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 $310 million to more than 7,433 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...

Kentucky
Project Highlight: Training Ag Professionals on Sustainable Vegetable Production Methods
Kentucky is home to numerous small, limited-resource farms. More than 75 percent of the state’s 85,000 farms are smaller than 180 acres and 80 percent have an annual income under $25,000, according to the USDA Census of Agriculture. Tobacco used to be an attractive option for these growers because it was highly profitable at small acreages compared to other crops, but that has changed with the elimination of price supports and marketing quotas.

Extension professionals at state universities in Kentucky and Tennessee are working to fill the void left by tobacco by increasing the acreage of sustainably farmed and certified organic vegetables. For this to happen, training in sustainable and organic vegetable farming for agricultural professionals who work closely with small-scale farmers is critical. With a SARE grant, a team led by the University of Kentucky collaboratively sponsored hands-on workshops, regional farm tours, training materials, videos and websites for farm educators.

The team trained 150 ag professionals and 150 growers. Prior to the training, many of the participants expressed their discomfort with organic vegetable production. Yet nearly 200 attended a field day heavily featuring organic production just a few years later, indicating a growing interest on their part.

For more information on this project, see sare.org/projects, and search for project number ES10-101.

SARE in Kentucky
southern.sare.org/sare-in-your-state/kentucky
$4,300,687 in total funding
83 grant projects
(since 1988)
For a complete list of grant projects state by state, go to www.sare.org/state-summaries
SARE Grants in Kentucky

Total awards: 83 grants
- 26 Farmer/Rancher
- 7 Graduate Student
- 13 On Farm Research/Partnership
- 22 Professional Development Program
- 15 Research and Education

Total funding: $4,300,687
- $200,248 Farmer/Rancher
- $79,398 Graduate Student
- $166,906 On Farm Research/Partnership
- $1,457,026 Professional Development Program
- $2,397,109 Research and Education

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: southern.sare.org/sare-in-your-state/kentucky

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 southern.sare.org/state-pages/kentucky to learn more.

Marion Simon
Kentucky State University
(502) 597-6437
marion.simon@kysu.edu

Paul Vincelli
University of Kentucky
(859) 218-0722
pvincell@uky.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.
Kentucky has been awarded $4,358,999 grants to support 88 projects, including but not limited to, 14 research and/or education projects, 22 professional development projects and 26 producer-led projects. Kentucky has also received additional SARE support through multi-state projects.

### RESEARCH AND EDUCATION GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
</table>
| LS19-319  | Development of Local Small Grain Value Chains for Kentucky and the Mid-South | $232,669     | Dr. David Van Sanford  
University of Kentucky                                    |
| LS18-300  | Extending Roots of Fresh Stop Markets Across the Southeast Region            | $267,972     | Dr. Keiko Tanaka     
University of Kentucky                                        |
| LS16-272  | Cover Crops Under Cover: Evaluating Costs, Benefits, and Ecosystem Services of Cover Crops in Year-Round High Tunnel Production Systems | $241,615     | Krista Jacobsen  
University of Kentucky                                       |
| LS14-265  | Jump Starting New Pawpaw Variety Production for the Industry: Developing Grafting and Top Working Approaches for Growers | $203,395     | Kirk Pomper  
Kentucky State University                                       |
| LS12-251  | Mapping Sustainable Farm Systems: An Integrated Focus on Upper South New Producers as Catalysts of “Good Stewardship” | $270,000     | Dr. Keiko Tanaka  
University of Kentucky                                           |
| LS06-185  | Biofumigation for soil health in organic high tunnel and conventional field vegetable production systems | $170,000     | Dr. Michael Bomford  
Kentucky State University                                         |
| LS03-151  | Development of Organic Production Practices for Pawpaw on Selected Rootstocks | $153,698     | Kirk Pomper  
Kentucky State University                                       |
| LS03-182  | Review of SSARE-funded Soil and Water Quality Projects: 1988-2003          | $50,000      | Victoria Mundy Bhavsar  
University of Kentucky Research Foundation                      |
| LS01-127  | Organic Management of Cucumber Beetles in Cucurbits                        | $134,038     | John Sedlacek  
Kentucky State University  
Gary Cline  
Kentucky State University                                         |
| LS99-098  | Organic Vegetable Production for Limited Resource Farmers                  | $19,100      | Gary Cline  
Kentucky State University                                         |
| LS99-104  | Enhancing Farmers’ Income through Polyculture of Paddlefish with Catfish in the Southern Region | $140,135     | Stephen D. Mims  
Kentucky State University                                           |
| LS99-105  | Enhancing Feasibility for Range Poultry Expansion                          | $175,740     | Steven Muntz  
Heifer International                                                |
### 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>
| LS97-089   | Integration of Freshwater Prawn Nursery and Growout Systems Into Diversified Farm Systems                                                                                                                                                                                                                                                  | $155,197     | James H. Tidwell  
Kentucky State University                                                                                                      |
| LS92-050   | Participatory Assessment for Strategic Planning in Sustainable Agriculture Research and Education                                                                                                                                                                                                                                                | $183,550     | James V. Worstell  
Community Farm Alliance                                                                                                         |
| ES20-158   | Helping Agricultural Professionals and Mentoring Farmers to Train Previously Unreached Farmers about Sustainable Agriculture                                                                                                                                                                                                               | $80,000      | Cynthia Rice  
Kentucky State University  
Dr. Maheteme Gebremedhin  
Kentucky State University  
Dr. Buddhi Gyawali  
Kentucky State University  
Dr. Shawn Lucas  
Kentucky State University  
Dr. Marion Simon  
Kentucky State University  
Dr. Leigh Whittinghill  
Kentucky State University                                                                 |
| ES19-148   | Experiential High Tunnel Training for Cooperative Extension Service Agents in Kentucky                                                                                                                                                                                                                                                    | $64,304      | Dr. Rachel Rudolph  
University of Kentucky                                                                                                           |
| ES17-133   | Ecological Livestock Production: Integration of nutrient cycling, pasture management, winter feeding, and watering systems                                                                                                                                                                                                               | $79,064      | Greg Halich  
University of Kentucky                                                                                                           |
| ES16-130   | Training Extension agents in Kentucky and Oklahoma on the Food Safety Modernization Act and food safety, sanitation, and good hygiene practices related to products for sale at farmers market                                                                                                                                                 | $78,166      | Paul Priyesh Vijayakumar  
University of Kentucky                                                                                                             |
| ES10-101   | Developing a Training Program in Sustainable Vegetable Production for Agricultural Professionals in Kentucky and Tennessee                                                                                                                                                                                                                 | $59,532      | Dr. Timothy Coolong  
University of Kentucky                                                                                                           |
| ES07-087   | Kentucky Sheep and Goat Herder Curriculum - Phase I                                                                                                                                                                                                                                                                                      | $90,000      | Ricky Yeargan  
University of Kentucky Cooperative Extension Service                                                                                                                                    |
| ES05-080   | Small-Scale Poultry Production: Sustainability Training                                                                                                                                                                                                                                                                                   | $129,530     | Steven Muntz  
Heifer International                                                                                                               |
| ES05-081   | Regional Meat Goat Production and Marketing Project: Phase 2                                                                                                                                                                                                                                                                              | $9,578       | Dr. Marion Simon  
Kentucky State University                                                                                                           |
| ES05-082   | Regional Meat Goat Production and Marketing Project: Phase 2                                                                                                                                                                                                                                                                              | $20,000      | Dr. Marion Simon  
Kentucky State University                                                                                                           |
| ES04-072   | The Value-added Microprocessor Project                                                                                                                                                                                                                                                                                                     | $94,228      | Sandra Bastin  
University of Kentucky                                                                                                           |
| ES04-074   | Enhancing Alternative Niche Market & Retail Opportunities for Agricultural Products                                                                                                                                                                                                                                                     | $47,127      | Betty King  
University of Kentucky                                                                                                           |
| ES04-075   | Regional Goat Production and Marketing Project                                                                                                                                                                                                                                                                                            | $84,550      | Dr. Marion Simon  
Kentucky State University                                                                                                           |
ES03-070  Barriers and Opportunities for Adding Value to Small Ruminant Animals $44,490  Betty King  University of Kentucky

ES02-063  Adding Value with Small-Scale Fruit and Vegetable Processing $41,965  Betty King  University of Kentucky

ES01-052  “The Third Tuesday-Thursday Thing”: Building on Kentucky’s Experiences and Expanding the Sustainable Agriculture Educational Model into Tennessee $50,000  Dr. Marion Simon  Kentucky State University

ES00-048  Training in Size Appropriate Technology for Hill Farmers $84,686  Betty King  University of Kentucky

ES00-049  Nutrient Management Plans as Tools to Achieve Sustainable Animal Waste Utilization $83,056  Stephen Coleman  Kentucky Division of Conservation

ES97-015  Kentucky Cooperative Extension System Training Project $50,000  Dr. Marion Simon  Kentucky State University

ES97-026  Community Food Security and Marketing Capacity Development in Kentucky $79,970  Karen Armstrong-Cummings  Commodity Growers Cooperative


ES97-032  Responding to Expressed Needs: SARE/ACE Regional Training with the Sustainable Dairy Systems Manual and Software $48,500  Dr. Clark Garland  University of Tennessee  Steve Isaacs  University of Kentucky

LST96-011  Southern Gathering on Agricultural Problem Solving $52,000  Ronald J. Hustedde  University of Kentucky

FARMER/RANCHER GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS19-318</td>
<td>Using Maple Sugarbush Management Practices to Increase Walnut Syrup Production</td>
<td>$3,410</td>
<td>Mark Justin Moore  Cedar Hill Homestead</td>
</tr>
<tr>
<td>FS18-311</td>
<td>Evaluating Sweet Sorghum and Poultry Alley Cropping in Agroforestry as an Economical and Sustainable Alternative to Tobacco Crops</td>
<td>$9,436</td>
<td>Matthew Wilson  Rindlewood Farm</td>
</tr>
<tr>
<td>FS17-301</td>
<td>Using Lotus as an Alternative Crop to Generate Farm Income</td>
<td>$9,696</td>
<td>Cheryl Pan  Cheryl’s Farm</td>
</tr>
<tr>
<td>FS14-279</td>
<td>A comparison of organic no-till and traditional tillage/cultivation systems on a small-scale vegetable farm</td>
<td>$2,344</td>
<td>Maggie Bowling  River Bend Farm</td>
</tr>
<tr>
<td>FS12-258</td>
<td>Soil Analysis Directed Ground Cover Approaches to Excessive Canopy and Weed Control in Southern Vineyards</td>
<td>$7,007</td>
<td>Dr. David Hall  Eddy Grove Vineyard, Inc</td>
</tr>
<tr>
<td>FS06-204</td>
<td>Developing Dual Purpose Quail for Small Farmers</td>
<td>$7,600</td>
<td>Martin H. Meers  Black Forest Poultry Farm</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Funding</td>
<td>Contact Information</td>
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<tr>
<td>FS04-182</td>
<td>Control of Internal Parasites in Goats with Rotational Grazing of Sericea Lespedeza</td>
<td>$7,289</td>
<td>Wayne Kirby</td>
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<tr>
<td>FS03-168</td>
<td>Kentucky Coordinated Poultry Alliances</td>
<td>$7,086</td>
<td>Matthew D. John</td>
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<td></td>
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<td>Shady Lane Poultry Farm, Inc.</td>
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<tr>
<td>FS02-148</td>
<td>Market Enhancement and Outreach Project</td>
<td>$12,800</td>
<td>Janet Eaton</td>
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<tr>
<td></td>
<td></td>
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<td>Farm &amp; Garden Market Cooperative Association</td>
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<tr>
<td>FS01-130</td>
<td>Improving Salad Mix Quality and Yield Through Soil Management and Post Harvest Techniques</td>
<td>$9,600</td>
<td>Carol Cassedy</td>
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<tr>
<td></td>
<td></td>
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<td>C/O Whitestone Organic Farm</td>
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<tr>
<td>FS01-137</td>
<td>Marketing Edamame Soybeans in Kentucky</td>
<td>$9,133</td>
<td>Sara McNulty</td>
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<td></td>
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<td></td>
<td>Wildwood Acres</td>
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<tr>
<td>FS01-141</td>
<td>Pastured poultry production</td>
<td>$7,003</td>
<td>Mac Stone</td>
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<tr>
<td>FS01-144</td>
<td>Opti-Maizing Beef Cattle Profits and Environmental Quality</td>
<td>$12,716</td>
<td>Beth Wilson</td>
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<td>Pulaski County Ag. Advancement Council</td>
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<tr>
<td>FS00-109</td>
<td>Marketing Timber After Adding Value Through the Use of One-Person Sawmills and Solar Kilns</td>
<td>$10,000</td>
<td>Michael Best</td>
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<tr>
<td>FS00-126</td>
<td>Locally Produced Chicks for Use in Pastured Poultry System</td>
<td>$9,869</td>
<td>Laura Rogers</td>
</tr>
<tr>
<td>FS99-084</td>
<td>Utilization of Wood Waste and Agricultural By-products in High-value Gourmet Mushroom Production</td>
<td>$9,507</td>
<td>Gary Anderson</td>
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<tr>
<td>FS99-100</td>
<td>Alternative Pollinators</td>
<td>$3,475</td>
<td>Roger Smith</td>
</tr>
<tr>
<td>FS98-066</td>
<td>Adding Value to Kentucky Grown Produce Through Season Extension and Market Development</td>
<td>$8,670</td>
<td>Ann Bell</td>
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<td></td>
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<td>Elmwood Stock Farm</td>
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<tr>
<td>FS97-056</td>
<td>Managed Grazing System to Increase Sustainability</td>
<td>$2,630</td>
<td>Evan McCord</td>
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<tr>
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<td></td>
<td>Madison County Beef Cattle Association</td>
</tr>
<tr>
<td>FS97-062</td>
<td>Maximizing Corn Production in the Mountains of Southeast Kentucky</td>
<td>$4,955</td>
<td>David Teague</td>
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<td>Henderson Settlement</td>
</tr>
<tr>
<td>FS97-046</td>
<td>Sustainability Starts at Home-Building Regional Self Reliance through Agritourism</td>
<td>$9,580</td>
<td>Karen Armstrong-Cummings</td>
</tr>
<tr>
<td></td>
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<td>Commodity Growers Cooperative</td>
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<tr>
<td>FS97-055</td>
<td>Overwintering Survival of Kentucky Honeybees</td>
<td>$5,283</td>
<td>Mark Q. Lee</td>
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<tr>
<td>FS96-039</td>
<td>Group Strategic Alliances for Carroll County Feeder Calves</td>
<td>$10,000</td>
<td>Tim Hendrick</td>
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<td></td>
<td>Kentucky Cooperative Extension Service</td>
</tr>
<tr>
<td>FS96-040</td>
<td>Technical Assistance for Meat Goat Marketing</td>
<td>$8,900</td>
<td>Neil Hoffman</td>
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<td></td>
<td>Eastern Kentucky Goat Producers Association</td>
</tr>
</tbody>
</table>
### GRADUATE STUDENT GRANTS

<table>
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<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS19-213</td>
<td>Investigating the Effects of Grass-legume Winter Cover Crop Mixtures on Soil Nitrogen Supply in Rolling Agricultural Landscapes</td>
<td>$16,447</td>
<td>Hannah Poffenbarger, Sam Leuthold</td>
</tr>
<tr>
<td>GS18-183</td>
<td>Improving Sustainable Weed Management in Soybean Agroecosystems Through Cover Cropping</td>
<td>$16,490</td>
<td>Dr. Erin Haramoto, Ryan Collins, University of Kentucky</td>
</tr>
<tr>
<td>GS13-125</td>
<td>Economic Analysis of Commercial Aquaponic Production Systems</td>
<td>$9,975</td>
<td>Dr. Timothy Woods, Kevin Heidemann, University of Kentucky</td>
</tr>
<tr>
<td>GS08-072</td>
<td>Sustainable Management for Scarab Pests Impacting Grape Production in the Southern Region</td>
<td>$9,750</td>
<td>Dr. Daniel Potter, Dr. Derrick Hammons, University of Kentucky</td>
</tr>
<tr>
<td>GS08-065</td>
<td>Effects of organic amendments on aggregation and microbial community dynamics in soils</td>
<td>$10,000</td>
<td>Elisa D’Angelo, Mark Williams, Shawn Lucas, University of Kentucky</td>
</tr>
<tr>
<td>GS02-014</td>
<td>Streambank Erosion Associated with Grazing Activities in Kentucky</td>
<td>$9,836</td>
<td>Dwayne Edwards, Carmen Agouridis, University of Kentucky</td>
</tr>
<tr>
<td>GS00-003</td>
<td>Resilience of Nitrogen Availability and Retention in Soils of Kentucky Certified Organic Farms</td>
<td>$6,900</td>
<td>Mark Coyne, Victoria Bhavsar, University of Kentucky</td>
</tr>
</tbody>
</table>

### ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS19-127</td>
<td>Bale Grazing: On-farm evaluation in the upper South</td>
<td>$12,252</td>
<td>Greg Halich, University of Kentucky</td>
</tr>
<tr>
<td>OS19-130</td>
<td>Integration of Predator Releases with Insecticidal Soap Sprays for Management of the Sugarcane Aphid</td>
<td>$14,913</td>
<td>Jonathan Larson, University of Kentucky</td>
</tr>
<tr>
<td>OS16-099</td>
<td>Alternative Substrate for Soilless Production of Vegetables</td>
<td>$12,834</td>
<td>Dr. John Snyder, University of Kentucky</td>
</tr>
<tr>
<td>OS16-097</td>
<td>Brassicaceous Cover Crops to Reduce Root Knot Nematode and Improve Soil Quality in Protected Tomato Production Systems</td>
<td>$14,990</td>
<td>Emily Pfeufer, University of Kentucky</td>
</tr>
<tr>
<td>OS14-092</td>
<td>A New Appropriate Technology Machine System to Benefit the Sustainability of Local Organic Vegetable Production</td>
<td>$14,906</td>
<td>Dr. John Wilhoit, University of Kentucky</td>
</tr>
</tbody>
</table>
Clinical Mastitis Incidence in Compost Bedded Pack Barns as Compared to Freestall Barns

Elucidating the Spread and Transmissibility of Blueberry Mosaic Virus, a New Disease of Blueberry in the Southeastern U.S.

Sweetpotatoes: A profitable crop for small farms in rural Eastern Kentucky

Production Costs and Techniques for Blueberry Establishment in Eastern Kentucky

Goat Friendly Pastures

Kentucky Blueberry Market Development

Limiting Grazing Cattle Access to Ponds to Improve Water Quality, and water and Feed Intake

Year Round Beef Cattle Grazing Strategy to Eliminate or Reduce the Use of Stored Feeds

New opportunities on the Farm - Community and Farm Revitalization in Five Eastern Kentucky Counties

Growing healthy markets: healthy farms, healthy food project

Women Taking the Lead for Kentucky Agriculture

Aquaculture Development in the Pine Mountain Region of Southeast Kentucky

Expanding Community-Based Retail Opportunities for Agricultural Products Through the Woodford County Farmers’ Market Association

Keen on Beans: Establishing Edamame Awareness and Demand for Kentucky Consumers and Growers

Total funding from the USDA SARE program to Kentucky

$4,358,999
For further information on projects, contact Candace Pollock, Southern SARE public relations coordinator, at (770) 412-4786 or cpollock@uga.edu. Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).