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 8,542 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...

Idaho

Project Highlight: High Tunnels Extend Local Food Production

In 2010, Idaho’s farmers, researchers and educators launched a collaborative effort to achieve the goal of having 20 percent of the state’s food produced locally by 2020. At the same time, a survey of local food vendors revealed that the single largest roadblock to making this goal a reality is Idaho’s short growing season.

This prompted the University of Idaho’s Stephen Love to organize a team of horticulture specialists to expand farmers’ use of high tunnels in the state. Funded by a SARE grant, the team collaborated with three experienced high tunnel growers in different parts of the state to evaluate high tunnel designs and the profitability of growing various crops in them.

The experience at the three farms gave the team important information to share with growers around the state. On one farm, eggplants grown inside the tunnels were superior economically to ones grown outside, but for cucumbers the results were mixed. On another farm, there was a clear advantage to growing tomatoes, garlic and peppers in high tunnels. The third farm showed that medicinal crops otherwise unsuited to Idaho’s climate can be grown in high tunnels. It also evaluated structures specially designed by engineering students to withstand harsh winter conditions.

For more information on this project, see sare.org/projects, and search for project number OW13-043.

SARE in Idaho

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

$5,744,533 in total funding

80 grant projects

(since 1988)

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

Total awards: 80 grants
- 27 Research and Education
- 10 Professional Development Program
- 33 Farmer/Rancher
- 5 On Farm Research/Partnership
- 5 Graduate Student

Total funding: $5,744,533
- $4,323,362 Research and Education
- $739,754 Professional Development Program
- $314,557 Farmer/Rancher
- $226,960 On Farm Research/Partnership
- $139,900 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/idaho

Contact Your SARE State Coordinator

Grant Loomis
University of Idaho Extension
(208) 788-5585
gloomis@uidaho.edu

Carmen Willmore
University of Idaho Extension
(208) 886-2406
cwillmore@uidaho.edu

Sustainable Agriculture Research & Education

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.
Idaho has been awarded $5,744,533 grants to support 77 projects, including but not limited to, 24 research and/or education projects, 10 professional development projects and 33 producer-led projects. Idaho 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>
| SW23-946 | Evaluating benefits of neonatal calf gut-originated probiotics, as direct-fed microbials (DFMs), during the weaning transition to improve calf health | $349,875     | Dr. Denise Konetchy, DVM  
University of Idaho  
Dr. Amin Ahmadzadeh, PhD  
University of Idaho  
Dr. Bruna Calvo Agustinho, PhD  
University of Idaho  
Dr. Leluo Guan, PhD  
University of Alberta  
Dr. Anne Laarman, PhD  
University of Alberta  
Pedram Rezamand  
University of Idaho  
Dr. Hernan Tejeda  
University of Idaho |
| SW23-944 | Seeds underhoof: can the soil seed bank facilitate restoration of sheep-grazed, cheatgrass-invaded rangelands? | $71,104       | Dr. Kelly Hopping  
Boise State University  
Kerry Byrne  
Department of Environmental Science and Management, Cal Poly Hum |
| SW22-938 | Targeted grazing by sheep to control invasive species and reduce wildfire risk on western rangelands | $349,815     | Dr. Kelly Hopping  
Boise State University  
Sergio Arispe, PhD  
Oregon State University  
Marie-Anne de Graaff  
Boise State University  
April Hulet  
Brigham Young University  
Renee Kehler  
U. S. Forest Service |
<table>
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<tr>
<th>Project Code</th>
<th>Project Title</th>
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<th>Principal Investigator(s)</th>
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<tbody>
<tr>
<td>SW22-940</td>
<td>Pacific Northwest Cover Crop Decision Aid System</td>
<td>$349,697</td>
<td>Dr. Sanford Eigenbrode&lt;br&gt;University of Idaho&lt;br&gt;Kendall Kahl&lt;br&gt;University of Idaho - Soil and Water Systems&lt;br&gt;Dr. Subodh Adhikari&lt;br&gt;University of Idaho&lt;br&gt;Ryan Boylan&lt;br&gt;Palouse Conservation District&lt;br&gt;Tracy Ericksen&lt;br&gt;The Eriksens&lt;br&gt;Garry Esser&lt;br&gt;Esser Farms&lt;br&gt;Dr. Douglas Finkelnburg&lt;br&gt;University of Idaho&lt;br&gt;Mark Greene&lt;br&gt;Sheryl Hagen-Zacharison&lt;br&gt;Zacharison farm&lt;br&gt;Dr. Patrick Hatzenbuehler&lt;br&gt;University of Idaho&lt;br&gt;Lucas Sheneman&lt;br&gt;University of Idaho&lt;br&gt;Chloe Wardropper&lt;br&gt;University of Idaho&lt;br&gt;Frank Wolf&lt;br&gt;Lester Wolf Farms&lt;br&gt;Clint Zenner&lt;br&gt;Zenner Family Farm</td>
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<tr>
<td>SW21-922</td>
<td>Soil health and profitability implications of including brown mustard and its products in an integrated wireworm management system</td>
<td>$349,919</td>
<td>Dr. Kurtis Schroeder&lt;br&gt;University of Idaho&lt;br&gt;Dr. Arash Rashed&lt;br&gt;University of Idaho&lt;br&gt;Dr. Erik Wenninger&lt;br&gt;University of Idaho&lt;br&gt;Dr. Jae Ryu&lt;br&gt;University of Idaho&lt;br&gt;Gordon Gallup&lt;br&gt;Mark Greene&lt;br&gt;Dr. Jeremy Hansen&lt;br&gt;USDA-ARS&lt;br&gt;Dr. Patrick Hatzenbuehler&lt;br&gt;University of Idaho&lt;br&gt;Hans Hayden&lt;br&gt;Dr. Inna Popova&lt;br&gt;University of Idaho&lt;br&gt;Wayne Westberg</td>
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<tr>
<td>SW18-015</td>
<td>On-farm evaluation and demonstration of advanced manure solidliquid separation technologies for a sustainable dairy industry in Idaho</td>
<td>$287,466</td>
<td>Dr. Lide Chen&lt;br&gt;University of Idaho</td>
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<td>SW16-031</td>
<td>Optimizing Water and Nitrogen Use for Sustainable Wheat Production</td>
<td>$249,939</td>
<td>Dr. Olga Walsh&lt;br&gt;University of Idaho</td>
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<tr>
<td>SW11-122</td>
<td>Incorporating Cover Crops and Green Manure in High-Desert Organic and Conventional Farming Systems</td>
<td>$47,628</td>
<td>Lauren Golden&lt;br&gt;University of Idaho</td>
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<tr>
<td>SW06-083</td>
<td>Black Soldier Fly Larvae as a Tool for Managing Animal Waste and Providing a Food Source for the Aquaculture Industry</td>
<td>$117,682</td>
<td>Sophie St-Hilaire&lt;br&gt;Idaho State University</td>
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<tr>
<td>SW06-039</td>
<td>‘Living on the Land’ Stewardship Education Program Expansion</td>
<td>$160,204</td>
<td>Stephanie Etter&lt;br&gt;University of Idaho Extension</td>
</tr>
<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
</tr>
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<td>-------------------------------------------------------------------------------</td>
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</tbody>
</table>
| SW05-142 | Assessment and Demonstration of the Sustainability of Long vs. Short Potato Rotations | $135,756     | Amanda Shiffler  
University of Idaho  
Dr. Bryan Hopkins  
BYU |
| SW05-067 | Assessment and Demonstration of the Sustainability of Long vs. Short Potato Rotations | $179,403     | Bryan Hopkins  
University of Idaho |
| SW05-039 | Using farmer-rancher input to develop and implement experiential educational opportunities for beginning farmers and ranchers | $160,056     | Cinda Williams  
University of Idaho Extension |
| SW03-021 | Integrated Residue Management Systems for Sustained Seed Yield of Kentucky Bluegrass Without Burning | $294,243     | Donald Thill  
University of Idaho |
| SW02-038 | On-Farm Versus Agricultural Experiment Station Evaluation and Improvement of Intrinsic Characteristics of Landrace Common Bean Cultivars for Sustainable Farming Systems in the Twenty-First Century | $167,717     | Shree Singh  
University of Idaho |
| SW02-037 | Promoting Sustainable Potato Cropping Systems                                  | $158,477     | Bryan Hopkins  
University of Idaho |
| SW02-004 | Reducing Nitrogen and Phosphorus Excretions from Dairies in Gooding and Jerome Counties, Idaho | $145,672     | Alexander Hristov  
University of Idaho |
| SW00-042 | Exploration and Implementation of Sustainable Ag Practices and Outreach on the Fort Hall Indian Reservation for the Protection of Groundwater | $103,913     | Jennifer Miller  
NCAP  
John Helsel  
Shoshone-Bannock Tribes |
| SW97-010 | Management, Impact and Economics of Beef Cattle Grazing in Mountain Riparian Ecosystems | $105,400     | Patrick A. Momont  
Univ. of ID, Dept. of Animal & Vet. Sci. |
| SW95-021 | Brassica Green Manure Systems for Weed, Nematode, and Disease Control in Potatoes | $112,580     | Charlotte Eberlein  
University of Idaho |
| LW91-029 | Development of Sustainable Potato Production Systems for the Pacific North West | $330,000     | Jeffrey C. Stark  
University of Idaho |
| LW91-027 | Development of Winter Wheat Cover Crop Systems for Weed Control in Potatoes     | $42,141      | Charlotte Eberlein  
University of Idaho |
| LW89-015 | Total Resource Budgeting of LISA (SARE) Farm Enterprises                      | $31,000      | Paul Patterson  
University of Idaho |

**PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**
**WPDP22-017**  Building Negotiation Knowledge and Skills for Enhanced Economic and Environmental Sustainability of Western Farm Businesses  
$88,666  
Dr. Patrick Hatzenbuehler  
University of Idaho  
Dr. Kate Fuller  
Montana State University  
John Hewlett  
University of Wyoming, Department of Agricultural Economics  
Dr. Hernan Tejeda  
University of Idaho

**WPDP22-005**  Enhancing Integrated Pest Management Skills Through Pest Friends, an Educational Board Game  
$99,990  
Jason Thomas  
University of Idaho Extension Minidoka County  
Grant Loomis  
University of Idaho Extension-Blaine County

**EW18-018**  Supporting outcome-based management on private & public rangelands: training agricultural professionals on monitoring techniques  
$72,519  
Dr. Jason Karl  
University of Idaho

**EW18-028**  Idaho Qualitative Soil Health Initiative and Training  
$15,724  
Jessica Harrold  
Ada Soil & Water Conservation District  
Josie Erskine  
Ada Soil & Water Conservation District

**EW05-012**  Forage and Pasture Educational Program for Extension, FSA, and NRCS in the Pacific Northwest  
$90,000  
Glenn Shewmaker  
University of Idaho

**EW04-014**  Building Knowledge of Sustainable Rangeland Management Using Information Technology  
$91,847  
Karen Launchbaugh  
University of Idaho

**EW03-009**  Expanding Opportunities for Community-Based Educational Programs in Sustainable Small Acreage Farming and Ranching  
$98,143  
Cinda Williams  
University of Idaho Extension

**EW02-011**  Workshops on Soil Quality Assessment and Application for Field Staff  
$27,590  
Paula Jones  
USDA-NRCS, Three Rivers RC&D Council, Inc.

**EW99-013**  A Community Based Approach to Extension In Organic Agriculture  
$10,000  
Mir M. Seyedbagheri  
University of Idaho, Elmore County Extension

**EW97-012**  Composting Education and Information Access for Western Agriculture  
$145,275  
Cinda Williams  
University of Idaho Extension  
Robert Rynk  
University of Idaho

### 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>
</table>
| FW22-393  | Cardboard layering deep compost mulch for weed suppression, soil health, and profitability | $24,920 | Jonah Sloven  
Sweet Hollow Farm |
| FW22-407  | Building a holistic, biologically rich, healthy vineyard in order to produce a wine with higher nutrient density and superb flavor | $24,850 | Ron Bitner, Phd  
Bitner Vineyards |
| FW17-039  | Saving Water and Improving Soil Health Through LESA, Cover Crops, No-Till, and Management Intensive Grazing | $20,000 | Pat Purdy  
Pat Purdy |
| FW17-055  | No-till potatoes into cover crop, using mod. conv. planter | $20,000 | Jeff Parkinson  
Jeff Parkinson |
FW16-042  A Rangeland Stock Handling Concept: Inherding on the Hat Creek Grazing Allotment, Ellis Idaho $19,423  Glenn Elzinga  Alderspring Ranch

FW11-032  Goat Meat is Great! $7,799  Evelyn Simon  Simon Boers

FW10-039  Pokey Creek Farm Elderberry Exploration $14,877  Cinda Williams  University of Idaho Extension
Greg and Leah Sempel
Ashley McFarland  University of Idaho Extension

FW08-322  A Multi-Faceted Approach to Managing Powdery Mildew on Organic Table Grapes in Southwest Idaho $15,000  Ariel Agenbroad  University of Idaho Extension

FW08-318  IBC Technical Services to Farmer's/Ranchers for Online Markets in South Central Idaho $29,997  Judy Hall  Idaho's Bounty Co-op

FW08-031  What Good Are Pasture-Raised Ducks to Whole Farm Systems? $14,942  Mary Rohlfing

FW06-042  Harvest Frequency, Yield and Economics of Summer Squash $4,730  Karen Strickler

FW06-036  Winter and Summer Greenhouse Production for Small-scale Growers $6,235  Brad Jaeckel  Orchard Farm

FW06-015  Extending Forage Season with Multi-functional Browse Islands $8,560  Juvia Judd  Lazy M Suris
Deborah Berman  Lazy M Suris

FW05-007  Controlling Common Tansy with Sheep $3,422  Kimberly McConnaghy

FW04-203  Optimizing Spatial & Temporal Aspects of Designs for Small-Scale Diverse Farms $5,500  Bridget Betta Bunzel  Bunzel Organics

FW03-307  Ovine Browsing for Brush Control of Forested Environments $7,500  Jeff Nauman  Idaho Department of Lands

FW01-056  Farmers Educating Farmers: Developing a Soil Quality Indicator Guide $10,500  Kyle Wilson  Natural Resource Conservation Agency

FW01-039  Noxious Weed Grazing with Goats $7,000  Bonnie Jensen  Lemhi County Ext.

FW01-025  Developing a Sustainable Market for Small Farms in a Rural Community $7,385  Diane Green  Grentree Naturals

FW00-259  The Farm to Fork Exchange $4,625  Nate Jones

FW00-052  Low Stress Stockmanship School for Lemhi County, ID $5,450  Wally Butler
<table>
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<th>Project #</th>
<th>Project Title</th>
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<tr>
<td>FW99-076</td>
<td>On-Site Rearing of Beneficial Predatory Mite Species</td>
<td>$4,200</td>
<td>Richard Nathanson</td>
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<td>FW99-012</td>
<td>Automated On-Farm Irrigation Water Diversion Gate</td>
<td>$3,890</td>
<td>George Davis</td>
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<td>FW98-099</td>
<td>Wiersema Dairy Agroforestry Project</td>
<td>$5,000</td>
<td>Jim Wiersema</td>
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<td>FW98-097</td>
<td>Fear and Loathing in the Potato Patch: Controlling Nematodes with Rape Seed Meal and Green Manures</td>
<td>$9,910</td>
<td>John O'Connor</td>
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<td>FW97-024</td>
<td>Systems Thinking in a Range Environment</td>
<td>$5,000</td>
<td>Jay Black</td>
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<td>FW97-049</td>
<td>Non-Irrigated Alfalfa Performance Trial, Benewah County, Idaho</td>
<td>$3,500</td>
<td>Christina Crawford</td>
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<td>FW97-044</td>
<td>Paradise Time Controlled Grazing</td>
<td>$5,000</td>
<td>Mark Pratt</td>
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<td>FW96-060</td>
<td>Economic Viability of Greenhouse Solarization</td>
<td>$2,450</td>
<td>Larry Higgins</td>
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<td>FW95-080</td>
<td>Squash Bug Management Through Introduction of Game Birds</td>
<td>$2,740</td>
<td>Jill Kohler</td>
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<td>Eagle Organic Farms</td>
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<td>FW95-046</td>
<td>Developing an Idaho-Based Marketing Cooperative for Sustainability and Locally Grown Produce</td>
<td>$4,622</td>
<td>Janie Burns</td>
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<td>Meadowlark Farms</td>
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<td>FW95-034</td>
<td>Row Spacing Effect on Weed Suppression</td>
<td>$530</td>
<td>Lee Griffiths</td>
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<td>FW95-025</td>
<td>Biological Control in Idaho Alfalfa Seed Fields</td>
<td>$5,000</td>
<td>Larry Sorenson</td>
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<td>Sorenson Farms</td>
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**GRADUATE STUDENT GRANTS**

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<th>Project Title</th>
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<th>Project Leaders</th>
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<tbody>
<tr>
<td>GW23-256</td>
<td>Nematicide Development from Solanum sisymbriifolium for Sustainable Eradication of Globodera pallida in Idaho</td>
<td>$29,943</td>
<td>Louise-Marie Dandurand</td>
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<td>University of Idaho</td>
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<td></td>
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<td>Lindsay Schulz</td>
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<td>University of Idaho</td>
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<tr>
<td>GW23-250</td>
<td>Cereal Cover Crops for Weed Control in Organic and Conventional Dry Bean Production Systems</td>
<td>$30,000</td>
<td>Albert Adjesiwor</td>
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<td>Prayusha Bhattarai</td>
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<td>University of Idaho</td>
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<tr>
<td>GW21-222</td>
<td>Trap Crops and Crop Rotation for Eradication of the Pale Cyst Nematode in Idaho</td>
<td>$29,966</td>
<td>Louise-Marie Dandurand</td>
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<td>Paige Hickman</td>
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<td>University of Idaho</td>
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<td>GW20-217</td>
<td>The effects of cover crops on soil arthropod communities in the Inland Pacific Northwest</td>
<td>$24,993</td>
<td>Dr. Sanford Eigenbrode</td>
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<td></td>
<td>University of Idaho</td>
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<td></td>
<td>Dane Elmquist (PI:Eigenbrode)</td>
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<td>University of Idaho</td>
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</tbody>
</table>
GW20-206 Evaluating the effectiveness of mustard species and their concentrated extracts in reducing losses to wireworms in the Pacific Northwest, USA. $24,998 Dr. Arash Rashed
University of Idaho
Reed Findlay
University of Idaho
Atoosa Nikoukar/ PI Rashed
University of Idaho

**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>
| OW23-382   | Precipitated Calcium Carbonate to Remediate Acidic Eastern Idaho Soils | $75,000       | Dr. Jared Spackman
University of Idaho
Jared Gibbons
University of Idaho
Justin Hatch
University of Idaho
Tom Jacobsen
University of Idaho
Joseph Sagers
University of Idaho |
| OW15-032   | Madison County Healthy Soil Initiative               | $50,000       | Robbie Taylor
Madison SWCD                          |
| OW13-017B  | Reference strips and precision sensors for increased nitrogen use efficiency in wheat production | $1,961        | Dr. Olga Walsh
University of Idaho                  |
| OW13-043   | Extension of Local Food Production in Idaho Using High Tunnel Technology | $49,999       | Dr. Stephen Love
University of Idaho                   |
| OW10-301   | Using Aquaponics with Renewable Energy Resources to Create Sustainable Food Systems while Reducing Nutrient, Energy, and Water Costs | $50,000       | Matt Johnson
Sustain Pro Management
Harry Ako
University of Hawaii |

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

$5,744,533

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).