Southern Region SARE Sustainable Agriculture Research & Education Program

Index 2007

Active Projects

Recipe for research

Practical Products

Each crop of SARE final reports brings a harvest of practical products that researchers, producers and educators can put right to work. This year's crop is especially bountiful, including the low-rate herbicide formula mentioned in the front-page story *Recipe for Research*. Check it out.

Gae Broadwater's Sustainable Community Grant developed materials for people who want to move their county or state toward farm friendly legislation. *Women Taking the Lead in Kentucky Agriculture* is packed with information about how public policy is made, networking, finding data to support your message, approaching public officials, working with the media. Click on *Public Policy Materials* at www.ca.uky.edu/fcs/kywomeninag

Simply Meat Goats is a handsome manual written by Sandra Solaiman who conducted forage research with a SARE grant. The 105-page book includes color photos of breeds, economic charts from the industry, fencing designs, nutrition, breeding, marketing and more. Published by Tuskegee University, it's available for $16 from the author at ssolaim@tuskegee.edu

Georgia Organics curriculum in organic agriculture is as complete a teaching tool as you will find anywhere. Designed for extension agents and school teachers, the cd is packed with information and attractive graphics for self learning or presenting in structured courses. $10 each. See/order it at www.georgiaorganics.org or call (678) 702-0400.

Training materials about the national organic regulations were developed in a PDP grant at the University of Florida. See them at http://edis.ifas.ufl.edu/FY819 and http://edis.ifas.ufl.edu/FY820

To most people the term *desirable weed* may seem like an oxymoron, but Doug Hundley knows better. An extension technician for the North Carolina Cooperative Extension Service at the Avery County Center, Hundley works with a group of IPM-oriented Christmas tree producers who have learned that weed management doesn't have to mean bare ground.

A living mulch of low-growing groundcover nurtures Christmas trees and combats erosion.

"Heavy doses of herbicides are expensive, and although they may be effective, the unintended consequences are unacceptable. " says Hundley. "On our steep hillsides they often lead to heavy soil erosion."

Not to mention that bare ground is just plain ugly, a major concern in the tourist-friendly area. Now visitors to North Carolina's Fraser fir country see lush orchard floors of clover and other blooming beneficial groundcovers humming with insects and birds. To move out of the era when their orchard floors were slip sliding away, Hundley and a small group of producers conducted several years of on-farm research as part of the Avery County IPM Research Group. They came up with a low rate of herbicide that suppresses grasses and stick weeds but doesn't harm the native ground covers such as clover, nimbelwill, chickweed, violets, strawberry, red woodsorrel, dandelion and many others. Not only have the growers cut their herbicide costs in half or better, but the clover has the added benefit of supplying nitrogen and possibly reducing fertilizer applications.

Fraser fir farmers might still be dealing with eroding hillsides if not for a SARE project.

"We knew that reduced rates of glyphosate could be effective." Hundley recalls. "The growers wanted to find out how to make this work on Christmas trees. We had to figure out a formula that would knock back the unwanted weeds without burning the trees or harming the beneficial ground covers, but I didn't know how to design research."

Their opportunity came in 2001 when Hundley attended a SARE-funded training on how to conduct on-farm research. (Project ES00-047) The training was led by Keith Baldwin, Susan Andreatta, Noah Ranels and others from NC A&T and NCSU . Hundley came out of the training equipped with the rudiments of designing credible research. He requested and received support from weed science specialist Joseph Neal of NCSU. These days Hundley can converse easily about conducting the many trials calling for complicated charts of spray times and dosage levels.

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Common Ground is published by the Southern Region Sustainable Agriculture Research and Education Program (SARE).

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The Southern Region SARE Program is administered by the University of Georgia and Fort Valley State University. The Southern Region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Puerto Rico and the U.S.Virgin Islands.

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Phone: (770) 412-4787
sueblum@southernsare.org

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Recipe for research

"It was a pretty fancy set up for on-farm research," Hundley recalls. "The first two years we were hunting effective rates and safe dates. By the third year we were fine tuning with new nozzles and flow regulators that allowed us to calibrate more accurately. Calibration is very important so that the amounts are exactly the same in every application. Some growers even walked to the rhythm of metronomes so we could make applications as accurately as a tractor." The research results were immediately put to work in the field.

"Where they once used triazine herbicides or a combination of expensive herbicides —now our growers use an average of 16 total ounces of glyphosate per acre, per year," he continues. "It's such a small amount that most people would think it couldn't work."

Their test acres expanded in proportion to their knowledge. The first year they tested on 2.5 acres, the second year 25 acres and the third year 250 acres. Their research has been going on for six years, and they have shared the formula with growers all over the United States.

"People who do this kind of volunteer research are not the keep-it-to-yourself types," Hundley says. "Now North Carolina's entire nine-county Fraser fir growing area uses it and the formula is on an NC State website."

The learning experience came full circle when Joseph Neal invited Hundley to make a presentation at the 61th Annual Weed Science Society meeting in January 2007. Even though the audience was made up of professional researchers, Hundley was comfortable speaking from years of practical on-farm research conducted in partnership with the growers who depended on the accuracy of that research for their livelihood. He was careful to make that distinction when talking to the national audience.

"Our formula might not work in a drier climate or a place without all the low-growing ground covers native to Appalachia due to glacial action shoving so many plants our way," he says. "But that's why you do research, to find out what will work in your area."

Over the course of six years, this technique developed through on-farm research spread rapidly across the Western North Carolina Fraser fir production counties. According to Hundley, the region's Extension agents report that more than half of the tree growers are using the technique with more making the transition each year. "This rapid dispersal and acceptance of an unusual technique illustrates the value of on-farm grower-generated research," he adds. "Of course the economic and environmental impact "win-win" has had a lot to do with it's acceptance as well."

Neal and Hundley are concerned now with the recent explosion of Roundup resistant weeds in row crops."Research is badly needed to head off a problem before these resistant weed seeds reach the North Carolina mountains and this highly successful Roundup-based weed suppression system," says Neal.

Detailed information about the spray program can be found at the Avery County Cooperative Extension web site:
http://avery.ces.ncsu.edu/content/averyipmprogram

For help designing on-farm research go to:
http://www.sare.org/publications/research/resource.htm

Research and Education Projects

Final Reports

LS02-133 Rotational Grazing on Land Receiving Manure Applications; Impacts of Land Management Practices on Soil and Water Quality, Natl. Center for Appropriate Technology (ATTRA), AR, $195,972, Jeff Birkby for Barbara Bellows, Ph: 479-442-9824, jeffb@ncat.org

Project collaborators in Northwest Arkansas conducted field and economic investigations to compare the impacts of continuous and rotational grazing practices on soil and water quality on lands receiving manure applications.

Field research studies were used to examine the impacts of grazing practices on nutrient runoff, soil erosion, pasture growth and diversity, as well as on soil chemical, physical, and biological characteristics. This information was then used to assist farmers to implement productive grazing practices that protect water quality through the development of a water quality checksheet for pastures. The results were also used to modify weighting factors for the Arkansas Phosphorus Index.

LS03-148 Development of Sustainable Vegetable Production Systems for South Florida and Virginia Based on Use of Cover Crops and Precision Irrigation, Tropical Research & Education Center, FL, $179,776, Waldemar Klassen, Ph: 305-246-7001, x257, Klassen@mail.ifas.ufl.edu

A biologically-based system for winter production of fresh-market tomatoes in south Florida was devised. In fields not heavily infested with nutsedges, root knot nematodes or Fusarium spp., this summer cover crop green manure-based system produced similar tomato yields but with higher profits than those in the methyl bromide-based system. The development of a biologically-based pepper production system is in progress. An organic potato production system based on legume and grass cover crops, developed in Virginia, produces more tonnage of tubers than the methyl bromide-based system. An inexpensive automated irrigation/fertigation system was developed with potential to facilitate vegetable production in proximity to fragile natural ecosystems.

Tables, figures or graphs mentioned in this report are on file in the Southern SARE office.Contact Sue Blum at 770-229-3350 or sueblum@southernsare.org for a hard copy.

LS03-153 Integrating Biological Control into Pecan Weevil Management: A Sustainable Approach, USDA-ARS, GA, $217,500, David I. Shapiro-Ilan, Ph: 478-956-6444, dshapiro@ars.usda.gov

The pecan weevil is a key pest of pecans. In this project, the potential to control pecan weevil using entomopathogenic (insect-killing) fungi was investigated. In laboratory and field studies the following factors were found to affect efficacy: fungus strain or species, application method, and formulation. The most promising treatments consisted of trunk sprays including a novel UV-protecting formulation, and fungus-impregnated cloth bands wrapped around the tree trunk; these treatments produced approximately 80% mortality in emerging pecan weevils. The results indicate that using fungus as a natural environmentally sound measure for pecan weevil control is promising.

Sunflowers are among the cover crops being evaluated to produce tomato yields comparable to those in methyl-bromide based systems but with less cost to the farmer and the environment. Photo courtesy of project LS03-148

LS03-155 (planning grant) Creating a Value Chain System for Local and Regional Farm Products, Clemson University, SC, $19,310, Geoff Zehnder, Ph: 864-656-6644, zehnder@clemson.edu

This planning project resulted in the formation of a group of individuals and organizations in the Carolinas committed to the creation of new and more lucrative market opportunities for locally grown farm products. Survey results have indicated that vegetable growers in North and South Carolina have a strong interest in exploring new market opportunities, and are willing to participate in a regional effort to coordinate the production, marketing and distribution of season-extension vegetables. A proposal to implement the full project was submitted to the Southern SARE Research and Education Program, however the proposal was not approved for funding.

LS03-156 Saving our Seed: A program to train farmers, Carolina Farm Stewardship Asso., NC $204,500, Tony Kleese, Ph: 919-542-2402, ed@carolinafarmstewards.org

The project has successfully raised awareness, production, availability, and knowledge about local and organic seeds in the Southeast. Where some desired seed types are not suited for mass production in the region, we have forged alliances with seed dealers, seed producers, and non-profit organizations in other regions and their counterparts here to produce high-quality well-adapted seed of these types for us. We have inspired folks throughout the area to seriously evaluate which cultivars are the best performers in their

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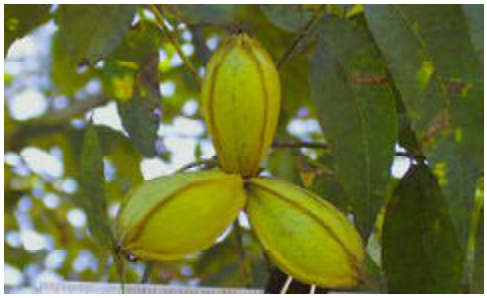
microclimates and have trained many sustainable and organic growers to produce the seeds that they can use and sell.

LS03-157 Suppression of Weeds and Other Pests in Fresh Market Vegetables Using Wild Radish Cover Crop, Clemson Univ., SC, $173,125, Jason Norsworthy, Ph: 864-656-2607, jnorswo@clemson.edu

A wild radish cover crop provided early-season weed suppression in field-grown sweet corn and had no detrimental affect on sweet corn. Sweet corn sometimes showed signs of nitrogen deficiency early in the growing season, while symptoms were generally absent in wild radish plots. Mycorrhizal colonization in corn was not negatively influenced by wild radish or rye compared with fallow plots. Marketable sweet corn ear number in wild radish plots was often superior to other cover crops, regardless of herbicide program. Laboratory bioassays revealed that banded cucumber beetle larvae and eggs are suppressed by a wild radish extract.

LS04-161 Evaluation of Beneficial Insect Habitat for Organic Farms, NCSU, NC, $72,539, David Orr, Ph: 919-515-4684, david_orr@ncsu.edu

A study addressing commercial beneficial insect habitats found some seed mixes had variable species composition, reduced germination, and when planted according to supplier recommendations were eliminated by weed competition. A small proportion of insects attracted to habitat plants were natural enemies useful in crop insect management. A number of plant feeding insects were harbored by habitat, and night-flying pest moths were fed by some habitats. A commercial habitat planted around organic tomatoes did not affect parasitism, predation, or pest insect numbers. Habitat plantings did attract parasitic insects, but the flowers themselves did not appear to be responsible for this attraction.



Insect-killing fungi shows promise for controlling pecan weevil. Project LS03-153

LS04-165 (planning grant) Renewing the Agriculture of the Middle, RAFI-USA, NC, $15,000, Scott Marlow, Ph: 919-542-1396, smarlow@rafiusa.org

This planning grant was for the development of an initiative to address the declining agriculture of the middle in the South. In early 2005, staff interviewed individuals across the south about their interest and ideas about the initiative. An initial meeting was held at the Southern SAWG conference in January of 2005. Since that time, a smaller group of individuals have been working to develop proposals for an initiative, including farmers, members of RAFI staff and the staff of the Southern SAWG. This work has resulted in a SARE pre-proposal that is currently being developed into a full proposal.

LS04-167 (planning grant) The Southern Region Organic Fruit Production Initiative: Identifying Barriers, Needed Research, Markets and Opportunities, University of Arkansas, AR, $15,555, Curt R. Rom, Ph: 479-575-2603, crom@uark.edu

A Southern Region Organic Fruit Working Group of scientists, extension specialists, growers, and representatives of industry and marketing organizations was created to conduct in-state focus groups and region-wide Working Group meetings. These state and regional meetings identified barriers to production and marketing, and opportunities for organic fruit in the region. The outcome of the in-state focus groups and the regional Working Group has resulted in collaborative relationships, identification of challenges, benefits and potential projects, enumerated goals which we can accomplish as a group, and the development of full proposals to be submitted to SARE and the USDA-CSREES Integrated Organic Program. Through these activities, we will sustain and expand organic fruit production in the southern region.

LS05-179 Defining the Feasibility and Environmental Impact of Applying Poultry Litter to Forests of the Western Gulf Region, Louisiana State University, LA, $14,520, Michael A. Blazier, Ph: 318-927-2578, mblazier@agctr.lsu.edu

A series of focus groups in the Western Gulf states of the U.S. determined that future research on litter application to forests should focus on generating information that improves the ability of forest and broiler house owners to predict cost-effectiveness, pine yields, water quality, and wildlife forage quality associated with this practice. As a result, the research and extension team of this planning project will develop a SARE research and education project proposal to observe these variables in response to forest litter application conducted over a variety of soil types, forest ages, forest densities, and forest management intensities.

LS05-180 Expanding the Marketing Opportunities for Minority and Limited Resource Farmers in Louisiana and Mississippi, Southeastern Louisiana University, LA, $15,000, Anna M. Kleiner, Ph: 985-549-2006, Anna.Kleiner@selu.edu

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Minority and limited resource farmer organizations, regional non-profit organizations, universities, and several local customers collaboratively identified opportunities and challenges associated with expanding access to diverse agricultural markets and creating incentives for sustainable production. Through a community-based focus group and action research process, participants identified niche markets, value-added production opportunities, new direct marketing techniques and possible demonstration projects showing the potential economic viability of sustainable production. Tables, figures or graphs mentioned in this report are on file in the Southern SARE office. Contact Sue Blum at 770-229-3350 or sueblum@southernsare.org for a hard copy.

Continuing Projects

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

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

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, nron@okstate.edu

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

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

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, kpomper@gwmail.kysu.edu

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

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

LS04-164 (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

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, $159000, Mark A. Boudreau, Ph: 828-252-6943, markb@greenagroecology.com

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

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,

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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

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

Project LS06-191 looks at viable local alternatives to long-distance beef.

LS05-177 Sustainable Control of Gastro-intestional 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, Ada Wossink, 919-515-6092, Ada_wossink@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

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

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, Timur M. Momol, Ph:850-875-7154, TMomol@ifas.ufl.edu

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_peet@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

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Professional Development Projects

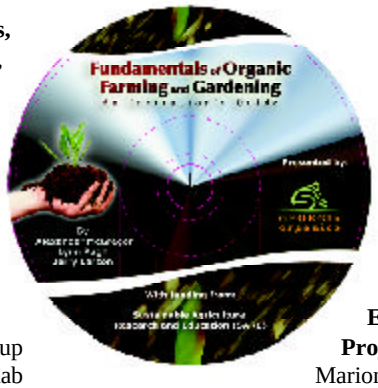
Final Reports

ES03-067 What Service Providers Must Know About Organic Rules and Regulations, University Florida, $133,762, Rosalie Koenig, Ph: 352-392-3631, rosiesfarm@mindspring.com

The two main accomplishments of this project were: 1) designed a training that increased self-efficacy of participants to interpret and advise farmers about national organic rules and regulations, and 2) demonstrate the importance of addressing self-efficacy in training extension professionals. The training materials generated from the grant are available online through the University of Florida's EDIS publications. The links are: http://edis.ifas.ufl.edu/FY819 and http://edis.ifas.ufl.edu/FY820

The project team recommends the use of these materials for in service training of agricultural service providers who are interested in learning more about the National Organic Program regulation. These modules provide a framework for developing a general understanding of the regulation and how to identify and use resource materials currently available.

ES03-068 Curriculum in Organic Agriculture for Agents and Teachers, Georgia Organics, $70,810, Alice Rolls, Ph: 706-746-5485 or 770-993-5534, alice@georgiaorganics.org



Georgia Organics produced a dynamic, basic curriculum that explores the basis of organic growing: soils, soil biology and soil management, as well as plant biology, crop management and composting. Marketing and certification are addressed, as well as detailed instructions on setting up an organic demonstration bed. Videos, lab exercises, student activities and power point presentations provide tools to facilitate student interaction and learning. Real life experiences are offered by the opportunity to visit organic farms and have organic farmers as speakers. The electronic format of the curriculum promotes accessibility and flexibility and is structured so that individual units and activities can be taught separately, used as a supplement, or taught as a semester-long course. The curriculum has been widely distributed to every agriculture teacher, Master Gardener Coordinator, and cooperative extension office in Georgia. Details at www.georgiaorganics.org

ES04-073 Train the trainer: A wholistic approach to integrated resources management and grassland revitalization, Mississippi State University, MS, $93,908, Charles Flowers, Ph: 662-325-2852, wflowers@ads.msstate.edu

The train-the-trainer concept exceeded expectations in the Mississippi beef and forage focused project. Livestock/ forage specialists, area agents, and county directors from the Mississippi State University Extension Service, staff from the Natural Resources Conservation Service, veterinarians, and numerous other leaders and educators in the Mississippi beef and forage industries gained valuable information via the train the trainer program on a large selection of topics. Program efforts included educational information via face-to-face training sessions, field days, short courses, Extension and popular press articles, PowerPoint presentations, interactive video-based distance education, radio, news releases, e-mail, and the Internet: http://msucares.com/livestock/beef/. Regional educational programming efforts developed as a result of the project among Mississippi, Alabama, and Louisiana beef and forage production educational programs. Program evaluations were very positive and continue to provide good input for future program planning. Long-term beef and forage educational efforts have a solid foundation of educational materials, methods, and trainer resources that will sustain impacts well beyond the funded life of the project.

Continuing Reports

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

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

ES04-075 Regional Goat Production and Marketing Project: Phase 1, Kentucky State University, KY, $84,550, Marion Simon, Ph: 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, Ph: 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, Ph: 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, Ph: 919-515-6096, Gary_Bullen@ncsu.edu

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

Professional Development Projects

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, Ph: 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, Ph: 479-443-5127, davidzodrow@aol.com

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

PDP Projects and State Coordinators

PDP project leaders and SARE State Coordinators often combine resources in order to accomplish more. State coordinators can use their funds to help agents attend project sponsored trainings such as the Third Thursday pasture walk at KSU pictured on the left,

State coordinators support a variety of educational activities including state-wide workshops, mentoring activities, tours of successful farms or events at agricultural markets as Kentucky did in Franklin County. Photos courtesy of SARE project investigator and state sustainable ag coordinator Marion Simon.

Producer Grant Projects

Final Reports

FS06-197, Increasing Economic Viability and Promoting Sustainable Agriculture through Agritourism, Hickory Nut Gap Farm – Spring House Meats, NC, $7,485, Amy Ager, Ph: 828-628-1027, farm@springhousemeats.com

The purpose of the project was to increase farm revenue through agritourism activities on a sustainably operated farm and, as a side effect, educate customers about sustainable agriculture. We carried out this objective by planting a corn maze that allowed people to enjoy and appreciate the farm and how we operate it sustainably. We reached approximately 4000 people either visiting or living in our area and exposed them to a working sustainably run farm. Through this process we developed new customer relations and tied people to our farm land by providing them with an atmosphere for a fun experience with their families and friends. We hope this connection to the land and the spreading of the story of sustainable agriculture in the mountains of Western North Carolina will bring people back to our farm, increasing our income and also helping our local economy.

Child-friendly attractions such as a pick-your-own pumpkin patch and a corn maze contributed to profitable fall field days for Hickory Nut Gap Farm. Project FS06-197

FS06-202 Small Scale Rabbit, Production, and Marketing Project, , AL, $10,000, Jeanette Grayson, Ph: 334-992-2716

We accomplished our project goal to assist growers, especially women, to become more aware of the rabbit business and work toward setting up operations on their farms.

Another goal was to establish a home based business marketing USDA inspected products from my farm. This part of the project did not work because the small local food stores could not afford to stock the product on consignment, and my community consists of very low income families that could not afford to purchase expensive meat products. In addition I did not have adequate freezer facilities at my farm to accommodate a home based business.

During the project period I found out that a lot of small farmers across the country are interested in the rabbit business but they are not willing to grow into the business without spending a lot of money. In my opinion, first of all you have to want to be in the business and you must be motivated by caring for animals and willing to grow slowly using whatever is at hand around the farm.

FS06-208, Evaluation of Compost Tea Application to Control Foliar Diseases in an Heirloom Tomato Crop, Gaia Gardens East Lake Commons, GA, 9720, Daniel Parson, Ph: 404-452-4321, elcgaiagardener@yahoo.com

Foliar disease is a major problem in heirloom tomato production, so we set out to determine if aerated compost teas could be part of the solution. We planted blocks of Cherokee Purple tomatoes and applied two types of tea and water to sections within each block. The teas were applied each week and samples were taken of the tea, treated leaves, and foliar disease. We found that the compost tea did not have an effect on crop yield or timing of disease onset. This method of disease prevention may work if growing conditions are better, but doesn't work in the humid South for susceptible varieties.

FS06-210 Which Edamame Variety is Best for a Market Garden?, Epic Gardens, VA, 4459, Patricia Stansbury, Ph: 804-272-0725, Laherona@juno.com

We set out to find out what was the best edamame for the market garden. Based on both subjective and objective evidence, we chose several that happen to come from different maturity groups, including Virginia State cultivars Asmara and Owens and commercially available Butterbeans. The longer growing varieties were so much more productive, that they are the favored by the researcher. However, Butterbeans will get another chance, and be planted earlier to see if it could be more productive than initially found to be. The project was successful, and as all good research is wont to do, poses new questions to explore. We will continue to develop the market, and assist the soybean breeders at Virginia State and the USDA by whatever means we can.

Producer Grant Projects

Continuing Projects

FS03-161 Sustainable Pastured Layer Research Project, Texas/Mexico Border Coalition Community Based 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 Hygenic Honey Bee Queens Risistant to Tracheal Mites, TN, $9.987, Edwin Holcombe, Ph: 931-684-0826

FS04-182 Cultural Control of Internal Parasites in Goats with Rotationial 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

FS05-189 Salsa Pepper Project, TN, $9,660, Sara Gardner, Ph: 423-239-5797, sara@farmtech.us

Spraying aerated compost tea on heirloom tomatoes did not prevent foliar disease at Gaia Gardens near Atlanta but may be more effective in less humid climates. Project FS06-208.

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

FS05-191 Silvopasture for Forage, Cattle and Trees, MS, $9,995, John Keeler, Ph: 662-562-2381

FS05-192 Managing Cover Crops Under-The-Trellis: A Vital Step Toward Vineyard Sustainability, VA, $9,958, Jason Murray, Ph: 410-598-4317, jamurray@vt.edu

FS05-194 On-Farm Hatchery for Fingerling Catfish, VA, $9,450, James O. Shands, Ph: 804-469-7667

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

FS05-196 Weed Control for Row Crops Using Corrugating Linerboard/Medium Paper, The Landowners Association of Texas Tyler Chapter, TX, $7,399, Michael E. Tolbert, Ph: 903-939-2524, michael@LATX.org

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

Producer Grant Projects

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

F**S06-200 Establishing Natural Controls of Competitive Fungi in the Production of Shiitake Mushrooms,** TN, $8,832, James Day, Ph: 615-792-9306, j1day@earthlink.net

FS06-201 Evaluating Poultry Breeds Suitable for Pastured Production, Rough House Farm, AL, 7988, Bill Findley, Ph: 334-683-8997, willfindley@aol.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@hot.rr.com

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

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

FS06-208, Evaluation of Compost Tea Application to Control Foliar Diseases in an Heirloom Tomato Crop, Gaia Gardens Decatur, GA,$ 9,720, Daniel Parson, Ph: 404-452-4321, gardener@eastlakecommons.org

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

Farmers can cooperate on research other than SARE Producer Projects. In this photo students plant legumes at Glover Family Farms as part of project LS06-190 led by Carl Jordan.

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

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

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

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

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

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,

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

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

Graduate Student Projects

Final Reports

GS02-015 Evaluation and Characterization of Reaction Products from Ozonated Aflatoxin Contaminated Corn, Louisiana State Univ., LA, $10,000, Joan M. King, Ph: 225-578-5186, jking@agcter.lsu.edu; Alfredo D. Prudente, Jr., Ph: 225-578-5186, aprude1@lsu.edu

Ozonation of clean corn, AFB1-contaminated corn, and pure AFB1 was carried out to evaluate the formation of reaction products. Results of TLC and HPLC analyses of aflatoxin in the model system showed seven possible reactions products. Results also indicated that the products formed are water-soluble. Further study to isolate and identify these compounds was conducted but no data were generated. Although these compounds are present in the model system, attempts to determine their presence in ozonated corn did not get any positive result. The presence of other materials in the extracts interferes with the analysis.

GS04-034 Control of Soil-borne Fungi with Biofumigation, Clemson University, SC, $10,000, Anthony Keinath, Ph: 843-402-5399, tknth@clemson.edu, Samuel Njoroge, Ph: 864-656-5754, nsamuel@clemson.edu

Soil amended with green cover crops of *Brassica napus* or *B. juncea* generally had higher populations of *Fusarium oxysporum* and *Pythium spp.* than the methyl bromide treatment and the fallow control. Laying black polyethylene mulch at incorporation or one month after incorporation did not consistently influence the amount of isothiocynates detected in amended soils. Damping-off and Fusarium wilt on seedless watermelon were not consistently lower in brassica-amended soils compared to the nontreated control or methyl bromide.

GS04-038 Determining Cost-Effectiveness of Best Management Practices in Sustainable Watershed Management, University of Tennessee, TN, $9,910, Joanne Logan, Ph: 864-974-7266, loganj@utk.edu, Candice Dawn Jones, Ph: 865-974-2676, cdjones@utk.edu

Analysis of water quality data collected from Bullrun Creek showed decreasing trends in both sediment and Escherichia coli (E. coli) concentrations over the past four years. The decreases in these pollutant concentrations followed a series of best management practices installed within the watershed, although a direct correlation could not be established. Hydrologic modeling and GIS analysis determined that pasture improvements with riparian establishment were the most cost-efficient practices to reduce sediment and Escherichia coli in Bullrun Creek. Data from this study was utilized in the development of a Watershed Management Plan by the Bullrun Creek Restoration Partnership.

GS04-042 Microbiological Hazards and Critical Control Points in Regional Rabbit Processing Facilities, Alabama A & M, AL, $10,000, Leonard Williams, Ph: 256-372-4165, leonard.williams@aamu.edu, Cornelius Howard, Ph: 256-858-6120, red1ebe@aol.com

Students can participate on SARE grants even as undergraduates. Kentucky State University sophomore John Rodgers collects data for project LS06-185 led by Michael Bomford.

The microbiological quality of whole rabbit carcasses were determined at pre-and-post-evisceration and pre-and-post-chilling during processing of whole rabbit carcasses from a regional rabbit processing facility. Data indicated Salmonella, Staphylococci and total viable plate counts were significantly reduced for pre and post-chilled whole rabbit carcasses compared to samples tested at pre and post-evisceration.

GS05-047 Effect of a condensed tannin-containing forage fed as pellets, on nematode infection in lambs, Louisiana State University, LA, $10,000, James E. Miller, Ph: 225-578-9652, jmille1@lsu.edu and, Leigh Ann Chafton, Ph: 225-578-9858, lchaft1@lsu.edu

This project evaluated one alternative nematode control method, condensed tannin containing forage (AUGrazer cultivar of sericea lespedeza, ASL) fed as ground hay (Trial 1) and pellets (Trial 2), for effect against experimentally induced existing and newly acquired infection (Trial 1) and naturally acquired infection (Trial 2). For both trials, infection, based on fecal egg count (FEC), decreased significantly during the period of ASL feeding. In Trial 1, FEC increased after ASL feeding was stopped which indicated an effect on female worm fecundity. Also in Trial 1, worm burden at necropsy was substantially reduced in ASL fed animals. Results indicate that ASL, fed as ground hay or pellets, has the potential to help control H. contortus infection in lambs.

GS05-050 Effect of European Corn Borer on Corn Whole-Plant Yield and Forage Quality, Virginia Tech, VA, $6,107, Roger R. Youngman, Ph: 540-231-9118, youngman@vt.edu and Siddharth Tiwari, stiwari@vt.edu

Graduate Student Projects

European corn borer infestation level had a significant negative effect on whole-plant yield (P = 0.0086), whereas the main effect of plant growth stage as well as the interaction between plant growth stage and infestation level had no significant effect on whole-plant yield. Of the five infestation levels, only the infestation level of 5 larvae per plant resulted in a significantly lower whole-plant yield (282.3 ± 10.8 g/plant) than the uninfested control (315.3 ± 7.5 g/plant). Economic injury levels are presented for each of the growth stages, where significant regressions were found between whole-plant yield and infestation level. In addition, plant growth stage and infestation level had no effect on percent acid detergent fiber, percent neutral detergent fiber, and percent crude protein values.

Continuing Projects

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

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, baharany@tuskegee.edu, Anthoney S. Deanes, Ph: 334-725-6462, anthoney.deanes@tuskegee.edu

Project GS05-049

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

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

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

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.co

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

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

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

GS06-053 How Many Organically-grown Cabbageworms Can a Northern Cardinal Eat?, University of Florida, FL, Kathryn Sieving, Ph: 352-846-0569, chucao@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

GS06-055, Combining Socioeconomic and Ecological Analysis to Determine the Optimal Distribution of Green Payments in the Albermarie 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

On-Farm Research Reports

Final Reports

This goat is an enthusiastic participant in research testing whether enormous amounts of clean annual forage will reduce parasite infections. Project OS03-011

OS02-006 Evaluation and Maintenance of Sustainable Systems for Alfalfa Production and Marketing Strategies on Coastal Plain Soils, Texas A&M Univ., Agricultural Research and Education Center, TX, $15,000, Larry Redmon, Ph: 903-834-6191, l-redmon@tamu.edu

A yield of 4.5 and 5 or more tons of alfalfa hay/ac and net income above $300/ac in the third and fourth production seasons demonstrated that alfalfa is sustainable on selected east Texas soils. Selection of well-aerated and well-drained soils with subsoil pH at 5.5 or higher in the surface four feet is critical for alfalfa on Coastal Plain soils.

OS03-011 Goat Friendly Pastures, University of Kentucky Cooperative Extension Service, KY, $14,975, Terry Hutchens, Ph: 859-257-2465, thutchen@uky.edu

We found that moving goats from parasite infected spring pastures to rapid growing summer annuals is an effective method of parasite avoidance. Seeding small blocks of high producing warm season annuals is cost effective and a nutritionally viable method of providing adequate nutrition while reducing parasite infections. We also evaluated the possibility of using mixed species grazing (goats and cows) as a means of reducing gastro-intestinal parasite in grazing goats. However, in this case, there were no treatment effects. Abnormally wet and mild weather conditions created excessive summer growth. Goat stocking rates were too low to accommodate the growth of tall fescue. End of rotation, residual dry matter mass was 1400 lbs DM/acre or 9 inches of pasture height. As a result, of the pasture height, few parasite infections occurred in 120 days of grazing. Modest pasture heights 4-5 inches may provide enough barrier protection for parasite infection avoidance.

OS03-013 Growing Organic Fruits and Vegetables for Local Farmer's Markets, SC, $9,925, York Glover, Ph: 843-470-3655 ext.115, yglover@clemson.edu

An Organically Grown Vegetables Survey was done in the summer of 2003 at four local farmer's markets in Beaufort County, South Carolina. The survey was randomly given to customers that purchased produce on the day of the survey. 189 households completed the survey. The survey indicated that 6 out of 7 participants were familiar with the term organic. The survey also noted that 1 in 10 customers desired organic produce and was willing to pay 50% or more than the conventional value for them. The survey also revealed the buyers preferred purchasing produce at the local farmers market by 2 to 1 over the other three fields: u-pick farm, roadside vendors, and supermarket. The organic customer's profile has a medium household income between $41,000 and $70,000 and between the ages of 36 and 55.

OS03-015 Performance of Various Forage Combinations Under Thinned Pine Canopies in North Florida, University of Florida North Florida Research and Education Center, FL, $14,982, Jarek Nowak, Ph: 850-875-7142, jnowak@ufl.edu

Open pasture produced more forage annually (17,200 kg/ha in 2005) than any of the two silvopastoral systems studied. Similarly, the double tree-row silvopasture outperformed scattered tree silvopasture by 2,000 kg/ha dry matter yield, totaling 13,650 kg/ha in 2005. Adding ryegrass and crimson clover to forage plots significantly increased annual forage production for each added species. However, adding a second clover species did not produce further yield increases. Seasonal weighed forage quality indices were not affected by either tree canopy treatments, nor by forage species/varieties employed. Average tree volume was greater in the silvopastures than conventionally 5th-row-thinned plantation.

OS04-018 Recirculating Production Pond Inflows to Increase Production and Reduce Effluents on Small-scale Fish Farms, Auburn University, AL, $14,145, David Cline, Ph: 334-844-2874, dcline@aces.edu

This project explored the economics of recirculating water through his multi-pond production system. Recycling this water along with integrating secondary non-fish crops has helped reduce the amount of potentially nutrient rich effluents leaving the farm and allowed the farmer to increase his productivity and efficiency.

On-Farm Research Projects

OS04-022 A Low Cost Trapping System for Control of Small Hive Beetle, USDA/ARS, FL, $15,000, Peter Teal, Ph: 352-374-5901, pteal@gainesville.usda.ufl.edu

Using a new trap-lure combination at sites in Florida and Pennsylvania the team discovered that most beetles were captured at the bottom of the hive and that infestation was heavily distributed in only about 25% of the colonies. During the period of the study, project participants attended 11 beekeeper meetings and held 3 short courses and 1 field day demonstration on the small hive beetle trapping system. The development of the trap and lure combination will greatly aid research on the population dynamics of the small hive beetle.

OS05-023 Livestock and Feedstock, TX, $15,000, Peggy Gates Korth, Ph: 830-885-7409, rpk@gvtc.com

The project goal was to prove an enhanced dairy cattle diet and potential fuel sustainability on a working dairy farm. The project charted significant increases in milk production and adequate fuel ethanol production to run farm equipment and vehicles. Implementing small-scale facilities in working farms offers farm industry revolution broadening the scope of value-added products and the ability to supply energy needs for modern technology through traditional distilling and new disciplinary commitment. The collaboration aligned farming interest with industry, demonstrating practical aplication for solving energy availability while augmenting food-related dairy products.

OS05-025 Salmonella Contamination and Antibiotic Resistance on Pastured Poultry and Conventional Poultry Farms, Warren Wilson College, NC, $9,542. Cedarose Siemon, Ph: 828-771-4056, csiemon@warren-wilson.edu
This study investigated Salmonella prevalence and compared antimicrobial resistance frequency between isolates from conventional and pasture-reared poultry. Salmonella prevalence wasn't different between the two farming systems.

Continuing Projects

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

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

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

Watering coffee seedlings in forestry tubes as part of OS05-027. Photo courtesy of Steven Welker

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

OS05-023 Livestock and Feedstock, TX, $15,000, Peggy Gates Korth, Ph: 830-885-7409, rpk@gvtc.com

OS05-024 Sustainable Grazing Systems for Arkansas: Native warm season grass establishment and control of cool season annual weeds, USDA NRCS, AR, $14,800, Ron Morrow, Ph: 501-301-3152, Ron.Morrow@ar.usda.gov

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

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

OS06-029 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

On-Farm Research Projects

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

OS06-031 Use of Guar (Cyamopsis tetragonolaba (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

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 Dept. of Biological and Agricultural Engineering, GA, $14,000, Barbara Bellows, Ph: 706-542-3821, bbellows@engr.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

On-Farm Research projects hit the ground running

From weedless pumpkins grown in rye cover crops (OS06-030) to tender grassfed dairy beef (OS06-032), projects led by Cooperative Extension, NRCS and other ag professionals are practical and timely, providing information growers can use right away.

Sustainable Community Projects

Final Reports

CS02-004 Homegrown, From Our Farms to Your Table: Growing a Farmers' Cooperative in East Tennessee, Jubilee Project, Inc., $6,436, Steve Hodges, Ph: 423-733-4195, steveh@overhome.net

A variety of recruiting activities resulted in the growth of cooperative membership 34% from 65 the year before to 87 members. Thirty of these members (increased from 16 the year before) made 64 different food or farm products, most of which Jubilee Project and the Cooperative assisted with business and on-farm technical assistance; this included helping develop recipes and labels, and helping place their products in local markets. A diverse Advisory Committee composed of farmers and agricultural professionals, local officials and representatives of local business, community, college/university and economic development groups, began assisting with the development of a retail store feasibility study to increase markets for members' value-added products.

CS04-020 Women Taking the Lead for Kentucky Agriculture, $ 9,900, KY, Community Resource and Economic Development, Kentucky State University, Gae Broadwater, Ph: 859-257-3887 bonnie.tanner@uky.edu

Kentucky Women in Agriculture, Inc., developed an education and leadership program that prepares its members and collaborators to advocate and promote sustainable agricultural and community development. The public policy toolkit was developed and distributed to all Institute participants and is available in printable form on the organizational web site at: http://www.ca.uky.edu/fcs/kywomeninag/pdf/Women_In_Ag-Message_Packet.pdf

At the November 2006 Kentucky Women in Agriculture conference, Institute participants conducted public policy roundtable and distributed toolkits to participants.

CS04-027 Agricultural Community Support Across Boundaries, Land-of-Sky Regional Council, NC, $10,000, Tom Elmore, Ph: 828-251-6622, tom@landofsky.org

An exploration of interagency support needed by farmers and rural communities found that perceptions of the most important needs vary from group to group. Farmers want affordable health insurance, shared equipment pools, and support for direct marketing. Agricultural advisors suggest marketing assistance and farmland protection incentives. Community organizations want local government support in protecting farmland and payments to farmers for uncompensated services like flood protection. Local officials see value in local sales of farm products and in diversification of farm enterprises. These concepts complement each other and support collaboration for agricultural prosperity and thriving rural communities.

CS04-028 Farming and Conservation Easements: A Win-Win Partnership, Dept of Wildlife Ecology & Conservation Univ of Florida, FL, $10,000, Mark Hostetler, 352-846-0568 hostetlerm@wec.ufl.edu

Producers introduced diners in Puerto Rico to tasty new barbeque sauces and pulled pork. Project CS05-038

The objective of this project was to produce and distribute a half-hour video that educates farmers and local communities about what conservation easements are and how they work. We partnered with two land trusts (Red Hills Conservation Program and Conservation Trust for Florida) and two farmers to explore how conservation easements could be implemented on working lands. We filmed participants in Boston, GA and Evinston, FL. The Conservation Easement video has been completed and can be seen on the web (http://livinggreen.ifas.ufl.edu). The program is currently being aired in over 40 TV markets in the Southeast and will be broadcasted nationally through the National Educational Telecommunications Association. DVDs of the show are being distributed by Land Trust Alliance, by the Red Hills Conservation Program, and by the Conservation Trust for Florida.

CS05-036 The Farmer as Entrepreneur, Iberia Parish Industrial Development Foundation, LA, $9,950, Mike Tarantino, Ph: 337-367-0834, idf@iberiaboz.org

A primary goal of the "Farmers as Entrepreneurs" program was to create a process where farmers view themselves as entrepreneurs to ensure their future viability in a changing environment. Success in this overall objective can be measured in several ways. First and foremost, a dialog was established between a core group of innovative farmers, the LSU Ag Center representatives and the community business network. This dialog will be further reinforced by the naming of the local co-op mill manager to the IDF Board of Directors. Secondly, this pilot program, as expected, created interest among various stakeholders such as area agricultural lenders

Sustainable Community Projects

and other business professionals interested in sustainable community development. Finally, the community has begun to understand the economic significance of the sugarcane industry and the need to make good choices with those resources, a subject that has received significant attention since the 2005 hurricane disasters

CS05-038 Puerto Rico PIG Project, RC&D El Atlantico, PR, $10,000, Steven L. Welker, Ph: 787-817-2434, steven.welker@pr.usda.gov

The marketing survey portion of this study has identified marketing opportunities for farmers with the local Lechon restaurants if the farmers can build a centralized finishing and kill facility. The information collected during this study was used in a subsequent grant application to USDA Rural Development to expand on the original project. This application was funded by RD in fall of 2006 for $30,500 through the Rural Business Enterprise Grant (RBEG).

This second project will pay for a feasibility study and business plan for a centralized finishing facility and slaughter facility. RD is also encouraging the farmers to apply for a Value Added Producer grant or a second RBEG within the next year.

Greater direct contact between the farmers and the Lechon restaurants have been established. The restaurant, rather than the slaughter facilities, have become the farmers' customers. More pork is already being custom slaughtered at different weights for direct sale to the restaurants. The pork producers have also been working with different BBQ sauces in cooperation with the Jayuya AgriBusiness Incubator. This is to market a pulled pork product that was not known in Puerto Rico in the past.

Continuing Projects

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

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

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

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

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

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

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

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

CS05-038 Puerto Rico PIG Project, RC&D El Atlantico, PR, $10,000, Steven L. Welker, Ph: 787-817-2434, steven.welker@pr.usda.gov

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

CS06-040 Building Local Food & Local Communities in Western Oklahoma, Ogallala Commons, OK, $10,000, Kim Barker, Ph: 580-732-0244, barker_k@hotmail.com

CS06-041 Linking native agriculture community with tribal institutional economic opportunities, Native American Indian Farming & Ranching Cooperative, OK, $10,000, Paul Killsfirst, Ph: 479-409-9125, naifrc@aol.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@fwcrcd.org

Continued on page 20

Which SARE grant program for you?

Southern SARE administers seven 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. If you prefer a mailed copy of any of the calls for proposals, contact Paige Patton at (770) 412-4787 or info@southernsare.org

Research and Education Projects (including Planning Grants) 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. **Planning Grants will not be offered this year.**

2007

March	Call for R&E preproposals
June	R&E Preproposals due
August	Full R&E proposals requested
November	Full R&E proposals due

2008

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.

2007

March	Call for proposals released
June	Proposals due

2008

August	Administrative Council announces awards

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

2007

March	Call for preproposals released
June	Preproposals due
November	Full proposals due

2008

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.

2007

September	Call for proposals released
November	Proposals due

2008

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.

2007

September	Call for proposals released
November	Proposals due

2008

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.

2007

Schedule and other details to be announced at www.southernsare.org

TBA	Call for proposals released
TBA	Proposals due
TBA	Administrative Council announces awards

Research and Education Projects Continued from page 6

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

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

LS07-200 Selecting cover crops for diverse functions: an integrated soil management approach 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

Sustainable Community Projects Continued from page 18

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

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

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