

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 \$410 million to more than 8,827 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...

Utah

Project Highlight: *Can We Manage Public Rangelands for Producers and the Environment?: Using Grazing-duration to Balance Livelihoods, Clean Water, Sage-grouse habitat, and Sustainable Forage*

Federal agencies managing public rangelands often face calls or litigation to curtail grazing on those lands due to expectations that these lands provide clean water and habitat for wildlife such as the sage-grouse. Yet ranchers depend on these lands for their livelihood, which is reduced when grazing intensity is reduced. To address this challenge, thirty-six Rich County Utah producers engaged in an eleven-year collaborative process with federal and state agencies to develop an innovative grazing plan for their public lands. Altering grazing-duration along streams is an important component of the plan they created. Grazing-duration is defined as length of grazing-time. Understanding how grazing-duration affects key ecological goals and producer economic-vitality is critical to determining this plan's success.

Kris Hulvey led the Western SARE project with ranchers to examine how three grazing-durations in replicated riparian areas affected water quality, sage-grouse habitat, and forage recovery. They additionally assessed costs for altering durations as required in the new grazing plan.

They found grazing duration can be used to manage forage height, bare ground, and the recovery of both in riparian areas. Shorter grazing durations (2-3 weeks) led to significantly taller vegetation and less bare ground than areas grazed for 1.5 months

They also found that grazing duration has mixed effects on sage-grouse habitat parameters. Lastly, they found grazing duration can be used as a tool to manage E. coli concentration without fencing-off riparian areas or removing cattle from rangeland pastures with streams. Shorter grazing duration led to fewer E. coli regulatory violations. There was no strong evidence that grazing duration affected stream water temperature, dissolved oxygen or pH.

For more information on this project, see sare.org/projects, and search for project number SW19-905.

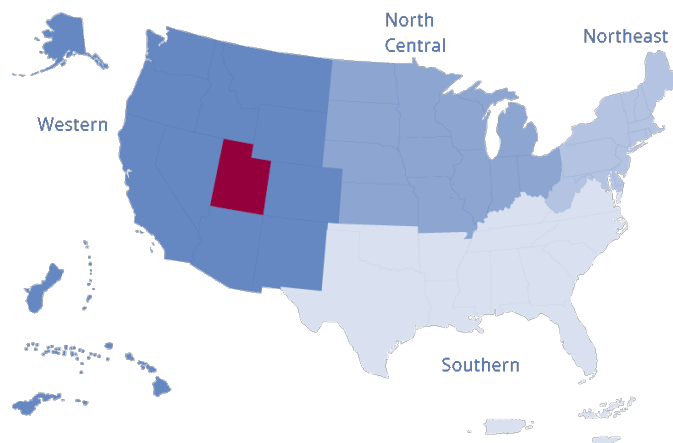
SARE in Utah

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

\$3,628,412
in total funding

28 grant project
(since 1988)

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



SARE in Utah

Grants awarded 2019-2024

Total awards: **28 grants**

- 6 Farmer/Rancher
- 8 Research and Education
- 5 Professional Development Program
- 3 On Farm Research/Partnership
- 6 Graduate Student

Total funding: **\$3,628,412**

- \$124,518 Farmer/Rancher
- \$2,727,725 Research and Education
- \$445,058 Professional Development Program
- \$156,148 On Farm Research/Partnership
- \$174,963 Graduate Student

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:

6,818 farmers participated in a SARE-funded project

1,538 farmers reported a change in knowledge, awareness, skills or attitude

142 farmers changed a practice



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

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/utah/ to learn more.

Marion Murray
Utah State University
(435) 797-0776
marion.murray@usu.edu

Justen Smith
Utah State University
(435) 919-1331
justen.smith@usu.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 UTAH

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

Utah has been awarded \$8,032,987 grants to support 92 projects, including but not limited to, 37 research and/or education projects, 12 professional development projects and 24 producer-led projects. Utah has also received additional SARE support through multi-state projects.

RESEARCH AND EDUCATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
SW23-950	Impact of including sprouted grains in the ration of beef cattle relative to animal performance, quality and nutritive value of meat, and economic via	\$349,974	Dr.Kara Thornton Utah State University Brady Blackett Blackett Cattle Company Kelly Crozier Raise'm Right Ranch Dr.Matthew Garcia Utah State University Dr.Korry Hintze, PhD Utah State University Dr.Clay Isom Utah State University, Dept. of Animal, Dairy, and Veterinary Sc Dr.Ryan Larsen Utah State University, Dept. of Applied Economics Jason Morgan Morgan Ranching Company Dr.Stephan van Vliet Utah State University
SW23-948	Can soil carbon help fund rangeland management?	\$349,795	Megan Nasto Working Lands Conservation/Multiplier
SW22-942	Using grazing-duration to balance: livelihoods, clean water, sage-grouse habitat, and sustainable forage in semi-arid rangelands	\$328,329	Dr.Kris Hulvey Working Lands Conservation Taylor Payne Utah Department of Agriculture's Grazing Improvement Program
SW22-941	Identifying Stacked Conservation Practices that Optimize Water Use in Agriculture: Phase II	\$350,000	Matt Yost Utah State University Dr.Earl Creech Utah State University Neil Hansen Brigham Young University Dr.Bryan Hopkins BYU

SW21-923	Developing sustainable strategies for nutrient and pest management on small-acreage strawberry farms	\$349,736	Dr.Jennifer Reeve Utah State University Dr.Brent Black Utah State University Dr.Kynda Curtis Utah State University Dr.Robert Schaeffer Utah State University
SW21-927	Dry Matter Intake and Feed Efficiency of Four Dairy Breeds in a Pasture-Based Heifer Development Program	\$299,935	Dr.Blair Waldron USDA-ARS Dr.Earl Creech Utah State University Dr.Clay Isom Utah State University, Dept. of Animal, Dairy, and Veterinary Sc Dr.Ryan Larsen Utah State University, Dept. of Applied Economics Dr.Rhonda Miller WSARE Dr.Kerry Rood, MPH, DVM Utah State University, Dept. of Animal, Dairy, and Veterinary Sc
SW19-909	Identifying Stacked Conservation Practices that Optimize Water Use in Agriculture	\$349,977	Matt Yost Utah State University Niel Allen Utah State University Dr.Earl Creech Utah State University Neil Hansen Brigham Young University Matthew Heaton Brigham Young University Dr.Bryan Hopkins BYU Ross Spackman Brigham Young University-Idaho
SW19-905	Can we manage public rangelands for producers and the environment?: Using grazing-duration to balance livelihoods, clean water, sage-grouse habitat, and sustainable forage	\$349,979	Dr.Kris Hulvey Working Lands Conservation Taylor Payne Utah Department of Agriculture's Grazing Improvement Program
SW18-058	Establishing a protocol for receiving cattle that are at-risk of having a mineral deficiency	\$206,209	Dr.Kara Thornton Utah State University
SW17-077	Best Management Practices for Regionally-Distinct Populations of the Blue Orchard Bee	\$246,910	Theresa Pitts-Singer USDA Agricultural Research Service

SW17-046	Grass-birdsfoot trefoil mixtures to improve the economic and environmental sustainability of pasture-based organic dairies in the western U.S.	\$214,123	Dr.Blair Waldron USDA-ARS
SW15-029	Improving Tart Cherry Sustainability	\$230,154	Dr.Brent Black Utah State University
SW15-003	Training cattle to graze medusahead and avoid velvet lupine: A new tool to sustain the economic viability of livestock operations in the Western US	\$249,909	Dr.Juan Villalba Utah State University
SW14-015	Integrated Byproduct Streams for Enhanced Viability of Combined Dairy Farm and Milk Processing Operations	\$295,688	Dr.Donald McMahon Western Dairy Center, Utah State University
SW13-034	Onion Systems Management Strategies for Crop Nutrition, Weeds, Thrips, and Iris Yellow Spot Virus	\$169,299	Dr.Diane Alston Utah State University
SW10-088	Grass-Legume pastures to increase economic and environmental sustainability of livestock production	\$209,907	Dr.Blair Waldron USDA-ARS
SW08-076	Cultural Management of Onion Thrips and Iris yellow Spot Virus	\$133,441	Dr.Jennifer Reeve Utah State University
SW07-035	High Value Crop Rotations for Utah High Tunnels	\$144,495	Brent Black PSC Department, Utah State University Dr.Brent Black Utah State University
SW07-014	Sustainable Vegetable Production: Screening Cover Crops for Water Use Efficiency	\$118,411	Dr.Daniel Drost Utah State University
SW04-060	Perennial Forage Kochia for Improved Sustainability of Grass-Dominated Ecosystems	\$149,503	Dale Zobel ADVS Dept., Utah State University
SW02-013	Sustainable Water Management for Irrigated Asparagus	\$23,014	Dr.Daniel Drost Utah State University
SW01-034	Assessment of Value Added Milk from Pasture-based Dairies	\$78,000	Tilak Dhiman Utah State University

SW01-023	Biofumigants in Commercial Onion Production to Enhance Soil Nutrient Availability, Soil Quality, and Control of Weed, Nematode, and Disease Pests	\$134,317	Brad Geary Brigham Young University
SW01-020	Production of Drought-adapted Intermountain Native Plants Through Low-cost, In-containers for Emerging Western Markets	\$71,686	Roger Kjelgren Utah State University
SW01-001	Value Added Opportunities from the Manufacture and Feeding of Silages Produced from Liquid Cheese Whey and Other By-products to Growing and Finishing Cattle and Beef Cows	\$59,777	Dale Zobel ADVS Dept., Utah State University
SW00-040	In-house composting in high-rise, caged layer facilities	\$60,975	Richard Koenig Utah State University
SW00-063	Impact Assessment of Western Region SARE Projects	\$38,500	Dr. Rhonda Miller WSARE
SW99-024	The Effects of Altering the Protein Efficiency of Lactating Dairy Cows on the Whole-farm Nitrogen Efficiency of Dairy Farms: Subcontract 1	\$19,184	Allen Young Utah State University
SW99-024A	The Effects of Altering the Protein Efficiency of Lactating Dairy Cows on the Whole-Farm Nitrogen Efficiency of Dairy Farms.	\$89,571	Allen Young Utah State University
SW99-024B	The Effects of Altering the Protein Efficiency of Lactating Dairy Cows on the Whole-Farm Nitrogen Efficiency of Dairy Farms	\$19,184	Richard Kohn
SW98-058	Reducing Chemical Inputs in Arid-Climates Through Sustainable Orchard Management	\$261,044	Schuyler Seeley Utah State University
SW96-032	Identification of Management Practices and Cultivars for Organic Hard-Winter Wheat Production	\$93,911	David Hole Utah State University
SW95-015	Public-Land Grazing Permittees Under Pressure: Sustainability of Coping Strategies on Private Land	\$63,000	D. Layne Coppock Utah State University

SW95-006	A Livestock Production System Less Reliant on the Use of Publicly Owned Lands	\$60,000	Randall D. Wiedmeier Utah State University
LWD93-034	Four Corners Navajo Nation Sustainable Agriculture Demonstration Project	\$100,000	Lyle G. McNeal Utah State University.
LWD93-006	Navajo Nation Whole Farm/Ranch Sustainable Systems Demonstration Project	\$14,000	Lyle G. McNeal Utah State University.
LWD92-005	Conference on the Science of Sustainable Agricultural Systems	\$15,500	David Bezdicek Washington State University

PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

Project #	Project Title	SARE Support	Project Leaders
WPDP23-008	Expanding cut flower production education supports agricultural professionals and small farms	\$99,979	Dr.Melanie Stock Utah State University Dr.Kynda Curtis Utah State University Claudia Nischwitz Utah State University Nick Volesky Utah State University
WPDP22-002	Training Agriculture Educators in Utah using the Wyoming Ranch Tools site and Western SARE research projects.	\$83,892	Bridger Feuz Master Stockman Consulting Hudson Hill Master Stockman Consulting LLC.
WPDP22-014	Educating and training community leaders to implement water recycling approach in Utah's landscapes and nursery industry	\$93,568	Dr.Shital Poudyal Utah State University Dr.Kelly Kopp Utah State University and CWEL Katie Wagner Utah State University Extension Josh Zimmerman Utah Department of Natural Resources
WPDP21-012	Assisting Extension professionals in assessing profitable and sustainable agricultural enterprises with producer clientele	\$99,969	Dr.Kynda Curtis Utah State University Dr.Ryan Larsen Utah State University, Dept. of Applied Economics Dr.Anastasia Thayer Utah State University Ruby Ward Utah State University
WPDP19-14	Enhancing Enterprise Diversification Assessment for Native American Farmers to Enhance Economic Sustainability	\$67,650	Ruby Ward Utah State University Vicki Hebb Trent Teegerstrom University of Arizona

EW15-023	Sustaining the Future of Navajo Rangelands via Mobile Learning Tools to Promote Enhanced Vegetation Management	\$62,260	Dr.Gerald Hawkes New Mexico State University
EW14-017	Building Business Management Capacity for American Indian Agricultural Businesses	\$75,000	Ruby Ward Utah State University
EW13-005	Economic Evaluation of Agricultural Diversification through Agritourism for the Intermountain West	\$74,492	Dr.Kynda Curtis Utah State University
EW09-007	Economic Evaluation of Alternative (low-water use) Crops for the Great Basin	\$99,724	Carol Bishop University of Nevada Cooperative Extension Dr.Kynda Curtis Utah State University
EW06-018	Disseminating Research-based Information to Improve Great Basin Rangelands	\$21,605	Summer Olsen Utah State University Mark Brunson Utah State University
EW06-005	Entrepreneurial Sustainable Agriculture: Alternatives for Processing, Packing, Labeling and Marketing in Internet/Retail Environments	\$58,755	John C. Allen, PhD Western Rural Development Center
EW04-010	Communication of Range Demonstration Project Results	\$15,045	Ken Mills Utah Association of Conservation Districts

FARMER/RANCHER GRANTS

Project #	Project Title	SARE Support	Project Leaders
FW24-019	Effects of Breeding Ewe Lambs on Reproductive Performance Longevity.	\$24,562	Gene Peckham Peckham Livestock
FW23-429	Study of hydroponics in cut flower production to increase water conservation and crop quality	\$25,000	Anna Zack Zack Family Farms
FW23-420	Reduction Of Water Use On Peony Crops By Using Shade Cloth.	\$9,067	Britin Van Brocklin Cherry petals flower farm
FW22-400	Economic and Yield Potential of Hemp Waste Material in Specialty Mushroom Substrate	\$24,282	Natasha Quinones-Rodriguez Intentional Growth
FW22-394	The Economics of Early Weaning and Early Breeding of Range Ewe Lambs	\$22,200	Gene Peckham Peckham Livestock

FW19-343	Can barley fodder be fed in place of grass hay to dairy goats and dairy sheep and what effect will it have on milk production and composition.	\$19,407	Anita Wilson Milky Hollow Creamery
FW07-315	Bramble Variety Trials in Utah to Reduce Disease, Increase Production and Enhance Profitability	\$23,250	Rick Heflebower Utah State University
FW06-327	Integrating Annual Crop Residues, Perennial Pastures, and Livestock Management to Extend the Grazing Season and Minimize Losses of Soil Nitrogen	\$10,000	Thomas Griggs Utah State University
FW06-027	Commercial Artichokes in the Intermountain West	\$5,180	James Haggarty Sun River Farms
FW06-012	Interseeding Forage Kochia in Established CRP Land for Enhanced Livestock and Wildlife Utilization	\$7,621	Ron Harper
FW05-022	Increasing the Profitability of Raspberries by Extending the Growing Season	\$2,310	Clark Willis
FW04-014	Goats as a Weed Control Alternative in Small Acreage Ranchettes	\$3,382	Kyle Christensen
FW04-037	Tomato Disease Prevention and Production Enhancement	\$2,095	Aviva Maller-O'Niel Rick Heflebower Utah State University
FW04-314	Organic Dairy Transition in Northern Utah	\$7,500	Clark Israelsen Utah State University Cooperative Extension
FW03-201	Winter Cover Crop Experiment	\$1,120	Aviva Maller-O'Niel
FW03-306	Season Extension Experiment	\$1,250	Rick Heflebower Utah State University
FW00-054	Southern Utah Forest Products Association Cooperative Marketing Act	\$4,835	Brian Cottam
FW00-019	Medusahead Control and Revegetation in Southern Cache County, UT	\$6,414	Guy Pulsipher

FW00-317	The Original Cache Junction Families Popped Wheat	\$2,801	Wes Roundy
FW99-080	Composting Poultry Waste Inside High Rise Layer Houses	\$4,992	Mike Shepherd
FW99-117	Hovenweep Burn Reseeding and Demonstration Area	\$4,000	Mary Tso
FW97-038	Increased Forage Production during Alfalfa Rotation Years in Johnson Canyon, Utah. Biological Control of Scotch and Bull Thistle on Disturbed Alfalfa Pastures	\$2,900	Michael E. Noel
FW97-065	Alternative Cropping For the Navajo Reservation	\$4,300	Mark Maryboy
FW95-084	Pasture Aeration and Fertilizer Study	\$2,480	Ken Carter

GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
GW24-010	The effect of finishing strategy and "terroir" on the phytochemical richness of bison meat in Western rangelands	\$29,968	Dr.Stephan van Vliet Utah State University Joseph Vinod Varre Utah State University
GW24-008	Developing 4 Mason Bee Species for Pollination of Berry Crops	\$30,000	Dr.Kelsey Graham USDA ARS Miranda Jones Utah State University
GW22-230	Evaluating the Effectiveness of Range Riding at Reducing Conflicts Between Livestock and Native Carnivores Across the American West	\$30,000	Dr.Julie Young Utah State University Rae Nickerson Utah State University
GW22-244	Evaluating the Impact of Wheat Straw Amendments on Dryland Organic Wheat Systems	\$29,995	Dr.Astrid Jacobson USU Dr.Jennifer Reeve Utah State University Preston Christensen Utah State University

GW21-221	Enhancement of Samurai Wasp [Trissolcus japonicus (Ashmead)] for Biocontrol of Invasive Brown Marmorated Stink Bug [Halyomorpha halys (Stål)] in Utah	\$30,000	Dr.Diane Alston Utah State University Curtis Rowley Cherry Hill Farms Dr.Lori Spears Utah State University Kate Richardson Utah State University
GW20-215	Identification of effective cover crop varieties and integrated management practices for weedy and invasive plant suppression in the Western US	\$25,000	Dr.Corey Ransom Utah State University Danielle Thiemann Utah State University
GW18-156	Utilizing Tannin-Containing Forages and Holos Software for Sustainable Beef Production in the Intermountain West	\$20,204	Dr.Jennifer Reeve Utah State University Kathryn Slebodnik Utah State University
GW18-106	Brown Marmorated Stink Bug in Utah's Intermountain West	\$24,999	Dr.Diane Alston Utah State University Mark Holthouse Utah State University
GW17-060	Navajo Spinach (Cleome Serrulata): Improving Seed Germination from Wild Populations Gathered across Native Lands of the Four Corners	\$24,969	Dr.Daniel Drost Utah State University Reagan Wytsalucy Utah State University
GW15-046	Improved simple on-site soil quality testing for soils in the Intermountain West	\$24,844	Dr.Jennifer Reeve Utah State University Esther Thomsen USU
GW13-006	Determination of gas emissions from manure sources in animal feeding operations	\$25,000	Scott B. Jones Utah State University Dr.Rhonda Miller WSARE Pakorn Sutitarnnontr Biological Engineering Department, Utah State University
GW12-030	Contributions to pest suppression through predator phenology and functional diversity	\$13,095	Dr.Ricardo Ramirez Utah State University Erica Stephens Utah State University

ON FARM RESEARCH/PARTNERSHIP GRANTS

Project #	Project Title	SARE Support	Project Leaders
------------------	----------------------	---------------------	------------------------

OW24-004	Developing New Osmia Species for Commercial Management and Pollination Diversification	\$75,000	Dr.Kelsey Graham USDA ARS Kimball Clark Nativebees.com Scott Pohlschneider Stahlbush Island Farm Mervin Weeks Weeks Berries of Paradise
OW19-343	Management strategies for Tomato spotted wilt virus and curtoviruses in Utah	\$31,149	Claudia Nischwitz Utah State University Dr.Diane Alston Utah State University Richard Heflebower Utah State University Extension - Washington County
OW19-346	Promoting crop diversification and soil health for cut flower production	\$49,999	Dr.Melanie Stock Utah State University Dr.Brent Black Utah State University Dr.Daniel Drost Utah State University Dr.Larry Rupp Utah State University
OW18-007	Supporting Natural Enemies of the Cabbage Aphid with Hedgerow Plantings	\$48,554	Laura Horn Wild Bee Project
OW14-036	Biochar Amendment to Enhance Tomato and Melon Productivity and Protect Against Phytophthora Root Rot Disease	\$49,990	Marion Murray Utah State University
OW13-005	Rangeland Restoration on the Channel Scablands of Eastern Washington	\$49,931	Dr.Kip Panter USDA-ARS-PPRL
OW12-020	Feedlot performance, feed efficiency, and profitability of cattle fed either a complete mixed ration or allowed to voluntarily select their diet.	\$49,967	Beth Burritt Utah State University

**Total funding from the USDA SARE program to
Utah
\$8,032,987**



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).