

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 \$406 million to more than 8,803 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.



www.sare.org

SARE: Advancing the Frontier of Sustainable Agriculture in... Washington

Project Highlight: *Sustainable Crop-Livestock Integration for the System Health in the Dryland Inland Pacific Northwest*

In north-central Washington, along the Canadian border, dryland wheat production has been the dominate production system for a century using a wheat-fallow rotation. Some wheat producers use direct-seed tillage to improve soil health, but that can lead to increased pesticide and herbicide use. Producers are interested in economically sustainable strategies for reducing pesticide use and further improving soil health. Leslie Michel, Washington Department of Agriculture wanted to experiment with a more biologically intensive and sustainable management system, integrating cover crops, and livestock to improve soil health, suppress weeds and reduce pesticide use.

She worked with five producers to integrate cover crops and cattle onto their fields before their wheat or other grain cash crops were grown. The results were encouraging but mixed. Most soil health parameters didn't change significantly, and soil moisture was significantly lower in the grazed cover-cropped areas than the control plots. Despite that, plant-stand establishment and plant height in the following cash crop was the same and yields were similar. The cows and calves grazed on the cover-cropped plots did well. Since the trials, farmers continue to experiment with cover crops and grazing.

For more information on these projects, see sare.org/projects, and search for project number [OW17-051](#).

SARE in Washington

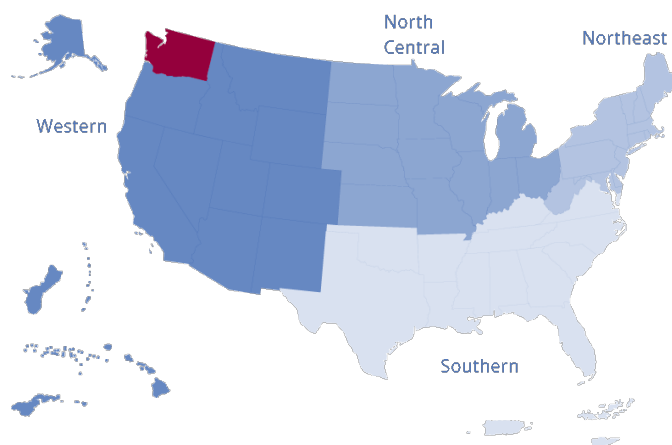
western.sare.org/state-profiles/washington/

\$5,142,164
in total funding

50 grant project

(since 1988)

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



SARE in Washington

Grants awarded 2019-2024

Total awards: **50 grants**

- 9 Farmer/Rancher
- 9 Research and Education
- 11 Professional Development Program
- 6 On Farm Research/Partnership
- 5 Graduate Student
- 9 Research to Grass Roots
- 1 Education Only

Total funding: **\$5,142,164**

\$200,192	Farmer/Rancher
\$2,921,650	Research and Education
\$827,406	Professional Development Program
\$365,004	On Farm Research/Partnership
\$139,162	Graduate Student
\$638,793	Research to Grass Roots
\$49,957	Education Only

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:

7,744 farmers participated in a SARE-funded project

1,096 farmers reported a change in knowledge, awareness, skills or attitude

150 farmers changed a practice



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

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/washington/ to learn more.

Chad Kruger
Center for Sustaining Agriculture & Natural Resources
(509) 335-4605
cekruger@wsu.edu



SARE is funded by the USDA's National Institute of Food and Agriculture (NIFA).

For detailed information on SARE projects, go to
www.SARE.org

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.



AGRICULTURE PROJECTS FUNDED IN WASHINGTON

by USDA's
Sustainable Agriculture Research and Education (SARE) Program

Washington has been awarded \$13,585,763 grants to support 206 projects, including but not limited to, 50 research and/or education projects, 29 professional development projects and 76 producer-led projects. Washington has also received additional SARE support through multi-state projects.

RESEARCH AND EDUCATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
SW24-004	Developing best practices for releasing lacewings in apples	\$350,000	Dr.Rebecca Schmidt-Jeffris USDA-ARS Tianna DuPont Washington State University Extension
SW24-007	Research, Education, and Network Development to Support Western Organic Flower Seed Production	\$349,235	Micaela Colley Organic Seed Alliance
SW23-951	Sweetpotatoes: Testing traits for increased market value and sustainable production for direct market farms in the maritime northwest	\$313,125	Laurel Moulton WSU Extension Regional Small Farms Program Dr.Carol Miles WSU Mount Vernon NWREC Clea Rome Washington State University
SW22-937	Water Quality Effects of Multifunctional Working Buffers for Seasonally Wet Farmland	\$336,119	Carrie Brausieck Snohomish Conservation District Gwendolyn Hannam Whidbey Island Conservation District
SW22-939	Pre and Postharvest Disease Management of Pome Fruit to Support an Expanding Organic Production in the Pacific Northwest	\$349,612	Dr.Achour Amiri Washington State University Karina Gallardo Washington State University
SW22-943	Forest-Cultivated Mushroom Production for Pacific Northwest Diversified Farms and Startups	\$174,951	Justin O'Dea Washington State University Dr.Eric Jones Oregon State University Patrick Shults Washington State University, ANR Extension Unit Kevin Zobrist Washington State University

SW21-925	Genomic Selection as a Risk Management Tool for U.S. Dairies	\$349,876	Dr.Holly Neibergs Washington State University Dr.Amber Adams-Progar Washington State University Dr.Joseph Dalton University of Idaho J. Shannon Neibergs Washington State University
SW21-926	Diversifying Northwestern fields and palates	\$349,999	Dr.Kevin Murphy Washington State University Stephen Bramwell WSU Dept. Crop and Soil Sciences Dr.Girish Ganjyal Washington State University - School of Food Science Justin O'Dea Washington State University
SW20-916	Wigging out, then wiggling in: removing earwigs from stone fruit and augmenting them in pome fruit	\$348,733	Dr.Rebecca Schmidt-Jeffris USDA-ARS Rick Hilton Oregon State University Nathan Moses-Gonzales M3 Consulting Group Dr.Louis Nottingham Washington State University Dr.Ashley Thompson Oregon State University Dr.Northfield Tobin Washington State University
SW18-103	Ecological and Economic Benefit-Cost Comparison of Grazed and Ungrazed Prairie Land for Critical Species Protection in Western Washington	\$248,229	Stephen Bramwell WSU Dept. Crop and Soil Sciences
SW18-031	Exploring relationships between pollinators and canola on the Palouse	\$207,134	Dr.David Crowder Washington State University
SW16-013	Bovine-avian interactions on dairies: improving cow welfare and farm economic stability by implementing effective and sustainable pest bird deterrence methods	\$238,105	Dr.Amber Adams-Progar Washington State University
SW15-061	Developing Agronomic Strategies to Optimize Production of Quinoa and Hulled Barley on No-till Farms in the Palouse Region of Idaho and Washington	\$223,119	Dr.Kevin Murphy Washington State University

SW14-013	Increasing adoption of reduced tillage strategies on organic vegetable farms in the maritime	\$249,949	Doug Collins WSU
SW12-122	Soil Quality Assessment of Long-Term Direct Seed to Optimize Production	\$193,448	James Harsh Ann Kennedy Washington State University/ARS
SW11-00B	Evaluating the Western SARE Farmer/Rancher and AP Grant Programs: 2011 Survey Results from Grant recipients reflecting on their grant experience.	\$22,035	Dr.Danna L. Moore Social and Economic Sciences Research Center
SW11-072	Selecting management practices and cover crops for reducing tillage, enhancing soil quality, and managing weeds in western WA	\$196,626	Doug Collins WSU
SW10-052	Native Habitat Restoration, Sustainable IPM and Beneficial Insect Conservation	\$191,106	Dr.David James Washington State University
SW09-050	Development of Organic Hop Production in the Pacific Northwest	\$123,465	Dr.Kevin Murphy Washington State University
SW08-049	Integration of Microbial Pesticides in Pome-Fruit Production in the Pacific Northwest	\$120,598	Lawrence Lacey USDA-ARS Peter Landolt USDA ARS
SW08-052	Assessing habitat and dietary switching by predators in a cover crop system	\$121,092	David Horton USDA-ARS
SW08-102	Combining trap cropping and natural-chemical lures to attract and kill crucifer flea beetles	\$191,868	William Snyder Washington State University
SW07-055	A sustainable distribution and evaluation program for selected honey bee stocks in the Pacific Northwest	\$172,938	Dr.Walter Sheppard Department of Entomology, Washington State University
SW07-503	Supplemental R&E Funding from Innovative SARE Coordinator Programs	\$24,842	Dr.Carol Miles WSU Mount Vernon NWREC
SW06-013	Enhancing Sustainability of Small Fruit Production in the Pacific Northwest Through Educating Producers on Consensus-derived Scouting and Decision-making Parameters	\$170,929	Craig MacConnell Washington State University Colleen Burrows WSU Whatcom County Extension

SW06-032	Developing Role Models for Antibiotic Stewardship and Biosecurity on Dairy Farms	\$125,145	Ron Wohrle Tacoma Pierce County Health Dept Monica Raymond
SW06-066	No-till Livestock-Grain Rotation for Diversified Farms	\$125,122	Dave Huggins USDA-ARS Stephen Bramwell WSU Dept. Crop and Soil Sciences Lynne Carpenter-Boggs Washington State University
SW05-129	Oilseed Farm-to-Market Demonstration	\$77,688	Kimberly Morse Whitman Conservation District
SW04-113	Interactions Among Organic Fertility, Mustard Green Manures, and Insect Biocontrol by Entomopathogenic Nematodes	\$138,922	Ekaterini Riga Washington State University William Snyder Washington State University
SW04-115	Producing Organic Vegetable Seed	\$154,293	Matthew Dillon Organic Seed Alliance
SW04-136	Rose habitats to enhance leafroller biological control in pome fruits	\$105,149	Thomas Unruh USDA-ARS
SW03-006	Implementing Noxious Weed Control Through Multi-Species Grazing	\$187,935	Dr.Donald D. Nelson Washington State University
SW03-016	Farming for the Future: Cultivating the Next Generation of Farmers	\$145,800	Brad Gaolach Washington State University Extension Dr.Marcia Ostrom School of Environment, Washington State University
SW03-018	Mustard Green Manures for Potato Production	\$45,653	Andrew McGuire Washington State University Extension
SW03-040	Assessing Soil Quality in Intensive Organic Management Systems	\$107,696	David Granatstein WSU Tree Fruit Research and Extension Center Craig Cogger WSU Research and Extension Center
SW03-046	Development and Implementation of Integrated Pest Management of Burrowing Shrimp on Washington State Commercial Oyster Beds	\$179,064	Steven Booth Willapa Bay Grays Harbor Oyster Growers / PSI

SW03-101	Integrating Biological Control into Cole Crop Production in the Pacific Northwest	\$63,841	William Snyder Washington State University
SW03-115	Riparian Buffers: Function, Management, and Economic Implications for Agriculture	\$242,035	Jon Johnson Washington State University - Puyallup Res. & Ext.
SW01-039	Management of Perennial Wheat as a Sustainable Alternative Cropping System in the Pacific Northwest	\$63,641	Stephen Jones Crop and Soil Science Dept. WSU
SW00-020	Demonstrating, Evaluating, and Extending Diversified Direct-Seeded Cropping Systems for Grower Risk-Management in the Inland Northwest	\$53,687	Diana Roberts, PhD WSU Extension Dennis Roe USDA-NRCS
SW99-011	Enhancing biological control in mating disruption pear orchards by understory management	\$110,497	David Horton USDA-ARS
SW98-006	Hybrid Poplars in Natural Buffer Systems for Agricultural Pollution Reduction and Income Enhancement	\$157,721	Barry C. Moore Washington State University
SW97-011	Sustainable Crop Production Practices with Mixed Leguminous and Non-leguminous Cover Crops	\$118,000	Shiou Kuo Washington State University (WSU) Research and Extension Center
SW97-034	Enhancing No-Till and Conservation Farming Success Through the Use of Case Studies, Conferences, and Workshops to Facilitate Farmer to Farmer Learning in The Pacific Northwest	\$125,842	Tim Veseth Washington State University, Dept. of Crop and Soil Sciences
SW97-043	Building Community Support for Agriculture on the Urban Edge	\$113,000	Dyvon Havens WSU/Skagit County Cooperative Extension
SW95-020	Sustainable Community Food Systems - A Catalyst for Rural Environment and Economic Regeneration - A Proposal for an Economic Feasibility Study	\$59,448	Fenton P. Wilkinson
SW94-008	Fall-Planted Cover Crops in Western Washington: A Model for Sustainability Assessment	\$80,000	Wilbur Anderson Washington State University (WSU), Puyallup Research and Extension Center

SW94-023	Apple Production Without the Input of Neuroactive Insecticides	\$268,000	Jay F. Brunner Washington State University
LW89-017	Silvopastoral Alternatives for Fruit Growers	\$65,641	Linda Hardesty, Ph.D Washington State University
LW88-002	Options to Enhance the Sustainability of Dryland Cereal Cropping in the Northwest	\$470,000	David Granatstein WSU Tree Fruit Research and Extension Center

RESEARCH TO GRASS ROOTS GRANTS

Project #	Project Title	SARE Support	Project Leaders
WRGR23-002	Building Access to Growing Mushrooms with the Squaxin Island Tribe	\$71,126	Jade Frolic Metamimicry Mack Kleiva Metamimicry
WRGR23-004	Supporting transition to integrated pest management in pear and apple with education and training in European earwig releases	\$100,000	Dr.Robert Orpet Washington State University
WRGR22-009	Restoration and Resilience: Sustaining forest productivity in the face of current and emerging threats	\$89,178	Kirk Hanson Northwest Natural Resource Group Stacey Dixon Snohomish Conservation District Dr.Gregory Ettl University of Washington, School of Environmental and Forest Sci Tami Miketa Washington Department of Natural Resources Small Forest Landowne
WRGR21-009	Building a grassland grazing association to support conservation grazing on working lands in southwest WA	\$80,000	Dr.Sarah Hamman Ecostudies Institute Stephen Bramwell WSU Dept. Crop and Soil Sciences Marty Chaney Natural Resources Conservation Service Christina Chaput Thurston County - Community Planning and Economic Development De Sarah Moorehead Thurston Conservation District Mary Root
WRGR21-003	Increasing Farm Resiliency Through Implementing and Modeling Pollinator Habitat	\$84,480	Alison Nichols Pierce Conservation District Rusty Milholland Washington Farmland Trust

RGR20-001	Beneficial Insects in the Vineyard	\$43,515	lynda oosterhuis Walla Walla County Conservation District
RGR20-005	The Soil Health Stewards: Establishing a Producer-Driven Soil Health Research Network in Northeastern Washington	\$70,583	Dean Hellie Stevens County Conservation District Alex Case-Cohen Pend Oreille Conservation District Dave Hedrick Ferry Conservation District Charlie Kessler Stevens County Conservation District Leslie Michel Washington State Department of Agriculture
WRGR19-02	On-Farm Cover Crop Use, Evaluation, and Data Sharing with the Western Cover Crop Council	\$49,983	Doug Collins WSU Nick Andrews Oregon State University Lauren Golden University of Idaho Clare Sullivan Oregon State University
WRGR19-04	The Peri-urban Agriculture Network: Strategies for Agricultural Viability in Urbanizing and High Land-Use-Pressure Regions	\$49,928	Justin O'Dea Washington State University Hannah Clark American Farmland Trust Dr.Lauren Gwin Oregon State University Dr.Laura Lewis Washington State University Nellie McAdams Rogue Farm Corps Lane Selman Oregon State University

PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

Project #	Project Title	SARE Support	Project Leaders
WPDP24-013	Creating an Online Toolbox for Understanding and Communicating Artificial Intelligence within Sustainable Agriculture	\$99,982	Georgine Yorgey Center for Sustaining Agriculture & Natural Resources Gwen-Alyn Hoheisel Washington State University Jordan Jobe Washington State University Dr.Alex Kirkpatrick, PhD Center for Sustaining Agriculture & Natural Resources, WSU Chad Kruger Washington State University

WPDP24-018	Enabling Smart Users of Big Landscapes with Stocksmart, a Decision Support Tool for Rangeland Professionals	\$99,106	Tipton Hudson Washington State University Sonia Hall Matt Rahr Univ. of Arizona
WPDP21-030	Visualizing Microbial Agroecology	\$100,000	Maren Friesen Washington State University Dr.Douglas Finkelnburg University of Idaho Dr.Christina Hagerty Oregon State University Dr.Clain Jones Montana State University Carol McFarland Washington State University Farmers Network Marissa Porter John I Haas Inc Dr.haiying tao University of Connecticut
WPDP21-008	Digital Agriculture Training Workshop: Managing Input Using On-farm Data	\$76,365	Dr.haiying tao University of Connecticut Drew Lyon Bruce Maxwell MSU Dr.Sanaz Shafian University of Idaho
PDP20-002	Farmland for the Next Generation Training in the Pacific Northwest	\$74,903	Addie Candib American Farmland Trust
PDP20-003	The Soil Life Short Course: Empowering Ag Professionals to Recognize, Quantify, and Conserve Beneficial Soil Animals	\$64,985	Eric Mader The Xerces Society Stephanie Frischie The Xerces Society Eric Lee-Mäder The Xerces Society Corin Pease The Xerces Society

WPDP19-10	Enhancing the Understanding of Opportunities for Nutrient Recycling and Food Safety in the Pacific and Mountain Northwest	\$75,000	Dr.Joe Harrison Washington State University Thomas Bass Montana State University Dr.Lide Chen University of Idaho Doug Collins WSU Dr.April Leytem USDA ARS Northwest Irrigation and Soils Research Dr.Rhonda Miller WSARE Dr.Ruijun Qin Oregon State University Elizabeth Whitefield Washington State University Extension
WPDP19-22	Advancing expertise in Honey Bee Stock Improvement Techniques: Stock Selection, Germplasm Cryopreservation and Instrumental Insemination	\$71,500	Dr.Walter Sheppard Department of Entomology, Washington State University Susan Cobey Washington State University Dr.Brandon Hopkins Washington State University Dr.Timothy Lawrence Washington State University
WPDP19-23	Guiding Farmers to Legal Resiliency through Farm Law Education for Washington Ag Professionals	\$16,362	Rachel Armstrong Farm Commons Libby Reed SnoValley Tilth

WPDP19-09	Inland Northwest Pasture Calendar for Agricultural Professionals	\$74,623	Dr.Steve Fransen, PhD Washington State University Sergio Arispe, PhD Oregon State University Mylen Bohle Oregon State University Brendan Brazee USDA-NRCS Tim Deboodt Oregon State University Scott Duggan Oregon State University Richard Fleenor USDA-NRCS Leticia Henderson Oregon State University Tipton Hudson Washington State University Scott Jensen University of Idaho Rich Koenig, PhD Washington State University Dr.Don Llewellyn Washington State University Extension Ian McGregor, M.S. Oregon State University, Klamath Basin Research and Extension Ce J. Shannon Neibergs Washington State University Steve Norberg, PhD Washington State University Cory Owens, M.S. Natural Resources Conservation Service Glenn Shewmaker University of Idaho Guojie Wang Oregon State University - Eastern Oregon Agricultural Research C Carmen Willmore University of Idaho Extension
WPDP19-05	In-Service Training for Biodegradable Mulch	\$74,580	Dr.Carol Miles WSU Mount Vernon NWREC
EW18-016	Healthy Soil, Healthy Region	\$67,692	Leslie Michel Okanogan Conservation District
EW17-021	Westside Pasture Calendar for Agricultural Professionals in the Pacific Northwest (PNW)	\$74,555	Dr.Steve Fransen, PhD Washington State University

EW16-021	Climate Adaptation Training for Foresters	\$58,461	Kirk Hanson Northwest Natural Resource Group
EW15-012	Implications of Water Impacts from Climate Change: Preparing Agricultural Educators and Advisors in the Pacific Northwest	\$75,000	Dr. Joe Harrison Washington State University
EW12-026	Technical Service Provider Training to Improve Services for Family Forest Landowners	\$43,874	Lindsay Malone Northwest Natural Resource Group
EW11-019	Forage and Pasture Educational Program for Professionals in the Northwest	\$71,058	Glenn Shewmaker University of Idaho
EW10-016	Forestry Certification Training for Agency Field Staff	\$48,000	Lindsay Malone Northwest Natural Resource Group
EW10-017	Organic Seed, Soils, and Sustainable Business: Three Intensives and an Online Tutorial	\$76,712	Micaela Colley Organic Seed Alliance
EW08-005	Training and Connecting Agricultural Professionals Through an Immersion Field Course and the Cultivating Success Instructor Training Program in Washington	\$29,599	Catherine Perillo Washington State University
EW07-009	Western Region Dairy Odor and Air Quality Education	\$89,236	Dr. Pius Ndegwa Washington State University
EW04-015	Sustainable Small-Acreage Farming from Field to Table	\$57,220	Debra Kollock WSU Stevens County Extension
EW03-003	Feeding Management in Nutrition and Nutrient Management for Livestock - Poultry Professionals	\$99,635	Lynn Vanwieringen Washington State University
EW02-003	Sustainable Agriculture and Education Grant	\$19,500	Judy Janett Washington Ag in the Classroom John Brugger USDA Rural Business Cooperative Service Shirz Vira USDA NRCS Cheryl Dehaan Whatcom Farm Friends Diane Gasaway Northwest Cooperative Development Center

EW01-006	Noxious Weed Control Through Multi-Species Grazing	\$64,501	Dr.Donald D. Nelson Washington State University
EW98-008	Organic Food Production and Marketing - Educational Resource Development	\$19,100	Leslie Zenz Washington State Dept. of Ag.
EW98-009	Alternative Crops for Dryland Agriculture in the Intermountain Pacific Northwest	\$67,500	Edward Adams Washington State University Cooperative Extension
EW96-004	Extension Faculty Learning with Farmers - A Seminar Series on Sustainable Agriculture	\$36,424	Diana Roberts, PhD WSU Extension
EW96-006	Organic Food Production and Marketing - Tours and Resource Guide	\$17,050	Leslie Zenz Washington State Dept. of Ag.

FARMER/RANCHER GRANTS

Project #	Project Title	SARE Support	Project Leaders
FW24-017	Market Research for Market Readiness: upcycling pork organ meat into pet treats and pork fat into salve	\$25,000	Katie Pencke Alluvial Farms
FW24-021	Investigating the Viability of Passive Aquaponics Systems: Sustainable Approaches to Eliminating External Heating Requirements	\$25,000	Rachel Feston Edible Acres
FW22-389	Investigating the Addition of Clay to Feedstocks for Increased Nutrient Density and Carbon Stabilization in Compost	\$24,745	David Bill Midnight's Farm
FW21-373	Adoption of Rootstocks for Sustainable Wine Grape Production in Columbia Valley, Washington	\$25,000	Kevin Judkins Inland Desert Nusery, Inc.
FW21-374	Ecological and Economic Impacts of Transition to an Apple/Hay Agroforestry System	\$24,818	Nichlos Pate Raising Cane Ranch
FW20-360	Minimizing inputs with fall seeded cover crop mixes in the high precipitation zone of the Palouse Region	\$19,998	Frank Wolf Lester Wolf Farms

FW20-362	Manure and Pasture Management to Reduce Swine Parasites in Western Washington Organic Pastured Pork Production	\$19,899	Katie Pencke Alluvial Farms
FW19-347	Sheep Grazing in Potato Production Systems	\$16,300	Dr.Jessica Gigot Harmony Fields
FW19-353	Optimizing Amendment and Seeding Rate for Heritage Spring Wheat Production in Western Washington	\$19,432	Nathan Hodges Barn Owl Bakery & Heritage Grains
FW18-030	Does More Diverse Plant Architecture in Pollinator Habitats Influence Native Pollinator and Beneficial Insect Abundance and Diversity?	\$20,000	Susan Fluegel Grey Duck Garlic, LLC
FW18-021	Evaluating the impact of aeration and over-seeding on soil health, forage quality and forage quantity in perennial hay pastures in Western Washington	\$19,948	Adam Greene Oak Knoll Farm
FW18-041	A rapid method to screen oyster broodstock for resistance to Ostreid Herpesvirus	\$25,000	David Nisbet Goosepoint Oyster Co.
FW18-039	Quantifying the impact of feed hydration and fermentation on poultry nutrition and farm economics	\$19,814	Matt Steinman Foothill Farms
FW17-015	Development of a Locally-Adapted Apple Rootstock for the Maritime Northwest	\$13,988	Eric Lee-Mader Eric Lee-Mader
FW16-020	Cryogenic Preservation of Oyster Gametes to Improve Hawaii and West Coast Oyster Stocks	\$25,000	David Nisbet Goosepoint Oyster Co.
FW15-024	Do Soil and Foliar Applied Minerals Improve Soil Health, Nutrient Density, and Flavor in organic Blueberries	\$14,969	Larry Bailey Clean Food Farm
FW15-044	Cover Crops for Hop Production in Semi-arid Yakima Valley, Washington	\$15,144	Sarah Del Moro N/A
FW14-012	Natural predators as a means to limit wildlife damage at the dairy-fruit interface	\$24,287	John Steensma Steensma Dairy

FW12-035	Comparing Organic No till with Conventional Tillage methods when Direct Seeding Vegetables and Incorporating Cover Crops	\$14,701	Gary Miller
FW12-074	Study and Control of Pseudomonas Syringae on Blueberry Plants	\$14,120	Parmjit Uppal Fraser Valley Packers (US) Inc.
FW10-062	NOP Compliant Antimicrobial Rinses on Leafy Greens and the Effect on Foodborne Pathogen Indicator Presence	\$14,944	Dan Hulse Tahoma Farms
FW10-069	Cover cropping and seasonal landscape fabric mulch for weed and mummy berry control in organic blueberries	\$12,138	Amy Turner Blue Dog Farm My lind Fawcett WSARE
FW09-016	Local Farms, Health Kids - The Small-Scale, Sustainable Producer's Role in This Legislatively Mandated Opportunity	\$14,600	Laura Plaut Common Threads Farm
FW08-007	Integrated Nutrient Management for Small Swine and Sheep Production	\$8,905	Bruce Dunlop Lopez Island Farm
FW07-008	Farm Duckweed Harvesting	\$8,519	Jerry Darnall
FW07-009	Leafy Spurge Management in Shrub Steppe Rangeland	\$10,000	Craig Madsen Healing Hooves LLC
FW06-002	Evaluation of Digested Manure on Potatoes and Raspberries	\$19,575	Darryl Vander Haak Vander Haak Dairy
FW06-007	Rhizoctonia and Soil Compaction Under Direct Seed	\$6,894	Ron Jirava
FW06-018	Evaluation of Environmentally Sustainable Methods to Control Dagger Nematode Infestation in Blueberry Production	\$9,842	Michael White
FW06-020	Strategies for Building Regional Markets for Pastured Poultry Growers	\$11,360	Jamie Henneman Lazy Lightning Ranch
FW06-309	Organic Seed Producer Database	\$15,960	Matthew Dillon Organic Seed Alliance

FW06-311	Youth Entrepreneurs in Agriculture	\$7,739	Joan Vance Washington State University
FW06-325	On-farm Evaluation and Demonstration of Small-scale Biogas Technology	\$20,000	Chad Kruger Washington State University
FW05-025	Determining the Feasibility of Compost Production from Agronomic Waste and Wood Byproducts through Mushroom Cultivation Techniques for the Small Farmer	\$2,419	Christopher Tchudi Fido's Farm
FW04-006	Agricultural Science Class: Principles of Ecological Food Production	\$7,441	Henning Sehmsdorf S&S Homestead Farm
FW04-040	Mobile Poultry Processing Feasibility Study	\$9,637	Louis Sukovaty Crown "S" Ranch
FW04-105	Felted Wool for Orthotic Use	\$10,382	Jayne Deardorff
FW04-116	Producer, Retail, Consumer Demo Program for Fresh Pears	\$14,907	Sherry Amos
FW04-305	Bio-Intensive Forage and Hay Production	\$7,499	Dr.Steve Fransen, PhD Washington State University
FW03-106	Application to Develop a Business Plan for a USDA-certified Mobile Livestock Unit	\$14,988	Carey Hunter
FW03-202	Controlling Flea Beetles in Arugula Using Traps and Sprays	\$7,500	Andrew Stout Full Circle Farm
FW03-308	Planned Grazing as a Means of Enhancing the Ecosystem and Improving Range for Big Game and Livestock	\$5,000	Doug Warnock Solar \$
FW03-317	Use of Interseeding Grass Technology to Reduce Nitrate Concentration in New Seeding Grass Silage	\$6,000	Dr.Joe Harrison Washington State University
FW02-019	Mechanical Introduction of Soil Nutrients through a mulch layer	\$12,400	Peter Savage

FW02-037	South Whidbey Tilth Forest Restoration for Sustainable Wildcraft Production	\$3,000	Michael Seraphinoff South Whidbey Tilth
FW02-038	On-farm composting for residue management in Spokane County, WA	\$14,992	David Ostheller
FW02-043	Alternative Crops to Sustain Native Alfalfa Pollinators	\$4,500	Mark Wagoner
FW01-019	Tilth-Agroforestry Niche Demonstration Project - Native Forest Restoration for Sustainable Wildcraft Production on the Farm	\$4,500	Michael Seraphinoff South Whidbey Tilth
FW01-052	Application of Oyster Shell Mulch for Lavender Production	\$6,000	Mike Reichner WSU Coop Ext.
FW01-081	Sustainable Small-Scale Grain Raising	\$2,040	Henning Sehmsdorf S&S Homestead Farm
FW00-014	On-Farm Biodiesel Production from Waste Vegetable Oil	\$1,805	Joseph Gabiou
FW00-022	Rotating Vessel Composter for Small Farms	\$3,100	Jack Caldicott
FW00-040	Alternative Crops No-Till Field Trials	\$5,000	Ron Jirava
FW00-041	Demonstration Project to Promote Niche Farming in Heirloom Vegetable Varieties	\$4,425	Michael Seraphinoff South Whidbey Tilth
FW99-013	Options for Asparagus Cover Crops	\$3,817	Mark Miller
FW99-036	Managing Grasshoppers in Tree Fruit Using Pastured Poultry	\$1,732	Terry Swagerty
FW99-063	Compost Thermal Subsidies in Commercial Passive Solar Greenhouse Design	\$1,750	Rebecca Thistlewaite
FW99-089	Harvesting Alternatives for Burdock as an Alternative Crop in an Organic Production System	\$3,000	Del Wisdom

FW98-002	Baby Corn-Alternative Crop for Southwest Washington	\$3,460	Owen Schaffner
FW98-067	Low Cost Vacuum Silage in the Pacific Northwest	\$3,460	Tim Clark
FW98-076	Organic Soil Amendments and Fertilization Practices for Processed Vegetable Crops: A Study in Nitrogen Mineralization and Soil Quality	\$8,025	Woody Deryckx
FW98-082	Alternative Techniques for Control of Apple Replant Disease	\$3,200	Fred Barkley
FW97-010	Bamboo Alternative Crop for Southwest Washington	\$2,000	R.D. Northcraft
FW97-019	Vegetation Management on Small Acreages Using Short Duration, Intensive, Rotational Grazing	\$2,043	Terry Swagerty
FW97-033	Release of the Predator Mite, Amblyseius fallacis to Control Spider Mites in Red Raspberries and Reduce Reliance on Pesticides	\$1,850	Brian Cieslar Curt Mayberry Farm
FW97-046	Dryland Corn Production in Columbia and Walla Walla Counties (WA)	\$3,000	David Carlton
FW97-051	Small Farm Harvest Labor Reduction Project	\$2,500	Therese Critchley
FW96-014	Improved Nitrogen Utilization and Herbicide Reduction Through Relay Intercropping	\$4,230	Gene Tinkelberg
FW96-016	Weed Control in Organic Apple Orchard	\$2,550	Gary Holwegner
FW96-041	Alternative Crop Production in a "Direct Seed Annual Crop Intense Rotation Program"	\$4,400	Karl Kupers
FW96-042	Carrot Rust Fly Control	\$1,150	Betsie DeWreede

FW96-055	Achieving Sustainability in San Juan County Hay Fields	\$2,750	Julie Matthews
FW96-067	Organic vs. Synthetic Fertilizer- Container Nursery Trials	\$4,575	Nils Sundquist Sundquist Nursery
FW95-008	Managing Riparian Areas with Remote Livestock Watering Facilities	\$5,000	Craig Boesel
FW95-057	Intensive Grazing in Asian Pear Orchards	\$899	R. Bruce Gregory Mitchell Bay Farm & Nursery
FW95-100	Relay/Cover Crop for Corn	\$5,000	Jerry Van der Veen

GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
GW24-013	Tea Plant Propagation for Nursery Production	\$29,764	Dr.Carol Miles WSU Mount Vernon NWREC Srijana Shrestha Washington State University
GW23-245	Overcoming Roadblocks to IPM Adoption in Washington Pears	\$29,096	Dr.Louis Nottingham Washington State University Molly Sayles Washington State University
GW22-238	Significance of seedborne Stemphylium vesicarium in Stemphylium leaf spot of spinach	\$25,322	Dr.Lindsey du Toit Washington State University Kayla Spawton Washington State University, Northwestern Washington Research and Extension Center
GW21-228	Understanding the impact of the peaola microbiome on soil fertility, crop yield, and plant nitrogen content	\$29,982	Maren Friesen Washington State University Janice Parks Washington State University
GW20-208	Enhancing the Ecological and Socioeconomic Benefits of Silvopasture Systems in Washington State through Participatory Research and Education	\$24,998	Dr.Marcia Ostrom School of Environment, Washington State University Mark Batcheler Washington State Univeristy Lynne Carpenter-Boggs Washington State University Dr.Mark Swanson Washington State Univeristy Mark Batcheler Washington State Univeristy

GW18-039	Assessment of the Positive and Negative Effects of Earwigs in Apple Orchards	\$17,875	Dr.David Crowder Washington State University Dr.Robert Orpet Washington State University
GW18-034	Understanding the Molecular Basis of Plant Response to Organic Versus Conventional Fertilizer Using A Metatranscriptomic Approach	\$25,000	Amit Dhingra Washington State University Seanna Hewitt Washington State University
GW18-152	Rapid Estimation of Straw Residue Decomposition in Winter Wheat	\$24,627	Dr.Arron Carter Washington State University Nathan Nielsen Washington State University
GW17-058	Effects of Subsurface Micro-irrigation on Water Use Efficiency and Grapevine Growth	\$25,000	Dr.Pete Jacoby Washington State University Xiaochi Ma Washington State University
GW17-019	Biodegradable plastic mulches: performance, degradation, and impacts on agroecosystems	\$23,063	Markus Flury Washington State University Henry Sintim Washington State University
GW17-021	Introducing Organic Quinoa and Grain Cropping Systems in the Palouse	\$24,954	Dr.John Reganold Washington State University Rachel Wieme Washington State University
GW17-025	Evaluating the exclusion and non-target effects of shade netting on apple orchards	\$23,678	Dr.Elizabeth Beers Washington State University Adrian Marshall WSU Tree Fruit Research Extension Center
GW16-021	Identification of peony diseases in the Pacific Northwest and Alaska	\$24,979	Gary Chastagner Washington State University Andrea Garfinkel Washington State University
GW16-033	Assessing the effects of non-honeybee insects on pollination in diversified organic farms	\$24,871	Dr.David Crowder Washington State University Rachel Olsson Washington State University
GW16-055	Seed Transmission and Management of White Leaf Spot and Light Leaf Spot Pathogens in Brassicas in the Pacific Northwest	\$15,675	Dr.Lindsey du Toit Washington State University Shannon Carmody Washington State University
GW15-012	Climate-Sustaining Agriculture: Carbon Footprints of Organic and Conventional Onions and Wheat	\$24,980	Lynne Carpenter-Boggs Washington State University Cornelius Adewale Washington State University

GW15-022	Promoting Native Bee Health and Pollination Services on Diversified Organic Produce Famis	\$24,918	Dr.David Crowder Washington State University Elias Bloom Washington State University
GW14-011	Old World Honey Bee Populations: A Genetic Resource for U.S. Honey Bee Breeding	\$20,865	Dr.Walter Sheppard Department of Entomology, Washington State University Megan A. Taylor Washington State Unniversity
GW11-005	Combining Trap Cropping with Companion Planting to Control the Crucifer Flea Beetle	\$8,270	William Snyder Washington State University Joyce Parker Washington State University Department of Entomology
GW10-003	A Proactive Approach to Understanding Resistance to Novel OP alternatives as a Strategy for Sustainable Management of Obliquebanded Leafroller	\$21,239	Jay F. Brunner Washington State University Dr.Ashfaq Sial Washington State University Ashfaq Sial Washington State University
GW09-015	Habitats and landscape interactions of tachinid parasitoids important in biological control of leafrollers (Lepidoptera: Tortricidae) in central Washington tree fruit	\$11,910	Vincent Jones Washington State University Nik Wiman Washington State University Tree Fruit Research and Extension Center
GW09-021	Sustainable root rot and soil management in raspberry	\$17,628	Thomas Walters Washington State University- NWREC Jessica Glogot WSU
GW08-001	Using Bluegrass Straw to Modulate the Elevated Dietary Crude Protein and Phosphorus Caused by Including Distillers Grains and Solubles in Dairy Diets	\$14,914	Ronald Kincaid Washington State University Stacey Cobb Washington State University Adrina Huisman Washington State University
GW08-005	Characterization of soils properties associated with suppression of Fusarium wilt in spinach seed crops, and development of a quantitative molecular assay for Fusarium oxysporum f. sp. spinaciae.	\$19,960	Dr.Lindsey du Toit Washington State University Emily Gatch Washington State University
GW06-011	Soil Community Structure, Function, and Spatial Variation in an Organic Agroecosystem	\$10,000	Doug Collins WSU Craig Cogger WSU Research and Extension Center

GW06-018	Bluegrass Straw in Dairy Diets to Enhance Environmental Quality	\$9,920	Ronald Kincaid Washington State University Elizabeth O'Rourke Washington State University
GW06-021	IPM and Biological Control of Meloidogyne chitwoodi and the Colorado Potato Beetle	\$10,000	Ekaterini Riga Washington State University Donna Henderson Washington State University

ON FARM RESEARCH/PARTNERSHIP GRANTS

Project #	Project Title	SARE Support	Project Leaders
OW24-008	Using Native Forb Species to Enhance Forage Diversity for Livestock and Pollinators	\$40,919	Walton Andrews San Juan Islands Conservation District
OW24-010	Assessing risk of False Blossom Disease and vector introduction and establishment to Washington and Oregon Cranberry Producing Regions	\$74,527	Dr.Laura Kraft Washington State University Virginia Stockwell USDA-ARS
OW23-385	On-farm evaluation of shade cloth as a tool for reducing heat-related losses in tomato seed production	\$74,757	Jared Zystro Organic Seed Alliance
OW23-386	Plant sap analysis as a diagnostic tool for winter wheat nutrient use efficiency	\$74,929	Ryan Boylan Palouse Conservation District
OW19-342	Investigating the elasticity of biochar: manure handling, compost feedstock, soil amendment and carbon storage.	\$49,988	Dr.Nathan Stacey Oregon State University Doug Collins WSU Alana Siegner University of California, Berkeley
OW19-350	Seedling Release and Young-Stand Thinning as a Way to Increase Forest Health and Production	\$49,884	Kirk Hanson Northwest Natural Resource Group Lindsay Malone Northwest Natural Resource Group
OW18-018	Surveying the distribution of introduced wireworms in Washington State and evaluating trap cropping as a low-cost management option	\$49,576	Dr.Brook Brouwer Washington State University Extension
OW17-051	Sustainable Crop-Livestock Integration for the System Health in the Dryland Inland Pacific Northwest	\$47,344	Leslie Michel Okanogan Conservation District
OW15-008	Optimizing nitrogen management on organic and biologically-intensive farms	\$49,997	Doug Collins WSU

OW14-003	Accelerating Adoption of Sustainable Practices for Small Forest Producers	\$47,167	Lindsay Malone Northwest Natural Resource Group
OW12-030	Companion and Cover Cropping for Eastern Washington Dryland Grain Farms	\$49,986	Diana Roberts, PhD WSU Extension
OW11-315	Composted Horse Manure and Stall Bedding Pilot Project	\$39,410	Caitlin Price Youngquist Snohomish Conservation District Dr.Caitlin Youngquist SnapLands
OW10-310	Sustainable Alternatives to the Conservation Reserve Program (CRP)	\$50,000	Dr.Donald D. Nelson Washington State University Stephen Van Vleet WSU
FW03-302	Determination of Whole Farm Nutrient Flows on a Dairy Operation	\$6,000	Dr.Joe Harrison Washington State University

EDUCATION ONLY GRANTS

Project #	Project Title	SARE Support	Project Leaders
EDS19-13	Southern Organic Seed Summit	\$49,957	Jared Zystro Organic Seed Alliance

**Total funding from the USDA SARE program to
Washington
\$13,585,763**



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).