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 8,776 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...

Colorado

Project Highlight: Dryland Cropping Intensification Shows Benefits
In the Great Plains region of Colorado, a scarce supply of water is the chief limiting factor in dryland cropping yields. This concern over limited water availability prompts many farmers in the area to adopt a winter wheat-fallow rotation, yet this approach worsens soil productivity over the long term.

Intensifying production and using no-till could actually improve yields and profitability by building up soil health and improving moisture retention. Using a SARE grant, Colorado State University graduate student Steven Rosenzweig set out to both quantify the benefits of reducing fallow frequency and understand the barriers to adoption. He compared different dryland rotation intensities and found that reducing fallow improved soil health, which ultimately allowed farmers to improve grain production with a similar amount of fertilizer.

He also conducted in-depth interviews with 30 farmers, and identified risk, profitability and crop insurance policy as top perceived barriers to reducing fallow frequency. He also identified strategies for helping farmers overcome the barriers, such as changing the way agronomic researchers approach their work to be more inclusive of long-term viewpoints and profitability. The identified benefits, barriers and strategies for change were widely disseminated, including a website, blog and an upcoming film.

For more information on this project, see sare.org/projects, and search for project number GW16-020.

SARE in Colorado
western.sare.org/state-profiles/colorado/

$2,824,066 in total funding
30 grant project
(since 1988)

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

Grants awarded 2019–2024

Total awards: **30 grants**
- 8 Farmer/Rancher
- 5 Research and Education
- 5 Professional Development Program
- 6 On Farm Research/Partnership
- 6 Graduate Student

Total funding: **$2,824,066**
- $193,049 Farmer/Rancher
- $1,745,558 Research and Education
- $363,287 Professional Development Program
- $353,485 On Farm Research/Partnership
- $168,687 Graduate Student

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:

- **2,572 farmers participated in a SARE-funded project**
- **871 farmers reported a change in knowledge, awareness, skills or attitude**
- **160 farmers changed a practice**

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

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-profiles/colorado/ to learn more.

Adrian Card
Colorado State University Extension
(303) 678-6383
Adrian.card@colostate.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.
Colorado has been awarded $7,141,285 grants to support 124 projects, including but not limited to, 22 research and/or education projects, 26 professional development projects and 58 producer-led projects. Colorado 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>
| SW24-006  | Evaluating competition between managed and wild bees in a semi-urban agricultural landscape                                               | $346,058     | Thomas Davis  
Colorado State University  
Dr. John Mola  
Colorado State University |
| SW24-014  | Variable Rate Manure Application with Real-Time Nutrient Sensing for Improved Soil Health and Reduced Environmental Impacts of Dairy Manure Use | $349,819     | Dr. Jasmine Dillon  
Colorado State University  
Dr. Shawn Archibeque  
Colorado State University  
Kat Caswell  
Colorado State University  
Dr. Steven Fonte  
Colorado State University  
Meagan Schipanski  
Colorado State University |
| SW23-952  | Looking beyond yield: Tools for producers to capture and communicate the results of their soil health experiments in the semi-arid High Plains | $349,687     | Meagan Schipanski  
Colorado State University  
John Ella Holmes  
Nicodemus Educational Camps  
Ron Meyer  
Colorado State University Extension |
| SW21-921  | Strengthening Opportunities Along the Meat Supply Chain to Promote Sustainable Agriculture in Intermountain States                     | $349,994     | Becca Jablonski  
Colorado State University  
Thomas Bass  
Montana State University  
Cody Gifford  
University of Wyoming  
Jennifer Martin  
Colorado State University  
Martha Sullins  
Colorado State University Extension  
Dr. Caitlin Youngquist  
SnapLands |
| SW20-910  | Developing sustainable peach orchard soil microbiome management practices to control replant disease syndrome                           | $350,000     | Dr. Ioannis Minas  
Colorado State University  
Dr. Jorge Vivanco  
Colorado State University |
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<tr>
<th>Code</th>
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<tr>
<td>SW18-500</td>
<td>Examining Cover Crops for Soil Health Restoration in Dryland Cropping Systems in SW Colorado and SE Utah</td>
<td>$249,974</td>
<td>Dr. Steven Fonte &lt;br&gt;Colorado State University</td>
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<td>SW15-008</td>
<td>The Feasibility of Cover Crops in Dryland Cropping Systems in SW Colorado and SE Utah</td>
<td>$249,269</td>
<td>Abdelfettah Berrada &lt;br&gt;Montoya-Berrada Ranchito</td>
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<td>LNC14-356</td>
<td>The Bison Advantage Outreach and Education Program</td>
<td>$103,675</td>
<td>Jim Matheson &lt;br&gt;National Bison Association</td>
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<td>SW14-023</td>
<td>On-farm Cyanobacterial Bio-fertilizer Production to Reduce the Carbon Footprint of Organic Fruit and Vegetable Production</td>
<td>$293,599</td>
<td>Dr. Jessica Davis &lt;br&gt;Colorado State University</td>
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<td>SW09-053</td>
<td>Harnessing the Sun for On-farm Fertilizer Production</td>
<td>$159,023</td>
<td>Dr. Jessica Davis &lt;br&gt;Colorado State University</td>
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<td>SW09-401</td>
<td>Farm to Fork: Connecting Our Youth with Sustainable Agriculture</td>
<td>$48,988</td>
<td>Dennis Lamm &lt;br&gt;Colorado State University &lt;br&gt;Tisha Casida &lt;br&gt;That's Natural!</td>
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<td>SW08-033</td>
<td>Integrating Perennial Living Mulches into Irrigated Cropping Systems</td>
<td>$146,684</td>
<td>Joe Brummer &lt;br&gt;Colorado State University</td>
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<td>SW06-028</td>
<td>Site-specific Manure Management for Improving Soil Quality</td>
<td>$131,332</td>
<td>Dr. Raj Khosla &lt;br&gt;Colorado State University</td>
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<td>SW05-085</td>
<td>Supply and Market Analysis for Organic Producers in the Four Corners States</td>
<td>$144,511</td>
<td>Dennis Lamm &lt;br&gt;Colorado State University</td>
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<td>SW04-087</td>
<td>Native Seed Production for Crop Diversification</td>
<td>$171,121</td>
<td>Dr. Ron Godin &lt;br&gt;Colorado State University - Rogers Mesa Res. Ctr.</td>
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<td>SW02-002</td>
<td>Extending Irrigated Alfalfa Stand Life and Long-Term Profitability by Alteration of Late-Season Harvest Schedules</td>
<td>$61,270</td>
<td>Robert Hammon &lt;br&gt;Tri River Cooperative Extension</td>
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<td>SW02-051</td>
<td>A Range Management Curriculum and Participatory Planning Project for the Tohono O'odham Nation</td>
<td>$99,263</td>
<td>Maria Fernandez-Gimenez &lt;br&gt;Colorado State University</td>
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</table>
Utilization of Compost Made from Agricultural and Forestry Wastes for Improving the Economic and Ecological Sustainability of Agronomic Crop Production on Low Organic Matter Soils in the San Luis Valley of Colorado

$137,916
Richard Zink
Colorado State University

Developing Sustainable Dryland Cropping Systems in SW Colorado and SE Utah Using Conservation Tillage and Crop Diversification

$142,380
Abdelfettah Berrada
Montoya-Berrada Ranchito

Reducing Environmental Contamination from Feedlot Manure in the South Platte River Basin through Agronomic, Economic, and Social Analysis and Education

$206,000
Dr. Jessica Davis
Colorado State University

Effectiveness of Beauveria Bassiana as a Microbial Control Agent for Coleopteran and Homopteran Pests of Irrigated Alfalfa

$36,091
Frank Peairs
Colorado State University

Compiling a Database of Sustainable Producers for the Southern Rockies Region

$36,000
Rita Robinson
Sustainable Mountain Agricultural Alliance (SMALL)

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>
</tr>
</thead>
</table>
| WPDP24-021 | Upskilling Urban Ag Professionals: Soil and Water Stewardship through Soil Sensing IoT and AI | $99,660      | Deana Namuth-Covert
Colorado State University
James Folkestad
Colorado State University
Jay Ham
Colorado State University |

WPDP23-006 | Video Overview of Established Biological Controls in Colorado; Identification, Collection, Release and Monitoring Methods | $28,000      | Kristi Gladem
Colorado Dept. Of Agriculture Palisade Insectary
Dr. Dan Bean
Colorado Dept. of Agriculture Palisade Insectary
Torri Gladem
Colorado Dept. Of Agriculture Palisade Insectary |
| WPDP21-029 | Training Colorado educators about Sustainable Co-existence between ranchers and wolves | $99,949 | Dana Hoag  
Colorado State University  
Dr. Stewart Breck  
Colorado State University  
Dr. Kevin Crooks  
Fish, Wildlife, and Conservation Biology, Colorado State University  
CJ Mucklow  
Colorado State University  
Dr. John Sanderson  
Colorado State University  
Robin Young  
Colorado State University |
| WPDP21-017 | Reviving the Range School: Range Science Training for Colorado Extension Agents | $60,007 | Retta Bruegger  
Colorado State University Extension  
Anne Overlin  
Colorado State University |
| WPDP21-016 | Growing Heritage Grains for Market Production | $75,671 | Gretchen Groenke  
Rocky Mountain Seed Alliance  
Emily Lockard  
Colorado State University  
Southwestern Colorado Research Center |
| EW18-005 | Seed Saving Farmer Training | $45,350 | Lee-Ann Hill  
Rocky Mountain Seed Alliance |
| EW14-024 | Colorado Resource Monitoring Initiative-Professionals Training | $23,000 | Erin Karney  
Colorado Cattlemen’s Association |
| EW12-009 | Integrating Birds in Range Management across the Sagebrush Steppe | $60,000 | Laura Quattrini  
Rocky Mountain Bird Observatory (dba Bird Conservancy of the Rockies) |
| EW09-013 | In-service Training and Decision-Making Tools for Optimizing Livestock Mortality Management | $97,848 | Dr. Jessica Davis  
Colorado State University |
| EW09-014 | Curricula and Instructional Modules for Sustainable Small-Scale Greenhouse Production | $60,000 | Dr. Steven Newman  
Colorado State University |
| EW08-016 | Professional Training for Developing a Hands-On Organic Weed Management Learning Center for Commercial Market Gardens in Local Communities | $89,492 | Beth LaShell  
Fort Lewis College |
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Description</th>
<th>Cost</th>
<th>Principal Investigator(s)</th>
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</thead>
</table>
| EW07-008     | Enterprise, Environmental and Community Development to Promote Agricultural and Heritage Tourism | $59,973 | Martha Sullins  
Colorado State University  
Dawn Thilmany  
Colorado State University  
Andrew Seidl  
Colorado State University |
| EW06-019     | Using Videos as a Teaching Tool: Improving Profits and Rangelands Through Application of Behavioral Principles | $80,000 | Beth Burritt  
Utah State University |
| EW05-015     | Manure Management: An essential component of 4-H livestock projects           | $59,927 | Dr. Jessica Davis  
Colorado State University |
| EW04-016     | BEHAVE Facilitator's Network                                                 | $99,702 | Kathy Voth  
Utah State University |
| EW03-011     | Education, Training and Outreach on Risk Education                           | $99,600 | Doug Hoag  
CSU |
| EW02-004     | Niche Beef Production and Marketing in Colorado                              | $59,470 | Martha Sullins  
American Farmland Trust  
Julia Freedgood  
American Farmland Trust  
Dawn Thilmany  
Colorado State University  
Tom Field  
Colorado State University |
| EW02-009     | Integrating Bird Conservation into Range Management                          | $81,937 | Tammy VerCauteren  
Rocky Mountain Bird Observatory |
| EW02-017     | Establishing Dialogue Between Alternative Agricultural Producers and the Land-Grant University in Colorado | $56,000 | Dr. Jessica Davis  
Colorado State University |
| EW01-021     | Exploration of the Ethical Basis for Agricultural Sustainability              | $26,772 | Robert Zimdahl  
Weed Research Lab, Colorado State University |
| EW01-022     | Coached Land Planning and Care                                               | $81,000 | Scott Cotton  
Colorado State University  
Cooperative Education |
| EW99-006     | Workshops on Land Use and Land Protection Policy                             | $66,195 | Jeff Jones  
American Farmland Trust |
EW97-005  In-Depth Training and Work Experience on a Community Supported Agriculture (C.S.A.) Farm $4,400  Steve Carcaterra  Colorado State University Cooperative Extension

EW96-002  Improving Manure Management to Protect Water Quality in the Southwestern U. S. $60,000  Dr. Jessica Davis  Colorado State University

EW95-018  Video Introduction to Sustainable Agriculture for Eight Western States $20,000  Joe Hiller  University of Wyoming, Cooperative Extension Service

EW94-009  Permaculture Systems Pamphlet $5,620  Jerome Osentowski  Central Rocky Mountain Permaculture Institute

FARMER/RANCHER GRANTS

<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
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<tr>
<td>FW23-413</td>
<td>Agrivoltaic Research at Jack's Solar Farm</td>
<td>$24,854</td>
<td>Meg Caley  Sprout City Farms  Brooks Hosfeld  Sprout City Farms</td>
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<td>FW23-416</td>
<td>Trialing On-Farm Windrow Vermicomposting as a Mechanism for Reducing Producer Dependence on Off-Farm Inputs</td>
<td>$24,240</td>
<td>Rick Bieterman  Watershed Ranch</td>
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<td>FW23-424</td>
<td>Roller-Crimping Cover Crops on Irrigated Organic Cropland</td>
<td>$24,935</td>
<td>David Harold  Tuxedo Farms</td>
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<td>FW23-428</td>
<td>Efficacy of insect-exclusion nettings and shade cloth combinations on diversified vegetable production in the Southwest</td>
<td>$19,320</td>
<td>Rebecca Gourlay  Highwater Farm</td>
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<td>FW22-406</td>
<td>The Citizen Science Soil Health Project, Years 4-6</td>
<td>$29,900</td>
<td>Elizabeth Black  Your Neighborhood Christmas Tree Farm</td>
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<tr>
<td>FW20-371</td>
<td>The Application of using High-Fungal Compost to Renovate Mountain Meadow Pastures</td>
<td>$20,000</td>
<td>Steve Oswald  Oswald Cattle Co</td>
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<td>FW19-341</td>
<td>The Citizen Science Soil Health Project</td>
<td>$24,800</td>
<td>Elizabeth Black  Your Neighborhood Christmas Tree Farm</td>
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<td>FW19-354</td>
<td>Evaluating Forage Production and Ranching in Response to Regenerative Rotational Grazing on Dryland Pastures in Southwest Colorado.</td>
<td>$25,000</td>
<td>Chuck McAfee  Charles M.McAfee &amp; CO. LLLP</td>
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<td>FW18-053</td>
<td>Managing Canada Thistle for Soil Health and Greater Farm Profitability through Crimped Cover Crop and Strip Tillage on Annual Brassicas and Cucurbits</td>
<td>$8,978</td>
<td>Michael Nolan</td>
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<td>Mountain Roots Produce LLC</td>
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<td>FW15-046</td>
<td>Feasibility of Summer (floricane) Brambles in Colorado</td>
<td>$14,571</td>
<td>Amy Kafka</td>
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<td>Garden Sweet</td>
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<td>FW15-057</td>
<td>Supplemental Heating of High Tunnels by Energy-Producing Compost Piles</td>
<td>$15,000</td>
<td>Dr.Amy Yackel Adams</td>
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<td>Sunspot Urban Farm</td>
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<td>FW14-027</td>
<td>Colorado Queen Honey Bee Testing Project for Increased Sustainability</td>
<td>$24,922</td>
<td>Kristine Holthaus</td>
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<td>Colorado Queen Honey Bee Testing Project for Increased Sustainability</td>
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<td>FW13-128</td>
<td>Improved Honeybee Health through Foundation Modification</td>
<td>$25,000</td>
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<td>Sue McWilliams</td>
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<td>FW12-076</td>
<td>Development of a Digitally Integrated, Low-cost Farm-to-COConsumer Product Tracking System for Small Scale Farmers and Grower Networks</td>
<td>$24,965</td>
<td>Brett KenCairn</td>
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<td>Circle Fresh Farms</td>
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<td>FW11-010</td>
<td>Alternative crops to diversify the traditional winter wheat/fallow cropping system in Northwest Colorado</td>
<td>$29,821</td>
<td>Mike Williams</td>
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<td>FW10-059</td>
<td>Expanding Small Ruminant Dairy Production</td>
<td>$14,500</td>
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<td>FW10-070</td>
<td>Effects of Sustainable Soil Amendments on Nutrient Availability in High Alkaline pH Soil in Field Production of Trees in Northeastern Colorado</td>
<td>$14,379</td>
<td>Dr.Brooke Edmunds</td>
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<td>David Rickman</td>
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<td>Boxelder Creek Nurseries</td>
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<td>FW09-030</td>
<td>Alternative Fertilizer for Meadow Grass Hay</td>
<td>$10,775</td>
<td>Nancy Roberts</td>
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<td>FW07-024</td>
<td>Different Goat Breed Crosses to Find the Best Tasting Meat</td>
<td>$12,623</td>
<td>Holly Napier</td>
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<td>Napier Family Farms</td>
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<td>FW07-031</td>
<td>Raising Livestock and Crops Simultaneously in Unheated Greenhouses</td>
<td>$12,089</td>
<td>John Socolofsky</td>
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<td>Antelope Creek Ranch</td>
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<td>FW07-319</td>
<td>Season Extension and Crop Area Multiplication with a Moveable Hoophouse in an Organic System</td>
<td>$11,230</td>
<td>Dr. Edward Page CSU Extension</td>
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<td>FW06-028</td>
<td>Integrated Control of Weeds and Verticillium in Strawberry Nurseries</td>
<td>$10,000</td>
<td>Brian Coleman Ruby Mountain Nursery</td>
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<td>FW06-314</td>
<td>Business Plan for Producers to Create Value-added Crop-based Products</td>
<td>$20,000</td>
<td>Ravi Malhotra ICAST Intl Ctr for Appropriate &amp; Sustainable Tech</td>
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<td>FW05-009</td>
<td>Non-chemical Control of Nematodes in Potatoes</td>
<td>$9,922</td>
<td>Monty Smith Three S Ranch</td>
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<td>FW05-309</td>
<td>Management Practices for Drip Irrigation in Baca County, Colorado</td>
<td>$9,353</td>
<td>James Valliant Colorado State University</td>
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<td>FW04-112</td>
<td>Common Standards and Labeling</td>
<td>$13,500</td>
<td>Dan Hobbs Tres Rios Agricultural Cooperative Inc.</td>
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<td>FW04-318</td>
<td>Using Irrigated Forage Pastures to Enhance Livestock Production Sustainability</td>
<td>$13,555</td>
<td>Bruce Bosley Colorado State University</td>
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<td>FW04-318</td>
<td>Using Irrigated Forage Pastures to Enhance Livestock Production Sustainability</td>
<td>$13,555</td>
<td>Gene Schmitz Colorado State University</td>
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<td>FW03-016</td>
<td>Production of Medicinal Herbs as an Integral Part of On-farm Cheese Production and the Use of Medicinals for Immuno-stimulation and Enhanced Milk Production</td>
<td>$5,455</td>
<td>Denise Bohemier El Rancho del Cielo</td>
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<td>FW03-109</td>
<td>Edamame Bean Production and Marketing</td>
<td>$5,000</td>
<td>Phil Knob</td>
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<td>FW03-111</td>
<td>Market Development for an Edible Bean Food Business</td>
<td>$5,000</td>
<td>Shane Atchley</td>
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<td>FW02-003</td>
<td>Agricultural Systems Economics for Hay production</td>
<td>$1,030</td>
<td>Wilbur Miller</td>
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<td>FW02-006</td>
<td>SE Colorado Range Plant Quality Database and Supplement Formulation Program</td>
<td>$13,488</td>
<td>John Doherty</td>
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<td>FW02-007</td>
<td>Propagation of Colorado Native Plants</td>
<td>$7,500</td>
<td>Ann Grant</td>
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<td>FW02-014</td>
<td>Study to Determine if Nepeta Cataria (Catnip) Can Be Commercially Grown in Montrose, CO</td>
<td>$5,000</td>
<td>Susan Bony</td>
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<tr>
<td>FW02-021</td>
<td>Design and Building of a Facility for the production of Goat and Sheep milk Cheeses on the farmstead in rural SW Colorado</td>
<td>$7,460</td>
<td>Denise Bohemier, El Rancho del Cielo</td>
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<td>FW02-025</td>
<td>Colorado Organic Honey Production</td>
<td>$6,000</td>
<td>Cesar Flores</td>
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<td>FW01-009</td>
<td>Tillage and Irrigation Assessment Effecting Soil Salinity along South Platte River</td>
<td>$6,400</td>
<td>Randy Honstein, Natural Resources Conservation District</td>
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<td>FW01-010</td>
<td>Pastured Poultry as an Alternative and Enhancement to a Traditional Livestock Agricultural System</td>
<td>$6,500</td>
<td>Tony Daranyi, Colorado State University</td>
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<td>FW00-012</td>
<td>Residue Management in Furrow Irrigated Reduced Tillage Systems</td>
<td>$4,650</td>
<td>Randy Hines</td>
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<td>FW00-028</td>
<td>Building a Community-based Direct Marketing Model for Diverse Ranch Enterprises</td>
<td>$5,000</td>
<td>Jeremy Gingerich</td>
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<td>FW00-032</td>
<td>Organic Soil Amendment Release Rates for Fertility in Apples</td>
<td>$6,750</td>
<td>Steve Ela</td>
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<td>FW00-038</td>
<td>Native Plants Nursery</td>
<td>$5,000</td>
<td>John Squire</td>
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<td>FW00-074</td>
<td>Colorado Quality Lamb: Enhancing the Economic Viability of Local Producers Through Direct Marketing to Food Service Establishments</td>
<td>$5,000</td>
<td>David Myers</td>
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<td>FW00-240</td>
<td>Carbondale Community Garden Cooperative</td>
<td>$8,311</td>
<td>Wendy Anderson</td>
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<td>FW00-277</td>
<td>Custer County Ag-Products Internet Marketing Project</td>
<td>$2,160</td>
<td>Sara Hebbert</td>
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<td>FW00-302</td>
<td>Alternative Crop Marketing Based on a Pre-existing Urban-Rural Spiritual and Social Relationship</td>
<td>$3,400</td>
<td>Paul Mailander</td>
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<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
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<td>FW00-329</td>
<td>Paradox Valley Heirloom Foods and Native Seed Grow-Out</td>
<td>$9,997</td>
<td>Martha Ames Burgess</td>
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<td>FW99-011</td>
<td>Hydraulic Windmill Pump</td>
<td>$2,733</td>
<td>Lonnie Jackson</td>
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<td>FW99-065</td>
<td>Sustainable Sheep Dairy Project</td>
<td>$3,550</td>
<td>Steve and Carolyn Keller</td>
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<td>FW98-020</td>
<td>Testing Alternative Crop Rotations for Traditional Small Grain/Fallow System</td>
<td>$3,000</td>
<td>James Faughnan</td>
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<td>FW98-024</td>
<td>Integrated Weed Management of Musk Thistle with Emphasis on Biological Control</td>
<td>$2,938</td>
<td>Larry Matschke</td>
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<td>FW98-025</td>
<td>Annual Forage Production for an Intensive Winter Grazing System</td>
<td>$2,665</td>
<td>John Haws</td>
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<td>FW98-065</td>
<td>Cultures and La Manga Cattlemen's Association Range Analysis and Improvement Project</td>
<td>$8,700</td>
<td>Dennis Moeller</td>
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<td>FW97-003</td>
<td>Converting Pasture Land to Specialty Crop Production as an Alternative Farm Enterprise</td>
<td>$2,500</td>
<td>Trent J. Taylor</td>
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<td>FW97-032</td>
<td>Perennial Grass Establishment in Existing Alfalfa</td>
<td>$1,825</td>
<td>Douglas B. Wiley</td>
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<td>FW97-045</td>
<td>Pasture Fryer Chickens</td>
<td>$2,500</td>
<td>Pete Mattics</td>
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<td>FW96-005</td>
<td>Habitat Management as a Transitional Tool to an Insecticide: Free Pest Management Program in Apples</td>
<td>$1,500</td>
<td>Bob White</td>
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<td>FW95-047</td>
<td>Evaluation of Alternative Crops in Dryland Multi-Crop Rotations on Farms in the Northeastern Colorado Region</td>
<td>$5,000</td>
<td>Joe Kinnie Colorado Conservation Tillage Association</td>
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<tr>
<td>Project #</td>
<td>Project Title</td>
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<td>Project Leaders</td>
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| GW24-001  | Optimizing Carbon Dioxide Enrichment to Improve Fruit Quality and Expand Local Opportunities for Controlled Environment Strawberry Production | $29,963      | Dr. Joshua Craver  
Colorado State University  
Jake Holley  
Colorado State University  
Samantha Rosado  
Colorado State University  
Samantha Rosado  
Colorado State University |
| GW24-002  | Enhancing indoor air quality in dairy farms via automatic air monitoring and mitigation strategies. | $29,748      | Dr. Diego MANRIQUEZ  
Colorado State University  
Afrin Jannat  
Colorado State University |
| GW24-004  | Sustainable pest management for Alfalfa mosaic virus in chile peppers in organic and conventional production | $29,998      | Dr. Ada Szczepaniec  
Colorado State University  
Lara Amiri-Kazaz  
Colorado State University |
| GW22-232  | Impact of genetics and grazing management on enteric methane emissions and performance in stocker steers | $29,485      | Kim Stackhouse-Lawson  
Colorado State University  
Ashley Schilling  
Colorado State University |
| GW20-214  | Cattle as Partners in Conservation: Ecological, Economic, and Social Outcomes of Public-Private Partnerships on Colorado Landscapes | $24,727      | Dr. Stacy Lynn  
Colorado State University  
Anna Clare Monlezun  
Colorado State University |
| GW19-202  | Climate mitigation through soil carbon sequestration: increasing soil resilience and plant productivity on rangelands through compost application | $24,766      | Dr. Jennie DeMarco  
Western Colorado University  
Amy Honan  
Western Colorado University  
Alexia Cooper  
Western State Colorado University (doing business as Western Colorado University) |
| GW16-020  | Dryland cropping system intensification in the West-Central Great Plains: Impacts and barriers to adoption | $25,009      | Meagan Schipanski  
Colorado State University  
Steven Rosenzweig  
Colorado State University |
| GW14-028  | Information flows along the beef supply chain: Information exchange as a strategy for mitigating increased costs and maximizing producer profits. | $25,000      | Dr. Jennifer Bair  
Sociology, CU Boulder  
Sarah Lake  
University of Colorado-Boulder |
| GW11-019  | Impacts of Reduced Nitrogen Application During Late Growing Season on Potato Tuber Quality and Profitability | $24,490      | Dr. Sastry Jayanty  
Colorado State University  
Henry Castleberry  
Colorado State University |
<table>
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<tr>
<th>Project Code</th>
<th>Project Description</th>
<th>Funding</th>
<th>Principal Investigator(s)</th>
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</table>
| OW24-001     | Coupling tech herding and emissions measurement technologies to develop sustainable grazing strategies on the shortgrass steppe | $75,000 | Kim Stackhouse-Lawson  
Colorado State University  
Edward Raynor  
Colorado State University  
Anna Shadbolt  
Colorado State University AgNext |
| OW24-007     | “Mesa grapes”: Table grapes as an alternative crop in Western Colorado | $65,552 | Bradley Tonnessen  
Colorado State University  
Dr.Charlotte Oliver  
Colorado State University |
| ONC22-102    | National Bison North Central Regenerative Ranching Workshop Series | $39,087 | Jim Matheson  
National Bison Association |
| OW21-368     | Enabling improved environmental outcomes/farm economics for sugarbeet farmers using improved nutrient stewardship | $75,000 | Dr.Rebecca Larson  
The Western Sugar Cooperative |
| OW20-357     | Microbial Ecology of Vermicompost and Vermi-teas | $49,100 | Dr.Zackary Jones  
Aggrego Data  
Kathy Doesken  
Rocky Mountain Soil Stewardship |
| OW20-358     | Compost for Carbon Sequestration on Irrigated Pasture | $49,746 | Retta Bruegger  
Colorado State University Extension  
Dr.Megan Machmuller  
Colorado State University |
| OW10-309     | Reducing Nitrogen Fertilizer Inputs to Irrigated Pastures and Hayfields by Interseeding Legumes | $49,849 | Joe Brummer  
Colorado State University |
| OW10-321     | Using Cattle to Rehabilitate Rangeland Vegetation and Improve Ecosystem Function (3 yr project) | $49,936 | Kathy Voth  
Livestock for Landscapes |
| OW10-325     | Organic Winter Production Scheduling in Unheated High Tunnels. | $38,358 | Frank Stonaker  
Colorado State University |

**Total funding from the USDA SARE program to Colorado**

$7,141,285

For further information on projects, contact Western SARE at (406) 994-4785 or wsare@montana.edu.

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