Energy for Sustainable Year-round Production  $9,683  Don Bustos
Santa Cruz Farm
FW02-018  Desert Shrimp  $12,000  R. Mack Bell
FW01-036  Regional Producer’s Improvement Project for High Quality Eggs and Other Poultry Products  $10,500  Steve Warshawer
Beneficial Farm
FW01-014  Alternative Crops for the Costilla Valley in New Mexico Adoption, Application, Added Value of Product  $10,000  Teresa Young
NMSU Coop Ext
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
### GRADUATE STUDENT GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</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 |
| GW21-220    | Phytochemical Changes and Product Potential of NM Grown Hemp Varieties as Influenced by Production Location and Cultural Practices | $30,000      | Dr. Catherine Brewer  
New Mexico State University  
Hanah Rheay  
New Mexico State University |

### ON FARM RESEARCH/PARTNERSHIP GRANTS

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<tr>
<th>Project #</th>
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<th>SARE Support</th>
<th>Project Leaders</th>
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</thead>
</table>
| OW21-362    | Building productivity and soil health with erosion control structures in arid rangelands: effects of organic amendments and seeding. | $74,932      | Eva Stricker  
Quivira Coalition |
| OW20-353    | Initiation of a New Mexico Participatory Vegetable Breeding Program           | $49,571      | Dr. Charles Havlik  
NMSU Agricultural Science Center at Los Lunas  
Dr. Bradley Tonnessen  
New Mexico State University  
Dr. Stephanie Walker  
New Mexico State University |
<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
<th>Funding</th>
<th>Investigator(s)</th>
<th>Institution(s)</th>
</tr>
</thead>
<tbody>
<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, Dr. Craig Gifford, Dr. Samuel Smallidge</td>
<td>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</td>
<td>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</td>
<td>Zia Queenbee Co.</td>
</tr>
</tbody>
</table>

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

$2,933,810

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).