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

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/idaho to learn more.

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

Carmen Willmore
University of Idaho Extension
(208) 886-2406
cwillmore@uidaho.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.
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 Humboldt |
| 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 |
SW22-940 Pacific Northwest Cover Crop Decision Aid System $349,697
Dr. Sanford Eigenbrode
University of Idaho
Kendall Kahl
University of Idaho - Soil and Water Systems
Dr. Subodh Adhikari
University of Idaho
Ryan Boylan
Palouse Conservation District
Tracy Ericksen
The Eriksens
Garry Esser
Esser Farms
Dr. Douglas Finkelburg
University of Idaho
Mark Greene
Sheryl Hagen-Zacharison
Zacharison farm
Dr. Patrick Hatzenbuehler
University of Idaho
Lucas Sheneman
University of Idaho
Chloe Wardropper
University of Idaho
Frank Wolf
Lester Wolf Farms
Clint Zenner
Zenner Family Farm

SW21-922 Soil health and profitability implications of including brown mustard and its products in an integrated wireworm management system $349,919
Dr. Kurtis Schroeder
University of Idaho
Dr. Arash Rashed
University of Idaho
Dr. Erik Wenninger
University of Idaho
Dr. Jae Ryu
University of Idaho
Gordon Gallup
Gordon Gallup
Mark Greene
Dr. Jeremy Hansen
USDA-ARS
Dr. Patrick Hatzenbuehler
University of Idaho
Hans Hayden
Dr. Inna Popova
University of Idaho
Wayne Westberg

SW18-015 On-farm evaluation and demonstration of advanced manure solid/liquid separation technologies for a sustainable dairy industry in Idaho $287,466
Dr. Lide Chen
University of Idaho

SW16-031 Optimizing Water and Nitrogen Use for Sustainable Wheat Production $249,939
Dr. Olga Walsh
University of Idaho

SW11-122 Incorporating Cover Crops and Green Manure in High-Desert Organic and Conventional Farming Systems $47,628
Lauren Golden
University of Idaho

SW06-083 Black Soldier Fly Larvae as a Tool for Managing Animal Waste and Providing a Food Source for the Aquaculture Industry $117,682
Sophie St-Hilaire
Idaho State University

SW06-039 ‘Living on the Land’ Stewardship Education Program Expansion $160,204
Stephanie Etter
University of Idaho Extension
Assessment and Demonstration of the Sustainability of Long vs. Short Potato Rotations

Using farmer-rancher input to develop and implement experiential educational opportunities for beginning farmers and ranchers

Integrated Residue Management Systems for Sustained Seed Yield of Kentucky Bluegrass Without Burning

Promoting Sustainable Potato Cropping Systems

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

Reducing Nitrogen and Phosphorus Excretions from Dairies in Gooding and Jerome Counties, Idaho

Exploration and Implementation of Sustainable Ag Practices and Outreach on the Fort Hall Indian Reservation for the Protection of Groundwater

Management, Impact and Economics of Beef Cattle Grazing in Mountain Riparian Ecosystems

Brassica Green Manure Systems for Weed, Nematode, and Disease Control in Potatoes

Development of Winter Wheat Cover Crop Systems for Weed Control in Potatoes

Development of Sustainable Potato Production Systems for the Pacific North West

An Economic Evaluation of the MSU Crop Rotations On-Farm Research, Demonstration Legume, Cereal Rotations Compared with Conventional Rotations

Total Resource Budgeting of LISA (SARE) Farm Enterprises

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**PROFESSIONAL DEVELOPMENT PROGRAM GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW05-142</td>
<td>Assessment and Demonstration of the Sustainability of Long vs. Short Potato Rotations</td>
<td>$135,756</td>
<td>Amanda Shiffler (University of Idaho) Dr. Bryan Hopkins (BYU)</td>
</tr>
<tr>
<td>SW05-067</td>
<td>Assessment and Demonstration of the Sustainability of Long vs. Short Potato Rotations</td>
<td>$179,403</td>
<td>Bryan Hopkins (University of Idaho)</td>
</tr>
<tr>
<td>SW05-039</td>
<td>Using farmer-rancher input to develop and implement experiential educational opportunities for beginning farmers and ranchers</td>
<td>$160,056</td>
<td>Cinda Williams (University of Idaho Extension)</td>
</tr>
<tr>
<td>SW03-021</td>
<td>Integrated Residue Management Systems for Sustained Seed Yield of Kentucky Bluegrass Without Burning</td>
<td>$294,243</td>
<td>Donald Thill (University of Idaho)</td>
</tr>
<tr>
<td>SW02-037</td>
<td>Promoting Sustainable Potato Cropping Systems</td>
<td>$158,477</td>
<td>Bryan Hopkins (University of Idaho)</td>
</tr>
<tr>
<td>SW02-038</td>
<td>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</td>
<td>$167,717</td>
<td>Shree Singh (University of Idaho)</td>
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<tr>
<td>SW02-004</td>
<td>Reducing Nitrogen and Phosphorus Excretions from Dairies in Gooding and Jerome Counties, Idaho</td>
<td>$145,672</td>
<td>Alexander Hristov (University of Idaho)</td>
</tr>
<tr>
<td>SW00-042</td>
<td>Exploration and Implementation of Sustainable Ag Practices and Outreach on the Fort Hall Indian Reservation for the Protection of Groundwater</td>
<td>$103,913</td>
<td>Jennifer Miller (NCAP) John Helsel (Shoshone-Bannock Tribes)</td>
</tr>
<tr>
<td>SW97-010</td>
<td>Management, Impact and Economics of Beef Cattle Grazing in Mountain Riparian Ecosystems</td>
<td>$105,400</td>
<td>Patrick A. Momont (Univ. of ID, Dept. of Animal &amp; Vet. Sci.)</td>
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<tr>
<td>SW95-021</td>
<td>Brassica Green Manure Systems for Weed, Nematode, and Disease Control in Potatoes</td>
<td>$112,580</td>
<td>Charlotte Eberlein (University of Idaho)</td>
</tr>
<tr>
<td>LW91-027</td>
<td>Development of Winter Wheat Cover Crop Systems for Weed Control in Potatoes</td>
<td>$42,141</td>
<td>Charlotte Eberlein (University of Idaho)</td>
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<tr>
<td>LW91-029</td>
<td>Development of Sustainable Potato Production Systems for the Pacific North West</td>
<td>$330,000</td>
<td>Jeffrey C. Stark (University of Idaho)</td>
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<tr>
<td>LWD91-002</td>
<td>An Economic Evaluation of the MSU Crop Rotations On-Farm Research, Demonstration Legume, Cereal Rotations Compared with Conventional Rotations</td>
<td>$23,675</td>
<td>Edgar Michalson (University of Idaho)</td>
</tr>
<tr>
<td>LW89-015</td>
<td>Total Resource Budgeting of LISA (SARE) Farm Enterprises</td>
<td>$31,000</td>
<td>Paul Patterson (University of Idaho)</td>
</tr>
</tbody>
</table>
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  John Hewlett  University of Wyoming, Department of Agricultural Economics  Dr. Hernan Tejeda  University of Idaho  Joel Schumacher  Montana State University

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>
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</thead>
<tbody>
<tr>
<td>FW22-407</td>
<td>Building a holistic, biologically rich, healthy vineyard in order to produce a wine with higher nutrient density and superb flavor</td>
<td>$24,850</td>
<td>Ron Bitner, Phd  Bitner Vineyards</td>
</tr>
<tr>
<td>FW22-393</td>
<td>Cardboard layering deep compost mulch for weed suppression, soil health, and profitability</td>
<td>$24,920</td>
<td>Jonah Sloven  Sweet Hollow Farm</td>
</tr>
<tr>
<td>FW17-039</td>
<td>Saving Water and Improving Soil Health Through LESA, Cover Crops, No-Till, and Management Intensive Grazing</td>
<td>$20,000</td>
<td>Pat Purdy  Pat Purdy</td>
</tr>
<tr>
<td>FW17-055</td>
<td>No-till potatoes into cover crop, using mod. conv. planter</td>
<td>$20,000</td>
<td>Jeff Parkinson  Jeff Parkinson</td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Budget</td>
<td>Authors/Representatives</td>
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<tr>
<td>FW16-042</td>
<td>A Rangeland Stock Handling Concept: Inherding on the Hat Creek Grazing Allotment, Ellis Idaho</td>
<td>$19,423</td>
<td>Glenn Elzinga, Alderspring Ranch</td>
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<tr>
<td>FW11-032</td>
<td>Goat Meat is Great!</td>
<td>$7,799</td>
<td>Evelyn Simon, Simon Boers</td>
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<tr>
<td>FW10-039</td>
<td>Pokey Creek Farm Elderberry Exploration</td>
<td>$14,877</td>
<td>Cinda Williams, University of Idaho Extension, Greg and Leah Sempel, Ashley McFarland</td>
</tr>
<tr>
<td>FW08-031</td>
<td>What Good Are Pasture-Raised Ducks to Whole Farm Systems?</td>
<td>$14,942</td>
<td>Mary Rohlfing</td>
</tr>
<tr>
<td>FW08-318</td>
<td>IBC Technical Services to Farmer's/Ranchers for Online Markets in South Central Idaho</td>
<td>$29,997</td>
<td>Judy Hall, Idaho’s Bounty Co-op</td>
</tr>
<tr>
<td>FW08-322</td>
<td>A Multi-Faceted Approach to Managing Powdery Mildew on Organic Table Grapes in Southwest Idaho</td>
<td>$15,000</td>
<td>Ariel Agenbroad, University of Idaho Extension</td>
</tr>
<tr>
<td>FW06-015</td>
<td>Extending Forage Season with Multi-functional Browse Islands</td>
<td>$8,560</td>
<td>Juvia Judd, Lazy M Suris, Deborah Berman, Lazy M Suris</td>
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<tr>
<td>FW06-036</td>
<td>Winter and Summer Greenhouse Production for Small-scale Growers</td>
<td>$6,235</td>
<td>Brad Jaeckel, Orchard Farm</td>
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<tr>
<td>FW06-042</td>
<td>Harvest Frequency, Yield and Economics of Summer Squash</td>
<td>$4,730</td>
<td>Karen Strickler</td>
</tr>
<tr>
<td>FW05-007</td>
<td>Controlling Common Tansy with Sheep</td>
<td>$3,422</td>
<td>Kimberly McConnaghy</td>
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<tr>
<td>FW04-203</td>
<td>Optimizing Spatial &amp; Temporal Aspects of Designs for Small-Scale Diverse Farms</td>
<td>$5,500</td>
<td>Bridget Betta Bunzel, Bunzel Organics</td>
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<tr>
<td>FW03-307</td>
<td>Ovine Browsing for Brush Control of Forested Environments</td>
<td>$7,500</td>
<td>Jeff Nauman, Idaho Department of Lands</td>
</tr>
<tr>
<td>FW01-025</td>
<td>Developing a Sustainable Market for Small Farms in a Rural Community</td>
<td>$7,385</td>
<td>Diane Green, Grentree Naturals</td>
</tr>
<tr>
<td>FW01-039</td>
<td>Noxious Weed Grazing with Goats</td>
<td>$7,000</td>
<td>Bonnie Jensen, Lemhi County Ext.</td>
</tr>
<tr>
<td>FW01-056</td>
<td>Farmers Educating Farmers: Developing a Soil Quality Indicator Guide</td>
<td>$10,500</td>
<td>Kyle Wilson, Natural Resource Conservation Agency</td>
</tr>
<tr>
<td>FW00-259</td>
<td>The Farm to Fork Exchange</td>
<td>$4,625</td>
<td>Nate Jones</td>
</tr>
<tr>
<td>FW00-052</td>
<td>Low Stress Stockmanship School for Lemhi County, ID</td>
<td>$5,450</td>
<td>Wally Butler</td>
</tr>
</tbody>
</table>
FW99-076  On-Site Rearing of Beneficial Predatory Mite Species  $4,200  Richard Nathanson

FW99-012  Automated On-Farm Irrigation Water Diversion Gate  $3,890  George Davis

FW98-099  Wiersema Dairy Agroforestry Project  $5,000  Jim Wiersema

FW98-097  Fear and Loathing in the Potato Patch: Controlling Nematodes with Rape Seed Meal and Green Manures  $9,910  John O'Connor

FW97-049  Non-Irrigated Alfalfa Performance Trial, Benewah County, Idaho  $3,500  Christina Crawford

FW97-024  Systems Thinking in a Range Environment  $5,000  Jay Black

FW97-044  Paradise Time Controlled Grazing  $5,000  Mark Pratt

FW96-060  Economic Viability of Greenhouse Solarization  $2,450  Larry Higgins

FW95-046  Developing an Idaho-Based Marketing Cooperative for Sustainability and Locally Grown Produce  $4,622  Janie Burns  Meadowlark Farms

FW95-025  Biological Control in Idaho Alfalfa Seed Fields  $5,000  Larry Sorenson  Sorenson Farms

GRADUATE STUDENT GRANTS

<table>
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<th>Project #</th>
<th>Project Title</th>
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<th>Project Leaders</th>
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</thead>
<tbody>
<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  University of Idaho  Prayusha Bhattarai  University of Idaho</td>
</tr>
<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  University of Idaho  Lindsay Schulz  University of Idaho</td>
</tr>
<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  University of Idaho  Paige Hickman  University of Idaho</td>
</tr>
<tr>
<td>GW20-206</td>
<td>Evaluating the effectiveness of mustard species and their concentrated extracts in reducing losses to wireworms in the Pacific Northwest, USA.</td>
<td>$24,998</td>
<td>Dr.Arash Rashed  University of Idaho  Reed Findlay  University of Idaho  Atoosa Nikoukar/ PI Rashed  University of Idaho</td>
</tr>
</tbody>
</table>
The effects of cover crops on soil arthropod communities in the Inland Pacific Northwest

$24,993
Dr. Sanford Eigenbrode
University of Idaho
Dane Elmquist (PI: Eigenbrode)
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).