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 $359 million to more than 8,143 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...

Oregon

Project Highlight: Insect Pathogens Control Clover Pest

Red clover seed is produced commercially in western Oregon and Washington, and one of its major pests is the clover root borer. The clover root borer develops underground in the roots of red clover and controlling it has proven to be very difficult. Growers once used toxic organochlorine insecticides to battle the borer, but they have been banned from use. Since then, growers have seen a return of the root borer and typically manage it by rotating fields every two years.

With SARE funding, Oregon State University graduate student Anis Lestari studied whether insect pathogens, in particular naturally occurring fungi, have potential as biocontrol agents for controlling the root borer. Lestari collected clover root borers from four local Willamette Valley farms and isolated and identified pathogens associated with adults and larvae. She compared their virulence against the pest with commercially available microbial products and found that entomopathogenic fungi (a fungus that can act as a parasite) have the potential for use as a biological control of the clover root borer in western Oregon red clover fields.

More research and validation are needed before official recommendations can be made, but Lestari’s promising results show that a sustainable method for controlling the clover root borer is possible.

For more information on this project, see sare.org/projects, and search for project number GW15-018.

SARE in Oregon

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

$12,090,062 in total funding

191 grant projects (since 1988)

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

Total awards: **191 grants**
- 47 Research and Education
- 27 Professional Development Program
- 69 Farmer/Rancher
- 26 On Farm Research/Partnership
- 19 Graduate Student
- 3 Research to Grass Roots

Total funding: **$12,090,062**
- $7,231,264 Research and Education
- $2,030,516 Professional Development Program
- $812,144 Farmer/Rancher
- $1,359,977 On Farm Research/Partnership
- $456,888 Graduate Student
- $199,273 Research to Grass Roots

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/oregon

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/oregon to learn more.

Shayan Ghajar
Oregon State University
(541) 737-6131
shayan.ghajar@oregonstate.edu

Maud Powell
OSU Extension
(541) 776-7371
maud.powell@oregonstate.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.
AGRICULTURE PROJECTS FUNDED IN OREGON  
by USDA's Sustainable Agriculture Research and Education (SARE) Program

Oregon has been awarded $12,090,062 grants to support 188 projects, including but not limited to, 44 research and/or education projects, 27 professional development projects and 69 producer-led projects. Oregon has also received additional SARE support through multi-state projects.

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| SW21-928  | Bridging the communication gap: toward a more informed public understanding of sustainable farming | $348,841     | Clare Sullivan  
Oregon State University  
Michael Rozyne  
Red Tomato  
Julie Sweetland  
FrameWorks Institute |
| SW20-914  | Model-Assisted Forest Stand Delineation to Make Forest Assessment, Valuation, and Management Planning More Accessible | $349,981     | David Diaz  
Ecotrust  
Nils Christoffersen  
Wallowa Resources  
Dr.Gregory Ettl  
University of Washington, School of Environmental and Forest Sci  
Kirk Hanson  
Northwest Natural Resource Group |
| SW20-917  | Production and marketing of dry-farmed tomatoes in Oregon                     | $349,875     | Dr.ALEXANDRA STONE  
Oregon State University |
| SW19-903  | Bee Protection Protocols for Oregon Vegetable and Clover Seed.                | $349,971     | Dr.Andony Melathopoulos  
Oregon State University |
Oregon State University |
| SW18-041  | Sustaining Oregon broccoli production                                         | $229,804     | James Myers  
Oregon State University |
| SW16-010  | Impacts of Chaff Collection or Chaff Plus Straw Collection at Harvest to Improve Weed Control | $250,000     | Dr.Judit Barroso  
Oregon State University |
| SW16-070  | Soil solarization as a tool to control weeds and soilborne pathogens in tree seeding nurseries in the Pacific Northwest | $247,329     | Dr.Jennifer Parke  
Oregon State University |
| SW15-021  | Diagnosis and Management of a New Disease of Cucurbits in Oregon              | $145,291     | Dr.ALEXANDRA STONE  
Oregon State University |
| SW15-058  | Understanding Pest and Disease Transmission Dynamics and Effects of Agrochemicals on Honey Bee Colonies Pollinating Crops in the Western States | $248,025     | Dr.Ramesh Sagili  
Oregon State University |
| SW13-017  | Integrating research and practice in systems management of organic vegetable farms | $277,430     | Dr.ALEXANDRA STONE  
Oregon State University |
A Collaborative Phenology Modeling System to Enhance Crop Management on Vegetable Farms

$203,610
Nick Andrews
Oregon State University

Developing a Decision Support Tool for Ventenata IPM in the Inland Northwest

$169,297
Dr. Timothy Prather
University of Idaho

Growing a Sustainable Portland Metropolitan Foodshed

$223,014
Dr. Sheila Martin
Portland State University, IMS

Bean Mold Management Tools and Rotational Systems Management Planning

$184,084
Dr. Alexandra Stone
Oregon State University

Integrating Beetle Habitat into Pacific Northwest Farming Systems

$206,002
John Lambrinos
Dept. of Horticulture, Oregon State University

Expanding Small-scale Grain Production in Southwestern Oregon

$24,402
Maud Powell
OSU Extension
Shelley Elkovich
OSU Extension Small Farms

Enhancement of pollination by native bees in blueberries and cranberries

$183,271
Dr. Sujaya Rao
Oregon State University

Sustainable Solutions to IYSV on Onion Via Grower-Research Partnerships

$177,527
Clinton Shock
Oregon State University

Alternative proteins for organic meat and milk production

$63,565
Mike Gamroth
Oregon State University

Farmers facilitating the adoption of new meadowfoam establishment practices

$67,078
George Hoffman
Oregon State University

Integrated Soil and Crop Management for Organic Potato Production

$196,067
Dr. Dan Sullivan
Oregon State University
Lane Selman
Dept of Horticulture

Managing Cover Crop and Conservation Tillage Systems To Enhance Vegetable Crop Yields, Economic Returns and Environmental Quality

$182,438
John Luna
Oregon State University

Management of Garden Symphylans (Scutigerella immaculata Newport) with Crop Rotation Tactics and Improved Sampling Methods

$160,132
Jon Umble
Oregon State University

The Use of Straw Mulch to Enhance Predator Populations Along with Biopesticides to Control Onion Thrips in Dry Bulb Onions

$73,800
Lynn Jensen
Oregon State University

"MagNet": A Positive Pull Toward Integrated Pest Management in Root Crop Production.

$134,829
Amy Dreves
Oregon State University; Dept of Horticulture

Changing Meadowfoam Planting Dates and Planting Method to Reduce Input Costs, Pest Pressure, and Increase Yields.

$100,726
Dr. Gary Jolliff
Oregon State University

Farmer/Scientist Partnership for Integrated Cropping Systems

$184,662
Richard Dick
Oregon State University
<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Title</th>
<th>Budget</th>
<th>Principal Investigator(s)</th>
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<tbody>
<tr>
<td>SW00-00C</td>
<td>Sustainable Agriculture Learning Initiative</td>
<td>$29,200</td>
<td>Jon Bailey Learning Initiative/CRA; Center for Rural Affairs</td>
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<tr>
<td>SW00-016</td>
<td>Orchard floor management practices for improving soil quality and optimizing nitrogen uptake efficiency</td>
<td>$130,330</td>
<td>Anita Azarenko OSU - Dept. of Horticulture</td>
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<tr>
<td>SW00-024</td>
<td>Farmers Growing the Market with TFA-Approved</td>
<td>$100,000</td>
<td>Deborah J. Kane The Food Alliance</td>
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<tr>
<td>SW00-039</td>
<td>Control of Botrytis by Compost Tea Applications on Grapes in Oregon Vineyards</td>
<td>$141,572</td>
<td>Shepard Smith Sunbow Farm/Soil Foodweb Inc Elaine Ingham Soil Foodweb Inc/ Southern Cross University Elaine Ingham Sustainable Studies Institute</td>
</tr>
<tr>
<td>SW00-047</td>
<td>Control of Eastern Filbert Blight</td>
<td>$81,477</td>
<td>Jay Pscheidt Department of Botany and Plant Pathology</td>
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<tr>
<td>SW99-061</td>
<td>Enhancing Biological Control With Insectary Plantings</td>
<td>$83,929</td>
<td>John Luna Oregon State University</td>
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<tr>
<td>SW99-063</td>
<td>Participatory Evaluation of Farmer Based Soil Quality Assessment Cards</td>
<td>$49,997</td>
<td>Daniel McGrath Oregon State University</td>
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<tr>
<td>SW98-031</td>
<td>Advancing Sustainable Potato Production in the Northwest</td>
<td>$42,000</td>
<td>Karen Murphy The Northwest Coalition for Alternatives to Pesticides</td>
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<tr>
<td>SW97-074</td>
<td>Advancing Sustainable Potato Production in the Northwest</td>
<td>$35,000</td>
<td>Karen Murphy The Northwest Coalition for Alternatives to Pesticides</td>
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<tr>
<td>SW96-013</td>
<td>Implementation and Assessment of Economic and Environmental Impact of a Weather Monitoring/Pest and Disease Risk Assessment Network in Commercial Pear Production in Oregon</td>
<td>$58,290</td>
<td>Franz Niederholzer Oregon State University Extension Service</td>
</tr>
<tr>
<td>SW95-025</td>
<td>Influences of Alternative Vegetable Systems on Arthropods/Soil Biological Dynamics and Soil Quality Trajectory</td>
<td>$180,000</td>
<td>Richard Dick Oregon State University</td>
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<tr>
<td>SW94-029</td>
<td>Development and Demonstration of Integrated Vegetable Production Systems for the Maritime Pacific Northwest</td>
<td>$80,000</td>
<td>John Luna Oregon State University</td>
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<tr>
<td>LWD93-007</td>
<td>Development of Sustainable Crop and Livestock Production Systems for Land in the Conservation Reserve Program</td>
<td>$14,000</td>
<td>Rex E. Kirksey</td>
</tr>
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<td>LW92-031</td>
<td>Grazing Strategies for Sustainable Ranching Systems in Western Semi-Arid Zones</td>
<td>$237,738</td>
<td>Ludwig M. Eisgruber Oregon State University</td>
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<tr>
<td>LWE92-001</td>
<td>On-Farm Demonstration of Integrated Vegetable Production Systems for the Maritime Pacific Northwest</td>
<td>$39,000</td>
<td>John Luna Oregon State University</td>
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<tr>
<td>LW88-001</td>
<td>Evaluation and Design of Low-Input Sustainable Vegetable/Small Grain and Small Fruit Systems of Western Oregon and Washington</td>
<td>$404,105</td>
<td>Richard Dick Oregon State University</td>
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</table>
### 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>
| WRGR22-002 | Establishing a beginning dry farming curriculum and accelerator program       | $99,901      | Dr. Lucas Nebert  
Oregon State University  
Amy Garrett  
Oregon State University Small Farms Extension  
Matthew Davis  
Oregon State University |
| RGR20-011  | Spring Season Extension Efficiency in Cool, Short Season Climates             | $68,486      | Nicole Sanchez  
Oregon State University |
| WRGR19-03  | Regenerative Agriculture: connecting soil health, native bee habitat, and climate resilience through on-farm management strategies | $30,886      | Elise Higley  
Our Family Farms |

### 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>
| WPDP22-020 | Irrigation Technology and Management (ITM) Professional Development Project   | $99,982      | Todd Peplin  
Deschutes Soil and Water Conservation District |
| WPDP22-001 | Growing Agricultural Service Providers’ Program Outcomes with Producer Co-Educators | $84,995      | Mary Halbleib  
Oregon State University  
Colette DePhelps  
University of Idaho Extension |
| PDP20-019  | Planning and Programming the 2021 National Farm Viability Conference in Oregon | $73,119      | Chris Schreiner  
Oregon Tilth |
| ENE19-158  | The Soil Life Short Course: Empowering Ag Professionals to Recognize, Quantify, and Conserve Beneficial Soil Animals | $114,618     | Eric Lee-Mader  
Eric Lee-Mader  
Stephanie Frischie  
The Xerces Society |
| EW18-015   | OSU Land Steward Program Professional Development Project                      | $73,199      | Rachel Werling  
Oregon State University |
| EW17-019   | Western Region Pesticide Risk Reduction through Professional Development for Western State IPM Programs | $69,299      | Paul Jepson  
Oregon State University |
| EW16-010   | Redefining Learner-centered Education to Build High Impact IPM Partnerships     | $67,802      | Mary Halbleib  
Oregon State University |
| EW16-027   | Sustainable Grazing Management in Riparian and Wetland Pasture                 | $15,237      | Caley Sowers  
Coos Soil and Water Conservation District |
| ES16-128   | The Conservation Biological Control Short Course                              | $74,651      | Eric Mader  
The Xerces Society |
| ENE15-137  | The Conservation Biological Control Short Course                              | $97,097      | Eric Mader  
The Xerces Society |
| EW15-014   | Collaborative Approaches to Increase the Integration of Functional Agricultural Biodiversity in Western Farming Systems | $67,699      | Gwendolyn Ellen  
Agricultural Biodiversity Consulting |
<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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<tbody>
<tr>
<td>EW15-020</td>
<td>Growing the Field for Organic Conservation: Training on NRCS CAP 138 and NOP Conservation Standards</td>
<td>$73,447</td>
<td>Sarah Brown Oregon Tilth</td>
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<tr>
<td>EW14-031</td>
<td>Training IPM Professionals in Rural Areas: A Model to Achieve Sustainable Knowledge</td>
<td>$74,755</td>
<td>Dr.Silvia Rondon Oregon State University</td>
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<tr>
<td>EW14-035</td>
<td>The Conservation Biological Control Short Course</td>
<td>$72,050</td>
<td>Eric Mader The Xerces Society</td>
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<tr>
<td>EW12-031</td>
<td>Organic Conservation Training for Western Region Conservation Professionals</td>
<td>$98,288</td>
<td>Sarah Brown Oregon Tilth</td>
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<tr>
<td>EW11-015</td>
<td>Creating Sustainable Agriculture Farmer-to-Farmer Networks through Professional Trainings and an Agricultural Educator Toolkit</td>
<td>$99,590</td>
<td>Melissa Matthewson Oregon State University Extension</td>
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<tr>
<td>EW11-021</td>
<td>The Soil Quality Network</td>
<td>$56,992</td>
<td>Teresa Matteson Benton Soil and Water Conservation District</td>
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<tr>
<td>EW10-018</td>
<td>Western Pollinator Conservation Planning Short Course</td>
<td>$90,906</td>
<td>Eric Mader The Xerces Society</td>
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<tr>
<td>EW09-001</td>
<td>Empowering Ag Professionals through a Beneficial and Pest Insect Train-the-Trainer Short Course Program for Oregon, Washington, &amp; Idaho</td>
<td>$95,635</td>
<td>Mary Corp Oregon State University Dr.Silvia Rondon Oregon State University</td>
</tr>
<tr>
<td>EW08-001</td>
<td>Tri-State Organic Certification and Conservation Planning Cross-Training</td>
<td>$86,137</td>
<td>Chris Schreiner Oregon Tilth</td>
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<tr>
<td>EW07-018</td>
<td>Conserving the Three P’s: Habitat Conservation Practices for Beneficial Predators, Parasites, and Pollinators</td>
<td>$51,165</td>
<td>Mace Vaughan The Xerces Society</td>
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<td>EW06-010</td>
<td>Organic Seed Production: Materials, Training, and a Seed Database.</td>
<td>$98,755</td>
<td>Brian Baker Organic Materials Review Institute</td>
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<tr>
<td>EW06-012</td>
<td>Hands-On Workshops: Alternative Marketing Approaches and Distribution Channels</td>
<td>$60,000</td>
<td>Larry Lev Oregon State University</td>
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<tr>
<td>EW05-006</td>
<td>Rhizosphere Ecology in Changing Cropping Systems</td>
<td>$7,348</td>
<td>Sandy Macnab Oregon State University Extension, Sherman County</td>
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<tr>
<td>EW00-011</td>
<td>Western Integrated Nutrient Management Education Program</td>
<td>$84,750</td>
<td>Mary Staben Oregon State University</td>
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<tr>
<td>EW97-004</td>
<td>Developing an Educational Program for Teaching Science-based Concepts of Grass Regrowth for Improved Grazing Management</td>
<td>$65,000</td>
<td>David B. Hannaway Oregon State University</td>
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<td>EW94-008</td>
<td>Pacific Northwest Sustainable Agriculture Systems Training Program</td>
<td>$78,000</td>
<td>John Luna Oregon State University</td>
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<td>Project Code</td>
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<tr>
<td>FW22-391</td>
<td>Effects of using ducks as biological control to manage weeds and pests within an orchard crop system</td>
<td>$20,442</td>
<td>Peng Sun</td>
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<td>FW22-397</td>
<td>Determining if Comfrey Fermented Plant Juice is a viable alternative to traditional purchased fertilizers</td>
<td>$24,963</td>
<td>Sarahlee Lawrence</td>
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<td>FW22-405</td>
<td>No/low-till practices as a water conservation tool on small-scale vegetable farms East of the Cascades</td>
<td>$29,896</td>
<td>Katie Swanson</td>
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<tr>
<td>FW21-380</td>
<td>Mushroom Farming Research and Education to Bring Greater Equity and Diversity to the Food System</td>
<td>$25,000</td>
<td>Bashira Muhammad</td>
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<td>FW20-358</td>
<td>Improving Irrigated Pasture Productivity and Soil Biodiversity in Oregon's High Desert</td>
<td>$20,000</td>
<td>John Shine</td>
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<tr>
<td>FW20-369</td>
<td>Effects of multi-species rotational grazing on soil microbial communities</td>
<td>$20,000</td>
<td>Thomas Gillett</td>
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<tr>
<td>FW19-351</td>
<td>Effects of Subsurface Micro-irrigation on Water Use Efficiency and Hazelnut Tree Growth</td>
<td>$19,767</td>
<td>Darrel Smith</td>
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<td>FW19-356</td>
<td>Farmer/Rancher Sustainable Soil with Biochar</td>
<td>$19,952</td>
<td>Gary Betts</td>
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<td>FW18-048</td>
<td>Potential for Shake and Catch Harvesting of Hazelnuts</td>
<td>$19,532</td>
<td>Taylor Larson</td>
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<td>FW18-013</td>
<td>Economic viability of fodder beets as winter forage for cattle in Eastern Oregon</td>
<td>$19,419</td>
<td>Cody Wood</td>
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<tr>
<td>FW16-031</td>
<td>Understanding On-Farm Costs of Production</td>
<td>$9,400</td>
<td>Sarah Brown</td>
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<td>FW15-018</td>
<td>Growing a Regional Seed Producers network in the Rogue Valley, Oregon</td>
<td>$23,203</td>
<td>Eric George</td>
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<td>FW15-054</td>
<td>Evaluating Market Opportunities of Conventional vs. GMO-free Broilers</td>
<td>$4,003</td>
<td>Jared Pruch</td>
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<tr>
<td>FW14-013</td>
<td>Innovative CSA Marketing Tools</td>
<td>$24,299</td>
<td>Thomas Powell</td>
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<td>FW14-019</td>
<td>Improving Orchard Management through Multi-Species Cover Crop Mo</td>
<td>$18,340</td>
<td>Mike Omeg</td>
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<td>FW10-029</td>
<td>Development of a Northwest Farm Stay Website</td>
<td>$28,934</td>
<td>Scottie Jones</td>
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<td>FW10-032</td>
<td>Organic Wheat Intercropping Trials and Outreach</td>
<td>$15,000</td>
<td>Sarahlee Lawrence</td>
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<td>FW09-038</td>
<td>Rodent Control in Orchards Using Raptors</td>
<td>$11,066</td>
<td>Mike Omeg</td>
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<td>FW09-040</td>
<td>Building a Local Food Cooperative Through an Interactive Website</td>
<td>$15,000</td>
<td>Sarahlee Lawrence&lt;br&gt; Rainshadow Organics</td>
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<td>FW09-042</td>
<td>Managing Solitary Cavity Nesting Bees for Cane Fruit in Oregon</td>
<td>$14,985</td>
<td>Don Strurm&lt;br&gt; Sturm's Berry Farm Inc.&lt;br&gt; Dr. Karen Strickler&lt;br&gt; Pollinator Paradise</td>
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<tr>
<td>FW09-328</td>
<td>Increasing Grower Adoption of Adaptive Cover Cropping Systems: Effects on Vegetable Production and Nitrogen Cycling</td>
<td>$50,000</td>
<td>Nick Andrews&lt;br&gt; Oregon State University</td>
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<td>FW08-033</td>
<td>Butcher Waste as Biofuel</td>
<td>$14,885</td>
<td>Kelly and Ross McGarva</td>
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<td>FW07-006</td>
<td>Butcher Waste Composting for Field Fertility</td>
<td>$13,750</td>
<td>Kelly and Ross McGarva</td>
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<td>FW07-015</td>
<td>Using Season Extending Techniques to Diversify Traditional Agricultural Economy and Improve Quality and Quantity of Fresh Food Supply in Remote NE Oregon Valley</td>
<td>$12,475</td>
<td>June Colony&lt;br&gt; Lostine Longwool</td>
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<td>FW07-308</td>
<td>Augmentation of Mite Predators on Apples and Grapes</td>
<td>$25,000</td>
<td>Lyla Lampson&lt;br&gt; Lampson Research and Consulting</td>
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<td>FW06-003</td>
<td>Costs, Comparisons, and Effectiveness Using Chlorophyll Sensing Sprayers in a Chemical Fallow Operation</td>
<td>$6,950</td>
<td>William Jepsen</td>
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<td>FW06-032</td>
<td>Determine Whether Small Farm Poultry Production Can Be Boosted when Combined with Red Worm (Eisenia fetida) Vermiculture</td>
<td>$10,000</td>
<td>Chrissie Zaerpoor&lt;br&gt; Kookoolan Farm&lt;br&gt; Koorosh Zaerpoor&lt;br&gt; Kookoolan Farm</td>
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<td>FW06-301</td>
<td>Estimating Nitrogen Contribution from Cover Crops in Organic Vegetable and Cane Berry Farms</td>
<td>$19,325</td>
<td>Nick Andrews&lt;br&gt; Oregon State University</td>
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<tr>
<td>FW05-004</td>
<td>Sheep vs. Weeds: Biological Control Agents to Combat Noxious Weeds</td>
<td>$4,570</td>
<td>Cameron Gillespie&lt;br&gt; Gillespie Grazing Co.&lt;br&gt; Sabrina Gillespie&lt;br&gt; Gillespie Grazing Co.</td>
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<td>FW05-006</td>
<td>Coastal Oregon Nitrogen Recovery</td>
<td>$20,000</td>
<td>Don Smith&lt;br&gt; Producer</td>
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<td>FW05-018</td>
<td>Farm Internship Curriculum and Handbook</td>
<td>$20,000</td>
<td>Thomas Powell&lt;br&gt; Wolf Gulch Farm</td>
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<td>FW05-302</td>
<td>Environmentally Sound Irrigation and Fertility Systems for Sweet Cherry Crops in the Pacific Northwest</td>
<td>$19,585</td>
<td>Clark Seavert&lt;br&gt; Mid-Columbia Agricultural Research Center</td>
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<td>FW04-004</td>
<td>Sustainable Ditch Stabilization</td>
<td>$4,246</td>
<td>James VanLeeuwen</td>
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<td>FW04-017</td>
<td>Split-Season Rotation Grazing Study</td>
<td>$6,647</td>
<td>Robert Lozano</td>
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<td>FW04-019</td>
<td>Silvo-Pasture with Hybrid Poplar and Sheep</td>
<td>$7,053</td>
<td>Richard Shuren&lt;br&gt; Greenwood Resources</td>
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</tbody>
</table>
Recycle Used Gestation Crates into Group-Housed Sow Feeding Stalls

$6,300

Deanna Quan

Effectiveness of Three Methods of Removing Stumps to Control Annosus Root Rot in Christmas Tree Plantations

$5,130

Jim Puffer

Yule Tree Farms

Pumpkin Seed as a Natural Alternative to Chemical Dewormers in Sheep

$14,990

Mac Stewart

Magruder Farms

Margaret Magruder

Magruder Farms

Alice Royle

Hillsdale Winter Harvest Farmers Market

$14,950

Kimberly Moore

Deep Roots Farm

Aaron Bolster

Deep Roots Farm

Virtual Focus Group to Measure Most Efficient Use of Marketing Resources

$6,863

Mehrten Homer

Painted Hills Natural Beef

Sustainable Ranching Program

$13,352

Pat Larson

Oregon Cattlemen's Association

Can a Summer Cover Crop of Sudan-sorghum Reduce the Detrimental Effects of Tillage in Fall-planted Garlic?

$9,629

Laura Masterson

47th Avenue Farm

Poplar Cotton Fiber Production: A market Opportunity in Oregon

$7,480

Ray Ethell

Imperial Stock Ranch Heritage Lamb/Fiber Marketing

$7,000

Jeanne Carver

Alternative Uses for Raw Wool: Feasibility Study/Marketing Strategy

$13,500

Margaret Magruder

Magruder Farms

Measuring the Interest for Marketing Pastured Poultry at Farmer’s Markets

$6,500

Aaron Silverman

Greener Pastures Producers Group

Russian Honey Bee Queens Resistant to Varroa in Oregon

$9,125

Chuck Hunt

Low Stress Stockmanship Clinic for Jackson County, Oregon

$5,075

John Dimick

Jackson County Stockman's Assoc.

Veneta Cooperative Farm Stand

$5,063

Gwendolyn Ellen

Agricultural Biodiversity Consulting

Agritourism-Sustainable Agriculture with Cash and Information Flow

$8,000

Catherine Grant

Integrated Strip-Till Systems for Vegetable Production in Western Oregon

$7,786

Rob Heater

Improving the Sustainability of Pasture and Livestock Management through the Development of a Grazing Network in Lane County, Oregon

$3,101

Paul Atkinson
<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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<tr>
<td>FW98-074</td>
<td>Clover Creek Ranch Early Weaning Comparison</td>
<td>$2,658</td>
<td>Ron Jones</td>
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<td>FW97-002</td>
<td>Reducing Foxtail in Permanent Pastures</td>
<td>$3,500</td>
<td>Kathleen Panner</td>
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<td>FW97-007</td>
<td>Using Truffles to Enhance Douglas Fir Production On A Small Family Farm</td>
<td>$2,800</td>
<td>Tim Grant</td>
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<td>FW97-020</td>
<td>The Use of Goats to Control Juniper, Sage &amp; Rabbit Brush</td>
<td>$3,500</td>
<td>Ann R. Snyder</td>
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<td>FW97-035</td>
<td>Constructed Wetland for Waste Water Treatment</td>
<td>$3,200</td>
<td>Gary Shull</td>
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<td>FW97-041</td>
<td>Biological Control of Pear Pests</td>
<td>$5,000</td>
<td>George Ing</td>
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<td>FW96-003</td>
<td>Low Tillage Weed Control</td>
<td>$1,895</td>
<td>Jim Fullmer</td>
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<td>FW96-013</td>
<td>Use of Aerated Compost Teas for Control of Foliar Diseases of Spinach, Lettuce</td>
<td>$2,620</td>
<td>William Booth</td>
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<td>and Broccoli and to Promote Plant Vigor and Quality</td>
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<td>Horton Road Organics</td>
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<td>FW96-019</td>
<td>Use of Aerated Compost Teas as a Preventative Foliar Fungicide on Grape Vines</td>
<td>$2,930</td>
<td>Dave Michul</td>
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<td>Vitus vinifera</td>
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<td>King Estate Vineyards</td>
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<td>FW96-026</td>
<td>The Effect of Aerated Compost Teas on Disease Control in Blueberries and Tomatoes</td>
<td>$2,610</td>
<td>Jack Gray</td>
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<td>FW96-037</td>
<td>Grazing Sheep in New Forest Plantings</td>
<td>$1,575</td>
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<td>FW96-059</td>
<td>School Cafeteria Compost System for Soil Amendment Production</td>
<td>$3,000</td>
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<td>FW96-068</td>
<td>Organic Mulch for Weed Control in Rhubarb</td>
<td>$2,500</td>
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<td>FW95-027</td>
<td>Parasite and Nutrient Management of Composted Manure</td>
<td>$1,225</td>
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<td>FW95-050</td>
<td>Low Tillage Weed Control System</td>
<td>$1,600</td>
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<td>FW95-072</td>
<td>Demonstration and Implementation of Integrated Fruit Production on Anjou Pears</td>
<td>$5,000</td>
<td>Thom Nelson</td>
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<td>Hood River Grower - Shipper Association</td>
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<td>FW95-075</td>
<td>Evaluating Methods to Enhance Microbial Degradation of Residual Soil Contaminants</td>
<td>$5,000</td>
<td>J. J. Haapala</td>
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**GRADUATE STUDENT GRANTS**
<table>
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<tr>
<th>Project Code</th>
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<tr>
<td>GW22-236</td>
<td>Control of Powdery Scab of Potato With Disease Suppressive Soils</td>
<td>$29,823</td>
<td>Ken Frost, Oregon State University, Hermiston Agricultural Research and Extension, Daniella Echeverria, Oregon State University</td>
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<td>GW22-239</td>
<td>Testing thiamin as an immunity inducer against bacterial and fungal pathogens in potato</td>
<td>$29,836</td>
<td>Dr. Aymeric Goyer, Oregon State University, Trenton Berrian, Oregon State University</td>
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<tr>
<td>GW21-219</td>
<td>Assessment of UV-C Radiation as an Integrative Pest Management Tool for the Management of Grape Powdery Mildew and Botrytis Bunch Rot</td>
<td>$30,000</td>
<td>Walt Mahaffee, USDA ARS, Alexander Wong, Oregon State University</td>
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<td>GW21-223</td>
<td>Restore into the future: post-fire rangeland restoration in the Great Basin</td>
<td>$29,994</td>
<td>Lauren Hallett, University of Oregon, Lina Batas, University of Oregon, Dr. Matt Streisfeld, University of Oregon, Lina Batas, University of Oregon</td>
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<td>GW21-225</td>
<td>Cover Crops for Enhancing Cherry Orchard Habitat for Beneficial Invertebrates</td>
<td>$30,000</td>
<td>Dr. Sandy DeBano, Oregon State University, Dr. Christopher Adams, Oregon State University Mid-Columbia Agricultural Research and Extension, Scott Mitchell, Oregon State University</td>
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<td>GW21-229</td>
<td>Breeding Snap Beans For Organic Agriculture: Quantification And Application Of Key Traits</td>
<td>$23,914</td>
<td>James Myers, Oregon State University, Hayley Park, Oregon State University, Hayley Park, Oregon State University</td>
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<tr>
<td>GW19-188</td>
<td>Enhancing Pollinator Habitat in Pacific Northwest Croplands Using DNA Metabarcoding Techniques</td>
<td>$25,000</td>
<td>Dr. Sandy DeBano, Oregon State University, Katherine Arstingstall, Oregon State University</td>
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<td>GW19-189</td>
<td>Potato Virus Y: Testing New Potential Resistance Genes to an Enduring Threat to Potato Production</td>
<td>$25,000</td>
<td>Dr. Aymeric Goyer, Oregon State University, Max Combest, Oregon State University</td>
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<td>GW19-195</td>
<td>Pacific Flatheaded Borer: An old pest is new again in Oregon’s rapidly expanding hazelnut industry</td>
<td>$24,825</td>
<td>Dr. Nik Wiman, Oregon State University, Anthony Mugica, Oregon State University</td>
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<td>GW18-027</td>
<td>Determining the Impacts of Dormant Pruning Methods and Nitrogen Fertilization on Pinot Noir Bud Fruitfulness and Yield</td>
<td>$22,786</td>
<td>Dr. Patricia Skinkis, Oregon State University, Miranda Ulmer, Oregon State University (former, at the time of the project), currently Colorado State University</td>
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<td>GW18-157</td>
<td>Diagnosis and control of winter squash storage rots in western Oregon</td>
<td>$25,000</td>
<td>Dr. Kenneth Johnson, Oregon State University, Hannah Rivedal, Oregon State University</td>
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<td>GW16-016</td>
<td>Effects of Grassland Restoration on Native Bee and Spider Communities in a Pacific Northwestern Agroecosystem</td>
<td>$24,999</td>
<td>Dr. Sandy DeBano, Oregon State University, Lauren Smith, Oregon State University</td>
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<td>Project #</td>
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| GW15-018   | Managing A Challenging Subterranean Clover Pest: Sustainable Control Using Insect Pathogens | $12,859      | Dr. Sujaya Rao  
Oregon State University  
Anis Lestari  
Oregon State University |
| GW15-034   | Increasing the Marketability of Pacific Northwest Potatoes                     | $24,401      | Dr. Aymeric Goyer  
Oregon State University  
Bruce Robinson  
Oregon State University |
| GW13-014   | Reducing Drosophila suzukii Management Challenges: An Alternative to Insecticide Cover Sprays | $24,750      | Dr. Wei Yang  
North Willamette Res & Ext Center  
Jimmy Klick  
Oregon State University |
| GW12-022   | Late season and overwintering management of the large raspberry aphid          | $19,193      | Danielle Lightle  
Oregon State University  
Jana Lee  
USDA-ARS |
| GW09-008   | Enhancing the integration of mite biological control in western United States vineyard management programs | $25,000      | Angela Gadino  
Oregon State University |
| GW08-014   | Pollination by Bumble Bees for Enhanced Clover Seed Production                 | $19,977      | Dr. Sujaya Rao  
Oregon State University  
Kimberly Skyrm  
Oregon State University |
| GW06-010   | Assessment of Riparian Management Practices in Northeastern Oregon            | $9,531       | David Wooster  
Oregon State University  
Dr. Sujaya Rao  
Oregon State University  
Melissa Scherr  
Oregon State University |
| OW22-369   | Dry Farm Melon Production in Oregon                                            | $74,583      | Dr. Alexandra Stone  
Oregon State University  
Andy Gallagher  
Red Hill Soil  
Amy Garrett  
Oregon State University Small Farms Extension  
Lane Selman  
Oregon State University |
| OW22-370   | Clover seed weevil management in white clover seed production systems          | $74,996      | Dr. Navneet Kaur  
Oregon State University  
Nicole Anderson  
Oregon State University  
Seth Dorman  
USDA-ARS  
Christy Tanner  
Oregon State University  
Dr. Dani Lightle  
Oregon State University  
Dani Lightle  
Oregon State University |
| OW22-371   | Bee Friendly Farming for Oregon Wine Grapes                                    | $74,902      | Dr. Andony Melathopoulos  
Oregon State University |
| OW21-364   | Optimizing vole trapping strategies in annual and perennial cropping systems   | $74,364      | Nick Andrews  
Oregon State University  
Dr. Dana Sanchez  
Oregon State University |
Overseeding novel forages in Oregon as a model for enhancing perennial grass pastures in the Pacific Northwest

$75,000

Dr. Serkan Ates
Oregon State University
Fara Brummer
Oregon State University
Dr. David Hannaway
Oregon State University
Ian McGregor, M.S.
Oregon State University, Klamath Basin Research and Extension Ce
Guojie Wang
Oregon State University - Eastern Oregon Agricultural Research C

Establishing a participatory research network for drought-tolerant corn production in the Pacific Northwest

$74,990

Dr. Lucas Nebert
Oregon State University
Amy Garrett
Oregon State University Small Farms Extension
James Myers
Oregon State University
Dr. Lucas Nebert
Oregon State University

Analyzing Production Costs of Organic Hazelnuts in Oregon

$73,124

Tanya Murray
Oregon Tilth

Investigating techniques for successful overwintering of honey bee queens in bulk

$49,796

Dr. Ramesh Sagili
Oregon State University
Ellen Topitzhofer
Oregon State University

Sustaining winter wheat production using biochar amendments in northeast Oregon

$49,973

Stephen Machado
Oregon State University
Dr. Rakesh Awale
Oregon State University,

Enhancing Vegetable Farm Resilience through Dryland Production

$49,997

Dr. Alexandra Stone
Oregon State University

Expanding the Adoption of Under-Trellis Cultivators in Vineyards to Reduce Herbicide Input

$49,991

Marcelo Moretti
Oregon State University

Investigating the feasibility of berry production in Central Oregon under protected and unprotected culture

$49,998

Clare Sullivan
Oregon State University

Training Seed Producers and Increasing Local Markets for Seed Production

$49,750

Maud Powell
OSU Extension

Resistant, resilient and long storing garlic varieties for organic farming systems and markets

$49,971

Dr. Alexandra Stone
Oregon State University

Improving Water Saving Techniques and Fruit Quality in Oregon Vineyards

$20,548

Karen Peterson
A to Z Wineworks

Winter squash: extending the season and expanding the uses

$49,958

Dr. Alexandra Stone
Oregon State University

Evaluating cover crops for mature hazelnut orchards in the Willamette Valley, Oregon

$49,997

Dr. Nik Wiman
Oregon State University

Restoring Rangeland Quality with Soil Health Enhancement

$44,450

Debbie Wood
Crooked River Weed Management Area
<table>
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<th>Project Code</th>
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<tr>
<td>OW15-005</td>
<td>Integrated Clubroot Control Strategies for PNW Brassica Producers</td>
<td>$49,554</td>
<td>Dr. Dan Sullivan, Oregon State University</td>
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<td>OW15-007</td>
<td>Interseeding to improve winter cover crop establishment and efficiency in processed vegetable production in the Willamette Valley</td>
<td>$49,464</td>
<td>Dr. Ed Peachey, Oregon State University</td>
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<tr>
<td>OW14-020</td>
<td>Natural Fertilizer Market Assessment Project</td>
<td>$21,552</td>
<td>Nicole Cousino, Nicole Cousino</td>
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<td>OW13-055</td>
<td>Assessing the Impacts of Mob Grazing in Southern Oregon</td>
<td>$47,142</td>
<td>Angela Boudro, Jackson Soil &amp; Water Conservation District</td>
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<td>OW12-034</td>
<td>Management of Fusarium Wilt of Cucurbits with Vetch Cover Cropping and Grafted Transplants</td>
<td>$49,158</td>
<td>Dr. Alexandra Stone, Oregon State University</td>
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<td>OW10-327</td>
<td>Establishing Economic Threshold and Epidemiology for Nosema Ceranae, A Relatively New Species of Microsporidian Parasite in the Honey Bee for PNW</td>
<td>$38,536</td>
<td>Dr. Ramesh Sagili, Oregon State University</td>
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<td>OW10-329</td>
<td>Protecting Water Quality and Promoting Economic Efficiency at Agricultural Composting Facilities</td>
<td>$49,115</td>
<td>Nick Andrews, Oregon State University</td>
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<tr>
<td>FW06-324</td>
<td>Banking on Beetles in Oregon</td>
<td>$19,068</td>
<td>Gwendolyn Ellen, Agricultural Biodiversity Consulting</td>
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**Total funding from the USDA SARE program to Oregon**

$12,090,062

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).