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 $308 million to more than 7,395 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, granteeproduced information products and other educational materials.

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

Washington

Project Highlight: Fostering Better, More Sustainable Forests

Private timber lands in the Pacific Northwest are declining faster than in any other area of the country. The Northwest Natural Resource Group (NNRG) works with private landowners to promote a sustainable, environmentally sound economy in the region’s forestlands.

NNRG received three SARE grants to provide education on forest conservation practices to professionals and producers. The first project trained more than 111 individuals involved in forestry about the value-added benefit of Forest Stewardship Council-certified products and market opportunities for such products. Twenty-six members became FSC-certified, representing 112,000 acres. NNRG then followed up with another training for 100 natural resources professionals to help them assist landowners with the Environmental Quality Incentives Program (EQIP), a USDA conservation program. More than 68 forest producers reported that they applied for EQIP funds. These producers used the funds to develop management plans and conduct conservation practices to enhance timber quality and overall productivity.

In their final project, NNRG partnered with EcoTrust to provide producers with tools and examples that would help them make decisions and consider active forest management. Through their outreach, eight farmers changed or adopted a practice with 25 farmers planning to change their practices.

For more information on these projects, see sare.org/projects, and search for project numbers EW10-016, EW12-026 and OW14-003.

SARE in Washington

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

$9,791,607 in total funding

182 grant projects

(since 1988)

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

Total awards: 182 grants
1 Enhanced State Grants
71 Farmer/Rancher
24 Graduate Student
10 On Farm Research/Partnership
25 Professional Development Program
46 Research and Education
5 Research to Grass Roots

Total funding: $9,791,607

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/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-pages/washington to learn more.

Chad Kruger
Washington State University
(360) 416-5222
cekruger@wsu.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.
Washington has been awarded $9,768,576 grants to support 178 projects, including but not limited to, 43 research and/or education projects, 25 professional development projects and 71 producer-led projects. Washington 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>
| SW20-916 | Wigging out, then wigging 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 |
| LS19-320 | Southern Organic Seed Summit                                                  | $49,957      | Jared Zystro  
Organic Seed Alliance |
| 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 Hulless 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 |
Selecting management practices and cover crops for reducing tillage, enhancing soil quality, and managing weeds in western WA

Doug Collins
WSU

Native Habitat Restoration, Sustainable IPM and Beneficial Insect Conservation

Dr. David James
Washington State University

Development of Organic Hop Production in the Pacific Northwest

Dr. Kevin Murphy
Washington State University

Integration of Microbial Pesticides in Pome-Fruit Production in the Pacific Northwest

Lawrence Lacey
USDA-ARS
Peter Landolt
USDA-ARS

Assessing habitat and dietary switching by predators in a cover crop system

David Horton
USDA-ARS

Combining trap cropping and natural-chemical lures to attract and kill crucifer flea beetles

William Snyder
Washington State University

Supplemental R&E Funding from Innovative SARE Coordinator Programs

Dr. Carol Miles
WSU Mount Vernon NWREC

A sustainable distribution and evaluation program for selected honey bee stocks in the Pacific Northwest

Dr. Walter Sheppard
Department of Entomology, Washington State University

Enhancing Sustainability of Small Fruit Production in the Pacific Northwest Through Educating Producers on Consensus-derived Scouting and Decision-making Parameters

Craig MacConnell
Washington State University
Colleen Burrows
WSU Whatcom County Extension

Developing Role Models for Antibiotic Stewardship and Biosecurity on Dairy Farms

Ron Wohrle
Tacoma Pierce County Health Dept
Monica Raymond

No-till Livestock-Grain Rotation for Diversified Farms

Dave Huggins
USDA-ARS
Stephen Bramwell
WSU Dept. Crop and Soil Sciences
Lynne Carpenter-Boggs
Washington State University

Oilseed Farm-to-Market Demonstration

Kimberly Morse
Whitman Conservation District

Interactions Among Organic Fertility, Mustard Green Manures, and Insect Biocontrol by Entomopathogenic Nematodes

Ekaterini Riga
Washington State University
William Snyder
Washington State University

Producing Organic Vegetable Seed

Matthew Dillon
Organic Seed Alliance

Rose habitats to enhance leafroller biological control in pome fruits

Thomas Unruh
USDA-ARS

Implementing Noxious Weed Control Through Multi-Species Grazing

Dr. Donald D. Nelson
Washington State University
Farming for the Future: Cultivating the Next Generation of Farmers
Brad Gaolach
Washington State University Extension
Dr. Marcia Ostrom
School of Environment, Washington State University

Mustard Green Manures for Potato Production
Andrew McGuire
Washington State University Extension

Assessing Soil Quality in Intensive Organic Management Systems
David Granatstein
WSU Tree Fruit Research and Extension Center
Craig Cogger
WSU Research and Extension Center

Development and Implementation of Integrated Pest Management of Burrowing Shrimp on Washington State Commercial Oyster Beds
Steven Booth
Willapa Bay Grays Harbor Oyster Growers / PSI

Integrating Biological Control into Cole Crop Production in the Pacific Northwest
William Snyder
Washington State University

Riparian Buffers: Function, Management, and Economic Implications for Agriculture
Jon Johnson
Washington State University - Puyallup Res. & Ext.

Management of Perennial Wheat as a Sustainable Alternative Cropping System in the Pacific Northwest
Stephen Jones
Crop and Soil Science Dept. WSU

Demonstrating, Evaluating, and Extending Diversified Direct-Seeded Cropping Systems for Grower Risk Management in the Inland Northwest
Diana Roberts, PhD
WSU Extension
Dennis Roe
USDA-NRCS

Enhancing biological control in mating disruption pear orchards by understory management
David Horton
USDA-ARS

Hybrid Poplars in Natural Buffer Systems for Agricultural Pollution Reduction and Income Enhancement
Barry C. Moore
Washington State University

Building Community Support for Agriculture on the Urban Edge
Dyvon Havens
WSU/Skagit County Cooperative Extension

Sustainable Crop Production Practices with Mixed Leguminous and Non-leguminous Cover Crops
Shiou Kuo
Washington State University (WSU) Research and Extension Center

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
Tim Veseth
Washington State University, Dept. of Crop and Soil Sciences

Sustainable Community Food Systems – A Catalyst for Rural Environment and Economic Regeneration – A Proposal for an Economic Feasibility Study
Fenton P. Wilkinson

Fall-Planted Cover Crops in Western Washington: A Model for Sustainability Assessment
Wilbur Anderson
Washington State University (WSU), Puyallup Research and Extension Center

Apple Production Without the Input of Neuroactive Insecticides
Jay F. Brunner
Washington State University
### RESEARCH TO GRASS ROOTS GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| LW89-017  | Silvopastoral Alternatives for Fruit Growers                                  | $65,641      | Linda H. Hardesty  
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 |

### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| RGR20-001 | Beneficial Insects in the Vineyard                                           | $43,515      | Lynda Oosterhuis  
Walla Walla County Conservation District |
| GRW20-001 | The Soil Health Stewards: Establishing a Producer-Driven Soil Health Research Network in Northeastern Washington | $70,583      | Alex Case-Cohen  
Stevens County Conservation District  
Jeanne Bateman  
Stevens County Conservation District  
Dave Hedrick  
Ferry Conservation District  
Dean Hellie  
Stevens County Conservation District  
Nils Johnson  
Washington State University Extension  
Charlie Kessler  
Stevens County Conservation District  
David Marcell  
Pend Oreille Conservation District  
Leslie Michel  
Washington State Department of Agriculture |
| WRGR19-01 | Land and Water Stewardship Training for Livestock Owners                      | $24,858      | Nikki Wolf  
King Conservation District  
Emily Carlson  
King Conservation District  
Josh Monaghan  
King Conservation District  
Gwen Vernon  
King Conservation District |
| 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 |
PDP20-003 The Soil Life Short Course: Empowering Ag Professionals to Recognize, Quantify, and Conserve Beneficial Soil Animals $74,966 Eric Mader
The Xerces Society
Stephanie Frischie
The Xerces Society
Eric Lee-Mäder
The Xerces Society
Corin Pease
The Xerces Society

PDP20-002 Farmland for the Next Generation Training in the Pacific Northwest $74,903 Courtney Naumann
American Farmland Trust

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
Don Llewellyn
Washington State University
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
<table>
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<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Amount</th>
<th>Principal Investigator and Affiliation</th>
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<tr>
<td>WPDP19-10</td>
<td>Enhancing the Understanding of Opportunities for Nutrient Recycling and Food Safety in the Pacific and Mountain Northwest</td>
<td>$75,000</td>
<td>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</td>
</tr>
<tr>
<td>WPDP19-22</td>
<td>Advancing expertise in Honey Bee Stock Improvement Techniques: Stock Selection, Germplasm Cryopreservation and Instrumental Insemination</td>
<td>$71,500</td>
<td>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</td>
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<tr>
<td>WPDP19-23</td>
<td>Guiding Farmers to Legal Resiliency through Farm Law Education for Washington Ag Professionals</td>
<td>$16,362</td>
<td>Rachel Armstrong, Farm Commons, Libby Reed, SnoValley Tilth</td>
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<tr>
<td>EW18-016</td>
<td>Healthy Soil, Healthy Region</td>
<td>$67,692</td>
<td>Leslie Michel, Okanogan Conservation District</td>
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<tr>
<td>EW17-021</td>
<td>Westside Pasture Calendar for Agricultural Professionals in the Pacific Northwest (PNW)</td>
<td>$74,555</td>
<td>Dr. Steve Fransen, PhD, Washington State University</td>
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<tr>
<td>EW16-021</td>
<td>Climate Adaptation Training for Foresters</td>
<td>$58,461</td>
<td>Kirk Hanson, Northwest Natural Resource Group</td>
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<tr>
<td>EW15-012</td>
<td>Implications of Water Impacts from Climate Change: Preparing Agricultural Educators and Advisors in the Pacific Northwest</td>
<td>$75,000</td>
<td>Dr. Joe Harrison, Washington State University</td>
</tr>
<tr>
<td>EW12-026</td>
<td>Technical Service Provider Training to Improve Services for Family Forest Landowners</td>
<td>$43,874</td>
<td>Lindsay Malone, Northwest Natural Resource Group</td>
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<tr>
<td>EW11-019</td>
<td>Forage and Pasture Educational Program for Professionals in the Northwest</td>
<td>$71,058</td>
<td>Glenn Shewmaker, University of Idaho</td>
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<tr>
<td>EW10-016</td>
<td>Forestry Certification Training for Agency Field Staff</td>
<td>$48,000</td>
<td>Lindsay Malone, Northwest Natural Resource Group</td>
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<tr>
<td>EW10-017</td>
<td>Organic Seed, Soils, and Sustainable Business: Three Intensives and an Online Tutorial</td>
<td>$76,712</td>
<td>Micaela Colley, Organic Seed Alliance</td>
</tr>
<tr>
<td>EW08-005</td>
<td>Training and Connecting Agricultural Professionals Through an Immersion Field Course and the Cultivating Success Instructor Training Program in Washington</td>
<td>$29,599</td>
<td>Catherine Perillo, Washington State University</td>
</tr>
</tbody>
</table>
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


EW96-004  Extension Faculty Learning with Farmers – A Seminar Series on Sustainable Agriculture  $36,424  Diana Roberts, PhD  WSU Extension

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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<tbody>
<tr>
<td>FW20-360</td>
<td>Minimizing inputs with fall seeded cover crop mixes in the high precipitation</td>
<td>$19,998</td>
<td>Frank Wolf  Lester Wolf Farms, Inc.</td>
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<td></td>
<td>zone of the Palouse Region</td>
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<tr>
<td>FW20-362</td>
<td>Manure and Pasture Management to Reduce Swine Parasites in Western Washington</td>
<td>$19,899</td>
<td>Katie &amp; Matthew Pencke &amp; McDermott  Alluvial Farms</td>
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<td></td>
<td>Organic Pastured Pork Production</td>
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<td>FW19-347</td>
<td>Sheep Grazing in Potato Production Systems</td>
<td>$16,300</td>
<td>Dr. Jessica Gigot  Harmony Fields</td>
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<tr>
<td>FW19-353</td>
<td>Optimizing Amendment and Seeding Rate for Heritage Spring Wheat Production</td>
<td>$19,432</td>
<td>Nathan Hodges  Barn Owl Bakery &amp; Heritage Grains</td>
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<td>in Western Washington</td>
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<td>FW18-030</td>
<td>Does More Diverse Plant Architecture in Pollinator Habitats Influence Native</td>
<td>$20,000</td>
<td>Susan Fluegel  Grey Duck Garlic, LLC</td>
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<td></td>
<td>Pollinator and Beneficial Insect Abundance and Diversity?</td>
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<td>Project Code</td>
<td>Project Title</td>
<td>Budget</td>
<td>Principal Investigator(s)</td>
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<td>FW18-021</td>
<td>Evaluating the impact of aeration and over-seeding on soil health, forage</td>
<td>$19,948</td>
<td>Adam Greene Oak Knoll Farm</td>
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<td>quality and forage quantity in perennial hay pastures in Western Washington</td>
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<td>FW18-041</td>
<td>A rapid method to screen oyster broodstock for resistance to Ostreid</td>
<td>$25,000</td>
<td>David Nisbet Goosepoint Oyster Co.</td>
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<td>Herpesvirus</td>
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<td>FW18-039</td>
<td>Quantifying the impact of feed hydration and fermentation on poultry</td>
<td>$19,814</td>
<td>Matt Steinman Foothill Farms</td>
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<td>nutrition and farm economics</td>
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<td>FW17-015</td>
<td>Development of a Locally-Adapted Apple Rootstock for the Maritime</td>
<td>$13,988</td>
<td>Eric Lee-Mader</td>
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<td>Eric Lee-Mader</td>
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<td>FW16-020</td>
<td>Cryogenic Preservation of Oyster Gametes to Improve Hawaii and West Coast</td>
<td>$25,000</td>
<td>David Nisbet Goosepoint Oyster Co.</td>
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<td>Oyster Stocks</td>
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<td>FW15-024</td>
<td>Do Soil and Foliar Applied Minerals Improve Soil Health, Nutrient Density,</td>
<td>$14,969</td>
<td>Larry Bailey Clean Food Farm</td>
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<td>and Flavor in organic Blueberries</td>
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<td>FW15-044</td>
<td>Cover Crops for Hop Production in Semi-arid Yakima Valley, Washington</td>
<td>$15,144</td>
<td>Sarah Del Moro Bleyhl Co-op</td>
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<tr>
<td>FW14-012</td>
<td>Natural predators as a means to limit wildlife damage at the dairy-fruit</td>
<td>$24,287</td>
<td>John Steensma Steensma Dairy</td>
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<td>FW12-035</td>
<td>Comparing Organic No till with Conventional Tillage methods when Direct</td>
<td>$14,701</td>
<td>Gary Miller</td>
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<td>Seeding Vegetables and Incorporating Cover Crops</td>
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<td>FW12-074</td>
<td>Study and Control of Pseudomonas Syringae on Blueberry Plants</td>
<td>$14,120</td>
<td>Parmjit Uppal Fraser Valley Packers (US) Inc.</td>
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<td>FW10-062</td>
<td>NOP Compliant Antimicrobial Rinses on Leafy Greens and the Effect on</td>
<td>$14,944</td>
<td>Dan Hulse Tahoma Farms</td>
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<td>Foodborne Pathogen Indicator Presence</td>
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<td>FW10-069</td>
<td>Cover cropping and seasonal landscape fabric mulch for weed and mummy berry</td>
<td>$12,138</td>
<td>Amy Turner Blue Dog Farm Mylind Fawcett WSARE</td>
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<td>control in organic blueberries</td>
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<td>FW09-016</td>
<td>Local Farms, Health Kids — The Small-Scale, Sustainable Producer’s Role in</td>
<td>$14,600</td>
<td>Laura Plaut Common Threads Farm</td>
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<td>ThisLegislatively Mandated Opportunity</td>
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<td>FW08-007</td>
<td>Integrated Nutrient Management for Small Swine and Sheep Production</td>
<td>$8,905</td>
<td>Bruce Dunlop Lopez Island Farm</td>
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<td>FW07-008</td>
<td>Farm Duckweed Harvesting</td>
<td>$8,519</td>
<td>Jerry Darnall</td>
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<td>FW07-009</td>
<td>Leafy Spurge Management in Shrub Steppe Rangeland</td>
<td>$10,000</td>
<td>Craig Madsen Healing Hooves LLC</td>
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<td>FW06-002</td>
<td>Evaluation of Digested Manure on Potatoes and Raspberries</td>
<td>$19,575</td>
<td>Darryl Vander Haak Vander Haak Dairy</td>
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<td>FW06-007</td>
<td>Rhizoctonia and Soil Compaction Under Direct Seed</td>
<td>$6,894</td>
<td>Ron Jirava</td>
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<tr>
<td>FW06-018</td>
<td>Evaluation of Environmentally Sustainable Methods to Control Dagger Nematode Infestation in Blueberry Production</td>
<td>$9,842</td>
<td>Michael White</td>
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<td>FW06-020</td>
<td>Strategies for Building Regional Markets for Pastured Poultry Growers</td>
<td>$11,360</td>
<td>Jamie Henneman Lazy Lightning Ranch</td>
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<td>FW06-309</td>
<td>Organic Seed Producer Database</td>
<td>$15,960</td>
<td>Matthew Dillon Organic Seed Alliance</td>
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<td>FW06-311</td>
<td>Youth Entrepreneurs in Agriculture</td>
<td>$7,739</td>
<td>Joan Vance Washington State University</td>
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<td>FW06-325</td>
<td>On-farm Evaluation and Demonstration of Small-scale Biogas Technology</td>
<td>$20,000</td>
<td>Chad Kruger Washington State University</td>
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<td>FW05-025</td>
<td>Determining the Feasibility of Compost Production from Agronomic Waste and Wood Byproducts through Mushroom Cultivation Techniques for the Small Farmer</td>
<td>$2,419</td>
<td>Christopher Tchudi Fido's Farm</td>
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<tr>
<td>FW04-006</td>
<td>Agricultural Science Class: Principles of Ecological Food Production</td>
<td>$7,441</td>
<td>Henning Sehmsdorf S&amp;S Homestead Farm</td>
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<td>FW04-040</td>
<td>Mobile Poultry Processing Feasibility Study</td>
<td>$9,637</td>
<td>Louis Sukovaty Crown “S” Ranch</td>
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<td>FW04-105</td>
<td>Felted Wool for Orthotic Use</td>
<td>$10,382</td>
<td>Jayne Deardorff</td>
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<td>FW04-116</td>
<td>Producer, Retail, Consumer Demo Program for Fresh Pears</td>
<td>$14,907</td>
<td>Sherry Amos</td>
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<td>FW04-305</td>
<td>Bio-Intensive Forage and Hay Production</td>
<td>$7,499</td>
<td>Dr.Steve Fransen, PhD Washington State University</td>
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<td>FW03-308</td>
<td>Planned Grazing as a Means of Enhancing the Ecosystem and Improving Range for Big Game and Livestock</td>
<td>$5,000</td>
<td>Doug Warnock Solar $</td>
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<td>FW03-317</td>
<td>Use of Interseeding Grass Technology to Reduce Nitrate Concentration in New Seeding Grass Silage</td>
<td>$6,000</td>
<td>Dr.Joe Harrison Washington State University</td>
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<td>FW03-106</td>
<td>Application to Develop a Business Plan for a USDA-certified Mobile Livestock Unit</td>
<td>$14,988</td>
<td>Carey Hunter</td>
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<td>FW03-202</td>
<td>Controlling Flea Beetles in Arugula Using Traps and Sprays</td>
<td>$7,500</td>
<td>Andrew Stout Full Circle Farm</td>
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<td>FW02-019</td>
<td>Mechanical Introduction of Soil Nutrients through a mulch layer</td>
<td>$12,400</td>
<td>Peter Savage</td>
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<td>FW02-037</td>
<td>South Whidbey Tilth Forest Restoration for Sustainable Wildcraft Production</td>
<td>$3,000</td>
<td>Michael Seraphinoff</td>
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<td>South Whidbey Tilth</td>
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<td>FW02-038</td>
<td>On-farm composting for residue management in Spokane County, WA</td>
<td>$14,992</td>
<td>David Ostheller</td>
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<td>FW02-043</td>
<td>Alternative Crops to Sustain Native Alfalfa Pollinators</td>
<td>$4,500</td>
<td>Mark Wagoner</td>
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<td>FW01-052</td>
<td>Application of Oyster Shell Mulch for Lavender Production</td>
<td>$6,000</td>
<td>Mike Reichner</td>
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<td>WSU Coop Ext.</td>
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<td>FW01-081</td>
<td>Sustainable Small-Scale Grain Raising</td>
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<td>Henning Sehmsdorf</td>
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<td>FW01-019</td>
<td>Tilth-Agroforestry Niche Demonstration Project – Native Forest Restoration for Sustainable Wildcraft Production on the Farm</td>
<td>$4,500</td>
<td>Michael Seraphinoff</td>
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<td>FW00-014</td>
<td>On-Farm Biodiesel Production from Waste Vegetable Oil</td>
<td>$1,805</td>
<td>Joseph Gabiou</td>
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<td>FW00-022</td>
<td>Rotating Vessel Composter for Small Farms</td>
<td>$3,100</td>
<td>Jack Caldicott</td>
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<td>FW00-040</td>
<td>Alternative Crops No-Till Field Trials</td>
<td>$5,000</td>
<td>Ron Jirava</td>
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<td>FW00-041</td>
<td>Demonstration Project to Promote Niche Farming in Heirloom Vegetable Varieties</td>
<td>$4,425</td>
<td>Michael Seraphinoff</td>
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<td>FW99-089</td>
<td>Harvesting Alternatives for Burdock as an Alternative Crop in an Organic Production System</td>
<td>$3,000</td>
<td>Del Wisdom</td>
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<td>FW99-013</td>
<td>Options for Asparagus Cover Crops</td>
<td>$3,817</td>
<td>Mark Miller</td>
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<td>FW99-036</td>
<td>Managing Grasshoppers in Tree Fruit Using Pastured Poultry</td>
<td>$1,732</td>
<td>Terry Swagerty</td>
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<td>FW99-063</td>
<td>Compost Thermal Subsidies in Commercial Passive Solar Greenhouse Design</td>
<td>$1,750</td>
<td>Rebecca Thistlewaite</td>
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<td>FW98-002</td>
<td>Baby Corn-Alternative Crop for Southwest Washington</td>
<td>$3,460</td>
<td>Owen Schaffner</td>
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<td>FW98-067</td>
<td>Low Cost Vacuum Silage in the Pacific Northwest</td>
<td>$3,460</td>
<td>Tim Clark</td>
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<td>FW98-082</td>
<td>Alternative Techniques for Control of Apple Replant Disease</td>
<td>$3,200</td>
<td>Fred Barkley</td>
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<td>FW97-051</td>
<td>Small Farm Harvest Labor Reduction Project</td>
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<td>Therese Critchley</td>
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<td>FW97-010</td>
<td>Bamboo Alternative Crop for Southwest Washington</td>
<td>$2,000</td>
<td>R.D. Northcraft</td>
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<td>FW97-019</td>
<td>Vegetation Management on Small Acreages Using Short Duration, Intensive, Rotational Grazing</td>
<td>$2,043</td>
<td>Terry Swagerty</td>
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<td>FW97-033</td>
<td>Release of the Predator Mite, Amblyseius fallacis to Control Spider Mites in Red Raspberries and Reduce Reliance on Pesticides</td>
<td>$1,850</td>
<td>Brian Cieslar</td>
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<td>FW97-046</td>
<td>Dryland Corn Production in Columbia and Walla Walla Counties (WA)</td>
<td>$3,000</td>
<td>David Carlton</td>
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<td>FW96-041</td>
<td>Alternative Crop Production in a “Direct Seed Annual Crop Intense Rotation Program”</td>
<td>$4,400</td>
<td>Karl Kupers</td>
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<td>FW96-042</td>
<td>Carrot Rust Fly Control</td>
<td>$1,150</td>
<td>Betsie DeWreede</td>
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<td>FW96-055</td>
<td>Achieving Sustainability in San Juan County Hay Fields</td>
<td>$2,750</td>
<td>Julie Matthews</td>
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<td>FW96-067</td>
<td>Organic vs. Synthetic Fertilizer-Container Nursery Trials</td>
<td>$4,575</td>
<td>Nils Sundquist</td>
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<td>FW96-014</td>
<td>Improved Nitrogen Utilization and Herbicide Reduction Through Relay Intercropping</td>
<td>$4,230</td>
<td>Gene Tinkelberg</td>
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<td>FW96-016</td>
<td>Weed Control in Organic Apple Orchard</td>
<td>$2,550</td>
<td>Gary Holwegner</td>
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<td>FW95-008</td>
<td>Managing Riparian Areas with Remote Livestock Watering Facilities</td>
<td>$5,000</td>
<td>Craig Boesel</td>
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<td>FW95-057</td>
<td>Intensive Grazing in Asian Pear Orchards</td>
<td>$899</td>
<td>R. Bruce Gregory</td>
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<td>FW95-100</td>
<td>Relay/Cover Crop for Corn</td>
<td>$5,000</td>
<td>Jerry Van der Veen</td>
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**GRADUATE STUDENT GRANTS**

<table>
<thead>
<tr>
<th>Project #</th>
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<tbody>
<tr>
<td>GW20-208</td>
<td>Enhancing the Ecological and Socioeconomic Benefits of Silvopasture Systems in Washington State through Participatory Research and Education</td>
<td>$24,998</td>
<td>Dr. Marcia Ostrom&lt;br&gt; School of Environment, Washington State University&lt;br&gt; Mark Batcheler&lt;br&gt; Washington State University&lt;br&gt; Lynne Carpenter-Boggis&lt;br&gt; Washington State University&lt;br&gt; Dr. Mark Swanson&lt;br&gt; Washington State University&lt;br&gt; Mark Batcheler&lt;br&gt; Washington State University</td>
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| GW19-192 | Genetic variation of Apis mellifera mating behavior under varied climatic conditions | $24,987 | Dr. Walter Sheppard  
Department of Entomology, Washington State University  
Melanie Kirby  
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 |
| GW18-039 | Assessment of the Positive and Negative Effects of Earwigs in Apple Orchards | $17,875 | Dr. David Crowder  
Washington State University  
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 |
| 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 |
| 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 |
| 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 Farms | $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 University |
| 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 |
<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
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<th>Project Leaders</th>
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</table>
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 Gigot  
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**

<table>
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<tr>
<th>Project #</th>
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| OW19-342 | Investigating the elasticity of biochar: manure handling, compost feedstock, soil amendment and carbon storage. | $49,988 | Dr. Nathan Stacey  
Washington 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 |
<table>
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<tr>
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<th>Project Title</th>
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<th>Principal Investigator(s)</th>
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| 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                                                     |
| 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                                                             |

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

**$9,768,576**

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