

What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over \$406 million to more than 8,803 initiatives.

SARE is grassroots with far-reaching impact

Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

SARE communicates results

SARE shares project results by requiring grantees to conduct outreach and grower engagement; and by maintaining an online library of practical publications, grantee-produced information products and other educational materials.



www.sare.org

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

Project Highlight: *Sustaining the Sugarbush in a Tribal Community*

Eric DuPuis has been running a sugarbush (a stand of sap trees) for more than 15 years as part of the Fond du Lac Band of Lake Superior Chippewa, an Anishinaabe band located near Cloquet, Minnesota. In addition to running a sugarbush, DuPuis works with Fond du Lac Tribal and Community College's Thirteen Moons program to increase awareness of natural resources, provide new opportunities for social interaction, and increase knowledge of the Ojibwe culture.

In 2019, DuPuis received SARE support so he could increase his sugarbush production, reduce the amount of fuel he was using to boil sap, and share information about making maple syrup with his Tribal community.

Making maple syrup from sap requires a lot of evaporation. Operators cook the sap at a steady rate until it reduces into syrup. The ratio of sap to syrup for the sugar maple is 40 to 1 (40 gallons of sap yields one gallon of syrup), so the amount of cooking time is significant. DuPuis updated his evaporating pans and filtration process and was able to increase the amount of syrup he made from 1 cord of wood from 15 gallons to 20 gallons. He decreased the amount of energy needed to produce syrup, both in terms of wood supply and labor needed to cut and haul wood.

DuPuis wanted to share the process of starting a sugarbush operation with his community. Through workshops, community members learned how to identify maple trees during the winter months, tapping techniques, how to install and maintain a tubing system, boil sap, make sugar, make candy, and finish syrup.

"One family became involved with the sugarbush workshops from the beginning," said Dupuis. "Most participants are single participants, however, this group was a family that included their 11-year-old daughter. Their participation was a great example of community participation."

For more information on this project, see sare.org/projects, and search for project number [FNC19-1160](#).

SARE in Minnesota

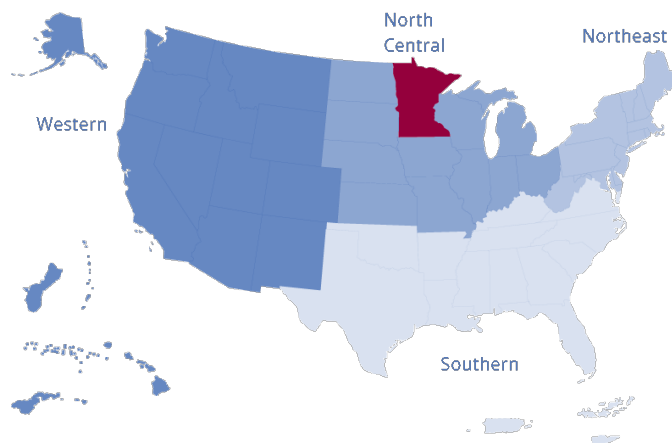
northcentral.sare.org/state-profiles/minnesota/

\$4,728,326
in total funding

103 grant project

(since 1988)

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



SARE in Minnesota

Grants awarded 2019-2024

Total awards: **103 grants**

- 46 Farmer/Rancher
- 11 Research and Education
- 9 Professional Development Program
- 14 On Farm Research/Partnership
- 9 Graduate Student
- 14 Youth Educator

Total funding: **\$4,728,326**

- \$762,905 Farmer/Rancher
- \$2,434,960 Research and Education
- \$801,099 Professional Development Program
- \$535,421 On Farm Research/Partnership
- \$127,491 Graduate Student
- \$66,450 Youth Educator

Find a complete list of projects on page 3.

Farmer and rancher impacts 2019-2024

SARE grantees have reported the following impacts from their projects:

7,615 farmers participated in a SARE-funded project

1,897 farmers reported a change in knowledge, awareness, skills or attitude

932 farmers changed a practice



Learn about local impacts at:
northcentral.sare.org/state-programs/minnesota/

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 northcentral.sare.org/state-profiles/minnesota/ to learn more.

Katie Lee
University of Minnesota
(651) 497-1305
katielee@umn.edu

Kate Seager
University of Minnesota Minnesota Institute for Sustainable Agriculture
(612) 625-8235
kseager@umn.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 MINNESOTA

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

Minnesota has been awarded \$15,927,361 grants to support 385 projects, including but not limited to, 80 research and/or education projects, 40 professional development projects and 170 producer-led projects. Minnesota has also received additional SARE support through multi-state projects.

RESEARCH AND EDUCATION GRANTS

Project #	Project Title	SARE Support	Project Leaders
LNC22-463	Exploration of Shredded Cardboard as a Mulch and Compost Resource to Improve Soil Health and Water Management by Urban Growers in the Twin Cities	\$249,852	Dr.Nicolas Jelinski University of Minnesota
LNC22-464	Biological control for sustainable management of soybean gall midge, a new pest of soybean in the North Central Region	\$239,682	Dr.Robert Koch Department of Entomology, University of Minnesota
LNC22-466	Bimaaji'idiwin Gitigaaning Producer Training Program and Manoomin hull Research	\$250,000	Courtney Kowalczak Fond du Lac Tribal and Community College
LNC22-471	Planting Green in the Frozen North	\$249,839	Dr.Lindsay Pease University of Minnesota Twin Cities
LNC22-474	Optimizing Agricultural Use of Diverse Soil Landscapes: Small Organic Vegetable Farms in the Driftless Area	\$249,939	Dr.Kyungsoo Yoo UNIV. OF MINNESOTA
LNC21-448	Addressing honey bee health challenges in Minnesota through providing colony assessment tools and education for beekeepers	\$250,000	Katie Lee University of Minnesota
LNC21-453	Match made in heaven: livestock + crops	\$247,740	Erin Meier Green Lands Blue Waters/MISA/UM
LNC21-457	Advancing Spotted-Wing Drosophila Sustainable Management Techniques for Strawberries in Minnesota	\$249,906	Mary Rogers University of Minnesota

LNC19-415	Empowering sustainable farmers with proactive, community-centered farm law education, resources, and networks.	\$198,199	Rachel Armstrong Farm Commons
LNC19-423	Summer Cover Crop System Management: New options for Upper Midwest vegetable producers	\$199,803	Dr.Julie Grossman University of Minnesota
LNC19-427	Promoting manure composting for livestock operations	\$50,000	Chryseis Modderman University of Minnesota Extension
LNC18-406	Intercropping the Perennial Grain Kernza® with Legumes for Sustained Economics and Environmental Benefits	\$199,946	Jacob Jungers University of Minnesota
LNC17-392	Collaborative Evaluation of Ecosystem Services Provided by Urban Agricultural Best Management Practices in the Twin Cities Metropolitan Area	\$198,529	Dr.Nicolas Jelinski University of Minnesota
LNC17-395	Deep Winter Food Production in the North Central Region	\$196,423	Greg Schweser Regional Sustainable Development Partnerships
LNC17-398	Winter Camelina: New cash crop opportunities for sustainable sugar beet production	\$199,999	Dr.Samantha Wells University of Minnesota
LNC16-379	Evaluating Measurement Techniques of Pasture Productivity to Document Benefits of Enhanced Grazing Systems	\$109,771	Dr.Rodney Greder University of Florida IFAS Extension
LNC14-360	Reweaving the Economic Fabric to Support Sustainable Farms and Ag-based Businesses	\$199,634	Jan Joannides Renewing the Countryside
LNC14-364	Bringing the Benefits of Legume Cover Crops to Northern Midwest Climates	\$114,497	Dr.Julie Grossman University of Minnesota
LNC13-353	Promoting Sustainable Biological Control of the Soybean Aphid by Examining the Effect of Biodiversity on Releases of the Parasitoid Wasp Aphelinus glycinis	\$178,558	Dr.George Heimpel University of Minnesota
LNC12-342	When Farming Reality Doesn't Match the Business Plan	\$165,294	Kent Solberg Sustainable Farming Association

LNC11-334	Connecting Sustainable Farmers to Emerging Health Care Markets	\$162,952	Anna Claussen Institute for Agriculture and Trade Policy Karen Quiroz Institute for Agriculture and Trade Policy
LNC11-336	Organic Beans and Peas: Nutritious and Gluten-free Local Foods	\$199,217	Dr.Craig Sheaffer University of Minnesota
LNC10-320	Building Capacity for Local Foods Infrastructure Development	\$171,079	Dr.Kathryn Draeger University of Minnesota Regional Sustainable Development Partnerships Greg Schweser Regional Sustainable Development Partnerships
LNC10-325	Agripreneur Training Center	\$166,900	Kat Vann Main Street Project Edward Ritchie Main Street Project
LNC10-328	Developing Hazelnut Germplasm for the Upper Midwest	\$175,000	Dr.Loïs Braun Research Associate
LNC09-313	Farmer field school approach to increasing cover crop adoption in Iowa and Minnesota	\$174,296	Sarah Carlson Practical Farmers of Iowa
LNC09-315	Sustainable Inquiry Research and Education Network (SIREN)	\$156,336	Pauline Nickel SW Research & Outreach Center
LNC09-316	The role of imidacloprid systemic insecticide on colony collapse disorder of honey bees and decline of bumble bee pollinators	\$175,000	Dr.Vera Krischik UMinnesota
LNC08-294	Antibiotic Uptake by Vegetable Crops from Manure-Applied Soils	\$139,420	Dr.Satish Gupta University of Minneota
LNC08-296	Behavior Manipulation of the Multicolored Asian Lady Beetle in Midwest Vineyards: Novel Repellants and Attractants for a Sustainable IPM "Push-pull" Strategy	\$114,030	Eric Burkness University of Minnesota
LNC08-301	Indigenous Corn Restoration Project	\$150,000	Winona LaDuke White Earth Land Recovery Project

LNC06-275	Alternative Bedding and Management of Composting bedded Pack Dairy Barns	\$150,000	Jeffrey Reneau University of Minnesota
LNC05-263	Ag Diversification on the Airwaves - Diversification Broadcasts to Inform and Inspire	\$124,535	Meg Moynihan Minnesota Department of Agriculture
LNC05-264	Reducing Pesticide Use in Honey Bee Colonies through Sound Sampling and Treatment Procedures	\$150,000	Marla Spivak University of Minnesota
LNC04-246	Green Eating and Vacationing in Minnesota: Eat and Play to Support Sustainable Agriculture	\$150,000	Jan Joannides Renewing the Countryside
LNC04-248	Traditional Community Agriculture Restoration	\$150,000	Winona LaDuke White Earth Land Recovery Project
LNC03-226	Enhancing Pasture Productivity by Improving Winter Survival of Perennial Ryegrass	\$149,998	Paul Peterson University of Minnesota
LNC03-229	Experiential Learning Opportunities for Graduate and Undergraduate Students	\$60,000	Dr.Helene Murray University of Minnesota
LNC03-231	Microbial Safety of Organic Fruits and Vegetables	\$139,650	Francisco Diez-Gonzalez University of Minnesota
LNC03-232	"Livestock Your Way" Series Publications: Producer Guides to Goal Setting and Management Options for Dairy and Poultry Enterprises in the Upper Midwest	\$73,500	Meg Moynihan Minnesota Department of Agriculture
LNC02-202	A Sustainable Approach to Reducing Pesticide and Antibiotic Use in Honey Bee Colonies	\$99,600	Marla Spivak University of Minnesota
LNC02-204	Policy Research and Development to Support Multiple Benefits from Agriculture: Phase II	\$95,350	Carolyn van Schaik Land Stewardship Project
LNC02-209	New Immigrant Agriculture Project	\$69,000	Glen Hill Minnesota Food Association

LNC02-214	The Occurrence of Antibiotic Resistant Bacteria in Manure, Manure-Applied Fields, and Pets on the Farm	\$99,835	Dr.Satish Gupta University of Minneota
LNC02-219	Restoring Native Perennial Legumes for Forage, Feed and Food	\$100,000	Donald Wyse University of Minnesota
LNC01-188	Evaluating Open-Pollinated Corn Varieties	\$75,300	Zeno Wicks, III South Dakota State University
LNC01-192	Beginning Farmer Program: Evaluation and Expansion	\$96,430	Karen Stettler Land Stewardship Project
LNC00-168	Phosphorus Mobilization and Weed Suppression by Buckwheat.	\$50,000	Jim Stordahl University of Minnesota Extension Service
LNC00-177	Managed Intensive Rotational Grazing for Farms Affected by Urban Growth	\$13,629	Julie Klocker
LNC00-179	Assessing soil quality changes in alternative and conventional cropping systems	\$93,300	Deborah Allan University of Minnesota
LNC00-200	Getting a Handle on the Barriers to Financing Sustainable Agriculture	\$69,043	Carolyn van Schaik Land Stewardship Project
LNC99-145	Presenting NCR SARE Research Results in the Context of Whole Farm Planning	\$85,000	Diane Jensen The Minnesota Project John Lamb The Minnesota Project Inc
LNC99-146	Economic Analysis and Policy Development To Support Multiple Social, Economic and Environmental Benefits Produced by Farms	\$92,840	Mara Krinke Land Stewardship Project George Boody Land Stewardship Project
LNC99-149	Strategies for Conversion to Organic Production Systems	\$96,472	Elizabeth Dyck University of Minnesota, Southwest Experiment Station
LNC99-152.1	A Sustainable Approach to Controlling Varroa Mites of Honey Bees	\$86,286	Marla Spivak University of Minnesota
LNC99-155	Native Perennial Legumes: New Species for Grazing Systems	\$100,000	Nancy Ehlke University of Minnesota

LNC99-161.1	People to People: Enhancing the Quality of Life and Profitability of Family Farms	\$58,000	Lynda Converse Sustainable Farming Assn of Central Minnesota
LNC98-128	Congregationally Supported Agriculture	\$38,900	Phillip Arnold Center Chapter Sustainable Farming Assn
LNC98-133	Strengthening Links Between Meat Producers, Processors, and Consumers	\$6,000	Jenifer Buckley Sustainable Farming Association of Northeast Minnesota
LNC98-134	Perennial Legumes for Sustainable Pasture Systems	\$99,800	Dr.Craig Sheaffer University of Minnesota
LNC98-136	Addressing Agricultural Practices and Water Quality Issues through Youth-Developed Decision Cases	\$41,498	Marla Reicks Dept of Food Science and Nutrition, University of Minnesota
LNC97-111	Farm Beginnings: An Educational Training and Support Program to Establish Young Dairy Farmers in Southeast Minnesota	\$90,000	Chuck Schwartau Goodhue County Extension
LNC97-117	A Sustainable Approach to Controlling Mite Pests of Honey Bees	\$78,750	Marla Spivak University of Minnesota
LNC96-103	Experiential Learning Activities for an Undergraduate Minor in Sustainable Agriculture Systems	\$122,732	Dr.Craig Sheaffer University of Minnesota
LNC96-109	Packaging, Testing, and Disseminating a Set of Indicators for Ecological, Financial, and Social Monitoring on Farms	\$88,000	George Boody Land Stewardship Project
LNC96-098	People to People: Sustainable Agriculture Networking for Farmers and Rural Communities	\$97,000	DeEtta Bilek Sustainable Farming Association of Minnesota
LNC95-090	Weed Control for More Sustainable Soybean Production	\$80,000	Nicholas Jordan Dept of Agronomy and Plant Genetics, University of Minnesota
LNC95-092	Obstacles to Market Access for Family Farm Hog Producers	\$50,180	Mark Schultz Land Stewardship Project
LNC94-067	Future Farmers in Sustainable Agriculture	\$20,800	Leslie Reindl Minnesota Food Association

LNC94-075	Biological, Financial, and Social Monitoring to Develop Highly Sustainable Farming Systems	\$50,000	George Boody Land Stewardship Project
LNC93-058	Annual Medics: New Legumes for Sustainable Farming Systems in the Midwest	\$130,000	Dr.Craig Sheaffer University of Minnesota
LNC92-045	Midwest Alternative Agriculture Education Network	\$120,000	Patrick Moore Land Stewardship Project
LNC91-034	Strip Cropping Systems to Reduce Energy Inputs and Optimize Profitability	\$53,000	Gyles Randall University of Minnesota
LNC90-011.2	The Middle Border On-Farm Research Consortium	\$113,580	Patrick Moore Land Stewardship Project
LNC90-027	Rotational Grazing Systems for Wisconsin and Minnesota Dairy Farmers - An Evaluation of Animal and Forage Performance and Whole-Farm Socio-Economic Analysis	\$118,700	Dr.Craig Sheaffer University of Minnesota
LNC89-011.1	The Middle Border On-Farm Research Consortium	\$107,697	Audrey Arner Land Stewardship Project
LNC89-020.1	Performance and Economics of a Low-Input Feeder Swine Operation	\$21,700	Carlos Pijoan College of Veterinary Medicine
LNC88-001	Integration of Conservation Tillage, Animal Manures, and Cultural Pest Control in Corn	\$98,500	David Andow University of Minnesota
LNC88-011	The Middle Border On-Farm Research and Information Network	\$75,000	Patrick Moore Land Stewardship Project
LNC88-020	Performance and Economics of a Low-Input Farrow to Feeder Swine Operation	\$42,100	Carlos Pijoan College of Veterinary Medicine

PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

Project #	Project Title	SARE Support	Project Leaders
ENC23-227	Engaging Rural Ministry in Suicide Prevention	\$54,780	Meg Moynihan Minnesota Department of Agriculture
ENC22-210	Cultivating Farm Law Leaders	\$72,072	Rachel Armstrong Farm Commons

ENC22-217	Continuous Living Cover 101 - Building a Foundation for Early Career Conservation Professionals	\$89,982	Erin Meier Green Lands Blue Waters/MISA/UM
ENC21-203	Building Equitable Farmland Tenure Models for Minnesota Farmers	\$80,000	Jean Theron Willoughby Agrarian Trust
ENC21-204	Professional Development Project: Economics of Silvopasture	\$79,010	Lucinda Winter Sustainable Farming Association of Minnesota
ENC21-208	Increasing Sustainable and Organic Farmers' Access to Credit and COVID-19 Relief through Professional Development	\$90,000	Scott Carlson Farmers' Legal Action Group (FLAG)
ENC20-197	Building a sustainable agriculture Extension network in Minnesota	\$90,000	Betsy Wieland University of Minnesota Extension
ENE19-154	Building the Resiliency of Farms through Farm Law Education of Agriculture Professionals	\$155,725	Rachel Armstrong Farm Commons
ENC19-178	Professional Development Program for Silvopasture Adoption	\$89,530	Theresa Keaveny SFA - MN
ENC18-164	Sustainable Farm Law 101 for Agriculture Professionals and Educators	\$74,947	Rachel Armstrong Farm Commons
ENC18-171	Blazing Trails through the Jungle of Food Regulations	\$67,086	Helene Murray MN Institute for Sus. Agric., Univ. of MN Dr.Helene Murray University of Minnesota Jane Jewett University of Minnesota
ENC18-170	Trying Times: Tools to Understand and Alleviate Farm Stress	\$72,714	Meg Moynihan Minnesota Department of Agriculture
ENC17-158	SFA Networking for Soil Health	\$75,000	Theresa Keaveny SFA - MN
ENC17-160	Training an Influential Network of Farming, Beekeeping and Extension Experts to Promote Bee Health	\$75,000	Dr.Rebecca Masterman University of Minnesota

ENC16-151	Empowering Professionals with Sustainable Farm Law	\$70,613	Rachel Armstrong Farm Commons
ENC15-145	Soil Health and Nutrient Management Training for Immigrant and Minority Farming Communities	\$74,760	Dr. Julie Grossman University of Minnesota
ENC15-147	Networking for Soil Health	\$75,000	Wayne Monsen Sustainable Farming Association Kent Solberg Sustainable Farming Association
ENC13-140	The Conservation Biological Control Short Course	\$71,710	Eric Mader The Xerces Society
ENC13-141	Integrating Continuous Living Cover (CLC) into Farming Systems through Professional Development	\$74,658	Richard Warner Green Lands Blue Waters
ENC12-135	Growing a Network of GAPs Educators in the Upper Midwest	\$74,385	Michele Schermann University of Minnesota Annalisa Hultberg UMN
ENC10-114	Sustainable Poultry, Pastures, Soils, and Vegetable Education in Minnesota	\$73,952	Timothy Arlt University of Minnesota Extension
ENC09-110	Building Extension Capacity in the North Central Region to Address Agricultural Energy Use	\$74,919	Patrick Walsh UW-Madison Scott Sanford University of Wisconsin-Madison
ENC08-104	Building Minnesota's Farm to School Policy and Infrastructure through University of Minnesota Extension and Community Partnerships	\$75,000	Stephanie Heim University of Minnesota - Extension
ENC07-097	Sustainable Renewable Energy Training for Agriculture and Natural Resource Professionals	\$50,000	Karen Quiroz Institute for Agriculture and Trade Policy Jim Kleinschmit Institute for Agriculture and Trade Policy
ENC06-091	Organic Dairy Short Course for Ag Professionals	\$66,250	Meg Moynihan Minnesota Department of Agriculture
ENC05-086	Conservation Planning Training for Private Sector Agronomy Service and Local Conservation Agencies	\$53,562	Tim Gieseke Minnesota Project

ENC04-080	Food Alliance Workshops: Helping Extension Educators Build Community Food Systems with Certified, Sustainable Agricultural Practices	\$13,645	Jim Ennis
ENC04-083	A Tri-State Expansion: Educator Training using the Farm Beginnings Model	\$74,856	Catherine Twohig Land Stewardship Project
ENC03-073	Smarter Farmers, Smarter Lenders: Educating Toward a Sustainable Community	\$90,000	Carolyn van Schaik Land Stewardship Project
ENC02-064	Bringing Farmland Conservation-Based Estate Planning to Agricultural Professionals	\$83,314	Julia Freedgood American Farmland Trust
ENC02-065	Elementary Organics: Multi-track Training for Minnesota's Agricultural Educators and Advisors	\$59,360	Meg Moynihan Minnesota Department of Agriculture
ENC02-068	Supporting Community with Retail and Institutional Food Service; Keeping it Safe, Legal and Local	\$42,206	Audrey Arner Land Stewardship Project
ENC02-069	Business Planning for Alternative Enterprises – Train the Trainer Program	\$62,775	Robert Craven University of Minnesota
ENC01-062	Getting a handle on the barriers to financing sustainable agriculture	\$69,043	Carolyn van Schaik Land Stewardship Project
ENC99-038	Training on Grazing and Monitoring Riparian Corridors in Minnesota and Wisconsin	\$71,110	Carolyn van Schaik Land Stewardship Project
ENC97-019	Minnesota Sustainable Farming Association Chapter Networking	\$41,600	DeEtta Bilek Sustainable Farming Association of Minnesota
ENC96-014	Decision Cases for Sustainable Agriculture: A Video Training Project for Professional Development	\$52,380	Helene Murray MN Institute for Sus. Agric., Univ. of MN
ENP96-001	NCWSS Sustainable Agriculture Symposium	\$9,500	Donald Wyse University of Minnesota
ENC95-005	Life After CRP	\$30,000	Peter Buessler Minnesota Dept of Natural Resources

ENC95-009	A Comprehensive Educational Program for "Training the Trainers" in Sustainable Agriculture in Minnesota, Wisconsin, and Iowa	\$108,905	Helene Murray MN Institute for Sus. Agric., Univ. of MN
-----------	--	-----------	--

FARMER/RANCHER GRANTS

Project #	Project Title	SARE Support	Project Leaders
FNC24-1404	Climate Resilient Pastures: Establishing long-lived, multipurpose fodder, fruit and nut trees in an Upper Midwest silvopasture system	\$14,887	Emily Buehler O'Leary North Fork Farms MN
FNC24-1407	Improving vegetable yield, profit, and quality of life on urban farms with a new biobased, compostable weed barrier for narrowly spaced crops	\$15,000	Lachelle Cunningham Frogtown Farm
FNC24-1417	Non-traditional farm transition planning and value transfer via mentoring and creative lease agreements	\$29,996	Dr.Cindy Hale Clover Valley Farms, LLC
FNC24-1419	Creating a DIY Video Guide on How to Convert a 1950's Gas Powered Weeding Tractor into a Battery Powered Electric Tractor	\$9,790	Pearce Jensen StrongHeart Farms
FNC24-1430	Utilizing Beneficial Insects to Eliminate Sprays in Affordable Controlled Environment Systems	\$14,835	Dr.Andrew Petran Twin Cities Berry Company
FNC24-1439	Grains for mushrooms growers	\$30,000	Noreen Thomas Doubting Thomas Farms
FNC23-1367	Using No-Fence Technology to Integrate Livestock Into Vegetable Production	\$29,875	Arlo Cristofaro-Hark Cannon Valley Graziers, LLC
FNC23-1369	Scaling Up Food-Grade Millet Production for Minnesota's East Africans	\$15,000	Naima Dhore none
FNC23-1370	Optimizing No-Till Methods for a Direct-to-Market Organic Vegetable Farm	\$14,867	Sandra Dietz Whitewater Gardens Farm
FNC23-1388	Increasing Capacity for Latino Farmers' Seed and Food Production with Culturally Important Crops	\$29,920	Zachary Paige North Circle Seeds

FNC23-1398	Developing a Farm Apprenticeship in Northeast Minnesota	\$29,905	Sarah Mayer Wolf Ridge Environmental Learning Center
FNC23-1360	Comparison between hoop house and outdoor grown crops (hemp)	\$7,496	Renika Love Love's Hemp House LLC
FNC22-1318	Building the foundation for a dye plant growing cooperative in USDA Plant Hardiness Zone 4	\$26,919	Maddy Bartsch Salt of the North Dyes
FNC22-1320	Feasibility of Hoop House Technology for Specialty Crops	\$29,982	Angela Dawson Forty Acre Cooperative
FNC22-1321	Evaluating the Effectiveness of a Science-based, Innovative Winterization System on the Health and Mortality of Honey Bees	\$29,460	Peggy DeSanto Northwinds BeeCo, LLC
FNC22-1325	Evaluate the Efficiency of Raising Pastured Egg Layers in a Compost Heated Hoophouse Over Winter and Their Influence on Compost Quality	\$9,716	Craig Fischer Sleepy Bison Acres
FNC22-1327	Scaling up organic botanical production in the Upper Midwest	\$15,000	Delanie Harrmann So Below Apothecary LLC
FNC22-1332	Comparing fall- and spring-planted row crop to pasture conversion after multiple years of grazed diverse continuous cover crops	\$15,000	Zachary Knutson Knutson Shorthorns
FNC22-1333	Growing Specialty Crops in "Sacrifice Paddock" after Winter Bale-Grazing	\$8,245	Zachary Knutson Knutson Shorthorns
FNC22-1336	Expanding Production of African Eggplant in the Red River Valley	\$29,611	Verna Kragnes Prairie Rose Agricultural Institute for Research, Innovation, & Education
FNC22-1343	Ducks in an Upper Midwestern Vineyard: Managing Pests, Weeds and Grass while Improving Soil Fertility	\$13,114	Kerri Meyer Good Courage Farm
FNC22-1352	Establish a system of composting to produce local sustainable agricultural inputs	\$14,725	Bailey Scott Sun Sprout Farm

FNC22-1355	This project will test the efficacy of using compost, as a mulch and weed suppressor, in small-scale no-till vegetable production.	\$15,000	Jonathan Stensgard Pine Creek Farms LLC
FNC21-1259	Direct to Consumer Market Research on Whole Grains, Legumes & Oilseeds	\$9,000	Robert Barbeau Beautiful Beard Grain Farm
FNC21-1283	Evaluating the forage potential and financial viability of grazing diverse annual forage crops in a tradition corn/soybean rotation	\$9,000	Zachary Knutson Knutson Shorthorns
FNC21-1288	Evaluating the Impact of Corn and Soy Feed and Corn-Free Soy-Free Feed on Animal Health, Growth Rates and Meat Quality in Pastured Poultry	\$9,000	Valerie Luhman Grassfed Cattle Co.
FNC21-1292	Educating emerging farmers in specialty crop production and sales through an incubator farm education program, using soil health practices	\$18,000	Moses Momanyi Dawn2Dusk Farms
FNC21-1299	Using a laser system for non-toxic deterrence of birds and raccoons in an organic berry orchard	\$9,000	Jim Riddle Blue Fruit Farm
FNC21-1300	Evaluation of soil health measurement tools by current and future farmers to demonstrate the benefits of sustainable practices.	\$17,439	Michelle Rossman Rossman Farms
FNC21-1305	A protection system for growing Peaches in cold Climates	\$8,840	Dan Sheild Stone Creek Farm
FNC21-1311	Marketing Small Grains Direct	\$26,824	Noreen Thomas Doubting Thomas Farms
FNC20-1213	Feasibility of Solar Grazing in Minnesota: Co-locating Sheep and Solar for Economic Viability and Environmental Benefit	\$8,683	Arlo Cristofaro-Hark Cannon Valley Graziers, LLC

FNC20-1216	Use of fresh comfrey to substitute 20% of the total diet (base of corn and soy) of broiler chickens raised under a system of regenerative production	\$26,736	Wilber De La Rosa Jubilo Farm
FNC20-1228	Economical sustainable weed control options for small farms with alkaline soil.	\$4,947	David Jensen Farm in the Dell of the Red River Valley
FNC20-1240	Controlling Japanese Beetles in a Vineyard with a Drone Pesticide Sprayer	\$8,988	Jerome Natzel IFM Brands
FNC20-1242	Scaling up on-farm drying equipment for Elderflower and other perennial herbs in the Upper Midwest.	\$17,726	Wyatt Parks Main Street Project Research and Demonstration Farm, LLC
FNC20-1246	Permaculture Design Training for Urban Youth Farm Design Plan	\$9,000	Julie Rappaport SLP SEEDS (aka Seeds Feeds)
FNC20-1251	Forcing Belgian Endive and Treviso Radicchio in The Upper Midwest	\$4,945	Peter Skold Waxwing Farm
FNC20-1254	Local Grains and Fruit for Adjunct Use in Craft Breweries	\$26,858	Noreen Thomas Doubting Thomas Farms
FNC19-1153	Expanded production of Hanchotte (<i>Coccinia abyssinica</i>), a tropical root crop under the Mid-West climatic conditions	\$8,930	Kano Banjaw Rome Farm
FNC19-1160	Sustaining the Sugar Bush in a Tribal Community to Educate, Reduce Fuel Usage and Increase Marketable Maple Sap Products.	\$9,000	Eric Dupuis Dupuis Sugarbush
FNC19-1165	Mobile Unit to Facilitate More Intensive Rotational Grazing	\$25,383	Dr.Rodney Greder University of Florida IFAS Extension
FNC19-1171	Expanding cover crop use through interseeding into established vegetable plantings	\$8,947	Dana Jokela Sogn Valley Farm
FNC19-1188	Effects of Non-Chemical Pest Control on the Profitability of Day-Neutral Strawberry Production in the Midwest	\$8,998	Dr.Andrew Petran Twin Cities Berry Company

FNC19-1193	Grazing Sheep in an Upper Midwest Vineyard to Control Vegetation	\$11,340	Kami Schoenfeld Circle S Cattle and Lambs
FNC19-1202	Malting Organic Oats, Heritage Wheats, and Heritage Barley	\$26,978	Noreen Thomas Doubting Thomas Farms
FNC18-1144	Skalko Bee Farm	\$7,500	John Skalko Skalko's Honey Bee Farm
FNC17-1099	Does Open-Pollinated Corn Have a Place on Today's Organic Farm?	\$6,008	Stanley Smith Stanley Smith
FNC17-1102	The Minnesota Hmong Agriculture Cooperative's Aggregation and Value-added Program	\$19,350	Phenhli Thao Minnesota Hmong Agriculture Cooperative
FNC17-1107	Building a Virtual On-Line Food Hub for Small Scale Sustainable Farms in Rural Areas	\$15,000	Jacquelyn Zita Women's Environmental Institute
FNC17-1108	Integrating Cover Crop Seeding and Strip Tillage into a One Pass System	\$6,650	Lee Thompson Lane Ridge Farms Dan Coffman NA
FNC16-1042	Anishinaabe Traditional Food Restoration for Local and Market Consumption	\$15,000	Donald Wedll Deertrails Teas
FNC16-1047	Subsurface Irrigation ' Aerogation to Improve Productivity and Reduce Nutrient Movement	\$7,460	Russ Martie Russ Martie Farm
FNC16-1048	Assessing the Value of Hay Litter During Winter Bale Grazing	\$12,139	John Mesko Lighthouse Farm
FNC16-1063	Increasing Soil Health and Infiltration with Cover Crops	\$7,398	Vernon Uit De Flesch Uit de Flesch Farms
FNC15-1002	Intensive Rotational Grazing with Sheep on Riparian Land to Target Invasive Reed Canary Grass and Common Buckthorn	\$7,477	Nancy Lunzer Farm / Ranch
FNC15-1022	Native Youth Plant a Bee Meadow	\$7,500	Joy Persall Peta Wakan Tipi/Dream of Wild Health

FNC14-948	Management of the Spotted Wing Drosophila using High Tunnels	\$14,850	Erik Gundacker Scenic Valley Farm
FNC14-960	Open Source Solutions for Vineyard Health Management	\$7,500	Stephen Lunak Flying L Ranch Vineyard
FNC14-964	Cover Crop Network Costshare	\$22,340	Robin Moore Land Stewardship Project Taylor Morical Morical Farms
FNC14-965	Developing Profitable and Sustainable Fiber Markets in Southern Minnesota	\$19,800	Jean Mueller State of Minnesota
FNC14-974	Adapting Cover Crops to Northern Climate Conventional Cropping Systems	\$22,471	Troy Salzer Carlton County Extension Abe Mach Mach Farms
FNC13-909	Water Capture from High Tunnel Diversion into Irrigation System using Renewable Energy	\$7,499	Cherry Flowers Page & Flowers
FNC13-914	White Earth Land Recovery Project Fish Fertilizer Project	\$7,500	Winona LaDuke White Earth Land Recovery Project
FNC13-925	Developing Commercial Elderberry Production in Minnesota	\$14,980	Christopher Patton Midwest Elderberry Cooperative
FNC12-860	Finishing Time And Weights Of Grass-Fed Beef Animals	\$19,829	Jane Jewett University of Minnesota
FNC12-870	Profiles of Farmers in Sustainable Agriculture	\$14,634	Tim King Whole Farm Cooperative
FNC12-874	Developing Soil Fertility Systems for Urban Agriculture in the Upper Midwest	\$7,239	Alexander Liebman Stone's Throw Urban Farm
FNC12-890	Sustainable Straw Based Animal Welfare Friendly Growing Unit for Hogs	\$7,450	Paul Sobocinski
FNC12-894	Heron Lake Watershed District Cover Crop Demonstration Project	\$6,642	Jan Voit Heron Lake Watershed District
FNC10-803	Mobile Farmers' Market	\$6,000	Diane Wilson Peta Wakan Tipi

FNC10-807	Bio char Kiln Fabrication and Operation	\$3,893	John Topic self
FNC10-831	Small-Scale Oilseed Processing: Evaluating Edible Camelina Oil for its Market Demand and Value-Added Opportunities	\$6,000	Phillip Batalden Kathleen Batalden Smith Omega Maiden Oils
FNC10-838	Control of Buckthorn with Hogs, Cutting Feed Costs with Food Waste	\$5,979	Nancy Lunzer Farm / Ranch
FNC10-840	Scaling Up to Meet Market Demand for Local, Organic Broccoli	\$16,932	Linda Halley Aaron Blyth Big River Farms Chris Blanchard Purple Pitchfork
FNC10-842	Big Bluestem Management Using High Density/Short Duration Grazing	\$5,907	Leslea Hodgson Root Prairie Galloways
FNC09-747	Creating a Sustainable Year-Round Greenhouse Cropping System Using Straw-bale Culture and LED Lighting	\$6,000	Karen Weiss
FNC09-749	Growing Blackberries Organically under High Tunnels for Winter Protection and Increased Production	\$5,100	Craig Gundacker Erik Gundacker Scenic Valley Farm
FNC09-758	Comparing the pasture restoration potential and financial viability of Cornish Cross vs. Red Broilers, in combination with heritage pastured hogs, for a small pastured poultry operation in NE Minnesota	\$3,867	Cindy Hale Clover Valley Farms, LLC Jeff Hall Clover Valley Farms, LLC
FNC09-760	Examine the benefits of winter kill Sorghum-Sudan grass (Sudex) as a weed suppressing mulch in tomato production	\$3,650	Katie Cramer Cramer Organics
FNC09-762	Kenyan Women's Community Sustainable Farming (CSF) Project: Cultivation of Mwangani (Cleome gynandra)	\$17,287	Elizabeth Kackman Thomas Kackman
FNC09-777	How does the rotational grazing of poultry on cover crop land on a vegetable farm affect soil health and economic success?	\$6,000	Mark Boen Bluebird Gardens

FNC09-788	White Earth Goat Maanadikoshensag Project	\$18,000	Winona LaDuke White Earth Land Recovery Project
FNC08-704	City Backyard Farming	\$6,000	Xe Susane Moua
FNC08-722	Build it and they will come: Integrating beneficial beetle habitat with organic growing systems economically	\$6,000	Juan Carlos Cervantes Celestial Harvest, Inc
FNC08-723	Increasing Safety and Sustainability and Reducing the Use of Pesticides and Other Farm Chemicals Among Hmong Farmers	\$18,000	Ly Vang
FNC08-727	Indoor cultivation of mushrooms to diversify farm and test local markets	\$3,699	Inga Haugen
FNC08-734	The Minnesota African Women Sustainable Backyard Farming Project	\$17,981	Siona Nchotu
FNC08-740	Native Youth Teach Healthy Diets (Learning to Love Vegetables!)	\$5,952	Diane Wilson Peta Wakan Tipi
FNC07-664	Utilizing Warm-Season Grasses in Forage Production in a Changing Climate	\$5,700	Jerry Tourtillot
FNC07-677	Winter Plant Protection On Blueberries in Northern Minnesota	\$3,996	Al Ringer
FNC07-686	Supporting the Environment and Healthy Food for Latino Markets	\$15,410	Alma Edelia Ramos Margarito Ramos
FNC07-694	Nutritional Values of Hmong Plants and Herbs	\$6,000	Mhonpaj Lee
FNC06-605	Equine Forestry: Promotion of a Low-Impact Forest Harvesting Method	\$6,000	Tim Carroll Cedar River Horse Logging
FNC06-610	Lake Superior Chapter SFA Farm Beginnings Program	\$9,155	Cree Bradley Lake Superior Chapter, Sustainable Farming Assoc Mark Thell Lake Superior Chapter Sustainable Farming Assoc

FNC06-642	Improved Productivity in Winter Greenhouse	\$1,565	Carol Ford
FNC06-643	Impacts of Aeration Incorporation of Turkey Litter on the Yield and Quality of Alfalfa Production in Northern Minnesota	\$5,902	Jerry Tourtillott
FNC05-563	Determining the Relationship Between and Economics of Consistent Rate of Gain and Intermuscular Fat (high in CLA - Omega 3)	\$17,195	Don Struxness
FNC05-569	Dream of Wild Health Indigenous Corn Propagation Program	\$6,000	Sally Auger
FNC04-498	Decorative Woody Florals Learning Circle	\$9,454	Michele Skogrand
FNC04-501	How Fall Cutting Versus Fall Residue Affects Yield and Quality of Alfalfa the Next Year	\$5,600	Fred Keller
FNC04-506	Designing and Validating Plant Communities/Cropping Systems for Multiple Benefits	\$13,733	Paula Westmoreland
FNC04-511	Connecting Meat Goat Producers to Existing Ethnic Consumers	\$5,000	Bob Hassett
FNC04-515	Advanced Techniques for Sustained Marketing Success of Team Farmers	\$17,146	Constance Kartens
FNC04-516	Commercial Production of Osmia Lignaria in Minnesota	\$6,000	Eric Mader
FNC04-529	Evaluation of Raspberries Grown in High Tunnels for a Northern Climate	\$6,000	Lois Hoffbauer
FNC04-539	Improved Management of Rye Cover Crops for Organic Soybean Production	\$16,150	Don DeWeerd
FNC04-544	Sustainable Small Farm Promotion Using Novel Market Stand	\$3,960	Sean Albiston Blue Roof Organics

FNC04-546	Expanding Consumer Interest - Home Gardeners' Use of Heritage Tomato	\$2,181	Ardie Eckardt
FNC03-454	Adding Value to Honey Products Through the use of Melissopalynology Techniques	\$6,000	Brian Fredericksen Ames Farm
FNC03-472	Restoration of Traditional Anishinaabeg Agricultural Practices, Utilizing the Three Sisters Gardening Method	\$6,000	Winona LaDuke White Earth Land Recovery Project
FNC03-478	Using a Vertical Shoot Position Trellis and Micro-Nutrients to Reduce Labor and Increase Fruit Set	\$2,502	Tim Gieseke Minnesota Project
FNC03-480	Dream of Wild Health, a Project of Peta Wakan Tipi	\$6,000	Sally Auger
FNC03-483	Developing a Saskatoon Berry Market in the Upper Midwest	\$5,310	Patricia Altrichter
FNC03-487	Yield and Feeding Value of Annual Crops Planted for Emergency Forage in Minnesota	\$5,150	David Sjostrom
FNC02-396	Testing the Use of a Modified Crop Rotation System to Control Colorado Potato Beetle	\$6,000	Janaki Fisher-Merritt
FNC02-415	Utilizing Water Conservation and Infiltration for Black Walnut Production	\$2,645	Tim Gieseke Minnesota Project
FNC02-429	Producing High Levels of CLA in Grassfed Beef in an Area with a Short Growing Season	\$17,908	Don Struxness
FNC02-434	Promoting Healthy Maple Forests	\$9,545	Bruce Savage
FNC02-438	Compost Heat for Group Nursing	\$6,000	Dennis Rabe
FNC01-337	Zumbro River Watershed Cover Crop Project	\$5,000	Andy Hart
FNC01-347	Four Season Production in a Northern Climate Greenhouse	\$3,896	Charles Knierim

FNC01-358	Marketing Sustainable Wood Products	\$14,850	Tom McMillin
FNC01-362	Organic Hog Production Using Several Organic Feed Rations as Compared with Conventional Hog Production	\$11,034	Warren Roberts
FNC01-363	Reducing Heating Costs in Greenhouses	\$14,991	Roger Peterson
FNC01-377	Sustainable Straw Based Farrowing System Modified After the Swedish Model	\$4,973	Paul Sobocinski
FNC01-378	Utilizing Bats to Control Agricultural Pests	\$2,600	Joe Lancaster Wilder Forest Farm
FNC01-379	Comparison of Winter Farrowing Techniques on 4 Farms for High Value Pork Production for Niman Ranch	\$14,481	Dave Serfling
FNC00-290	Expanding, Enhancing and Diversifying Sales with Team Farmer Marketing	\$14,850	Constance Kartens
FNC00-296	Dairy Marketing Options	\$9,900	Mike Salber
FNC00-300	Dream of Wild Health Network	\$5,000	Sally Auger
FNC00-301	Heritage Maize Project	\$14,997	Frank J Kutka
FNC00-303	Specialty Poultry and Egg Marketing to Asian Markets in Minneapolis/St. Paul Metro Area for the B/S Poultry Cooperative	\$5,000	Chong X Vang
FNC00-312	Evaluation of Christmas Tree Varieties for Northern MN	\$4,962	Jesse Hoffbauer
FNC00-324	Promoting and Distributing PastureLand Products	\$10,000	Dan French
FNC99-253	Farm on Wheels, Marketing to the Consumer	\$5,000	Linda Noble

FNC99-254	South Central Minnesota Sustainable Farming Association Marketing Club	\$1,595	Nancy Aspelund
FNC99-256	Year-Round Renewably Heated and Powered Greenhouse	\$4,997	Steven Schwen
FNC99-267	Integration of Intensive Sheep Grazing with a Vineyard/Orchard Operation	\$5,000	Michael Burke
FNC99-282	Using a Confinement Building as a Deep-bedded Building Based on Hoop House Principles	\$4,700	Dwight Ault
FNC99-288	Growing Various Species of Angelica as a Forest Crop in the Midwest	\$4,971	Rose Haywood
FNC98-208	Sustainable Hog Production in Old Farm Buildings	\$4,770	Dave Serfling
FNC98-210	Keep the Cows in the Corn, Even during the Winter Storms	\$4,997	Don Struxness
FNC98-221	Creating and Expanding Direct Markets for Sustainable Products	\$5,000	Dennis Rabe
FNC98-234	Low Environmental Impact Establishment of Hybrid Poplar Plantation	\$2,790	Michael Nohner
FNC97-165	Feeding the Saints	\$9,650	Tim King
FNC97-169	Development of Cultivation Equipment for Diversified Vegetable Production	\$3,194	Joe Lancaster Wilder Forest Farm
FNC97-177	Cattle, Grass and Streams: Can They Work Together as a Sustainable Ecosystem?	\$4,690	Ralph Lentz
FNC97-178	Native Minnesota Medicinal Production Feasibility Study	\$5,000	Renne Soberg
FNC97-182	Increased Pasture Profits through South African Dorper Sheep	\$1,790	Michael Burke

FNC97-190	Diversifying a Small Crop Farm with Hogs, Poultry, Apples and Plums	\$1,536	Nancy Aspelund
FNC97-194	Community-based Marketing with the World Wide Web	\$9,992	Lee Ann Van Der Pol
FNC96-145	Pipestone Lamb Marketing Project	\$10,000	Michael Fruechte
FNC96-147	Sheep Offal Composting Project	\$9,580	John Essame n/a
FNC96-156	Prairie Farmers Co-op Producer-owned Livestock Processing and Marketing	\$10,000	Dennis Timmerman
FNC96-158	Hog Production in an Existing Facility Using Swedish Techniques	\$5,000	Lyle Haroldson n/a
FNC95-089	Winter Farrowing in a Low-input System	\$3,991	James Van Der Pol
FNC95-091	Living Mulches in Minnesota Wheat	\$1,373	Dave Birong
FNC95-098	Harvesting Wildflower Seed Crops from Marginal Land	\$1,819	Frank J Kutka
FNC95-102	Developing Weed Control Methods for Organic Raspberry Production	\$4,700	Kevin Edberg
FNC94-072	Wild Flowers on Marginal Lands	\$3,775	Frank J Kutka
FNC94-078	Incorporating Rotational Grazing into Conventional Dairy Enterprise	\$4,961	Randy Meyer
FNC94-088	Multi-Phase Swedish-Style Hog Structure with Attached Pastures	\$3,095	Nolan Jungclaus
FNC93-033	Evaluating Productivity of Various Pasture Species by Utilizing Comsec Pasture Gauge and Bulk Density Plates	\$3,920	Dan French

FNC93-034	Hazelnut Windbreak Adds Diversity	\$4,125	Phillip Brase
FNC93-045	Comparing Composted and Raw Manure in Crop Production	\$1,600	Rich Vander Ziel
FNC93-051	CRP Acres - Pastures or Crop Production	\$5,000	Charles Cornillie (deceased)
FNC93-053	Establishment of Warm Season Grasses and Interseeding Legumes into Cool Season Pastures	\$3,500	Ted Rolling
FNC92-007	Weed Control and Fertility Comparisons in Solid Seeded and 30" Row Soybeans	\$4,974	David Michaelson River GLO Farms
FNC92-013	Weed Control in Sugar Beet Production Utilizing Ridge Tillage and Cover Crops	\$5,000	Alan Brutlag

GRADUATE STUDENT GRANTS

Project #	Project Title	SARE Support	Project Leaders
GNC23-364	Strengthening Community Connections in the Regenerative Poultry Value Chain	\$14,999	Dr.Adena Rissman UW-Madison Ana Fochesatto University of Wisconsin-Madison
GNC23-373	Investigating mulches to suppress the invasive swede midge in urban agriculture	\$14,946	Mary Rogers University of Minnesota Christina Perez University of Minnesota
GNC23-379	Assessing High Tunnel Soil Health Under Prolonged Cover Cropping Methods	\$14,996	Dr.Julie Grossman University of Minnesota Hannah Walsh University of Minnesota
GNC22-342	Identifying Factors that Influence Farmer and Rancher Decisions to Adopt and Manage Agroforestry Systems	\$14,768	Dean Current University of Minnesota Maxwell Benning University of Minnesota
GNC22-352	Characterization and Description of Alternative Pig Farms in Minnesota	\$14,934	Dr.Cesar Corzo, DVM, MSc, PhD University of Minnesota Dr.Miranda Medrano, DVM, MPH University of Minnesota

GNC20-295	Removing Barriers of Adoption to Kura Clover Living Mulch Systems	\$15,000	Dr.John Baker Saint Paul USDA ARS Joshua Gamble University of Minnesota Dr.Rodney Venterea Saint Paul USDA ARS Jonathan Alexander University of Minnesota - Department of Soil Water and Climate
GNC20-300	Maximizing Nitrogen Fixation in Cold-Hardy Hairy Vetch	\$14,589	Dr.Julie Grossman University of Minnesota Rebecca Fudge University of Minnesota - Twin Cities
GNC20-310	Smart Farming with Microbes: Managing Summer Cover Crops to Cultivate Beneficial Soil Communities	\$14,993	Dr.Julie Grossman University of Minnesota Marie Schaedel University of Minnesota
GNC19-276	Field implementation of botanical repellents for organic management of spotted-wing drosophila (<i>Drosophila suzukii</i>) in small fruit	\$8,266	Mary Rogers University of Minnesota Matthew Gullickson University of Minnesota
GNC18-267	Farm to Fridge: Assessing Need and Availability of Underutilized Refrigeration in Rural Grocery Stores for Use by Fruit and Vegetable Farmers	\$12,000	Nicholas Jordan University of Minnesota Ren Olive UMN Extension Regional Sustainable Development Partnerships
GNC17-235	Enhancing edge-of-field woodchip bioreactors to reduce nitrogen leaching using bioaugmentation and biostimulation	\$11,929	Dr.Satoshi Ishii University of Minnesota Emily Anderson University of Minnesota
GNC17-245	Identification and pyramiding of candidate genes controlling adult plant resistance in oats against crown rust disease	\$11,999	Shahryar Kianian USDA Eric Nazareno University of Minnesota
GNC17-252	Assessing agroecosystem services and end-use malting quality of winter barley in a soybean-winter barley double cropping system in the Upper Midwest	\$11,986	Dr.Kevin Smith University of Minnesota Becky Zhong University of Minnesota
GNC16-218	Determination of Decomposition Rates of Cover Crop Residues and Their Nutrient Release Characteristics	\$11,906	Dr.Daniel Kaiser University of Minnesota Sabrina Badger University of Minnesota, Department of Agronomy and Plant Genetics

GNC16-224	Agroecosystem Impact of Relay and Double Cropping winter Annual Oilseeds in Corn and Soybean	\$11,902	Donald Wyse University of Minnesota Cody Hoerning University of Minnesota
GNC16-229	Maximizing Pollinator Protection and Natural Pest Suppression in Minnesota Fruit and Vegetable Crops	\$12,000	Dr.Ian MacRae University of Minnesota, Department of Entomology Eric Middleton University of Minnesota
GNC16-232	Cover Crop Cold Tolerance for High Tunnels	\$10,875	Dr.Julie Grossman University of Minnesota Elizabeth Perkus University of Minnesota
GNC15-204	Identification of Native Minnesota/Midwestern U.S. Hop (<i>Humulus lupulus</i> L.) Communities as a Resource for Novel Disease Resistance Traits	\$9,808	Dr.Angela Orshinsky University of Minnesota Dr.Joshua Havill Univeristy of Minnesota
GNC15-213	Evaluating Alternative Host Plant Use of Spotted Wing <i>Drosophila</i> , <i>Drosophila suzukii</i>	\$10,000	Christopher Philips University of Minnesota Grace Sward University of Minnesota
GNC15-214	Ecologically-based Pest Management Strategies for Imported Cabbageworm in Broccoli	\$9,394	Mary Rogers University of Minnesota Aimee Talbot University of Minnesota
GNC15-215	Evaluating Sustainable Alternatives of Rootstock Selections in Grafted Tomatoes to Enhance Yield Potential in High Tunnel and Field Production	\$9,900	Dr.Emily Hoover University of Minnesota Richard Traugott UMN
GNC14-187	Improving Soil Health and Microbial Activity through Zone Tillage and Innovative Cover Cropping Strategies	\$9,995	Dr.Julie Grossman University of Minnesota Peyton Ginakes University of Minnesota
GNC13-169	Assessing Nitrogen and Carbon Pools in a Perennial Biomass Alley Cropping System in Minnesota U.S.A.	\$9,719	Dr.Craig Sheaffer University of Minnesota Joshua Gamble University of Minnesota
GNC13-170	Integrating Host-Plant Resistance and Insecticides for Sustainable Soybean Aphid Management	\$9,938	Dr.Robert Koch Department of Entomology, University of Minnesota Anthony Hanson University of Minnesota
GNC12-150	Effect of Growth Meat Quality, and Profitability of Organically Raised Dairy-Beef Steers	\$9,445	Dr.Bradley Heins University of Minnesota Elizabeth Bjorklund University of Minnesota

GNC12-152	Integrating Sustainable Agriculture with K-12 Curriculum through School Garden/Orchards: a Pre-Service Teacher Training	\$9,987	Dr.Cindy Hale University of Minnesota Duluth Brian Bluhm University of Minnesota Duluth
GNC12-153	Benefits of Propolis to Honey Bee Health and Immunity	\$9,900	Marla Spivak University of Minnesota Renata Borba University of Minnesota
GNC12-159	Improving Perennial Ryegrass Seed Production in Northern Minnesota: Developing Metabolomics-Assisted Selection Techniques for Crown and Stem Rust Resistant Cultivar Development	\$9,997	Dr.Eric Watkins University of Minnesota Eric Koeritz University of Minnesota
GNC10-131	Reducing Manure and N Fertilizer Inputs in Alfalfa-Corn Rotations	\$9,919	Jeff Coulter University of Minnesota Matt Yost Utah State University
GNC10-137	Profiling Microbial Communities in Soils from Organic, Sustainable, and Conventional Cropping Systems	\$9,999	Dr.Craig Sheaffer University of Minnesota Donald Wyse University of Minnesota Dr.Adria Fernandez University of Minnesota
GNC09-102	The effects of Nosema ceranae infection on honey bee health and Colony Collapse Disorder	\$10,000	Marla Spivak University of Minnesota Michael Goblirsch University of Minnesota - Department of Entomology
GNC09-104	Reducing Pre-weaning Mortality in Loose-Housed Farrowing Systems	\$9,980	Dr.Yuzhi Li University of Minnesota Christina Phillips University of Minnesota
GNC07-075	Evaluating Rye Germplasm for Use as a Cover Crop in the Upper Midwest	\$9,898	Paul Porter University of Minnesota Michael Kantar University of Minnesota
GNC07-083	Determination of volatile compounds that elicit removal of diseased brood by hygienic honey bees.	\$10,000	Marla Spivak University of Minnesota Jodi Swanson University of Minnesota
GNC06-059	Analysis of Travel Patterns of Bison and Cattle on Native Nebraska Sandhills Rangeland	\$9,807	Charles Butterfield Chadron State College Andrew Cassidy Chadron State College

GNC06-071	Breeding and Development of Perennial Sunflower and Perennial Flax Varieties for Low-Input Agriculture	\$9,700	Donald Wyse University of Minnesota Brent Hulke University of Minnesota
GNC06-072	Comparison of Use and Chemical Composition of Propolis Collected by U.S. Honey Bees	\$10,000	Marla Spivak University of Minnesota Michael Simone University of Minnesota, Dept Ecol., Evol. & Behav
GNC05-042	Nitrogen Fertilization for Hybrid Hazelnuts in the Upper Midwest	\$9,589	Jeffrey Gillman University of Minnesota Dr.Lois Braun Research Associate
GNC05-054	Use of green manures to reduce inoculum production of Fusarium graminearum on wheat residues	\$10,000	Dr.Ruth Dill-Macky University of Minnesota Dr.Linda Kinkel University of Minnesota Carlos Perez University of Minnesota
GNC04-034	The title of the project: From Beneficial Insect to Economic Pest: a Sustainable Management to the Asian Lady Beetle in Midwestern Grapes	\$9,633	William Hutchison Univeristy of Minnesota Tederson Galvan University of Minnesota
GNC03-023	Comparing Vesicular-Arbuscular Mycorrhizal Colonization in Conventional versus Organic Strawberry Production Systems	\$10,000	Dr.Emily Hoover University of Minnesota Marjorie Ross University of Minnesota
GNC03-024	Systems Evaluation of the Components of Reduced Input Dairy Farms	\$9,620	Dennis Johnson Marjorie Ross University of Minnesota
GNC02-004	Reproductive Success and Survival of Grassland Passerines in an Agriculture Landscape: the Contribution of Alternate Grazing Systems to Bird Population Viability	\$10,000	Vernon Cardwell Melissa Driscoll University of Minnesota
GNC02-005	The Effect of Crop-Weed Gene Flow on the Competitive Ability of Weedy Sunflower	\$10,000	Donald Wyse University of Minnesota Ruth Shaw University of Minnesota Kristin L Mercer University of Minnesota

ON FARM RESEARCH/PARTNERSHIP GRANTS

Project #	Project Title	SARE Support	Project Leaders
ONC24-150	Building local partnerships to sustain local farm festivals and relocalize markets	\$47,141	Jan Joannides Renewing the Countryside

ONC23-118	Circles of Resilience, by and for Farmers	\$45,757	Rachel Armstrong Farm Commons
ONC23-119	On-Farm Testing of Johnson-Su Compost Extract as a Biological Inoculant in Wheat and Soybeans	\$49,846	Melissa Carlson MN Wheat Research and Promotion Council
ONC23-124	Feasibility of Organic Strip-till with Cover Crops	\$48,002	Mark Gutierrez Minnesota Soil Health Coalition
ONC22-099	Education and mentorship to support mutually beneficial leases that promote regenerative agriculture	\$39,500	Dave Zentner Minnesota Division of the Izaak Walton League - Upper Mississippi River Initiative
ONC22-100	Comparing Compost Tea and Compost Extract Impact on Microbiology	\$26,159	Mark Gutierrez Minnesota Soil Health Coalition
ONC22-103	Scaling Regenerative Agriculture Coordinated Education and Outreach	\$40,000	Kristi Pursell Clean River Partners Jennifer Tonko
ONC22-112	Engaging diverse small and medium-sized livestock stakeholders in design processes to increase access to meat slaughter and processing facilities	\$40,000	Greg Schweser Regional Sustainable Development Partnerships
ONC22-113	Assuring Meat Processing Availability for Sustainable Livestock Farmers	\$40,000	Paul Sobocinski Farmers Union Foundation's Solving the Local Meat Processing Bottleneck
ONC22-115	On farm evaluations of novel methods to increase garlic marketable yield	\$14,788	Cindy Tong University of Minnesota
ONC21-095	Grower to Grower: Sustainable Local Foods Marketing Panel and Resource Toolkit	\$40,000	Robin Trott University of Minnesota, Extension
ONC20-073	Grower-Buyer Network Development through Culinary Collaboration	\$25,838	Natalie Keane Sprout MN
ONC19-058	Building farmer capacity to produce and market vegetable seed in Minnesota through seed production trials and education	\$40,000	Kitt Healy Organic Seed Alliance

ONC19-053	A Comprehensive Curriculum for Cold Climate Grapevine Production: Practical Skills for the Novice and Vineyard Manager	\$38,390	Dr.Matthew Clark University of Minnesota
ONC18-043	Increasing value-added opportunities through on-farm food service: Research, resources & field days	\$29,992	Brett Olson Renewing the Countryside
ONC17-029	High Tunnel Immigrant Farmer Training and Demonstration Plot	\$30,000	Nick Mabe The Good Acre
ONC16-015	On Farm Research to Quantify the Value of Cover Crops for Nutrient Crediting	\$30,000	Spencer Herbert Minnesota Department of Agriculture Aicam Laacouri Minnesota Department of Agriculture
ONC16-016	Building Capacity via Peer-to-Peer Food Safety Education with Hmong-American Fruit and Vegetable Farmers	\$29,897	Annalisa Hultberg UMN
ONC16-019	Causes of Honey Bee Queen Failure in Commercial Beekeeping Operations	\$30,000	Marla Spivak University of Minnesota
ONC15-003	Maximizing Pollinator Services from Native Bees	\$29,964	Dr.Karl Foord University of Minnesota
ONC15-009	Shifting Local Trends with Cover Crops and Short Season Corn	\$29,870	Robin Moore Land Stewardship Project

YOUTH EDUCATOR GRANTS

Project #	Project Title	SARE Support	Project Leaders
YENC24-213	Youth Training & Opportunity on Sustainable Urban Agriculture in North Minneapolis	\$6,000	Steven Forns Appetite For Change Sandy Peacock Appetite For Change
YENC24-216	Multicultural Urban Food & Ecology Initiative: YOUTH STEWARDS	\$6,000	RICHARD HALL Prairie Rose Agricultural Institute for Research, Innovation and Education (PRAIRIE)
YENC24-218	Mishtaadim- Anishinaabe Youth Horse Farming and Community programs	\$6,000	Winona LaDuke Anishinaabe Agriculture Kara Knowles Anishinaabe Agriculture
YENC23-197	Harvest Hope Farm - Farm Camp on Wheels 2023	\$6,000	Lynn Kotrba Harvest Hope Farm

YENC22-182	Harvesting Hope for Others Farm Camp for Kids 2022	\$6,000	Lynn Kotrba Harvest Hope Farm
YENC22-184	Seeds Feeds Apprentices lead Farm Club and Farm Camp for elementary and middle school youth.	\$6,000	Julie Rappaport SLP SEEDS (aka Seeds Feeds)
YENC21-156	Douglas County Kids Groundwater Festival and Multi County Outreach	\$4,000	Jessica Albertsen Douglas Soil and Water Conservation District
YENC21-161	Sustainable Agriculture and Healthy Lives Day	\$3,550	Dr.Teresa Bertossi Ecolibrium-3
YENC21-162	Multicultural FOOD and ECOLOGY Youth Initiative	\$4,000	RICHARD HALL Prairie Rose Agricultural Institute for Research, Innovation and Education (PRAIRIE)
YENC21-165	Farm-to-Fork: Educating Youth in Sustainable Agriculture for Healthy Food and a Healthy Environment	\$4,000	Dr.NAVREET KAUR MAHAL SOUTH DAKOTA STATE UNIVERSITY Dr.Mriganka De Minnesota State University, Mankato
YENC21-171	Grow Organically Education Program	\$4,000	Lakisha Witter Live Organically
YENC20-147	Youth Soil Health Investigators	\$4,000	Mark Gutierrez Minnesota Soil Health Coalition
YENC19-133	Murray Middle School's Sustainable Agriculture and Forestry Grant Proposal - Soil to Table with Cultural Relevance	\$2,900	Timothy Chase Murray Middle School
YENC19-137	Educating urban youth via decision cases and curriculum on hoop house vegetable production	\$4,000	Dr.Julie Grossman University of Minnesota Anne Pfeiffer University of Minnesota Marcus Kar Youth Farm
YENC18-123	Expanding Career Success and Environmental Stewardship Through Beekeeping Education	\$2,000	James Hansen Lyle Public School
YENC18-129	Sustainable Agriculture Internship Including Study of Compost Nutrient Cycling in Urban Agriculture	\$2,000	Carley Rice Spark-Y

YENC18-131	Arts US Young Growers!	\$1,999	Roi Ward Arts Us
YENC15-085	Big River Farms Youth "Family Engagement Program" a Project of the Minnesota Food Association	\$2,000	Laura Hedeem Minnesota Food Association
YENC12-055	Community Youth Education Program through Stone's Throw Urban Farm	\$1,987	Anna French
YENC09-021	Intergenerational Farm Experience	\$1,972	Chianeng Thao Association for the Advancement of Hmong Women in Minnesota Ly Vang Association for the Advancement of Hmong Women in Minnesota
YENC08-001	Seed to Seed: Riverway Learning Community Gardening Project	\$2,000	Jacqueline K M Paulsen Riverway Learning Community

YOUTH GRANTS

Project #	Project Title	SARE Support	Project Leaders
YNC10-062	Learning to Spin: Turning Wool into Yarn	\$394	Nelson Morlock Seven Story Farm
YNC09-031	Hunting for Farmers	\$398	Chandler Trout
YNC09-035	RecROOTing Seniors to Sprout	\$398	Sarah Anderson
YNC09-039	Beneficial Bees from a Teenager's Perspective	\$394	Amanda King
YNC09-045	Moving Midget White Turkeys off the Critical List	\$400	Joshua King
YNC08-002	Utilizing A Barrel of Space	\$400	Dillon Boen Bluebird Gardens
YNC08-014	Maple Syrup Making	\$222	Michaela Handke
YNC08-016	Eat Healthy, Garden to Eat - Eat to Live	\$400	Annemarie Esther Keller

**Total funding from the USDA SARE program to
Minnesota
\$15,927,361**



For further information on projects, contact North Central SARE at (612) 626-3113 or ncrsare@umn.edu.

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