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

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>
<thead>
<tr>
<th>Project Code</th>
<th>Description</th>
<th>Principal Investigator(s)</th>
<th>University/Institution</th>
<th>Funding Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW22-940</td>
<td>Pacific Northwest Cover Crop Decision Aid System</td>
<td>Dr. Sanford Eigenbrode, Kendall Kahl, Subodh Adhikari, Ryan Boylan, Tracy Ericksen, Garry Esser, Douglas Finkelnburg, Sheryl Hagen-Zacharison, Frank Wolf, Lister Wolf Farms, Zenner Family Farm</td>
<td>University of Idaho, Palouse Conservation District, Idaho State University, Idaho Extension</td>
<td>$349,697</td>
</tr>
<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>Dr. Kurtis Schroeder, Arash Rashed, Erik Wenninger, Jae Ryu, Gordon Gallup, Mark Greene, Jeremy Hansen, Hans Hayden, Inna Popova, Wayne Westberg</td>
<td>University of Idaho, USDA-ARS, Idaho State University</td>
<td>$349,919</td>
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<tr>
<td>SW18-015</td>
<td>On-farm evaluation and demonstration of advanced manure solid-liquid separation technologies for a sustainable dairy industry in Idaho</td>
<td>Dr. Lide Chen</td>
<td>University of Idaho</td>
<td>$287,466</td>
</tr>
<tr>
<td>SW16-031</td>
<td>Optimizing Water and Nitrogen Use for Sustainable Wheat Production</td>
<td>Dr. Olga Walsh</td>
<td>University of Idaho</td>
<td>$249,939</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>Lauren Golden</td>
<td>University of Idaho</td>
<td>$47,628</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>Sophie St-Hilaire</td>
<td>Idaho State University</td>
<td>$117,682</td>
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<tr>
<td>SW06-039</td>
<td>‘Living on the Land’ Stewardship Education Program Expansion</td>
<td>Stephanie Etter</td>
<td>University of Idaho Extension</td>
<td>$160,204</td>
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<tr>
<td>Project #</td>
<td>Project Title</td>
<td>SARE Support</td>
<td>Project Leaders</td>
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<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</td>
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<td></td>
<td></td>
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<td>Dr. Bryan Hopkins BYU</td>
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<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>
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<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>
<td></td>
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<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>
<td></td>
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<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>
<td></td>
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<tr>
<td>SW02-037</td>
<td>Promoting Sustainable Potato Cropping Systems</td>
<td>$158,477</td>
<td>Bryan Hopkins 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>
<td></td>
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<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>
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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>
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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>
<td></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>
<td></td>
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<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>
<td></td>
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<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>
<td></td>
</tr>
</tbody>
</table>

**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 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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<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<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>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>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>
</tbody>
</table>
A Rangeland Stock Handling Concept: Inherding on the Hat Creek Grazing Allotment, Ellis Idaho

Alderspring Ranch

Glenn Elzinga

Goat Meat is Great!

Simon Boers

Evelyn Simon

Pokey Creek Farm Elderberry Exploration

Cinda Williams

University of Idaho Extension

Greg and Leah Sempel

Ashley McFarland

University of Idaho Extension

A Multi-Faceted Approach to Managing Powdery Mildew on Organic Table Grapes in Southwest Idaho

Ariel Agenbroad

University of Idaho Extension

IBC Technical Services to Farmer's/Ranchers for Online Markets in South Central Idaho

Judy Hall

Idaho's Bounty Co-op

What Good Are Pasture-Raised Ducks to Whole Farm Systems?

Mary Rohlfing

Harvest Frequency, Yield and Economics of Summer Squash

Karen Strickler

Winter and Summer Greenhouse Production for Small-scale Growers

Brad Jaeckel

Orchard Farm

Extending Forage Season with Multi-functional Browse Islands

Juvia Judd

Lazy M Suris

Deborah Berman

Lazy M Suris

Controlling Common Tansy with Sheep

Kimberly McConnaghy

Optimizing Spatial & Temporal Aspects of Designs for Small-Scale Diverse Farms

Bridget Betta Bunzel

Bunzel Organics

Ovine Browsing for Brush Control of Forested Environments

Jeff Nauman

Idaho Department of Lands

Farmers Educating Farmers: Developing a Soil Quality Indicator Guide

Kyle Wilson

Natural Resource Conservation Agency

Noxious Weed Grazing with Goats

Bonnie Jensen

Lemhi County Ext.

Developing a Sustainable Market for Small Farms in a Rural Community

Diane Green

Grentree Naturals

The Farm to Fork Exchange

Nate Jones

Low Stress Stockmanship School for Lemhi County, ID

Wally Butler

Wally Butler
On-Site Rearing of Beneficial Predatory Mite Species

Automated On-Farm Irrigation Water Diversion Gate

Wiersema Dairy Agroforestry Project

Fear and Loathing in the Potato Patch: Controlling Nematodes with Rape Seed Meal and Green Manures

Systems Thinking in a Range Environment

Non-Irrigated Alfalfa Performance Trial, Benewah County, Idaho

Paradise Time Controlled Grazing

Economic Viability of Greenhouse Solarization

Squash Bug Management Through Introduction of Game Birds

Developing an Idaho-Based Marketing Cooperative for Sustainability and Locally Grown Produce

Row Spacing Effect on Weed Suppression

Biological Control in Idaho Alfalfa Seed Fields

Nematicide Development from Solanum sisymbriifolium for Sustainable Eradication of Globodera pallida in Idaho

Cereal Cover Crops for Weed Control in Organic and Conventional Dry Bean Production Systems

Trap Crops and Crop Rotation for Eradication of the Pale Cyst Nematode in Idaho

The effects of cover crops on soil arthropod communities in the Inland Pacific Northwest

GRADUATE STUDENT GRANTS

<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<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 University of Idaho Lindsay Schulz University of Idaho</td>
</tr>
<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 Bhattachari 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>GW20-217</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 University of Idaho Dane Elmquist (PI:Eigenbrode) University of Idaho</td>
</tr>
</tbody>
</table>
Evaluating the effectiveness of mustard species and their concentrated extracts in reducing losses to wireworms in the Pacific Northwest, USA.

Dr. Arash Rashed  
University of Idaho  
Reed Findlay  
University of Idaho  
Atoosa Nikoukar/ PI Rashed  
University of Idaho

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**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).