



Sustainable Agriculture
Research & Education

Index 2008

Active Projects

A new look at lespedeza

Search the SARE project data base and you'll find *sericea lespedeza* mentioned in at least nine projects in the Southern Region, all since 2001. In seven years, we've invested more than \$700,000 in projects that address some aspect of this perennial legume.

SARE-funded research in Georgia, Louisiana, Oklahoma, Tennessee and Kentucky has proven it reduces parasite loads in sheep and goats. Whether fed fresh or as hay, the condensed tannins in sericea lespedeza (often referred to as SL) create a hostile environment for barber pole worm, a bloodsucker that is decimating the meat goat industry in the Southeast.

Other lespedeza research shows it does not cause bloat in grazing animals as some legumes do, and it survives harsh conditions that would wither other forages. Not only will it grow on marginal cropland low in fertility and high in acid, it improves poor soils by adding nitrogen and biomass. No wonder it's the new best friend of some small ruminant producers.

Sericea lespedeza was imported from eastern Asia in the late 19th Century. For the first half of the 20th Century it was planted extensively for erosion control, hay and wildlife cover. Those early varieties were coarse, stemmy, and could be unpalatable when overly mature. Without grazing control, SL spread from the many seeds it produces, choking out other plants and destroying diversity. Colorado and Kansas outlawed the planting of it, and some other states including Missouri, Nebraska and Oklahoma discourage it. Sericea lespedeza had the distinction of being the first forage crop federally declared a noxious weed.

Then in 1997, Auburn University helped SL turn over a new leaf, so to speak, with the release of a new variety named AU Grazer. It was more palatable and could withstand grazing pressure. The stems were finer, leafier and more pliable.

Despite the improvements, there didn't seem to be a forage niche for the new SL to fill. Then the meat goat industry took off in a big way, and gastro intestinal nematodes became a huge problem.

About that time US researchers began hearing about a South African farmer named Hendrik Botha. With more than 25,000 acres and thousands of head of mixed livestock, he began experimenting with new SL varieties in the late 1990s. He tried it first on marginal lands just to see if they could become productive. Botha's experiences with the new SL convinced him to start using it as the base forage for his beef, dairy, goat and sheep operations. He found that SL was a very low-input crop that thrives in highly acid soils without amendments or fertilizers. Not only was it a high-quality forage, but a three-year carrying capacity test showed that SL could carry six times as many sheep as his next best forage. Botha says that SL produces as much or more meat, milk or fiber with fewer inputs than any other feeding system he's tried on his farm.

Hendrik Botha spoke recently in Louisiana, Alabama and Georgia to enthusiastic gatherings of researchers and producers



A field of AU Grazer in Alabama. Photo courtesy of Jorge Mosjidis.

interested in taking another look at this old forage. Tom Terrill of the Southern Consortium for Small Ruminant Parasite Control was not surprised at the turnout in all three states.

"Since the publication of our first paper showing the anti-parasitic properties of SL hay, there has been a tremendous resurgence of interest in this plant as a low-input hay and pasture crop and natural anthelmintic for all classes of livestock."

University of Tennessee professor Richard Joost is evaluating SL in his SARE project on forage systems for the sustainable production of goat carcasses. Joost did his doctoral work on SL in 1984, so he has first-hand knowledge about the performance of the new variety.

"We are finding it one of the best forages in this evaluation," he says. "It grows taller than the annual lespedeza, so it fits the goats preferred grazing height, and they like it. It also withstands grazing better than the chicory."

During the extremely dry 2007 season, Joost said they did not see any affect on parasite load from grazing the SL or the chicory, another forage that has been shown to suppress parasites. Animals that started with high parasite loads had difficulty recovering due

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A new look at lespedeza

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to poor forage availability during the drought. The research is continuing during 2008, but Joost has enough experience with SL to recognize its place in a goat production system.

“If you have more productive land where you can grow clover or alfalfa, then you should probably go with those crops,” he recommends. “But if you want to use goats where they were meant to be--on scrub land--perhaps after clear cutting where brush is growing up, and you want to interseed it without disturbing the soil, then SL fits well in that situation.”

At the Kerr Center for Sustainable Agriculture in Oklahoma, Mary Penick says SL is a vital part of their 280-acre grazing mix for goats, which also includes fescue, bermuda, clovers and vetch.

“Goats love it, and we can count on it for about nine months of the year,” she says. “It’s a mainstay except in the dead of winter.”

Pioneer grazer Tom Trantham even plants SL for his dairy cows in South Carolina. He says that palatability is highest when the plant is young and the protein to lignin ratio is highest.

“It has a short window from lush to lignin, just a matter of weeks,” he says. “We can graze once, maybe twice. When its time is over, I bush hog it and plant another crop. The residue is good for the soil.”

Trantham mixes SL with rye, rye grass or clover in early fields and with sorghum or tift leaf millet during drier seasons. He says there’s no problem with invasiveness because SL accounts for only about two pounds per acre in the mix, and the cows graze it down.

Jorge Mosjidis, who developed the tastier AU Grazer at Auburn, agrees with Trantham that SL should be grazed or clipped before the stems get more than 10-12 inches tall. He also points out that there are no palatability issues when SL is fed as hay.

In summary, Mosjidis says the value of sericea lespedeza resides in its low production costs, benefits to animal health and improved soil quality, which is so critical in the Southern states.

“Furthermore, it benefits the environment because it reduces methane production by ruminants, provides organic matter to the soil, fixes nitrogen and creates an environment that favors intense biological activity in the soil.”

To read project reports from all nine sericea lespedeza projects, search the SARE data base at www.sare.org

ATTRA’s 8-page bulletin, *Tools for Managing Internal Parasites in Small Ruminants: Sericea Lespedeza*, has research references as well as practical guidelines for using SL.

The Southern Consortium for Small Ruminant Parasite Control posts the latest information on their web site www.scsrpc.org

Research and Education Projects

Final Reports

LS02-134 The Importance of Genetics: comparing standard turkey varieties and industrial stocks, Amer. Livestock Breeds Conservancy, NC, \$182,386, Donald E. Bixby, Ph: 919-542-5704, dbixby@albc-usa.org

Several standard varieties of turkeys and a commercial strain were compared in range-based production systems, in DNA analysis, and for immune system response. Although the commercial variety reached market weight in fewer days and grew to a larger size, the standard varieties had lower mortality and better immune response. DNA micro-satellite analysis showed some standard varieties are only distantly related to the commercial strains, providing valuable genetic diversity essential for the long-term sustainability of turkeys. Increasing market demand over the past 5 years has supported increasing populations, rescuing standard turkey varieties from extinction, and providing new sustainable enterprises for farmers across the nation.



Royal Tom Turkey photo by Phil Sponenberg, courtesy of the ALBC.

LS02-138 An Investigation of the General and Niche Market Goat Meat Demand, Fort Valley State Univ, GA, \$161,074, Mack C. Nelson, Ph: 478-825-6827, nelsonm@fvsu.edu

The investigation found that the eleven-state region from Texas to North Carolina accounted for 78% of all goat production and 81% of meat goat production in 1997. The number of farms producing meat goats in the region between 1992 and 1997 increased by more than 59%. All states in the region had substantial gains in meat goat production, primarily on small farms.

Net imports of goat meat also increased dramatically during the period. Changes in goat production and net imports are thought to be related to increases in the segment of the population that have preferences for goat products. The implication of these statistics is an increased goat meat demand. However, little research is available that explain the consumption demographics of goat meat.

LS02-139 Developing Sustainable Stored Grain IPM Systems in Oklahoma and Texas, OK State Univ, OK, \$133,371, Ronald T. Noyes, Ph: 405-744-8416, rnon@okstate.edu

Work on this project included the investigation of controlled summer aeration of bins of wheat to determine the difference in fan usage in aerating manually vs using temperature-dependent fan controls. A cost-benefit analyses of fumigations vs several other

IPM practices for stored grain was conducted using available cost data for typical grain elevators, and a decision-support system for IPM in grain elevators was evaluated that used regular systematic sampling of grain for insect pests. Several workshops were delivered to elevator managers throughout Oklahoma in which results from this project were reported.

LS02-143 Novel Methods for Control of Gastrointestinal Nematodes in Small Ruminants, Fort Valley State Univ, GA, \$242,677, Will Getz, Ph: 478-825-6955, getzw@fvsu.edu

The primary objectives of this project were to determine prevalence of anthelmintic resistance in small ruminant GIN, to educate producers as to the need to reduce dependence upon chemical dewormers, and to develop and test novel, non-chemical parasite control technologies. On-farm anthelmintic resistance tests were completed on sheep and goat farms in GA, FL, LA, AR, PR, and the USVI, with a high prevalence of resistance detected to most of the drugs currently available to control parasitic nematodes. Producer workshops were held in each participating region to disseminate information on parasite biology, proper use of anthelmintics (smart drenching), and targeted deworming using the FAMACHA system to identify only those animals in the herd or flock that actually require treatment. The number of

FAMACHA workshops held yearly is continuing to expand, and approximately 8000 FAMACHA cards have been sold for on-farm use to date, resulting in much less usage of chemical anthelmintics and lowering of deworming costs.

LS03-146 Appalachian Grown: Toward Regional Community-based Food Systems, NC, \$154,030, Charlie Jackson, Ph: 828-236-1282, charlie@asapconnections.org
<http://www.asapconnections.org>

This multi-year project focused on Appalachian Sustainable Agriculture Project's (ASAP) Local Food Campaign. The goal of "Appalachian Grown: Toward Regional Community-Based Food Systems" has been to continue research and development of a "buy local food" campaign as a strategic component in establishing community-based food systems throughout the Southern Appalachian region. The project has facilitated an understanding of the existing regional food system and has established assessment and implementation "buy local food campaign" methodologies for sustainable community-based food systems.

Research and Education Projects

LS03-151 Development of Organic Production Practices for Pawpaw on Selected Rootstocks, Kentucky State University, KY, \$153,698, Kirk W. Pomper, Ph: 502-597-5942, kirk.pomper@kysu.edu

Small farmers in the southeastern U.S. are interested in pawpaw as a new crop. However, there is little information concerning organic culture of pawpaw and methods to promote early fruit production. A number of important recommendations were developed by conducting this study. Under high rainfall amounts, wood chips were ineffective in controlling grass and weed growth that compete with pawpaw tree establishment. We found that a holistic approach to pawpaw tree establishment under organic culture will be required where weed control measures, nitrogen level, irrigation/rainfall, and condition of plant material are intertwined and increasing one variable, such as increasing nitrogen, may require adjustments in other aspects of the organic culture system to achieve the desired results.



Pawpaw fruit by Kirk Pomper

A web site describing the project has been constructed and can be found at: <http://www.pawpaw.kysu.edu/sare.htm>

LS03-154 Examining Pasture-based Dairy Systems to Optimize Profitability Environmental Impact, Animal Health and Milk Quality, North Carolina State Univ, NC, \$226,903, Steven P. Washburn, Ph: 919-515-7726, Steve_Washburn@ncsu.edu

A 3-year dairy grazing experiment at 3.2 vs. 2.2 cows/ha was conducted by NC State University with related projects on immunocompetence measures (Va Tech); a cooperating farm study of fatty acids in milk related to pasture intake (Clemson); and rolled barley/molasses or citrus pulp/molasses partially replacing corn supplement (Clemson). Higher stocking rate with more supplement yielded more milk, similar health and reproduction, lower measures of immunocompetence, but more stored forage fed off pasture. Higher pasture intakes associated with higher CLA in milk. Supplement source did not affect milk yield although protein percentages were lower on the citrus pulp diet.

LS04-164 (planning grant) Sustainable Control of Gastrointestinal Nematodes in Small Ruminants using Forages Containing Condensed Tannins, Ft. Valley State University, GA, \$15,500, W. R. Getz, Ph: 478-825-6955, getzw@fvsu.edu

A team of researchers, extension specialists, and producers from

AL, AR, DE, GA, KY, LA, MD, NC, OK, TX, VA, WV, Puerto Rico, the USVI, Denmark, and South Africa, making up the Southern Consortium for Small Ruminant Parasite Control (SCSRPC.org), met for a series of research and outreach planning workshops from September, 2004 – October, 2007. In addition to planning on-going work from previously-funded projects on preservation of the efficacy of chemical anthelmintics, development and implementation of alternative, non-chemical small ruminant control methodologies, and widely disseminating findings to clientele groups through producer workshops, these meetings resulted in a number of additional successful grants from SARE (R & E, PDP, Graduate Student), the 1890 Institution Research and Teaching Capacity Building Program (USDA), the Organic Production Improvement Program (USDA), the Sheep and Goat Improvement Association, and the Morris Animal Foundation.

LS05-170 Integrated Management of Purple Nutsedge in Organic Vegetable Production, Univ. of Florida, FL, \$125,000, Carlene A. Chase, Ph: 352-392 1928, cach@ifas.ufl.edu

In Gainesville summer fallow tillage and infrared transmitting (IRT) film used in combination with a vigorous crop can effectively suppress purple nutsedge infested areas for organic production. In Tifton, yellow nutsedge and other weeds were suppressed by IRT film but propane flaming, sunn hemp cover crop, and fallow-tillage the preceding summer were not effective. Yellow nutsedge was absent from fall-seeded crops in both years, regardless of the preceding summer treatment, suggesting that the timing of cultural practices may be a useful means to avoid losses from yellow nutsedge. At Clemson, frequent tillage or use of IRT film with or without turnip followed by handweeding was not effective in eradicating purple nutsedge. Season-long management was essential to prevent increases in purple nutsedge tuber density over time.

LS05-176 Best Management Practices for Organic Orchard Nutrition, University of Arkansas, AR, \$200,000, Curt R. Rom, Ph: 479-575-2603, crom@uark.edu

Data developed in this study provides insights into the complicated chemical and biological interactions of the “living” system of a biological active ground cover, and thereby, soil. The project has provided an excellent demonstration for growers as the growth effects of ground cover management during the first two years of organic orchard are visually profound. The data will provide the basis for future recommendations for growers establishing and managing organic orchards in the southern region. The orchard study will be continued for 10 growing seasons and continue to provide information and evidence upon which recommendations will be made.

Research and Education Projects

Continuing Projects

LS04-158 N2-Fixation and Weed Competition: Breaking the Connection Between Crops and Weeds, NCSU, NC, \$248,000, Mike Burton, pH: 919-513-2860, mike_burton@ncsu.edu

LS04-159 Profitable Alternatives to Improve Water Quality from High Nutrient Status Farms, USDA-ARS, GA, \$288,000, Dorcas Franklin, 706-769-5631, dfrankln@uga.edu

LS04-160 Using Parasitoids in an Integrated Pest Management Approach to Control Flies on Dairy Farms, University of Arkansas, AR, \$288,000, Kelly Loftin, Ph: 501-671-2361, kloftin@uaex.edu

LS04-162 Developing Legume Shade Trees for Sustainable Coffee Production in Puerto Rico, University of Puerto Rico, PR, \$195,298, Eduardo Schroder, 787-832-3980 or 4040, eschroder@uprm.edu

LS04-163 Trade, Tenure and Tourism in the U.S. Virgin Islands, University of Arkansas, AR, \$280,000, Eric Wailes, Ph: 479-575-2278, ewailes@uark.edu

LS04-168 (planning grant) Development of Florida Native Plants as Farmscaping Cover Crops and Value-added Crops for Limited-Resource Farmers in Central Florida, FL, \$15,000, Robert A. Kluson, Ph: 941-232-3090, rkluson@earthlink.net

LS05-169 Exploiting the Organic Peanut Market: Design of Production Systems for the Southeast, Hebert Green Agroecology, NC, \$159,000, Mark A. Boudreau, Ph: 828-252-6943, markb@greenagroecology.com

LS05-171 Certified Forests: Preparing Private Landowners for the Future, Mississippi State Univ, MS, \$102,000, H. Glenn Hughes, Ph: 601-794-0671, ghughes@ext.msstate.edu

LS05-172 Forage Systems for the Sustainable Production of Uniform Goat Carcasses, Univ of Tennessee at Martin, TN, \$200,000, Richard Joost, Ph: 731-587-7196, rjoost@utm.edu

LS05-173 Microarray Analysis and Functional Assays to Assess Microbial Ecology and Disease Suppression in Soils, NCSU, NC, \$250,000, Frank Louws, Ph: 919-515-6689, frank_louws@ncsu.edu

LS05-174 Understanding Plant-Soil-Livestock Interactions in Southern-Pine Silvopasture Systems, Auburn University, AL, \$120,000, Mary S. Miller-Goodman, Ph: 334-844-3936, goodmms@auburn.edu

LS05-175 Sustainable and Profitable Control of Invasive Species by Small Ruminants, Texas A&M University, TX, \$178,000, James P. Muir, Ph: 254-968-4144, j-muir@tamu.edu

LS05-177 Sustainable Control of Gastro-intestinal Nematodes in Small Ruminants, Fort Valley State University, GA, \$250,000, Thomas Terrell, Ph: 478-825-6955, terrillt@fvsu.edu

LS05-178 Sustainability Indicators as Management Tools to Guide Farmers, Scientists, Policy Makers and the General Public, NCSU, NC, \$250,000, Jon A. Brandt, 919-5153107, Jon_Brandt@ncsu.edu

LS05-181 The use of Renewable Energy to Improve the Sustainability of Southeastern U.S. Pond Aquaculture, Tuskegee University, AL, \$14,860, Barrett T. Vaughan, 334-727-8527, btvaughan@tuskegee.edu

LS06-185 Biofumigation for Soil Health in Organic High Tunnel and Conventional Field Vegetable Production Systems, Kentucky State Univ. \$170,000, Michael Bomford, Ph: 502-597-5752, mbomford@gmail.com



Farmer Paul Weidiger (left) and project investigator Mike Bomford take soil samples in Weidiger's high tunnel greenhouse. They are testing mustard as a control for fungus that thrives in cool, damp soil. Project LS06-185.

LS06-186 Increasing Use of Sustainable Plants in Production and Landscape Design, Univ. of Georgia, \$180,000, Kris Braman, Ph: 770-228-7236, kbraman@uga.edu

LS06-187 Silicon soil amendments for enhancing disease resistance while improving overall crop health for cucurbits in organic farming systems, Univ of Florida, \$180,000, Lawrence E. Datnoff, Ph: 352-392-363, edatnoff@ifas.ufl.edu

Research and Education Projects

LS06-188 Expanding the Grazing Season for Sustainable Year-round Forage-finished Beef Production, Clemson Univ., SC, \$163,000, Susan Duckett, Ph: 864-656-5151, sduckett@clemson.edu

LS06-189 Increasing Sustainability of Southern Great Plains' Agriculture Through No-till Production Systems, Oklahoma State University, \$183,000, Jeffrey T. Edwards, Ph: 405-744-9617, jeff.edwards@okstate.edu

LS06-190, Perennial Legumes as a Sustainable Source of Soil Organic Matter in Southeastern Organic Farming Systems, Univ. of Georgia, \$190,000, Carl Jordan, Ph: 706-542-6019, cfjordan@uga.edu

LS06-191, Promoting the Development of Economically and Ecologically Sustainable Pasture-fed Beef Markets, Virginia PI&SU, \$198,652, Denise Mainville, Ph: 540-231-5774, mainvill@vt.edu

LS06-192 Biorational Approaches for Management of Bacterial Wilt and Bacterial Spot on Tomato, Univ. of Florida, \$150,000, Jeffrey B. Jones, Ph:352-392-3631, jbjones1@ufl.edu



Catarina Pasadomo (left) and Kelly Broderick harvest greens at Spring Valley Ecofarms as part of the UGA School of Ecology's research evaluating perennial legumes as a source of organic matter. Photo courtesy of project investigator Carl Jordan. Project LS06-190

LS06-193 Grafting Rootstocks Onto Heirloom and Locally Adapted Tomato Selections to Confer Resistance to Root-knot Nematodes and Other Soil Borne Diseases, NCSU, \$193,000, Mary Peet, Ph: 919-515-5362, mary_peat@ncsu.edu

LS07-194 Labor Input Substitution Decisions and Business Sustainability Strategies Under Changing Farm Labor Market Conditions, University of Georgia, Ag and Applied Economics, GA, \$120,000, Cesar Escalante, Ph: 706 -542-0740, cescalante@uga.edu

LS07-195 How Farmers Learn: Improving Sustainable Agriculture Education, Virginia Cooperative Extension, \$205,000, Nancy Franz, Ph:540-231-1634, nfranz@vt.edu

LS07-196 Improved Efficiency of Grazing Dairies Using Complementary Pasture Species and Irrigation Scheduling, University of Georgia Dept Crop & Soil Sciences, GA, \$210,000, Nicholas Hill, Ph: 706-542-0923, nhill@uga.edu

LS07-197 Appalachian Grown: Farm to School Project, Appalachian Sustainable Agriculture Proj, NC, \$170,000, Emily Jackson, Ph: 828-236-1282, Emily@asapconnections.org

LS07-198 Transition Strategies For an Organic Peanut-grain Cropping System, University of Georgia NESPAL, GA, \$220,000, Craig Kvien, Ph: 229-386-7274, ckvien@uga.edu

LS07-199 Integrating Plant Essential Oils and Kaolin for the Sustainable Management of Thrips and Tomato Spotted Wilt on Tomato, USDA-ARS, Center for Medical, Agri-cultural and Veterinary Entomology, FL, \$185,000, Stuart Reitz, Ph: 850-656-9870, sreitz@saa.ars.usda.gov



Producer Stefan Hartmann and graduate student Suzanne O'Connell work on different aspects of heirloom tomatoes grafted onto disease resistant rootstock. Suzanne is looking at nutrition. Stefan, using one of the rootstocks, successfully grew slicing tomatoes in his field for the first time in years. Projects LS06-193, GS05-046 and GS07-060 are all part of the research. Photo by Cary Rivard.

Research and Education Projects

LS07-200 Selecting cover crops for organic strawberry production in North Carolina, North Carolina State University Dept Crop Science, NC, \$200,000, Michelle Schroeder, 919-513-0085, michelle_schroeder@ncsu.edu

LS07-201 Pigeon pea: a multipurpose, drought resistant forage, grain and vegetable crop for sustainable southern farms, Texas AES - TAMU Dallas, TX, \$200,000, John Sloan, 972-231-5362, j-sloan@tamu.edu

LS08-202 Crop-livestock Systems for Sustainable High Plains Agriculture, Texas Tech University, TX, \$200,000, Vivian Gore Allen, 806-742-1625, felician@ttu.edu

LS08-203 Exploiting the organic peanut market: refining production systems for the Southeast, Herbert Green Agroecology, Inc., NC, \$175,000, Mark Boudreau, 828-215-2093, markb@greenagroecology.com

LS08-204 Sustainable control of gastro-intestinal nematodes in organic and grass-fed small ruminant production systems, USDA, ARS, AR, \$230,000, Joan M. Burke, 479-675-3834, joan.burke@ars.usda.gov

LS08-205 Selecting a Sunn hemp cover crop genotype for weed suppression and seed production, University of Florida, FL, \$170,000, Carlene A. Chase, 352-392-1928, cachase@ufl.edu



Scott Tubbs (pictured above in cover crop of pearl millet) and Craig Kvien are developing transition strategies for an organic peanut-grain cropping system. Project LS07-198



James Muir is evaluating whether goats can provide effective and profitable control of invasive plants in Texas. In this photo grazing goats have reduced brush on the right side of the fence. Project LS05-175

LS08-206 Sustainable agriculture in Virginia and North Carolina: a multi-state assessment of the economic, social and political context, Virginia PI&SU, VA, \$160,000, Jonah Fogel, 804-527-4234, jfogel@vt.edu

LS08-207, Enhancing the long-term sustainability and profitability of small, limited resource farmers in the Black Belt South through marketing research & education, Tuskegee University, AL, \$122,000, Tasha M. Hargrove, 334-727-4524, tmhargrove@tuskegee.edu

LS08-208 Marketing of locally produced sustainable animal fiber products, Texas State Univ-San Marcos, TX, \$140,000, Gwendolyn Hustvedt, 512-245-4689, gh21@txstate.edu

LS08-209 Producing, processing and marketing forage-finished beef for consumers in the southeastern United States, Auburn University, AL, \$151,000, Chris Kerth, 334-844-1503, kerthcr@auburn.edu

LS08-210 Reduced tillage in organic systems: a soil and water quality imperative, North Carolina State University, NC, \$190,000, J. Paul, Mueller, 919-515-5825, Paul_Mueller@ncsu.edu

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Professional Development Projects

Final Reports

ES03-066 Producer Managed Efforts in Marketing of Livestock & Livestock Products, NC A&T State University, NC, \$89,400, John O'Sullivan, 336-334-7957, johno@ncat.edu

This project made an important contribution to livestock product marketing education in the Southern Region. Extension and other educators gained knowledge and skills in addressing issues relevant to successful marketing of livestock products. They also were provided with and used a planned educational program in that area that was developed based on a Program Logic Model. It included an evaluation plan and tools The curriculum for the educational program was developed, field tested, revised and is being made available on the North Carolina SARE PDP website. Extension, Departments of Agriculture, non-government groups and farmers were actively involved as program planners, presenters and evaluators in the entire process.

After the workshop program participants returned to their states and territories and conduct training using the program materials. Four states/ territories (Alabama, Mississippi, South Carolina and North Carolina) reported impacts. The materials or design model were used in other states such as Texas and Tennessee as well and in the development of supporting materials for a WKKF project (NC Choices) and an additional SARE PDP project in North Carolina.



Grazing sheep photo courtesy of Janice Neighbor.

ES05-080 Small-Scale Poultry Production: Sustainability Training, Heifer International, KY, \$129,530, Rhonda Everman, 859-497 0603, rhonda.everman@heifer.org

Traditionally, most poultry information has been aimed at either large-scale production or backyard production. Information geared for operations "in the middle"--small commercial flock production--has been scarce. In addition, material is needed on a natural or organic approach.

Through this project, key leaders in sustainable poultry production, including Heifer International, the National Center for Appropriate Technology, and key producers carried out train-the-trainer events in the southern region covering the many facets of sustainable poultry production, processing and marketing. These groups partnered with the University of Arkansas, a landgrant with a history of poultry information, on the training. Trainings were conducted for extension personnel, nonprofit educators, and other agricultural educators. Facilitators used materials developed through previous SSARE Research and Education projects as well as materials developed in this project.

After attending trainings, educators had the opportunity to set up their own local trainings for producers. In addition, web-based educational materials, including written materials, video clips, and visual information on small-scale, sustainable poultry production were developed and posted on the internet to help sustain post-project learning. Key materials were translated to Spanish.



Pastured broilers and cover crops like rye grass grow well together in rotation with vegetables on a small farm. Photo by Gwen Roland

Professional Development Projects

Continuing Projects

ES03-069 Training Educators to Protect Honey Bee Pollinators with Sustainable Pest Management, University of Tennessee Ag Ext Service, TN, \$126,648, John Skinner, 865-974-0209, jskinner@utk.edu

ES04-075 Regional Goat Production and Marketing Project: Phase 1, Kentucky State University, KY, \$84,550, Marion Simon, 502-597-6437, msimon@gwmail.kysu.edu

ES04-076 Putting It All Together: Using Livestock to Manage Natural Resources, NCAT/ATTRA, AR, \$80,187, Teresa Maurer, 479-442-9824, teresam@ncat.org

ES05-078 Sustainable Production Systems for Range-Reared Standard Turkeys, American Livestock Breeds Conservancy, NC, \$109,444, Marjorie Bender, 919-542-5704, mbender@albc-usa.org

ES05-079 Direct Market Training for Agricultural Professionals, North Carolina State University, NC, \$96,757, S. Gary Bullen, 919-515-6096, Gary_Bullen@ncsu.edu

ES05-081 Regional Meat Goat Production and Marketing Project: Phase 2 Kentucky State University, KY, \$9,578, Marion Simon, 502-597-6437, msimon@gwmail.kysu.edu

ES05-082 Regional Meat Goat Production and Marketing Project: Phase 1 Kentucky State University, KY, \$30,000, Marion Simon, 502-597-6437, msimon@gwmail.kysu.edu

ES06-083 Pasture Pork 101: Comprehensive Agent Training in Pasture-based Hog production, NCSU, \$62,500, Susan Mellage, Ph: 919-515-7346, susan_mellage@ncsu.edu

ES06-084, Smart Drenching and FAMACHA Integrated Training for Sustainable Control of Gastrointestinal Nematodes in Small Ruminants, Fort Valley State University, GA, \$72,955, Seyedmehdi Mobini, Ph: 478-825-6427, mobinis@fvsu.edu

ES06-085 Sustainable Organic No-Till Systems: A Training Program for CES and NRCS Field Professionals, VPI & SU, \$104,623, Ronald D. Morse, 540-231-6724, morser@vt.edu

ES06-086 Trainings in Eight Farming Systems using unique tools and approaches, S-SAWG, TX, \$123,751, David Zodrow, 479-443-5127, davidzodrow@aol.com

ES07-087 Kentucky Sheep and Goat Herder Curriculum-Phase 1, University of Kentucky, \$90,000, Jimmy Henning, 859-257-1846, jimmy.henning@uky.edu

ES07-088 Building Organic Agriculture Extension Training Capacity in the Southeast, University of Arkansas, \$195,000, Elena Garcia, 479-575-8619, megarcia@uark.edu

ES08-089 Toolbox for Small Ruminant Educators: Building on the Small Ruminant Resource Manual, NCAT, AR, \$61,523, Linda Coffey, 479-442-9824, lindac@ncat.org

ES08-090 An agent Training Program in Safe Food Handling & Legal Liability, North Carolina Cooperative Ext, NC, \$77,344, Diane Ducharme, 704-250-5402, Diane_Ducharme@ncsu.edu

ES08-091, Organic Dairy Training Conferences and Educational Materials for Professionals, Univ of Arkansas CES, AR, \$97,456, Jodie Pennington, 501- 671-2190, jpennington@uaex.edu

ES08-092 Energy Training for Agricultural Professionals in the Southern SARE Regions, National Center for Appropriate Technology (NCAT), NC, \$97,684, Mike Morris, 406-533-6652, mikem@ncat.org

ES08-093 Agritourism Training for Agriculture Professionals, University of Georgia, GA, \$82,986, Ken, Wolfe, 706-542-0752, kwolfe@uga.edu

ES08-094 Experiential Education to Form an Extension Organic Production Team in Georgia, University of Georgia, GA, \$18,692, Julia Gaskin, 706-542-1886, jgaskin@engr.uga.edu



Due to increased interest in local food and on-farm processing, more PDP projects are training agents and other professionals in food safety.

Producer Grant Projects

Final Reports

FS05-190 Addressing Cedar Infestations Using Animal Impact to Increase Forage Production and Improve Soil Health Holistic Resource Management of Texas, Inc. TX, \$14,987, Peggy Cole, Ph: 512-847-3822, pcole@hrm-texas.org

This team of ranchers, scientists and a photographer documented the changes to a portion of the 11,000-acre West Ranch to see if animal impact could increase forage and soil health enough to halt cedar encroachment. The team carefully monitored 4 grazing management treatments in twice-yearly sessions for about three years. We concluded we need to monitor for about 10 more years to show clearly what trends emerge from the treatments. Four newsletter/newspaper articles, two public outreach field days and 24 showings of the video let a wide audience know about the project.

FS06-199 Capillary Irrigation for Container Nurseries: a practical alternative to overhead irrigation?, Coastal Plain Conservation Nursery, Inc, NC, \$9,867, Ellen J. Colodney, Ph: 252-482-5707, liv2plant@earthlink.net

We compared overhead irrigation, irrigation using third-generation prefabricated capillary mats, and combined systems for plants in two container sizes: multi-cell trays and trade gallons. For each combination, we monitored applied water, fertilizer, magnesium and acid, plant losses, time spent on issues related to irrigation, and staff satisfaction. We also determined the costs of installing the capillary mats in new growing areas and adding capillary mats to growing areas with existing overhead irrigation. For the small plants in multi-cell trays, capillary mats plus overhead irrigation reduced applied water by 63% over overhead irrigation alone. For plants in trade gallons, capillary mat irrigation alone worked very well, reduced applied water by 70%, and resulted in much more pleasant working conditions. As the result of this study, we will be retrofitting our growing areas with third-generation prefabricated capillary mats.

FS06-200 Establishing Natural Controls of Competitive Fungi in the Production of Shiitake Mushrooms, TN, \$8,832, James Day, Ph: 615-792-9306, j1day@earthlink.net

Growing shiitake mushrooms has been a challenge. I have learned to be alert, pay attention to the conditions of the logs from the first stage of inoculation to fruiting the log, storing the log in the resting stage. I have learned that keeping records of fruiting times and amounts will help make growing choices, keeping track of labor hours and expenses will help determine a fair market value. An activity log will help you remember small changes; what environmental conditions were like when production was at its

best, and help you determine the number of logs you might want to force fruit to meet production requirements.

FS06-206 A Diversifying and Marketing Strategy for Sustaining Small Farm Agriculture, NC, \$9,976, Nancy C. Moretz, Ph: 828-264-4612, nancynjerry@charter.netFS06-206

We began Fall Farm Weekends, inviting visitors to our farm for outdoor sales and educational opportunities, as a way to diversify our farming practices and provide another way to market farm products that we and our cooperators could produce. Educational and entertaining aspects: wagon rides, fiber arts demonstrations, and presentations about our apple and other farming operations have proven more successful than sales aspects. Although we had a very small turnout this year, we feel that intense and expanded advertising to take advantage of the tourism industry, which is such a big part of the local economy of western NC mountains, will make Fall Farm Weekends more successful.

FS06-207 Networking Sheep and Goat Producers: Strength in Numbers, AR, \$10,000, Janice Neighbor, Ph: 479-846-1798, spellbound@pgtc.com



The purpose of this project was to establish a goat, sheep, and fiber producer's network in this region for education and support. We developed a directory of producers from gathered and compiled information, which is now made available on a web-site (argoatsheepfiber.com). We participated in numerous events dealing with the producers and public to inform, increase awareness about goat, sheep, and fiber products, and introduce the farmers to potential customers. We had a wonderful time, met a

lot of interesting people, and were able to share information that was beneficial to all that participated.

FS07-212 Control of Corn Earworm using Brazilian Free-tailed bats, GA, \$999, Frank and Teresa Bibin, Ph: 229-775-3347, bibin@batfarm.com

The purpose of our project was to determine if Brazilian free-tailed bat predation can decrease corn earworm infestation levels in sweet corn. We planted a sweet corn plot in close proximity to permanent free-tailed bat colonies. The corn was planted in early, middle, and late stages with a control plot corresponding with the

Producer Grant Projects

early stage corn. Results indicate early sweet corn had one-half of the corn earworm infestation as the control. Earworm infestation in the middle and late corn increased successively. Our project indicated that bat predation is an effective control of corn earworm moths in early sweet corn, but not in late season sweet corn.



At twilight Frank Bibin shines a light into a bat house to check on the population. More bats mean fewer corn ear worms early in the season, according to the results of project FS07-212.

specific protocol for the micropropagation or tissue culture of Elderberry, Fairywand, Echinacea and Skullcap. I wanted to know if micropropagation was a cost effective method for herb cultivation and could high laboratory expenses be avoided by using simplified methods to make it a more affordable alternative. Micropropagation methods were simplified by using household equipment and results were compiled and written in laymen's terms in an easy to understand manual. These simplified procedures were taught to herb farmers through workshops

FS07-218 Biodegradable Mulch, VA, \$3,457, Eric Plaksin, Ph: 540-87-8567, waterpenny@verizon.net

We compared biodegradable mulch with regular plastic in squash and tomatoes on three farms in Virginia. We found that biodegradable mulch performs roughly equally with plastic in most situations, but plastic did much better in early squash. We decided that overall biodegradable mulch is a viable alternative to plastic, and that any possible production loss is usually minimal and cancelled out by savings associated with not pulling up and disposing of regular plastic. We recommend trying biodegradable mulch to any vegetable farmer interested in reducing the amount of plastic they generate while saving time and possibly money. We plan to continue our own experiments on a larger scale.

FS07-213 Recycling Mushroom Spent Compost, PR, \$8,027, Reed Hepperly, Ph: 787-464-9909, rhepperly@yahoo.com

This research project addressed the need to dispose spent mushroom media by developing a potting mix to diversify our income stream. The potting mix we developed promoted higher percentage of germination of stronger and greener seedlings. Evaluations by others who tested in their nursery or garden reaffirmed our findings. The open house gatherings made possible a hands-on experience and provided opportunities for input for future end users. The newspaper article prompted telephone calls from people interested in using the compost and mix for their nurseries.

FS07-215 Diversify Production Methods of Medicinal Herb Crops with Tissue Culture, AL, \$9,946, Mary Janis, Ph: 828-389-1913, mary_janis@verizon.net

Demand for herbal products exceeds the supply in many cases and new methods of cultivation need to be explored. I attempted to produce plant



Mary Janis developed simplified tissue culture methods for herb propagation and then taught a workshop for other herb farmers. Project FS07-215

Producer Grant Projects

Continuing Projects

FS03-161 Sustainable Pastured Layer Research Project, Texas/Mexico Border Coalition Community Base Organization, TX \$14,992, Graciela Alvarado, Ph: 956-743-5348, gbennack@coserve.org

FS03-162 Oklahoma Farm Direct Retail Market Project, Cherokee Small Farm Project, OK, \$15,000, Kathy Carter-White, 918-456-0671 ext. 2653, kcarter-white@cherokee.org

FS03-163 Managing Beneficial Insects and Using Pest Trap Crops in Organic Broccoli, Watauga River Farms, NC, \$9,950, Charles A. Church, Ph: 828-297-3775, sanghunter@aol.com

FS03-164 Test Growing & Marketing Specialty Woody Cutflowers, Shady Grove Gardens & Nursery, NC, \$8,555, Susan Wright Cochran, Ph: 828-297-4098, sggarden@skybest.com

FS04-180 A Varroa Mite Management Project, VA, \$13,271, Billy Davis, Ph: 540-751-0071, flintlock@megapipe.net

FS04-181 Selection of Hygienic Honey Bee Queens Resistant to Tracheal Mites, TN, \$9,987, Edwin Holcombe, Ph: 931-684-0826

FS04-182 Cultural Control of Internal Parasites in Goats with Rotational Grazing of Sericea Lespedeza in the Appalachian Region of Kentucky, KY, \$7,289, Wayne Kirby, Ph: 606-546-3447, wkirby@utk.edu

FS04-183 How to Restore a Sustainable Silvopastoral System Using Hair Sheep, OK, \$9,980, Brother Joseph-Marie Owen, Ph: 918-772-2454

FS04-184 Edamame Variety Trials for the Local Fresh Market, SC, \$4,777, Carolyn Prince, Ph: 843-454-0653, aprince@mindspring.com

FS05-186 Growing Alternative Crops in Tobacco Greenhouses, Clinch Mountain Farmers, Inc., VA, \$4,085, Charlie Broadwater, Ph: 276-386-7663, cmfmi@mounet.com

FS05-187 Soil Building and Fertility through Cover Cropping among Limited Resource Farmers, Selma-Dallas Small Farmers Association, AL, \$11,968, John Brown, Ph: 334-418-0584, johnb32001@yahoo.com

FS05-195 Alternative Techniques for Harvesting Inland Saltwater Shrimp, Greene Prairie Aquafarm, AL, \$6,557, David Teichert-Coddington, Ph: 205-372-1135, david@GreenePrairieAquafarm.com



Industrial microbiology students from the Univ. of Puerto Rico at Mayaguez visit mushroom production facilities to learn about composting spent media procedures. Project FS07-213.

FS06-198 Evaluation of Mulches for Organic Cantaloupe Production in Semi-Arid Regions, TX, \$9,855, John Chandler, Ph: (806) 577-3887, john.m.chandler@gmail.com

FS06-203 A Demand-Driven Approach to Specialty Crop Market Development, Appalachian Spring Cooperative, TN, 12324, Dianne Levy, Ph: 423-733-2095, mgr@apspringcoop.com

FS06-204 Developing Dual Purpose Quail for Small Farmers, Black Forest Poultry Farm, KY, \$7,600, Martin H., Meers, Ph: 859-745-4945, blackforestpoultry@highstream.net

FS06-205 Cover Crop Optimization for Sustainable Forage Systems on a Southern Dairy Farm, World Hunger Relief, Inc., TX, 9872, Neil R. Miller, Ph: 254-799-5611, WHRIneil@hotmail.com

FS06-209, Developing Model CSA Software for Multi-cropping and Harvesting, Bee Heaven Farm, FL, \$9,800, Margaret Pikarsky, Ph: 305-247-8650, office@pikarco.com

FS06-211 Value from Byproducts of the Southern Wine Grape Industry, Sandy Cross Vineyard, NC, \$9,925, Ben Webb, Ph: 336-786-2388, ben@kettlemaster.com

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FS07-214, Sustainable Low-Cost Heating for Season Extension Structures, TN, \$14,928, Steve Hodges, Ph: 423-733-4195, steveh@overhome.net

FS07-216 Season Extension for Winter CSA and Restaurant Sales, NC, \$5,829, Annie Louise Perkinson, Ph: 828-628-3348, perkinsoni@bellsouth.net

FS07-217 Low Input No-Till Vegetable Production in the Shenandoah Valley, VA, \$9,988, Michael Phillips, Ph: 540-96-7381, brjones8@vt.edu,

FS07-219 Treating Soil Compaction Using Woven Weed Fabric, TX, \$9,886, Roy Riddle, Ph: 806-35-4007, rcr1465@poka.com

FS07-220 Meeting the Needs of Microbreweries with Fresh Hops Production, NC, \$9,762, Linda Sakiewicz, Ph: 919-63-8993, Brackenbrae@mebtel.net

FS07-221 Natural Comb Management of Honey Bees for Varroa Control, TN, \$15,000, Michael Wilson, Ph: 865-63-9008, my4acres@bellsouth.net

FS08-222 Use of Crawfish and Crab Waste as an Organic Fertilizer and Protein Feed, LA, \$10,000, Shane Carmichael, 318-240-3134, shanecarmichael@Rogers.com

FS08-223 Promoting Sustainable Beekeeping Practices through local production of nucs (nucleus colonies) and local queen honeybees, The Backyard Farm, VA, \$14,736, Karla Eisen, 703-753-9023, PWSBeekeepers@gmail.com

FS08-224 Organic Strawberry Production: Extending the Season with Low Tunnels, AL, \$10,000, Jan Garrett, 334-725-9272, garr6904@bellsouth.net

FS08-225 Improving Sustainability of A Long-term Certified Organic Cash Grain Production System, Hillsborough Farm, VA, \$8,828, W. Todd Henley, 804-769-2987, hills_wth@hotmail.com

FS08-226 Native-Grass Prairie Restoration and Soil Remediation Program, AL, \$9,995, Fitz Hudson, 334-279-3194, fitzhudson@charter.net

FS08-227 Optimizing management of manure composts to yield high value mushroom crops and soil amendments, Sharondale Farm, VA, \$6,317, Mark Jones, 434-296-3301, info@sharondalefarm.com

FS08-228 Sustainable Production and Niche Marketing of Pearl Millet, GA, \$9,911, Bryan Maw, 229-382-6832, maw.bryan@yahoo.com

FS08-229 Enhanced genetic selection of dairy sheep for the Southern US, VA, \$9,486, Marcia McDuffie, 434-277-9216, mjm7e@virginia.edu

FS08-230 Building Capacity for Pastured Poultry Production in Western North Carolina, NC, \$7,755, Casey McKissick, 828-216-2966, casey@crookedcreekfarms.org

FS08-231 Financial analysis of growing no till organic field corn and wheat using cover crops for weed suppression, VA, \$8,827, Joel Thomas Yowell, 540-923-4059, kdyowell@earthlink.net



The crawfish and crab industries in Louisiana (*top photo*) produce tons of high-nutrient waste. A SARE SCI project is drying that waste (*bottom photo*) to evaluate it as organic fertilizer and a protein source for livestock feed. Project FS08-222.

Graduate Student Projects

Final Reports

GS04-035 Effects of Tillage, Rotation and Organic Inputs on Soil Ecological Properties in Vegetable Crop Production Systems, NCSU, NC, \$9,998, Greg Hoyt, Ph: 828-684-3562, greg-hoyt@ncsu.edu, Laura Overstreet, Ph: 919-513-3037, ljflint@unity.ncsu.edu

Biological properties generally responded to all treatment combinations, but tillage provided the strongest treatment effect in most cases. Compared to strip-tillage, moldboard tillage consistently yielded significantly lower values for the following biological measurements: total C and N, above-ground biomass, microbial biomass, enzyme activity, soil respiration, N mineralization, some nematode trophic groups, and earthworms.

Compared with organic inputs, synthetic inputs consistently induced significantly lower values for the following biological measurements: microbial biomass, enzyme activity, some nematode trophic groups, and soil respiration. An examination of relationships between biological and physical parameters using redundancy analysis revealed that microporosity was the physical property that was most strongly correlated with most biological parameters. Soil organisms responded to treatments in the following order: tillage > input > rotation.

GS04-036 Assessing the Viability of the Inland Shrimp Farming as a Viable Enterprise in Alabama, Tuskegee University, AL, \$9,901, Ntam Baharanyi, Ph: 334-727-8454, baharanyi@tuskegee.edu, Anthony S. Deanes, Ph: 334-725-6462, anthony.deanes@tuskegee.edu

Assessing the viability of inland shrimp farming revealed that profitability seemed more likely for the small-scale (5-acre) enterprise when it was an alternative aquaculture enterprise versus a sole enterprise. The fifty-acre enterprise budget appeared to be lucrative if the market is established and is capable of being profitable with or without an alternative enterprise. Although the results suggested that South Central Alabama seems to be a suitable place for culturing saltwater shrimp, there is still a lack of knowledge and experience about inland shrimp farming in the region as well as a lack of well-established markets for farmers' products.

GS05-043 BT Cotton, Tillage and Cover Crops Identity: Relative Effects on Invertebrate Diversity, University of Georgia, GA, \$2,895, Mark Hunter, Ph: 706-652-1801, mdhunter@uga.edu, and Kyle Wickings, Ph: 706-652-6557, 1356kw@uga.edu

Plant- and ground-active arthropods were surveyed over two years from a two-acre cotton farm in Athens, GA supporting whole plot treatments of conventional- (CT) and no-tillage (NT) with



Graduate student Mike Mulvaney has his father, George, and wife, Emma, inspect for insect damage on his SARE-funded organically-mulched collards. Project GS05-049

subplot treatments of Bt and non-Bt cotton and a winter cover crop of rye or clover. Although neither Bt cotton nor its residue affected total abundance, richness or diversity, three families were significantly affected. Conversely, richness and diversity of non-target arthropods were both significantly higher in NT than in CT plots and a clover cover crop supported higher levels of abundance, richness and diversity during 2005. An interaction was detected between cover crop and cotton residue type with higher abundance, richness and diversity occurring in clover plots with Bt cotton residue than in clover plots with non-Bt residue. Arthropods contributing to significant differences at the community level include plant- and soil surface-active predators, detritivores, pollen feeders, and non-target herbivores.

While this study demonstrates slight variations in the impact of Bt cotton under various agricultural management schemes it also reveals that cotton type is the least important factor shaping non-target arthropod communities relative to the other management strategies employed at this particular site.

GS05-044 Effects of the Quality of Organic Soil Amendments on the Soil Community and on Plant N Availability in an Agroecosystem in the Georgia Piedmont, University of Georgia, GA, \$8,576, Carl Jordan, Ph: 706-542-6019, cfjordan@uga.edu and Yolima Carrillo, Ph: 706-542-9251, yolcarri@uga.edu

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We studied how the chemical quality of surface-applied organic amendments and the soil foodweb interact to determine nitrogen mineralization. Quality had substantial effects on the microbial communities in soil. By affecting microbial populations quality also influenced the consumer populations. Modeling suggested that: communities generated by different quality amendments have differential abilities for mineralization; communities may be better at mineralizing substrates similar to those that generated them; community structure is less important in determining mineralization for intermediate quality substrates. In soils whose faunal community has been impoverished mineralization is less responsive to quality than in soils with a more complex community.

GS05-045 Development of an IPM Strategy for Control of Flower-Thrips in Blueberries in Southeastern United States, University of Florida, FL, \$9,914, Oscar E. Liburd, Ph: 352-846-5289, oeliburd@ifas.ufl.edu and Héctor Alejandro Arévalo, aleareva@ifas.ufl.edu

Successful management of flower thrips in commercial blueberry plantings is determined by efficient monitoring systems and timely use of control methods. Massive releases of natural enemies as preventive or curative methods did not significantly reduce the population of flower thrips. In the evaluation of reduced risk insecticides, we found that Spinosad was the least toxic insecticide towards *Orius insidiosus*. However, in field studies, Spinosad was not significantly different to other treatments evaluated for control of thrips. Acetamiprid consistently reduced thrips population in field and laboratory studies but also significantly reduced the number of *O. insidiosus* in laboratory assays.

GS05-046 Inducing Disease Resistance and Increased Production in Organic Heirloom Tomato Production Through Grafting, North Carolina State University, NC, \$10,000, Frank Louws, Ph: 919-515-6689, frank_louws@ncsu.edu and Cary Rivard, caryrivard@hotmail.com

Our findings illustrate the efficacy of rootstock to manage soilborne disease. We have identified two lines (CRA 66 and Hawaii 7996) with excellent resistance to bacterial wilt. These lines will be very important for future rootstock breeding programs in the US. Currently, rootstock-specific hybrids are available in the US, but very few of these lines have bacterial wilt resistance. This disease is especially important throughout the southeast, and the adoption of grafting for tomato production relies on the ability to manage this disease. Furthermore, this data represents the best management tool for bacterial wilt to-date.

We have also identified rootstock that can be utilized to manage fusarium wilt in naturally-infested conditions. Although our evidence is preliminary, it appears that grafting may be a viable management tool for verticillium wilt (race 2) as well.

GS05-048 The Effects of Different Organic Apple Production Systems on Seasonal Variation of Soil Properties and Foliar Nutrient Concentration, University of Arkansas, AR, \$10,000, Curt R. Rom, 479-575-2603, crom@uark.edu and Hyun-Sug Choi, hchoi@uark.edu

Data developed in this study provides insights into the complicated chemical and biological interactions of the “living” system of a biological active ground cover and thereby soil. The project has provided an excellent demonstration for growers as the growth effects of ground cover management during the first two years of organic orchard are visually profound. The data will provide the basis for future recommendations for growers establishing and managing organic orchards in the southern region. The orchard study will be continued for 10 growing seasons and continue to provide information and evidence upon which recommendations will be made.

GS06-052, Testing Technologies for Affordable Bioshelters, Appalachian State University, NC, Marie Hoepfl, Ph: 828-262-3122, hoepflmc@appstate.edu ;Yonatan Strauch, s73670@appstate.edu

The sub-soil heat storage system known as the Subterranean Heating and Cooling System (SHCS) was shown to improve temperature condition and increase growth for soil plantings compared to a control greenhouse. It provided insufficient heat at night to dramatically elevate temperatures in an uninsulated greenhouse. It increased soil temperature 10F during March. A liquid foam insulated greenhouse stayed 14F above the control overnight for low electric costs, but had technical problems. This or another kind of full envelope insulation is needed to make best use of solar heat storage systems. \$75,000 in further funding was secured to continue research.

GS06-055, Combining Socioeconomic and Ecological Analysis to Determine the Optimal Distribution of Green Payments in the Albermarle Sound Region of North Carolina, Duke University, Nicholas School of the Environment and Earth Sciences NC, Dean Urban, Ph: 919-613-8741, deanu@duke.edu; Lucy Henry, lucy.henry@duke.edu

This analysis shows that practices that provide a perceived relative advantage, through things like labor and time savings, are more readily adopted, but practices that are perceived as incompatible with farmers’ values, needs, or relationships with landowners are frequently rejected, even when economic profits might be derived from them. I also found that farmers are strongly influenced by biophysical aspects of their farm operation and have varying, but influential, interpretations of what good stewardship looks like. Based on these findings, I suggest that conservation programs could be marketed in a more effective way by appealing to farmers’ motivations and by communicating conservation benefits in ways that take farmer perceptions into account.

Graduate Student Projects

Continuing Projects

GS05-049 Organic Mulches and High Residue No-till for Collard Production in Alabama, Auburn University, AL, \$10,000, Dennis Shannon & C. Wesley Wood, Ph: 334-844-3963, shannda@auburn.edu & woodcha@auburn.edu and Michael J. Mulvaney, mulvamj@auburn.edu

GS06-051, Effects of Management Practices and Plant Growth Regulators on the Allelopathic Potential of Rye, North Carolina State University, NC, James Burton, 919-515-1211, jim_burton@ncsu.edu; Christine Sickler, Ph: 919-515-3178, christine_sickler@ncsu.edu

GS06-053 How Many Organically-grown Cabbageworms Can a Northern Cardinal Eat?, University of Florida, FL, Kathryn Sieving, Ph: 352-846-0569, chucaco@ufl.edu; John DeLuca, delucajj@muohio.edu

GS06-054 Novel Methods for Sustainable Control of Gastrointestinal Nematodes in llamas and Alpacas in the Southeastern United States, Fort Valley State University AES, GA, Thomas Terrill, Ph: 478-825-6814, terrillt@fvsu.edu, Rose-Ann Gillespie, missanns@usa.net

GS07-056 Allelopathic effects of small grain cover crops on cotton plant growth and yields, Texas Tech University, Dept Plant and Soil Science, TX, \$10000, Dr. Vivien Allen/ Li, Yue, Ph: 8067421625, felician@ttu.edu

GS07-057 Optimizing buckwheat use as a weed suppressive cover crop for sustainable cropping systems in Florida, University of Florida, FL, 10000, Dr. Carlene Chase/ Huang, Pei-wen, Ph: 3523921928, cachase@ufl.edu

GS07-058 Cover crop mulches for no-till organic onion production, North Carolina State University, Dept of Horticultural Science, NC, \$10000, Dr. Nancy Creamer/ Vollmer, Emily, Ph: 9195159447, nancy_creamer@ncsu.edu

GS07-059 Effect of a grazing sericea lespedeza as a treatment padock for controlling natural nematode infection in lambs, Louisiana State University, Dept of Pathobiological Sciences, LA, 10000, Dr. James Miller/ Moscona, Allyson, Ph: 2255789652, jmille1@lsu.edu

GS07-060 Potential of grafting to improve nutrient management of Heirloom tomatoes on organic farms, North Carolina State University, NC, \$10000, Dr. Mary Peet/ O'Connell, Suzanne, Ph: 9195155362, mary_peek@ncsu.edu

GS07-061 Importance of Brassica soil amendments for managing soilborne disease in ornamentals and vegetables, University of Arkansas, AR, 9944, Dr. Craig Rothrock/ Cochran, Kimberly, Ph: 4796017472, rothrock@uark.edu

GS07-062 Omega-3 Purslane Eggs, North Carolina State University, NC, \$10000, Dr. Thomas Ruffy/ Vance, Laura, Ph: 9195153660, tom_ruffy@ncsu.edu

GS07-063 Reducing nutrient loss below the root zone of drip-irrigated vegetables using low-pressure, increased irrigation time, University of Florida, FL, 9966, Dr. Eric Simonne/ Gazula, Aparna, Ph: 3523924711, esimonne@ufl.edu

GS07-064 Cropping systems for sustainable nutrient management and dairy production, Texas A&M University, TX, \$10000, Dr. Donald Vietor/ Schnell, Ronnie, Ph: 9798455357, dvietor@ag.tamu.edu



Different purslane cultivars are being evaluated as chicken forage to produce eggs high in Omega-3. Project GS07-062

On-Farm Research Reports

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OS03-009 Year-Round Beef Cattle Grazing Strategy to Eliminate or Reduce the Use of Stored Feeds, KY, \$15,000, David Ditsch, Ph: 606-257-9511, x231, dditsch@uky.edu

Three steep-terrain Eastern Kentucky farms, typical of most in the Appalachian region of the United States, were chosen to conduct a demonstration of animal and forage management to maximize grazing and minimize feeding of stored forage for beef cow – calf production. The livestock forage management plans for these farms required very intensive management which included frequent pasture rotation, establishment of several perennial and annual forage crops, close attention to beginning and ending grazing heights, planting dates, fertilization and detailed record keeping.

At the end of this study, only one of the three producers successfully implemented and executed the grazing plan for the two year duration of this study. It became apparent by year two that the year-round grazing plan we were testing required a much higher level of management than most eastern Kentucky producers would or could commit to providing. This is perhaps one of the most important and unexpected results of this study.

OS03-010 Poultry Litter Research Project, Clemson Extension Service, SC, \$12,600, David Gunter, Ph: 843-393-0484, dgunter@clemson.edu

A comparison of using poultry litter to using commercial fertilizer for the nutrient management requirements of a cotton crop found that cotton can be grown resulting in as good, if not better yields, and as good, if not better, returns. The owner of a poultry operation more opportunity for increased profits than growers using litter brokers to gain access to poultry litter. Data from deep sampling to three foot revealed little or no difference in leaching of nitrates and other nutrients of the two systems.

OS04-020 Increasing Farm Sustainability through the use of Cover Crops for Weed Suppression in Non-Transgenic Conventional Cotton, University of Georgia/Tifton, GA, \$15,000, Gary Hawkins, Ph: 229-386-3914, ghawkins@tifton.uga.edu

The impacts of this research could potentially prove to be valuable in providing the farmer with a less costly seed (conventional) while providing an equal or comparable yield as compared to genetically modified cotton seed. However, the supply of conventional seed is scarce thereby making the information gained from this research less important. One potential advantage and impact to the results of this research is that there will be some answers to questions if conventional cotton is put back into production due to the emerging resistance of pigweed to glyphosate. This problem is not wide spread, but if it becomes more of a problem the use of conventional cotton may become more widely accepted and the results of this research could be



Larry Redmon found out that Texas beef cattle can winter well on a thrifty combination of stockpiled bermudagrass plus ryegrass. Project OS04-021

very important and will have a wide spread impact.

OS04-021 Comparison of Stockpiled Bermudagrass + Annual Ryegrass and Traditional Hay-Only Winter Feeding Practices, Texas A&M University, TX, \$14,645, Larry Redmon, Ph: 903-834-6191, l-redmon@tamu.edu

We found that substantial savings could be realized during the winter for beef cattle producers who used a combination of stockpiled bermudagrass plus ryegrass compared with traditional hay-only winter feeding programs. The economic savings, however, did not come at any detriment to beef cows as evidenced by similar body condition scores between the two treatment groups.

OS05-027 Coffee Seedlings in Forestry Tubes, El Atlántico Resource Conservation & Development, PR, \$14,957, Steven L. Welker, Ph: 787-817-2434, steven.welker@pr.usda.gov

The objective of the project was to develop commercial quality coffee seedlings through a cropping system based on forestry tube containers. The motivation behind the project was to replace the current coffee seedling system in use in Puerto Rico which relies on plastic bag containers. The existing system was judged to be unsustainable due to its economic and environmental costs, and agronomic deficiencies. The tube container system was based on 3 elements – Ray Leach cell containers set on trays and raised benches, non-soil potting mix, and micro sprinkler fertigation. Results demonstrate that the tube containers solve the problems posed by bagged coffee seedlings. Tubed seedlings showed adequate development above ground, root systems superior to

On-Farm Research Projects



In the semi-arid Texas high plains, guar can be grown as a rotational crop. The edible fresh pods can also be sold, particularly in ethnic communities where people already know how to cook them. Project OS06-031,

Early planted rye reduced total soil profile NO₃- (0-90 cm) by 15 kg ha⁻¹. Across species, early planting resulted in 21 kg ha⁻¹ less soil profile NO₃- in May than late planting. Averaged over cereal cover crops, N applied at GS 25 resulted in 2.1 Mg ha⁻¹ more biomass and 26 kg ha⁻¹ more N uptake.

OS06-031 Use of Guar (*Cyamopsis tetragonoloba* (L.) Taub) for cover crop rotation and green manuring, Texas A&M University, TX, \$15,000 Russell Wallace, Ph: 806-746-6101, rwwallace@ag.tamu.edu

The results of this trial indicate that picking guar for fresh pod sales is feasible for small farmers interested in offering additional commodities for sale at their markets, particularly to ethnic groups who are familiar with it. This research also showed that guar can be an important source of additional income when harvested and sold fresh. Effects on the soil were not so clear, as soil organic matter did not show changes, and there were very few changes in soil nitrogen. However, less irrigation was needed for guar and pea production than would be needed for other vegetables. The test also demonstrated that guar production can be an important part of crop rotation sequences in farming systems.

bagged coffee, and faster establishment. So far, survival rates have been good. Production costs for the tube seedlings are much less than the bag product and their environmental impact is minimal.

OS06-029 Development and Implementation of a Trap Cropping System to Suppress Stink Bugs in the Southern Coastal Plain, University of Florida, FL \$15,000, Russell Mizell, Ph: 850-875-7156, rfmizell@mail.ifas.ufl.edu

A trap cropping system was developed to manage the stink and leaffooted bug pests in the coastal plain and perhaps other areas. The biologically-based strategy can be customized for any planting season from spring to fall and is farmer-philosophy and farm-scale neutral. Plantings are established using standard cultural practices. A mixture of species is required to ensure continuous optimum food availability in the trap crop to out compete the cash crop for stink bug feeding. Triticale, sorghum, millet, buckwheat, and sunflower are the main species recommended. Small-acreage growers may wish to plant trap crops in large containers for portability.

OS06-030 Reducing soil erosion and nitrogen leaching through sustainable cropping systems, Virginia Tech, VA \$6,271, Wade Thomason, Ph: 540-231-2988, wthomaso@vt.edu

A study evaluating cover crop species at three planting dates with or without winter nitrogen application determined that rye and rye + hairy vetch yielded significantly more biomass than other species. Rye nitrogen uptake was also greater than other cereals.



A mixture of trap crops (left row) were found to be useful for luring stinkbugs and leaffooted bug pests away from cash crops such as organic soybeans. Project OS06-029.

On-Farm Research Projects

Continuing Projects

OS06-028 An Alternative Planting Strategy for Establishing Clover in Pastures, Univ of Arkansas CES, AR, \$14,992, John Jennings, Ph: 501-671-2350, jjennings@uaex.edu

OS06-030 Reducing soil erosion and nitrogen leaching through sustainable cropping systems, Virginia Tech, VA \$6,271, Wade Thomason, Ph: 540-231-2988, wthomaso@vt.edu

OS06-032 Opportunities for Pasture-raised Jersey Beef in the Southeast, NCSU, NC, \$14,952 Steve Washburn, Ph: 919-515-7726, Steve_Washburn@ncsu.edu

OS07-033 Precious Indigenous Woods For Coffee Shade, El Caribe Resource Conservation & Development, Inc., PR, \$14,967, Jose Aponte, Ph: 787-841-3136, jose.aponte@pr.usda.gov

OS07-034 Hydroseeded mulch as an alternative to plastic mulch films, University of Georgia-Tifton Dept. of Biological and Agricultural Engineering, GA, \$14,000, Gary Hawkins, Ph: 229-386-3914, ghawkins@uga.edu

OS07-035 On-Farm Use of a Hybrid Vetch Cover Crop to Reduce Fusarium Wilt in Seedless Watermelon, Clemson University, SC, \$9,900, Anthony Keinath, Ph: 843-402-5390, tknth@clemson.edu

OS07-036 Sensory Evaluation of Alternative Turkey Genotypes, University of Arkansas Center of Excellence for Poultry Science, AR, \$14,962, Casey M. Owens, Ph: 479-575-4281, cmowens@uark.edu

OS07-037 Allelopathic potential of a biculture cover cropping system utilizing Fabaceae and Brassicaceae cover crops, Virginia Tech-Virginia Cooperative Extension Tidewater AREC, VA, \$12,840, Janet Spencer, Ph: 757-657-6450, jaashle2@vt.edu

OS07-038 On-Farm Biofuel Production from Sweet Sorghum Juice, North Carolina State University Weaver Labs, NC, \$14,898, Matthew Veal, Ph: 919-515-6764, mwveal@ncsu.edu

OS07-039 The Use of Controlled Grazing and two Herbal Treatments to Prevent Parasitism in Sheep and Goats, Heifer Ranch, AR, \$14,967, Ann Wells, 479-409-8772, annw@pgtc.com

OS08-040 Sustainable Irrigation Methods for Alternative Crop Production, Auburn University, AL, \$15,000, Elina Coneva, 334-844-7230, edc0001@auburn.edu



Rye is rolled down for planting no-till organic soybeans as part of project OS08-042. Photo by project investigator Chris Reberg-Horton of North Carolina State University.

OS08-041 Increasing the Sustainability of Oklahoma Cropping Systems Using Cover Crops, Oklahoma State University, OK, \$15,000, Chad Godsey, 405-744-3389, chad.godsey@okstate.edu

OS08-042 New Tools to Make Organic No-till Soybeans and Corn a Reality, North Carolina State University, NC, \$14,917, Chris Reberg-Horton, 919-515-7597, chris_reberg-horton@ncsu.edu

OS08-043 Monitoring Nutrient availability and leaching below the root zone in organic vegetable production, University of Florida, FL, \$14,900, Eric Simonne, 352-392-7928, esimonne@ufl.edu

OS08-044 The Use of Controlled Grazing, Chicory Pasture and Herbal Treatments to Prevent Parasitism in Sheep and Goats, Phase II, Heifer International, AR, \$14,941, Ann Wells, 479-409-8772, annw@pgtc.com

Sustainable Community Projects

Final Reports

CS04-024 Comer Farmers' Market, GA, \$10,000, Tina McCullough, Ph: 706-783-4665, jsmtem@netzero.net

The Comer Farmers' Market has experienced the most successful season during May-December 2007. We are delighted to have established a wonderful community amenity. We now have more involvement from other successful groups in our area including Master Gardeners and students from the University of Georgia interested in plants, agriculture and organic farming.

CS04-026 Four County Farmers Market, Webster County Development Council, Inc., MS, \$10,000, Cynthia Wilson, 662-258-7835, webwcdc@bellsouth.net

As a result of this project 28 farmers were provided with a permanent location where they can set-up and sell their produce regardless of whether it is raining or not. The estimated total income of the farmers participating in the market averaged between \$50 and \$200/ day. The market was open a total of 47 days during a 15 week period. This averages out to \$3,000 to \$12,000 of income per farmer. Those farmers on the low end of the earnings were generally selling the excess out of their home gardens. During the peak season there were as many as 300 customers to visit the market in a day, with an average from 50 to 100 customers per market day.

CS04-029 Battlefield Farmers' Market – Growing New Opportunities, Walker Co. Young Farmers, GA, \$10,000, David Matteson, Ph: 706-638-7739, matfa@aol.com

The Walker County Young Farmers have been very successful in implementing The Battlefield Farmers' Market-Growing New Opportunities SARE grant project. During the first two years of existence, the market has grown to over 40 vendors, attracted numerous local and regional consumers, and expanded from a weekly market to a twice a week market.

The market has been and will continue to be an asset to the local and surrounding communities. It provides additional income for growers, high quality food products for citizens, and a venue for rural and urban communities to interact.



Women and students are participating in more SARE projects, reflecting their prominent roles in sustainable agriculture. (Above) In Louisiana SARE state coordinators run a summer program where inner city youth learn about agricultural entrepreneurship from people like YaSin Muhaimin, a Katrina evacuee who started a new career in organic farming and pastured poultry. (Right) A group from Phillips Community College in Arkansas lead a project to integrate nature into agritourism. Dahlia Jackson (top) researches alternative controls for internal parasites in small ruminants.

CS04-032 Developing a Marketing Network for Central Alabama, Alabama Sustainable Agriculture Network, Inc., AL \$10,000, Karen Wynne, Ph: 256-751-3925, info@asanonline.org

The Alabama Sustainable Agriculture Network and its partners worked with two farmer groups to assist in forming marketing cooperatives in two rural areas of the state. ASAN worked with the Star of the Black Belt Cooperative, a group of farmers located in west-central Alabama, and River Road Agriculture, a group of eight farmers located in southeast Alabama. The project funded some supplies and a part-time marketing coordinator for each group to assist in developing profitable direct markets for their produce.

Sustainable Community Projects

CS05-034 Rural Women as Agriculture Leaders, Southwest Georgia Project for Community Education, Inc., GA, \$9,980, John Perdew, Ph: 229-430-9870, jperdew@surfsouth.com

The purpose of this project was to assist and enable groups of rural black women that are small-scale producers in southwest Georgia, to develop viable businesses based on vegetables, herbs and other agricultural products. The project helped these women organize as individual counties and a collective group in addition to planning how to develop their businesses and community partnerships. This project has provided useful models of enterprise for rural women, increased their income, contributed to locally produced products sold in the community, and created job opportunities and training for younger and older individuals.

CS05-035 Assessing and Meeting the Growing Needs of Arkansas' Women in Agriculture, Univ of Arkansas Fayetteville, AR, \$9,901, Jennier Popp, Ph: 479-575-2279, jhpopp@uark.edu

In 2006, 300 women attended the Arkansas Women in Agriculture Conference which offered women: 1) production/business skills, 2) agricultural networking opportunities, 3) ways to balance personal/professional demands, and 4) ways to improve circumstances of Arkansas women and rural communities. Conference attendees also participated in a survey to assess women's needs in agriculture. Survey results suggest women are rapidly moving into leadership/decision making roles in agriculture and need skills (financial, managerial, networking) to succeed. As a result of our efforts, women across the state have been empowered to lead future women in agriculture programs in the state.

CS05-037 Agritourism and Agribusiness Entrepreneur Training, Assistance and Product Marketing in the Eastern Alabama Black Belt, Tuskegee University, AL, \$9,956, Barrett Vaughan, Ph: 334-727-8527, btvaughan@tuskegee.edu

Eighteen entrepreneurs with existing and new businesses were sent through entrepreneur training. Among those entrepreneurs and businesses represented were an organic vegetable producer, handmade wooden furniture maker, fruit/tree resort owner, aquaculture producer, value-added peanut product maker, value-added sweetpotato product company, an agricultural product development specialist for a non-profit, and a farmers' market coordinator. In terms of the demographics of the eighteen entrepreneurs trained: thirteen were female; nine were under 40 years of age; ten were creating new businesses; all attendees were Alabama Black Belt county residents, though eleven lived in particularly rural areas.

Of the eighteen sent to the training, fourteen met the minimum attendance criterion for participation, and seven of those completed business plans. In addition the entrepreneurs engaged in additional training and networking activities. By the time of the project's end, at least one of the new business entrepreneurs had obtained his business license, at least one had applied for a new business loan,

and at least two had received technical assistance from the resources that they were exposed to.

CS05-039 Partnerships for Sustainable Communities, Tuskegee University G.W. Carver AES, AL, \$10,000, Robert Zabawa, Ph: 334-727-8114, zabawar@tuskegee.edu

The purpose of this project was to provide community directed, participatory training and technical assistance to increase the potential for sustainable economic development in seven African American agricultural communities that were created during the Great Depression. The training and technical assistance were accomplished through an intensive two-day workshop that focused on critical hands-on community development issues and strategies such as: grantsmanship, tourism (community/historical and agricultural), natural resource development and small business development.



Maurice Newson, Jr. harvests tamarind in the Virgin Islands. Led by the Virgin Islands Farmers Cooperative, students are developing culinary products from fruit that normally goes to waste on area trees. CS07-053

Sustainable Community Projects

Continuing Projects

CS05-033 Women Farmers Building a Healthy Community and Economy in the High Country, Blue Ridge Women in Agriculture (BRWIA), NC, \$9,900, Shelly Connor, Ph: 828-297-7392, brwia@yahoo.com

CS06-040 Building Local Food & Local Communities in Western Oklahoma, Ogallala Commons, OK, \$10,000, Darryl Birkenfeld, Ph: 5806-945-2255, darrylb@amaonline.com

CS06-042 Sustainable Farming: wedding regional agriculture and community development in Coastal Georgia, McIntosh Sustainable Environment & Economic Dev., GA, \$10,000, John Littles, Ph: 912-437-7821, mcseed@darientel.net

CS06-043 Building sustainable communities through agricultural and food-based entrepreneurship, Institute for Advanced Learning & Research, VA, \$10,000, Elizabeth Nilsen, Ph: 434-766-6700, liz.nilsen@ialr.org

CS06-044 Florida Farm Link - building the foundation of a sustainable community food system by connecting sustainable agriculture to economic development initiatives, Florida West Coast RC&D Council, FL, \$9,521, John O'Connor, Ph: 941-723-3252, info@fwcrd.org

CS06-045 Establishing community and business partnerships to build a market identify for local seafood, Carteret Community College, NC, \$9,950, Jennifer Ulz, Ph: 252-222-6190, jau@carteret.edu

CS06-046 Training for Sustainable Community Development: Phase II, Tuskegee University G.W. Carver Agricultural Experiment Station, AL, \$10,000, Robert Zabawa, Ph: 334-727-8114, zabawar@tuskegee.edu

CS06-047 Value-added Sustainable Agriculture Initiative, Appalachian Sustainable Development, VA, \$40,000, Kathlyn Chupik, 276-623-1121, asd@eva.org



A forklift of vegetables headed for the Bath County School system in Kentucky, thanks to project CS07-052. Photo by project investigator Nathan Brown, Community Farm Alliance



CS06-048 Schools + Potatoes Upper East Tennessee Development System (SPUDS), Jubilee Project, TN, \$39,762, Steve Hodges, Ph: 423-733-4195, steveh@overhome.net

CS06-049 Appalachian Sustainable Agriculture and Energy Project, Appalachian Native Plants, Inc., TN, \$40,000, John Jackson, Ph: 423-727-6574, tennrose@xtn.net

CS06-050 Getting your small farm products to market / a three county program to solve product logistics: marketing/sales, product development, packages and labeling, transportation, NC Cooperative Extension, NC, \$40,000, David Kendall, Ph: 828-649-2411, David_Kendall@ncsu.edu

CS06-051 The Clean Food Network, Alabama Sustainable Agriculture Network, AL, \$40,000, Dove Stackhouse, Ph: 256-891-9856, fastflyer4@bellsouth.net

CS07-052 Growing healthy markets: healthy farms, healthy food project, Community Farm Alliance, KY, \$10,000, Nathan Brown, 502-223-3655, nathanca@bellsouth.net

CS07-053 Youth and Agriculture: a Bridge to the Future (YABF) for From Tree to Table (FTT), Virgin Islands Farmers Cooperative, Inc., VI, \$10,000, Dale K.K. Browne, 340-277-6046, sejahfarm@unitedstates.vi

Continued on page 24

Which SARE grant program for you?

Southern SARE administers six grant programs, each with its own priorities and audiences. The process begins with the release of calls for proposals for each of the programs. The SSARE web site www.southernsare.org is the quickest way to receive the calls for proposals as soon as they are released. All proposals must be submitted through an online template. For more information contact Paige Patton at (770) 412-4787 or info@southernsare.org

Research and Education Projects generally are conducted by interdisciplinary, multi-institutional, and often, multi-state research teams coordinated by a principal investigator from a non-governmental organization, university or governmental agency. These projects include farmers as participants.

	2008
March	Call for R&E preproposals
June	R&E Preproposals due
August	Full R&E proposals requested
November	Full R&E proposals due
	2009
February	Administrative Council announces awards

Graduate Student Awards are intended for full-time graduate students (masters or Ph.D.) enrolled at accredited colleges and universities in the Southern Region. Up to \$10,000 will be awarded to each successful applicant for up to three years of project activities. The funds are paid directly to the university for use on the graduate student's project.

	2008
March	Call for proposals released
June	Proposals due
	2009
August	Administrative Council announces awards

Professional Development Program Projects train agricultural information providers in sustainable agriculture techniques and concepts.

	2008
March	Call for preproposals released
June	Preproposals due
November	Full proposals due
	2009
February	Administrative Council announces awards

Producer Grant Projects are developed, coordinated and conducted by producers or producer organizations. These projects are generally located in one state, often on one farm. There is a \$10,000 limit for funding proposals submitted by an individual producer and a \$15,000-limit on proposals submitted by producer organizations.

	2008
September	Call for proposals released
November	Proposals due
	2009
February	Administrative Council announces awards

On-Farm Research Projects are conducted by agricultural professionals such as extension agents, NRCS and/or NGO personnel who currently work with farmers and ranchers. Cooperators must include at least one producer at all stages of the project. Funded for a maximum of \$15,000 for up to two years of activities.

	2008
September	Call for proposals released
November	Proposals due
	2009
February	Administrative Council announces awards

Sustainable Community Innovation Projects link community development with sustainable agriculture. Funded for a project maximum of \$10,000 anywhere in the Southern Region to farmers, ranchers, researchers, community organizations, environmentalists, ag and community development professionals, entrepreneurs, governmental and non-governmental organizations.

	2008
August	Call for proposals released
October	Proposals due
December	Administrative Council announces awards

Research and Education Projects Continued from page 4

LS08-211 A multi-disciplinary approach to improve the environmental performance of niche pork production systems and marketability of Heritage swine breeds, North Carolina A&T State Univ., NC, \$175,000, Sang H., Oh, 336-334-7672, soh@ncat.edu

LS08-212 Integrating tropical legumes with condensed tannins into ruminant grass-based diets for sustainable production, University of Puerto Rico-Mayaguez, PR, \$100,000, Elide Valencia, 787-265-3851, elideval@uprm.edu



Oh Sang and a herd of heritage breed piglets. Project LS08-211

Sustainable Community Projects Continued from page 22

CS07-054 Something's Cooking in the Kitchen, Pike Co. Agribusiness Authority, GA, \$8,400, Christine Curry, 770-567-3600, billchrisfarm@hughes.net

CS07-055 Stecoah Kitchen Entrepreneurship & Agri-Tourism Project, Stecoah Valley Arts, Crafts & Educational Center, Inc., NC, \$10,000, Beth Fields, 828-479-3364, programs@stecoahvalleycenter.com

CS07-056 "Gathering" of Homestead Economic and Entrepreneurs of Food Based, Organic Foods and Other Related Businesses, University of Tennessee Extension of Montgomery County, TN, \$10,000, Martha Pile, 931-648-5725, mmpile@utk.edu

CS07-057 Integrating Nature into Agri-tourism, Phillips Community College of the University of Arkansas, AR, \$9,950, Katherine Radomski, 870-946-3506, kradomski@pccua.edu

CS07-058 Farmers Market Support Activities, Clemson University, SC, \$2,570, Grady Sampson, 843-479-6851, gsampso@clemson.edu

CS07-059 Chicora Farmers Market, Metanoia Community Development Corporation, SC, \$6,300, Bill Stanfield, (843) 529-3014, bill@pushingforward.org

CS07-060 Training for Sustainable Community Development: Phase III, Tuskegee University G.W. Carver Agricultural Experiment Station, AL, 10,000, Robert Zabawa, 334-727-8114, zabawar@tuskegee.edu

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