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 $307 million to more than 7,384 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...

Wyoming

Project Highlight: A Better Way to Identify Livestock Disease

Despite measures that had successfully eradicated brucellosis in cattle and stopped its spread to humans, the deadly disease can still be found in elk and bison in the greater Yellowstone area. Over the past 10 years, the disease began spreading to local livestock, leading to expensive quarantines and economic losses to producers as they choose to, or are required to, euthanize cattle to undergo imperfect and time-consuming diagnostic testing. A positive result from the currently used test does not guarantee that the animal was in fact infected.

To reduce these burdens on ranchers, University of Wyoming graduate student Noah Hull worked to increase the ability to identify animals infected with brucellosis in the greater Yellowstone area by creating and validating a new molecular assay. As the project progressed, Hull found that this test was twice as effective as the traditional method at identifying animals that were truly infected. Perhaps more meaningfully to producers, the new testing procedure can be done on animals while still alive, which could lead to a reduction in culling. The turnaround time for results is much faster as well. To spread the word about his findings, Hull held four stakeholder meetings in the state that reached 120 participants.

For more information on this project, see sare.org/projects, and search for project number GW16-038.

SARE in Wyoming

western.sare.org/sare-in-your-state/wyoming

$2,863,061 in total funding

53 grant projects

(since 1988)

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

Total awards: **53 grants**
- 2 Enhanced State Grants
- 18 Farmer/Rancher
- 9 Graduate Student
- 3 On Farm Research/Partnership
- 5 Professional Development Program
- 16 Research and Education

Total funding: **$2,863,061**
- **$49,258** Enhanced State Grants
- **$188,806** Farmer/Rancher
- **$200,168** Graduate Student
- **$147,278** On Farm Research/Partnership
- **$349,976** Professional Development Program
- **$1,927,576** Research and Education

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/wyoming](http://western.sare.org/sare-in-your-state/wyoming)

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/wyoming](http://western.sare.org/state-pages/wyoming) to learn more.

Caitlin Youngquist
University of Wyoming
(307) 347-3431
cyoungqu@uwyo.edu

For detailed information on SARE projects, go to [www.SARE.org](http://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.
Wyoming has been awarded $2,813,803 grants to support 50 projects, including but not limited to, 15 research and/or education projects, 5 professional development projects and 18 producer-led projects. Wyoming 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>SW18-021</td>
<td>Integrating livestock and cover crops into irrigated crop rotations</td>
<td>$249,954</td>
<td>Dr. Jay Norton, University of Wyoming</td>
</tr>
<tr>
<td>SW10-073</td>
<td>Prescribed Grazing to Sustain Livestock Production, Soil Quality, and Diversity in Rangeland Ecosystems</td>
<td>$197,268</td>
<td>Dr. Kenneth Tate, University of California Davis</td>
</tr>
<tr>
<td>SW07-049</td>
<td>Evaluation of Camelina sativa as an alternative seed crop and feedstock for biofuel and developing replacement heifers.</td>
<td>$155,000</td>
<td>Dr. Bret Hess, University of Wyoming</td>
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<tr>
<td>SW05-117</td>
<td>Integrated Crop and Livestock Systems: Dryland Crop Rotations to Improve Economic and Ecological Sustainability in the Central High Plains</td>
<td>$212,928</td>
<td>Dr. Steve Paisley, University of Wyoming</td>
</tr>
<tr>
<td>SW04-051</td>
<td>Record Management Computer Database for Wyoming Cow-Calf Producers</td>
<td>$18,563</td>
<td>Dallas Mount, University of Wyoming</td>
</tr>
<tr>
<td>SW03-008</td>
<td>Annual Legume-Based Systems for Sustainable Integrated Crop/Livestock Enterprise Diversification on the Central High Plains</td>
<td>$200,000</td>
<td>James Krall, University of Wyoming</td>
</tr>
<tr>
<td>SW02-011</td>
<td>Economic Impacts of Undernutrition on Fetal Programming during Early Gestation in the Cow: Effects on Growth, Development and Carcass Characteristics of Steers and Reproductive Efficiency of Heifers</td>
<td>$23,014</td>
<td>Stephen Ford, University of Wyoming</td>
</tr>
<tr>
<td>SW98-071</td>
<td>Annual Legumes in Fallow as an Integrated Crop/Livestock Alternative in the Central Great Plains.</td>
<td>$173,979</td>
<td>James Krall, University of Wyoming</td>
</tr>
<tr>
<td>SW97-018</td>
<td>Integrating nematode-resistant crops into sugar beet rotations</td>
<td>$113,184</td>
<td>David Koch, University of Wyoming</td>
</tr>
<tr>
<td>SW96-010</td>
<td>Western Integrated Ranch/Farm Education</td>
<td>$36,326</td>
<td>John Hewlett, University of Wyoming, Department of Agricultural Economics</td>
</tr>
<tr>
<td>SW96-029</td>
<td>Potential of a Corn/Annual Medic Intercropping System for Weed Control, Reduced Soil Erosion and Improved Forage Production</td>
<td>$95,100</td>
<td>James Krall, University of Wyoming</td>
</tr>
</tbody>
</table>
### SW95-007
Sustainable Rangeland Based Beef Cattle Production Systems

- **SARE Support**: $155,260
- **Project Leaders**: Michael A. Smith
  - University of Wyoming

### SW94-006
Legume Cover Crops in Fallow as an Integrated Crop/Livestock Alternative in the Northern and Central Great Plains

- **SARE Support**: $160,000
- **Project Leaders**: James Kral
  - University of Wyoming

### SW94-034
Western Integrated Ranch/Farm Education

- **SARE Support**: $90,000
- **Project Leaders**: John Hewlett
  - University of Wyoming, Department of Agricultural Economics

### LW91-022
Brassica Utilization in Sugar Beet Rotations for Biological Control of Cyst Nematode

- **SARE Support**: $47,000
- **Project Leaders**: David Koch
  - University of Wyoming

#### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>EW10-012</td>
<td>Equipping Extension Educators to Address Producer Needs in Energy Education</td>
<td>$99,596</td>
<td>Sarah Hamlen</td>
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<td>MSU Extension</td>
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<tr>
<td>EW10-020</td>
<td>Ranch Sustainability Assessment: Economic, Ecological, &amp; Social Indicator Monitoring</td>
<td>$85,000</td>
<td>Dr. John Tanaka</td>
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<td>University of Wyoming</td>
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<tr>
<td>EW07-016</td>
<td>Educator Training for the Wyoming Cow-Calf Record Management System</td>
<td>$9,500</td>
<td>Dallas Mount</td>
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<td>University of Wyoming</td>
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<tr>
<td>EW00-024</td>
<td>Sustaining western rural landscapes, lifestyles, and livelihoods through agricultural enterprise diversification: a collaborative partnership.</td>
<td>$80,880</td>
<td>Boyd Byelich</td>
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<td>USDA-NRCS</td>
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<tr>
<td>EW94-018</td>
<td>Extension Sustainable Agriculture Training in Colorado and Wyoming</td>
<td>$75,000</td>
<td>Joe Hiller</td>
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<td>University of Wyoming, Cooperative Extension Service</td>
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</tbody>
</table>

#### FARMER/RANCHER GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
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</tr>
</thead>
<tbody>
<tr>
<td>FW09-319</td>
<td>Enhancing Rural Agricultural Family and Community Development in Wyoming Through Sustainable Bioful Crop Production</td>
<td>$49,873</td>
<td>Donn Randall</td>
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<td>Wyoming Business Council</td>
</tr>
<tr>
<td>FW08-303</td>
<td>Utilizing Soil Moisture and Microclimate Monitoring Technology to Reduce Water and Energy Needs and Improve Sugar Beet Crop Production for Producers in the Big Horn Basin Region of Wyoming</td>
<td>$29,923</td>
<td>Caryn Agee</td>
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<td>Washakie County Conservation District</td>
</tr>
<tr>
<td>FW08-307</td>
<td>Nitrogen Use Efficiency of Cool-Season Perennial Forage Grasses Planted With and Without Alfalfa Under Irrigation for Hay Production</td>
<td>$14,999</td>
<td>Dr. Blaine Horn</td>
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<tr>
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<td></td>
<td>University of Wyoming</td>
</tr>
<tr>
<td>FW06-021</td>
<td>Management of Iron Deficiency in Bean with Annual Ryegrass Interplantings</td>
<td>$9,505</td>
<td>Mike Ridenour</td>
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<tr>
<td>FW05-035</td>
<td>Brush Mower/Mixed Mountain Shrub Enhancement</td>
<td>$19,370</td>
<td>Myrtle and Clyde McCulloch</td>
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<td>JY Ranch</td>
</tr>
<tr>
<td>FW04-030</td>
<td>Progeny Evaluation to Determine an Economically Based Index for Sire Selection</td>
<td>$7,500</td>
<td>Sandra Snider</td>
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</tbody>
</table>
FW04-035  Tree Windbreak  $7,500  Betty Rodriguez
FW03-004  Wind and Water  $6,000  Betty Rodriguez
FW02-207  BOS Grass Grown Premium Beef Marketing  $7,495  James Millett
FW02-210  Platte County Farmer’s Market  $2,434  Susan Schamel
FW01-047  Prevention of High Altitude Disease Losses in Beef Cattle Utilizing PAP Test Scores, EPDs, and Gene-Mapping Techniques  $7,500  Jon Robinett  Diamond G. Cattle Co. LLC
FW00-093  Pastured Poultry Production with Research on Sustainability of Grazing Lands  $1,477  Joleen and Greg Marquardt
FW00-278  Internet Marketing of Organically Grown Wyoming Gourmet Garlic  $3,930  Steve Shesler
FW99-060  Improving Ranch Unit Stability and Sustainability through Grazing Irrigated Alfalfa  $3,500  Rick March
FW96-023  Tall Stature Grasses for Winter Grazing and Spring Calving  $2,800  Matt Weber
FW95-045  Integrated Management to Improve Rangeland Health and Reduce Noxious Weeds  $5,000  Ogden Driskell  Bearlodge Cattle Company
FW95-067  Initiation of Integrated Management  $5,000  Tom Bruce
FW95-076  Flitner Wetland Habitat Enhancement Project  $5,000  Mary & Stan Flitner

GRADUATE STUDENT GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
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</tr>
</thead>
</table>
| GW18-170  | Evaluation of Pulse Crops for Dryland Production                              | $25,000      | Dr.Carrie Eberle  
University of Wyoming  
Amberle Filley  
University of Wyoming |
| GW18-025  | The Critical Role of Soil Microbiota to Sustainable Agriculture: Quantifying short-term microbial and vegetation feedback to intensive grazing. | $24,184      | Linda Van Diepen  
University of Wyoming  
Emily Bean  
University of Wyoming, The Pennsylvania State University |
| GW17-059  | Cattle Diets and Performance: Enhancing What We Know with Advanced Plant DNA Technology | $24,970      | John Derek Scasta  
University of Wyoming  
Tamarah Plechaty  
University of Wyoming, Laramie & Unites States Department of Agriculture - Agricultural Research Service, Cheyenne, WY |
| GW16-038  | Increasing sustainable agriculture through enhanced diagnostics with Brucella infection | $24,818      | Dr.Brant Schumaker, DVM, MPVM, PhD  
University of Wyoming  
Noah Hull, MPH  
University of Wyoming |
GW16-068  Conservation biological control of alfalfa weevil in Wyoming $7,280  Makenzie Benander  
University of Wyoming

GW15-020  Economic and Environmental Sustainability of Irrigated Grass-Legume Mixtures $24,998  Dr. Anowar Islam  
University of Wyoming
Albert Adjesiwor  
University of Wyoming

GW14-023  Improving Feed Efficiency in Sheep Through Rumen Manipulation and Producer Adoption $25,000  Dr. Kristi Cammack  
University of Wyoming
Melinda Ellison  
University of Idaho

GW11-007  Impacts of age on residual feed intake and its effect on reproductive parameters and profitability in ewes $24,990  Dr. Kristi Cammack  
University of Wyoming
Dr. Rebecca Cockrum  
Colorado State University

GW08-016  Potential of Managing Iron and Zinc Deficiency in Dry Beans with Interplantings of Annual Ryegrass and Increased Bean Density $18,928  Andrew Kniss  
University of Wyoming
Emmanuel Omondi  
University of Wyoming - Dept 3354

ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| OW20-355  | Does cattle selection matter? Testing larkspur-native vs larkspur-naïve cattle to reduce death losses on larkspur infested rangelands. | $49,991      | Daniel Cook  
USDA-ARS-Poisonous Plant Research Laboratory  
Clint Stonecipher  
US Department of Agriculture - Agricultural Research Service - Poisonous Plant Research Laboratory  
Ben Green  
USDA-ARS-Poisonous Plant Research Laboratory  
Eric Thacker  
Utah State University |
| OW19-340  | Growing and Marketing Ancient Grains in Wyoming                               | $49,995      | Dr. Caitlin Youngquist  
University of Wyoming |
| OW10-313  | Residual Feed Intake – Producer Adoption and Genetic Selection Potential       | $47,292      | Dr. Kristi Cammack  
University of Wyoming |

Total funding from the USDA SARE program to Wyoming  
$2,813,803

For further information on projects, contact Western SARE at (435) 797-2257 or wsare@usu.edu.  
Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).