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Cooperative Extension System

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A. PLANNED PROGRAMS

National Goals

Goal 1: An agricultural system that is highly competitive in the global economy.

Overview:

Changes in government regulations and the economic environment have increased the risks of farming in South Carolina. The forces of change affecting agriculture in general are magnified in their potential impact on the state's thousands of small and minority farms. (Nearly 90 percent of the total farms in South Carolina are classified as small farms.) Couple these changes with the advancements being made in agricultural technology, and it is understandable why a framework of educational programs were established to enable the agricultural system of South Carolina to become more competitive in the global economy. Four educational initiatives serve as the framework for implementing GPRA Goal 1. These four initiatives are:

- Business, Financial and Risk Management Systems for Agricultural Firms
- Retention of Small/Minority Farms
- Application of New Technology for Profitable Animal and Plant Systems
- Safe Home-Based Plant Health Management

Under each of these initiatives, projects were identified which serve as the basis for program planning and development.

For the Business, Financial and Risk Management Systems for Agricultural Firms initiative, three projects were utilized: Agricultural Market Risk Management; Economic Analysis of Enterprises and Technologies; and Business and Financial Management Systems (BFMS). The educational programs that were developed as part of these projects were directed at teaching management skills to ensure long-term profitability and stability of farm businesses. These programs included: 1) business planning, creative problem solving, assessing business combinations and technologies for profitability while managing market and financial risks and maintaining the integrity of the environment; 2) economic analysis of enterprises and technologies; 3) business and financial management systems; and 4) the "Executive Farmer" program which is closely tied to the business and financial management systems efforts.

The Retention of Small/Minority Farms initiative contains four project areas: Marketing; Production Education; Planning/Enterprise Selection; and Farmland Retention. The primary focus of this initiative is to assure small farm sustainability through increased farm income and enhanced quality of life. The Product Education project allows small farmers to learn improved sustainable production practices, business management skills, and appropriate small-scale technologies. The Planning/Enterprise Selection project teaches small farm families how to evaluate resources and

goals. In addition, they learn about opportunities and constraints of various farming techniques. The Farmland Retention project provides educational opportunities in estate planning and regulatory/tax issues.

The Application of New Technology for Profitable Animal and Plant Systems initiative includes five projects: Technology Discovery Program; Bioenhancement Technologies; Information Technology; Introduction of New Production/Processing Mechanical Systems; and Farm Safety and Health. The educational programs developed within these project areas focus on: 1) the synthesis of precision agricultural technologies; 2) the understanding and utilization of bio-enhanced agricultural technology; and 3) the utilization of distance education and computer based educational systems.

The Safe Home-Based Plant Health Management initiative is comprised of three project teams to deliver programs and information on plant health management: Horticultural Professional Education; Master Gardener Education; and Consumer Education. The key program components in this initiative is in training horticulture professionals and Master Gardeners to disseminate plant health management information and operate home health horticulture information centers to disseminate plant health information directly to consumers. The goal is to utilize the horticultural professionals and the Master Gardeners to educate consumers and youth on plant identification, selection, culture, pest identification, integrated pest management and poisonous plants in the home environment. The Master Gardener education project included the delivery of 642 programs dealing with plant health issues with 10,159 participants. The Master Gardeners contacted 51,442 individuals with plant health information and contributed 580,175 hours of service to Extension.

There was a total of 9,889.0 days or 43.0 FTE reported in areas that are classified under Goal 1. The total number of contacts reported in this goal was 117,287. The breakdown of these contacts are as follows: 55,426 white males, 42,284 white females, 10,530 black males, 7,888 black females, 529 classified as other males, and 630 classified as other females. From this group, a total of 4,313 were classified as limited resource. Accomplishment that were reported to the Clemson University Information Management System show 3,069 total programs and activities conducted in projects that are classified under Goal 1. There were a total of 53,384 participants who completed these educational programs. Of those completing the programs, 39,189 reported increasing their knowledge as a result of their participation. Of those participants who reported increasing knowledge, 19,434 reported that they adopted or increased the use of recommended practices as a result of the programs. The total state level expenditures for project teams classified under Goal 1 was \$54,476.

Key Theme -- Risk Management

- a. Response to educational demands from South Carolina agribusinesses were to be through
1) provision of current situation, outlook and management strategy information to the industry;

2) provision of increased training for front-line agents and state specialists; 3) provision of educational programs on market risk management tools available for use by primary producers and agribusinesses; and 4) development, distribution and training on microcomputer-based market risk management decision aids.

b. Impact –

Situation, outlook and management strategy information to SC Ag Industry developed and delivery of market management information through the SC Agricultural Outlook Conference (SC Agricultural Expo) Columbia, SC January 2000. Materials were provided to County Ag Agents for county or cluster commodity programs in the region.

Training for county agents and state specialists: A two-day inservice training for agricultural agents on market risk management techniques and loan deficiency payments. Agents were exposed to advancements in market risk management including developed software for decision analysis developed for firms facing agricultural market risk

Educational programs on risk management tools and products available for use by primary producers and agribusinesses: Eight multi-state workshops were offered on tactical market risk management procedures with a focus on the current agricultural environment.

A regional (VA, NC, SC, GA, and FL), in-depth training (3-4 days) on market risk management was developed and offered to agricultural producers, lenders and other agribusinesses under the auspices of the Executive Marketing School. The intent was to offer in-depth training to producers. This project involved significant planning, materials development, promotion, and utilization of the S.E. Region's Agricultural Economists.

Development and distribution of market risk management decision aids and data access: Spreadsheet-based software that reviews the existing marketing alternatives and calculates the potential performance of the strategies under varying market scenarios was developed. Further, a module on the probability of ex-ante price change derived from current market conditions was incorporated

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – Multistate

Key Theme – Agricultural Profitability

a. Production decisions are no longer based mainly on government commodity program guidelines. Rather they are based on comparative profit potential of feasible alternative

enterprises. Additionally, new production technologies are being introduced at a rapid rate. There is increased demand to evaluate new technologies. Extension faculty will be called upon to educate farm managers and others on financial risks – this begins with knowledge of basic enterprise budgeting. From this knowledge base, agribusinesses will be in an improved position to make better production decisions. This, in turn should increase long-term profitability and sustainability.

b. Impact –

Provision of current enterprise analysis information to SC Ag Industry: Approximately 160 enterprise budgets were developed and distributed including on the World Wide Web departmental site. These materials were provided to County Ag Agents for county or cluster commodity programs.

Training for county agents and state specialists: An inservice training for agricultural agents on enterprise analysis decision aids and techniques was planned. Agents will be exposed to advancements in enterprise budgeting tools including developed budgets for decision analysis for firms facing agricultural risk.

Educational programs on risk management tools and products available for use by primary producers and agribusinesses: County or Cluster workshops were offered on enterprise analysis procedures and issues. Computer-based breakeven spreadsheets were developed and distributed.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Agricultural Profitability

- a. The farm business environment that demands greater entrepreneurial leadership abilities of farm businessmen. The change in government programs, rapid change in technology, the trend toward larger and more sophisticated farm businesses and the Mega trend toward industrialization has made it critical that farm managers learn how to develop a successful management system for their farm. It is also critical for Extension to develop these “management/leadership/entrepreneurial” programs if we are to continue to be viewed by commercial farmers as an effective educational and informational provider. Extension has historically and is currently putting the huge majority of its resources into production-oriented programs. Farmers have found that high production does not make a successful business and continually express their need for Business Management and marketing programs

b. Impact –

This program focused on how to develop a systematic approach to problem solving and strategic planning. The end product was an Action Business Plan developed with the use of the farm firm's own financial information. The emphasis is on analyzing the business records; setting business goals and developing an action plan that participants can take home and implement. Two workshops were conducted in FY 99-00.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Small Farm Viability

a. The focus of this area is to assure small farm sustainability through increasing farm income and enhancing quality of life. South Carolina has more than 20,000 farms of which nearly 90 percent are classified as “small farms”. Traditionally, small farmers have faced a most difficult economic environment with problems focused on areas of survivability and land retention. Programs have focused on broad but important areas such as market strategies, sustainable production, enterprise selection, and farmland retention..

b. There were four small farm cooperative meetings during this period which reached over 50 producers. These were on general marketing cooperatives, greenhouse marketing, and livestock marketing. One group of 18 farmers formed an association and are now functioning.

One intensive farm management workshop for livestock was held for 15 producers. At least 10 of these producers changed their financial, planning, and/or production as a result of this educational activity.

Three grants for management training for fruit and vegetable producers was obtained of which 45 S.C. producers were trained. Seven county educational meetings were targeted for small farmers. Over 3,100 producers were included in these programs of which 54 percent were white and 46 percent were minority farmers. In addition, these educational programs reached 17 percent limited resource.

The focal point of this project was the development of enterprise budgets for small farms. One meat goat budget was developed exclusively for small farmers and during this period there were

25 producers who entered the business with this financial/production information being their major information resource; 6 producers choose not to enter production based on this budget.

Small farm production was a decided part of the development and building of most row -crop, beef, and vegetable budgets. This was especially the case for vegetable production as over 90 percent of these budgets can be applied to small and limited resource situations. There was also one in-service training on budget theory and application presented to 19 agents which also included SC State. One budget publication was published for the general public and one budgeting training manual was prepared for agricultural agents. These budgets are also available for public usage on the Clemson web.

The major activities which focused on farmland retention consisted of three producer meetings, one discussion session, and, comprehensive in-service training, and numerous one-on-one contacts. The in-service training was comprised of national, state, and county leaders in farmland retention. An extensive training manual was prepared for the agents. All project programs primarily concentrated on minority farm families with limited resources. Of the nearly 1,500 clientele, 79 percent were classified as limited resource and 82 percent were minority.

- a. Source of Federal Funds – Smith Lever 3b&c
- b. Scope of Impact – State

Key Theme – Precision Agriculture

- a. Precision farming is revolutionizing the agricultural industry. The technological advances have the potential to significantly alter the structure of agriculture in South Carolina. A variety of projects were utilized in this area. These major projects included the following:

Field demonstrations for new swine waste treatment technology including solid/liquid separation systems; precision agriculture conference presentation and cooperation with international partners; in-service training for agents on precision agriculture; weather & climate effect on plant disease and waste management during floods from hurricanes.

Information technology utilization for analysis and communication of drought information to SC audiences. Utilization of computer programs and record keeping programs for dairy herd management. County and state web page design and management. Regional Internet in -service training involving 5 states, 10 specialists, and over 100 agents.

Introduction of New Production/Processing Mechanical Systems Program highlights include alternative uses of tobacco greenhouses, hosting of international groups for information exchange, development of precision farming programs.

Farm Safety & Health was also included in this area. Program highlights include: joint workshop between Clemson University, SC State University, and University of Kentucky for farm safety issues and to develop future collaborative efforts in ROPS programs; creation of tractor rollover demonstration kit; development of internet based farm safety newsletter; active participation in Progressive Farmer Farm Safety Day Camps; development of farm safety & health advisory board; minority farmer focus group participant with S C State University on safety issues.

b. Impact –

A total of 298 activities and programs were conducted which reached 4133 people. Of those attending 2802 reported an increase in knowledge with 1901 people reporting adoption of new practices. In addition the Farm Safety & Health project had 1353 youth participants. A total of 4.46 FTE was devoted to this area.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – Multistate

Key Theme – Animal and Plant Genomics

a. Program highlights include Extension's role in biotechnology in -service training to 15 faculty & staff. This training included both classroom and field trip components. Cotton insect newsletters developed and distributed to SC farmers containing information on Bt cotton management. Center of Excellence Field Day in Lee County and several special field tours with agrichemical industry representatives focused upon agronomic crop production systems for genetically engineered herbicide resistant crops.

b. Impact –

A total of 12 activities and programs were conducted which reached 97 people. Of those attending 41 reported an increase in knowledge with 15 people reporting adoption of new practices. A total of 0.47 FTE was devoted to this area.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – “Other” (Plant Health)

- a. The plant health area focused on three major projects during FY 2000. These projects were horticultural professional education, master gardener education, and consumer education.

For the project area of Horticultural professional education, four video tapes were produced for use in educating landscape installation/maintenance professionals. The titles are “Pruning Tips”, “Soil Analysis and Fertilization”, “Proper Planting Techniques”, and “Turfgrass Installation”. Copies of these tapes were distributed to various county agents for use in their programming efforts. Technical production costs for the Commercial Ornamental and Turfgrass Shortcourse (COTS) were covered by this project. The shortcourse lasted for 9 sessions between January 6 and February 1, 2000 with approximately 80 participants. The COTS program is designed to prepare individuals to take the written portion of the South Carolina Nursery & Landscape Association Certified Nursery Professional exam. This project also sponsored two requests for proposals for competitive funding for outside speakers for commercial ornamental horticulture programs (8 requests, 5 funded) and for professional development of commercial ornamental horticulture agents (3 requests, 3 funded).

Highlights for master gardener education included a State Master Gardener Conference in Charleston conducted by Charleston, Berkeley, and Dorchester County Master Gardeners with 175 Master Gardeners attending. The SC Master Gardener Program contains 28 slide presentations numbering over 2,200 slides. An undergraduate student was hired to scan the slides and put them into PowerPoint presentations. Nearly 40 PowerPoint presentations are now available to agents for downloading via the Ag Communications web site (<http://cufan.clemson.edu/olos/>). An inservice training program on Landscape Plant Nutrition was delivered via satellite on February 29, 2000 with an enrollment of 30.

State level training programs in the area of consumer education included: “Poisonous & Medicinal Plants” on October 27, 1999 with 20 participants, “Nuisance Wildlife Management” on November 29, 1999 with 44 participants, and “Residential Irrigation” on March 8, 2000 with 25 participants.

- b. Impacts –

For the project area of horticultural professional education, a total of 286 programs (32 of which were joint educational efforts with other agencies) were delivered to 3,417 participants with 1,656 participants reporting increased knowledge and 821 adopting new practices. There were 1,829 horticulture service providers utilizing 8 new or ongoing demonstration sites. Forty-four newsletters or trade journal articles were prepared. Personal contacts through telephone, office, and site visits totaled 1,615. The activities and programs of this project were accomplished through the input of 3.53 FTE.

The master gardener education project included the delivery of 642 programs dealing with plant health issues with 10,159 participants. Participants in these programs reporting an increase in knowledge were 6,408 with 4,283 adopting or increasing use of plant health management practices. This year, 1,371 residents were trained to become Master Gardeners. The Master Gardeners contacted 51,442 individuals and contributed 580,175 hours of service. The Master Gardeners also made 599 mass media contributions. Master gardener volunteers contributed 144,662 miles of travel. The activities and programs of this project were accomplished through the input of 4.22 FTE. .

For the project of consumer education, 1,117 activities or programs conducted with 24,617 participants (21,535 reporting increased knowledge and 7,149 reporting practice adoption) and an additional 63 programs conducted for youth; 887 mass media activities; 215,268 consumers and 775 youth visiting plant health demonstration sites; 36,207 personal contacts through telephone, office, and site visits; and 78,806 consumers receiving plant health management information through the Urban Horticulture Center at the Riverbanks Zoo, the Home & Garden Information Center, and the PAWS Horticulture Line. The activities and programs of this project were accomplished through the input of 16.34 FTE.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Goal 2: A safe and secure food and fiber system.

Overview:

Consumers are concerned about the safety of their food. However, only a limited number of consumers understand the process involved in safe handling and distribution of food. Many commercial food handlers also need the technical assistance to enhance food safety and quality for the food industry. The primary focus for this goal was to provide effective educational programs and trainings to South Carolina citizens and industries which has led to increased knowledge and behavior toward safe food handling practices. The one initiative under this goal is Food Quality and Safety: Commercial and Consumer Emphasis. This initiative has five project areas: 1) Increasing the Quality and Safety of the Food Supply Through the Education of Food Handlers; 2) Master Volunteer - Food Safety; 3) Teaching Nutrition, Utilization of Food Resources, and Food Safety Through the Media; 4) Responding to Consumer Food Handling Concerns and Questions; and 5) Commercial Food Handling, Processing, Preservation, Packaging for Safety, Quality, Economic Development.

Safe handling of food was taught to handlers in the food service industry and the general public. Program instructors were certified to train food handlers in safe food handling techniques. Extension Agents also received training on safe food storage, handling and preservation. This enabled them to provide clientele with the appropriate information which improved their understanding of risks and responsibilities in relation to food and health. Attention was also given to providing consumers with scientifically based, reasonable food safety information through the media.

There was a total of 2,645.5 days or 11.5 FTE reported in areas that are classified under Goal 2. The total number of contacts reported in this goal was 24,992. The breakdown of these contacts are as follows: 5,801 white males, 12,619 white females, 1,717 black males, 4,491 black females, 255 classified as other males, and 109 classified as other females. From this group, a total of 2,672 were classified as limited resource. Accomplishment that were reported to the Clemson University Information Management System show 2,247 total programs and activities conducted in projects that are classified under Goal 2. There were a total of 37,736 participants who completed these educational programs. Of those completing the programs, 31,458 reported increasing their knowledge as a result of their participation. Of those participants who reported increasing knowledge, 8,436 reported that they adopted or increased the use of recommended practices as a result of the programs. The total state level expenditures for project teams classified under Goal 2 was \$21,494.

Key Theme – Food Safety

- a. There were 13 Master Food Preserver programs offered during the year and 194 home food safety programs offered across the state. Media continues to be an important way to reach consumers with food safety and nutrition information. Counties have a wide variety of media opportunities including radio spots, development of press packets on specific nutrition subjects, new articles, and TV programs.

- b. The Master Food Preserver programs trained 113 volunteers in the basics of food safety and food preservation who contributed 528 hours reaching 1,799 consumers with accurate, timely food preservation information.

There were 3,832 consumers who completed home food safety programs offered.

Counties reported the distribution of 121 press kits, 9,768 column inches appearing in the printed media, 429 minutes of television air time, and 2,189 minutes of radio air time in the areas of food safety and nutrition.

- b. Source of Federal Funds – Smith Lever 3b&c

- c. Scope of Impact – State

Key Theme – Food Handling

- a. Counties have made great progress in reaching food service employees with ServSafe employee training. This is a 6- or 10-hour training on how to safely handle food in a food service operation.

- b. A total of 144 programs were conducted reaching 2,857 food handlers. A more indepth version of ServSafe was offered to managers and 178 food service managers passed a national exam and were certified. Counties report the development of 36 partnerships while teaching ServSafe and \$4,770 was generated in program support.

- c. Source of Federal Funds – Smith Lever 3b&c

- d. Scope of Impact – State

Key Theme – Food Quality

- a. Interest continues to be high for information on a home-based food processing business. Contact with food processing industry was done through workshops, industry meetings, and individual contacts with growers, shipper, or processors.
- b. Impact –
A total of 271 educational programs were conducted reaching 2,174 commercial food processors. Of this total number, 1,460 report adopting or increasing uses of the recommended safety practices. Commercial food processing contacts or sites totaling 7,354 were advised of regulatory changes. There were 347 inquiries, 107 of who adopted a recommended practice for a new or value-added food product.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Goal 3: A healthy, well-nourished population.

Overview:

Americans are lacking knowledge in their basic nutrient needs and the skills needed in meal planning and food selection to meet these nutrient needs. The relationship of the risk of contracting certain chronic diseases, such as coronary heart disease, stroke, diabetes, cancer and poor nutritional status is well documented. South Carolina has dismal health statistics. Heart disease, cancer, and stroke, account for nearly two-thirds of the deaths in the state. The South Carolina Department of Health has stated that 80 percent of all cancers, 50 percent of heart disease deaths, and 50 percent of all stroke deaths are due to lifestyle habits. Old eating and food preparation methods are hard to change. The initiative team determined that educational programs for youth and those individuals who affected the eating patterns of youth are essential if the risk factors for chronic disease are to be avoided and if the South Carolina health statistics are to improve.

While only one initiative was developed under this goal, there are a total of eight projects. The initiative is Human Nutrition and the Utilization of Food Resources with Emphasis on Food Security. The eight projects that comprise this initiative are: 1) Teaching Nutrition and the Utilization of Food Resources to Youth, 2) Addressing the Food Security Issue Through the Global Food Web Program, 3) Teaching Nutrition and the Utilization of Food Resources to Multipliers, 4) Consumer Nutrition Education Programs Emphasizing Using Food Resources and Skill Development, 5) Emphasizing Agriculture Commodities Through Nutrition Education Programs, 6) Teaching Nutrition, Utilization of Food Resources, and Food Safety Through the Media, 7) Nutrition and Healthy Lifestyle Education for Limited Resource Youth Through LINC, and 8) Nutrition and Healthy Lifestyle Education for Limited Resource Adults Through LINC.

As previously indicated, the major focus in South Carolina for Goal 3 is children and youth ages 5-19 years of age and those people who affect the dietary habits of youth. The initiative encompasses the programming efforts targeting limited resource audiences, such as those conducted in the Expanded Food and Nutrition Education Program, the DSS Food Stamp Nutrition Education Plan, and those foods and nutrition programs designed for traditional Extension audiences. The primary focus to the projects are: To provide food and nutrition educational programs for youth which will improve their nutritional status; provide educational programs for young adults/families which will improve their skills in choosing, preparing, and consuming a nutritionally adequate diet, and work with food and nutrition related agencies and organizations to coordinate food and nutrition educational efforts.

There was a total of 3,880.5 days or 16.7 FTE reported in areas that are classified under Goal

3. The total number of contacts reported in this goal was 54,560. The breakdown of these contacts are as follows: 7,118 white males, 15,142 white females, 12,319 black males, 19,232 black females, 325 classified as other males, and 424 classified as other females. From this group, a total of 14,696 were classified as limited resource. Accomplishment that were reported to the Clemson University Information Management System show 2,247 total programs and activities conducted in projects that are classified under Goal 3. There were a total of 37,736 participants who completed these educational programs. Of those completing the programs 31,458 reported increasing their knowledge as a result of their participation. Of those participants who reported increasing knowledge, 8,436 reported that they adopted or increased the use of recommended practices as a result of the programs. The total state level expenditures for project teams classified under Goal 3 was \$18,767.

Key Theme – Human Health

- a. The nutrition education programs for youth covered topics including healthy snacks, kids in the kitchen, cooking with books, baking buddies, farmer for a day, and 5-a-day. A variety of methods were used including day camp, demonstration contest, workshop, health fair, school enrichment and Global Food Web (GFW) programs.
- b. Impact –
There were 1060 programs conducted involving 26,722 youth. Counties reported 240 youth in nutrition and food 4-H competitive events. A total of \$52,123 in resources supported the youth foods and nutrition educational programs. There were 411 volunteers reported in this initiative. A total of 59 Global Food Web (GFW) programs were conducted reaching 1,410 youth, 595 of these indicated they plan to become actively involved the food security issues presented in GFW. There were 75 volunteers assisting with the GFW educational programs. Using federal Food Stamp dollars, counties report reaching 15,379 limited resource youth in 584 nutrition education programs. There were also 411 volunteers involved.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Human Nutrition

- a. Programs conducted through this effort include teaching the Food Guide Pyramid, Dietary Guidelines, teaching nutrition through teachers and other multipliers, and food preparation skill development.

b. Impact –

There were 391 programs presented which reached 8,293 consumers and multipliers. Of this total, 1,638 report they have adopted one or more of the Dietary Guidelines or are using a skill which will improve their nutritional status. Over \$23,000 in program support was generated. Using federal Food Stamp dollars, counties report reaching 3,163 adults through 187 nutrition education programs. Of this total, 2,820 report an increase in knowledge and 1,169 report developing or increasing a skill which improves their nutritional status.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Goal 4: Greater harmony between agriculture and the environment.

Overview:

Programs under Goal 4 are focused on five major initiative areas: 1) Sustainable Forest Management and Environmental Enhancement; 2) Sustainable Agricultural Production Systems; 3) Reducing the Impact of Animal Agriculture on the Environment; 4) Natural Resources and the Environment; and 5) Household and Structural Pest Control and Pesticide Training.

The Sustainable Forest Management and Environmental Enhancement initiative has five project areas: 1) Provide Landowners with Alternative Silvicultural Systems; 2) Restoration and Management of Longleaf Pine; 3) Management Options for Conservation Reserve Program Lands; 4) Master Tree Farmer/Master Woodland Owner; 5) Broadening the Practice of Sustainable Forestry on all Forest Lands. The primary focus of this initiative was to teach sustainable forest management concepts and practices to private landowners and industry in order to broaden these practices on all forest lands. The programs emphasized: 1) development of landowner understanding of even-age and uneven-age pine management, mixed pine-hardwood management and natural regeneration systems; (Programs on these subjects were also provided to forestry consultants and professional foresters who manage forest lands for landowners.) 2) economic and ecological significance of restoring and managing the longleaf pine ecosystem; 3) the “Master Tree Farmer” program both within South Carolina and the southeast region; and 4) logger education and training on “A Best Management Practice,” and principles of sustainable forest management.

The Sustainable Agricultural Production Systems initiative has four major project areas: 1) Confined Animal Production Systems; 2) Integrated Crop Management – Horticultural Crops; 3) Integrated Crop Management – Agronomic Crops; 4) Grazing Livestock Production Systems. With the expectations for agricultural producers to become better stewards of the land, the programs that are a part of these projects focused on teaching production and management skills that ensure sustainability. These programs specifically addressed both environmental and economic sustainability of agronomic, horticultural, and livestock production systems. Programs were delivered in the form of field days, educational meetings, demonstrations, and workshops and focused on nutrient management, water quality, production, and economic efficiency.

The initiative, Reducing the Impact of Animal Agriculture on the Environment has two project areas: 1) Increase the Adoption of Environmentally Sound Animal Waste Handling and Utilizations Systems and 2) Increase the Adoption of Nuisance Prevention Practices by

Animal Industries. The major focus of this initiative is to teach the scientific principles of safe manure storage, utilization, and alternative conversions to animal producers. The results being a decrease in animal agriculture's impact on the environment, resulting in reduced public concern over the expansion of confined animal production. The programs conducted emphasized the safe storage of different types of animal manure, and alternative technologies available for conversion to environmentally safe materials; methods of disposing of dead animal from intensive animal production units; utilization of nutrients as fertilizers; methods of reducing vectors and controlling odors; and the delivery of the Confined Animal Manure Managers Certification Program.

The Natural Resources and the Environment initiative has a total of six major project areas areas: 1) Best Management Practices (BMP) Education; 2) Water Quality Education; 3) Natural Resource Education; 4) Nuisance Species; 5) Tourism/Recreation; and 6) Water Quality and Natural Resource Education for Youth. The major goals for this initiative was to educate landowners to accept and use practices that promote sustainable use and management of natural resources. Also, programs were offered to landowners and youth on the impacts of land management on water quality and on fish and wildlife resources. In addition, there were educational programs provided to private land owners on wildlife damage management.

The final initiative, Household and Structural Pest Control and Pesticide Training contains four project areas: 1) Prevention and Control of Excessive Moisture in Structures; 2) Pest Control/Management Practices in Human Environments; 3) Wood Destroying Insect Pest Control; and 4) Pesticide Applicator Training and Education. The focus of programs in these project areas was on increasing clientele knowledge and implementation of: 1) safe pesticide application and responsibilities under pesticide regulations through Extension training and educational programs, this includes the certification and recertification training and education of pesticide applicators; 2) structural design that is conducive to pest damage; 3) alternative control methods for wood destroying insect; 4) integrated approaches to pest management practices in human environments; 5) building codes related to excessive structural moisture; and 6) structural moisture management practices.

There was a total of 13,788.5 days or 60.0 FTE reported in the areas classified under Goal 4. The total number of contacts reported in this goal was 142,320. The breakdown of these contacts are as follows: 101,375 white males, 27,267 white females, 9,236 black males, 3,655 black females, 565 classified as other males, and 222 classified as other females. From this group, a total of 3,716 were classified as limited resource. Accomplishment that were reported to the Clemson University Information Management System show 3,575 total programs and activities conducted in projects that are classified under Goal 4. There were a total of 86,814 participants who completed these educational programs. Of those completing the programs, 46,271 reported increasing their knowledge as a result of their participation.

Of those participants who reported increasing knowledge, 19,599 reported that they adopted or increased the use of recommended practices as a result of the programs. The total state level expenditures for project teams classified under Goal 4 was \$67,694.

Key Theme – Forest Crops

- a. Many landowners fail to manage their forestland because they object to clearcutting or other conventional intensive practices that focus primarily on timber production. The purpose of this project is to encourage these landowners to develop management plans by providing them with alternative silvicultural systems that are suitable for their individual objectives. Alternative systems include uneven -age management, mixed pine/hardwood management and natural regeneration systems.

Educational efforts have been focused on both professional resource managers and landowners. Most landowners are unaware that alternative silvicultural systems are available and professional foresters are generally biased in favor of clearcutting and intensive management methods. Our objective is to provide landowners with an understanding of how these systems can be used to meet their desired management goals and to make trained, professional foresters available to service their needs. In addition, the first draft of a proposal to fund intensive training on uneven -age management was written. We expect to submit a final draft during the year 2000-2001. Also, a presentation titled “Uneven -age Management in a Clearcut World” was presented on May 17, 2000 at the Second National Extension Natural Resources Conference in South Lake Tahoe, Nevada.

- b. Impact –
During the year 2000 most efforts on this project were conducted at the county level. Twenty programs and activities were reported by county agents. Approximately 500 people completed non-formal programs with approximately 80% reporting increased knowledge of the subject. However, as of this report only 8% have reported adopting or increasing use of practices discussed during the training. We should expect a delay in implementation as training conducted during the summer or fall is not likely to be utilized until the following growing season. No formal, statewide training programs were conducted during the report period. The number of FTE's devoted to this project was 1.4.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Forest Crops

a. Longleaf pine is a highly desirable species because of its superior growth form, wood properties and the diversity of plant and animal species associated with the ecotype. Unfortunately, only a small fraction of the longleaf forest remains within its natural range. Renewed interest in the species has developed because of its ecological significance as well as financial reasons. Because of land ownership patterns, the majority of longleaf restoration efforts will require regeneration on non-industrial private lands. The objective of this project is to provide landowners and professional foresters with background and technical information necessary to expand longleaf production within its natural range.

b. Impact –

A total of 13 activities and programs were reported by county agents. These included, but were not limited to a “Longleaf Planting Workshop” presented to 22 landowners in Orangeburg Co, and a general “Ecology of Longleaf Pine” presentation given to 45 members of the Edgefield County Forestry Association. Altogether, a total of 465 people completed non-formal educational programs on Longleaf Pine. Approximately 80% reported increased knowledge as a result of the activities and programs and 55% indicated that they have or will adopt practices discussed during the training. The number of FTE’s devoted to this project was 0.4.

The number of additional acres of longleaf pine planted as a result of programming was very low (13 acres). Part of the reason for this low number may be due to the late timing of certain programs, but is more likely a result of a longleaf pine seedling shortage. Demand for longleaf pine seedlings is currently much greater than the supply coming from state and industry nurseries. Nurseries have adequate production capacity but have not been able to obtain enough seed. Bumper crops of longleaf seed occur at intervals of 7 years or more and our last heavy seedfall was approximately 3 years ago. As a result, large increases in the number of acres planted to longleaf pine may be delayed for a few years.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Forest Resource Management

a. Thousands of acres of pines have been planted on former agricultural lands under the Conservation Reserve Program. Now that the program is maturing some farmers have considered converting lands back to crops while others are uncertain about future management strategies. The objective of this project is to provide educational programs to inform farmers of

the economical and ecological potential of retaining these lands in forest cover. Many of the stands are in need of thinning in order to maintain health and vigor of crop trees and create access for other practices including application of municipal and agricultural waste.

b. Impact –

No formal programs were conducted under this project in 2000. Counties reported only one activity for this project and only 5 people completing non-formal education. During the following planning year we may consider discontinuing efforts on this subject area. The number of FTE's devoted to this project was 0.2.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Forest Resource Management

a. The Master Tree Farmer/Master Woodland Owner program provides intensive forestry and wildlife training to landowners in return for 25 hours of volunteer time promoting forestry and the Tree Farm program in South Carolina. In 1999 Master Tree Farmer became a flagship program for Extension Forest Resources. The program was broadcast from Clemson University via video conference to 13 down-link sites throughout the state. Graduates received 28 contact hours of instruction in forestry topics such as Forestry as an Investment, Pine Management, Hardwood Management, Marketing and Harvesting, and Wildlife Management.

b. Impact –

By using the video conference technology, the program was delivered to 214 forest landowners in 1999. In 2000 the program was delivered regionally to 10 states and 62 down-link sites across the Southeast. A total of 1,275 landowners representing 372,000 acres of forest land completed the course. Approximately 52 % of the landowners were under 50 years of age and 23 % were female. The Master Tree Farmer Program utilized 21 volunteers. The number of FTE's devoted to this project was 0.6. The following impacts were derived from analysis of evaluation data collected after landowners completed the training:

1. Ninety-nine percent of the participants would recommend the program to other landowners.
2. Ninety-six percent feel that the program will save them money when practicing forestry on their property.
3. Fifty-eight percent of the landowners estimate that the program will save them at least \$10,000, an additional 12 % will save \$25,000 and 7 % estimate a savings of \$75,000 as a result of their increased understanding of forestry.

4. Based on increased knowledge, ninety percent of the landowners completing the course plan changes in the management of their forest property.
 5. Ninety-two percent of the graduates indicated that they would attend a more advanced training program if it were offered.
- c. Source of Federal Funds – Smith Lever 3b&c
 - d. Scope of Impact – Multistate

Key Theme – Forest Resource Management

- a. The objectives of this project are to: (1) Encourage landowners who sell timber to reforest following harvest, (2) inform landowners of the economic and environmental benefits of using Best Management Practices (BMP's) in all forest management operations, (3) develop and conduct training programs that improve the professionalism of logging and other timber operations businesses, and that promote sustainable forestry principles and (4) work with established groups within the forestry community to support and promote appropriate training and outreach programs related to sustainable forest management.
 - b. Impact –
 This program generated considerable activity at the county level. Counties reported 102 activities with 900 landowners completing educational programs and 730 or approximately 80 % reporting increased knowledge as a result of the programs. More than 200 landowners reported the application of BMP's to their forest property.
 Major efforts within this project were directed at logger training and education under the Timber Operations Professional (TOP) program. The program is jointly administered by Clemson Extension Forestry and the South Carolina Forestry Association. During this reporting period 750 loggers and foresters attended 18 programs conducted across the state. The program has had a significant beneficial effect on forest practices. Eighty-nine percent of the wood delivered to mills in South Carolina is delivered by loggers that have completed the TOP training. The percentage of acceptable overall Best Management Practices conducted on forest lands within the state, and reported by the South Carolina Forestry Commission has increased from 86.4 % in 1996 to 91.5 % in 1999. The TOP training program is supported with 20 volunteers.
- a. Source of Federal Funds – Smith Lever 3b&c
 - b. Scope of Impact – State

Key Theme – Sustainable Agricultural

a. The confined animal production systems project was comprised of programs and activities that were designed to improve production efficiency and to provide information on current and emerging specialty animal industries. Efforts focused on increasing efficiency of production, cutting costs, and other management options.

a. Impact –
In terms of accomplishments, 255 programs/activities, which reported to the confined animal systems project were completed. These activities saw 5,918 people complete non-formal educational programs and 3,900 of those report increased knowledge with 1,038 indicating that they had changed or adopted new practices.

b. Source of Federal Funds – Smith Lever 3b&c

c. Scope of Impact – State

Key Theme – Sustainable Agricultural

a. The horticultural production systems project focused on programs and activities related to integrated crop management. The areas of concern were improving profitability and reducing the negative environmental impacts of horticultural cropping systems. Programs related to the adoption of new horticultural production systems were also a major thrust of this project.

a. Impact –
The horticultural systems project had 396 activities/programs report to it with 3,348 people completing non-formal educational programs and 1,802 of those reporting increased knowledge. Four hundred twenty three people adopted practices/changes in production practices while 365 people completed programs on ICM (Integrated Crop Management) and planned to adopt those practices that represent or impact 57,694 acres of production fields. There were an additional 854 acres planted to new alternative horticultural crops.

b. Source of Federal Funds – Smith Lever 3b&c

c. Scope of Impact – State

Key Theme – Sustainable Agricultural and Nutrient Management

a. The agronomic production systems project focused on programs and activities related to integrated crop management. The areas of concern were improving profitability and reducing the negative environmental impacts of agronomic cropping systems. Programs related to the adoption of new agronomic production systems were also a major thrust of this project. In addition, programs dealing with the adoption of alternative methods of nutrient and pest management were conducted.

a. Impact –

The largest impact of this initiative, in terms of acres impacted, was the over one-half million acres (580,372 acres), which were affected by the ICM program activities of the agronomic cropping systems project. One thousand and twenty six activities/programs were reported to this project with over 12,000 people completing non-formal educational programs. Of these 6,877 people reported increased knowledge and 2,367 adopting recommended practices. Further, 765 people completed ICM programs and planned to adopt recommended practices. Extension personnel reported 594 limited resource contacts dealing with the agronomic systems project. Over 23,000 acres had animal wastes applied as nutrient sources as a result of project activities.

b. Source of Federal Funds – Smith Lever 3b&c

c. Scope of Impact – State

Key Theme – Sustainable Agricultural

a. The grazing animal production systems project focused programming efforts on several areas dealing with improved efficiency of production and utilization of resources. These areas included: improved marketing of grazing livestock; increase utilization of residue, waste, and by-products for supplemental feed; improved grazing management practices for increased efficiency of production; protection of water quality in and from pastures; and increased awareness of herd health and reproduction on economic efficiency.

a. Impact –

The grazing animal systems project had 813 producers participate in the Pride/Quest and other managed marketing programs while just over 1000 people improved their breeding program by utilizing EPD's in sire selection and proper breed complementation. Just under 700 people reported implementing recommended grazing management systems to improve enterprise profitability and decrease detrimental environmental impacts of livestock. Another 683 producers adopted improved health and reproduction programs. These numbers represent a significant proportion of the 12,196 people who completed one of the 347 non-formal

educational programs or activities. In all, 5,950 people reported adopting or increasing the use of recommended practices. The grazing systems project had the most contact with limited resource clientele, reporting 730 contacts for the year. These represent the many small landowners with a few livestock, cattle, sheep, and/or goats. One of the funded projects, an inservice training on forage and pasture management had specific sections aimed at helping agricultural agents deal with and help these small limited resource landowners. A forage production inservice used a follow-up evaluation of participants six months after the training. Results were favorable as to the benefits of the information presented during the inservice but did point out ways that the written references could be more useful in the long run.

- b. Source of Federal Funds – Smith Lever 3b&c
- c. Scope of Impact – State

Key Theme – Agricultural Waste Management

- a. A total of 616 staff member days were devoted to increasing the adoption of environmentally sound animal waste handling and utilization systems. Four days of inservice training were held for County and State Extension staff, with participation from USDA -NRCS and SC DHEC staff. A total of 62 extension agent days and 31 other agency staff days of training for agents included:

- the Confined Animal Manure Management certification program for poultry
- the SC Equip Program
- methods of odor control
- the South Carolina Lagoon Closeout Program
- changes in the standards for the permitting of agricultural animal facilities
- utilizing swine manure nutrients in cropping systems
- using a thickening process to reduce costs in lagoon close-outs
- using riparian zones to protect waters of the state
- advances in animal waste treatment.

Programs were also developed to train producers of confined animals in manure management, and to certify that these producers have achieved the required level of training by testing knowledge levels.

- b. Impacts –
Forty-two agents and agency staff have passed the certification exam for poultry manure management. All new South Carolina pork producers are required by law to pass the certification program for lagoon management. Poultry producers will be required to take training

in dry litter management in 2002. All producers will be required to take continuing education programs developed by Clemson University Extension Staff. Members of the initiative have prepared a training manual for poultry producers. This program will be the educational focus of manure management for 2001.

There were 78 activities conducted in South Carolina to teach various portions of best management practices in waste management. These included calibration of equipment workshops, composting of mortality demonstrations, and meetings to discuss manure sampling, soil sampling and nutrient application. A total of 1,479 producers participated in these activities. Of these, 684 reported an increase in their knowledge on the subject. Five hundred and seven producers have indicated they have adopted or increased the use of best management practices in manure management. There were 461 producers that completed training in protecting quantity and quality of surface and ground water, and 88 that indicated that they intend to put these practices to use.

Four hundred and thirty seven producers reported they have improved water management practices. Eight hundred and twenty seven completed program training and plan to protect soil resources. Three hundred and forty four producers plan to adopt soil protection practices.

The project was focused primarily at inservice training of County Extension Agents. The state staff involved, as well as several area livestock and water quality agents have been active participants in manure management issues on both the Regional and National basis, and have attended and participated in a number of animal waste issue conferences and workshops. The core team members of the project have become the recognized program coordinators for the mandated Confined Animal Manure Management Certification program as specified by the State Legislature. Producers are required to receive training as mandated in R 41.63. This team has prepared two training manuals, one for lagoon systems and one for dry litter systems of manure management. The lagoon system manual may be located at the URL address: <http://www.clemson.edu/peedeerec/certifi/CAMM.html>. The poultry dry litter system manual will be located at this same address by May of 2001.

- b. Source of Federal Funds – Smith Lever 3b&c
- c. Scope of Impact – State

Key Theme – Agricultural Waste Management

- a. There were 6 activities and programs conducted to increase the adoption of nuisance prevention practices with livestock producers. In addition, an entire chapter of the Confined Animal Manure Management training manual deals with controlling vectors such as flies and rodents.
- b. Impacts –
A total of 330 producers were reported to have completed non-formal educational programs involving nuisance prevention. Of these, 35 participants reported an increase in knowledge and 33 indicated they have adopted best management practices to reduce rodent and fly populations on animal production farms.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Natural Resources Management and Soil Erosion/Quality

- a. The Best Management Practices (BMP) education project focused on a variety of programs that were designed to increase acceptance of practices that conserve and enhance natural resources (i.e. Farm-A-Syst program, soil testing, and conservation tillage). A five-county team was developed to educate farmers on the best management practices for grazing land.

Training and cooperative education programs with Friends of Lake Keowee Society (FOLKS) continues to have tremendous outreach. Although we work with only 50 active volunteers the society membership is over 1,200.

Drinking Water Well Management -Farm A Syst Education material was developed for SC farmers. A Home-A-Syst Inservice Training was conducted in November at Clemson University. Three Clemson specialists (Speziale, Polomski and Christenbury) and two SC DHEC educators (Johnson and Marriner) presented information. Each participant received a notebook of materials compiled by the Training instructors. Additional requested materials have been sent to the agents.

- b. Impact –
The team who developed the BMP for grazing land developed five demonstration sites for BMP's and has conducted tours and workshops for the entire upstate area (70% of all cattle ranches).

All members of FOLKS receive the monthly newsletter and often 100+ will participate in activities. Activities are directed primarily toward a \$250,000 watershed education grant received from SCDHEC/EPA that focuses on BMP education in the Keowee watershed.

Each agent has received at least 50 copies of Home-A-Syst to distribute in their counties (printing paid for by DHEC grants). More than 2000 Home-A-Syst books were distributed through community meetings and presentations, including Home and Garden Shows, Community festivals, and local community groups. Home -A-Syst will be featured as the main educational resource for the upcoming 2001 State Envirothon. Home -A-Syst books, including several classroom sets (30 books each), have been provided to the 50 Envirothon Teams statewide. Three Home- A-Syst tabletop displays were created and delivered to agents, for permanent use in the counties. CD's containing Home -A-Syst powerpoint presentations are being cut now, and will be distributed to agents. Additionally, one team member assisted a county agent in writing a \$3,500 grant, which provided support to develop a Home*A*Syst and Extension exhibit for the "Seneca WaterFest".

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Natural Resources Management

- a. Two members of the natural resources project team met in June with Administrators, faculty and staff from Texas A&M University, the Texas Department of Parks and Wildlife, County Extension Agents, San Antonio Park and Recreation Department staff and Master Naturalists about the *Texas Master Naturalist* program to determine the best approach to develop a similar program in South Carolina. Additionally, two presentations were made at the Annual meeting of the Southeastern Association of Fish and Wildlife Agencies, and information provided to two other states in support of the initiation of regional coordination for this program.
- b. Impact –
The "Master Wildlifer: Managing Wildlife in South Carolina " shortcourse was completely revised, and the 234 page reference manual and planning packet were put on CD for agents interested in hosting the shortcourse. Three shortcourses were conducted across the state during FY 2000.

Information on wildlife management was presented to two sessions of the satellite Master Tree Farmer 2000 course. This involved 28 contact hours for 1275 landowners and 160 resource professionals serving as coordinators and for ester advisors. Ten states participated.

Additionally 15+ educational programs were presented to school children, civic groups and other mixed audiences, using a variety of media, including seminars, displays and TV broadcasts.

- b. Source of Federal Funds – Smith Lever 3b&c
- c. Scope of Impact – Multistate

Key Theme – Natural Resources Management

a. In addition to establishing a volunteer based Master Naturalist program, members of the natural resources project team have focused on the potential application/modification of the program to meet the needs of South Carolina’s nature -based tourism industry. The committee focus on the education and promotion of nature based tourism lead to the development of programs to promote this concept.

b. Impacts –
A presentation entitled *Segmenting Wildlife Watchers: Implications for the Nature-based Tourism Industry* at the Nature Based Tourism Opportunities Workshop held in Georgetown, South Carolina. The audience was approximately 20 participants who represented Clemson Extension faculty, local government employees and nature -based tourism business owners or employees.

Assisted in underwriting the cost of the *Developing Naturally: Enhancing Communities* program. This was a two-day program dedicated to exploring innovative social and environmental approaches toward improving community quality of life. The 60 plus participants included academics, developers, mayors, agency personnel, and NGO's, architects, and community organizers and activists. It was supported by additional outside funds of approximately \$4,000.

- a. Source of Federal Funds – Smith Lever 3b&c
- b. Scope of Impact – State

Key Theme – Water Quality

a. A variety of programs were conducted by the project team in support of Water Quality Education covering rivers, ponds, and lakes.

Taught workshop at Riparian Buffer Conference (NCSU, Raleigh, NC) on how streams function. Audience was extension specialists, regulators, county agents, engineers and special interest groups.

Conducted conferences and workshops on Urbanization and Water Quality. Audience was city and county managers, state and county regulators, county Extension agents, concerned citizens and faculty from regional Universities. Presented water quality and quantity data our team had collected from the host watershed (Spartanburg, SC)

How Streams Function and a Biological Monitoring Training session were provided for U.S. Forest Service personnel.

Activities with Friends of Lake Keowee (FOLKS) focused on training these volunteers as trainers/leaders for other volunteer groups. For example, team leaders were trained for the Sediment Sampling Team, the Metals Sampling team, the Fecal Coliform Sampling Team.

b. Impact –

Impact was "huge" (according to participants) on workshops and conferences because participants indicated that they worked to protect water quality but did not know the science behind concern or regulation.

The impact of the training sessions on How Streams Function and a Biological Monitoring is that land-use managers know how their management decisions affect the functioning of streams. Additionally, principles of biological monitoring was taught in the field to teachers and other concerned citizens at the Walhalla Fish hatchery, SC in cooperation with the US Forest Service.

Most of the 40% in-kind contribution that must be matched of a \$250,000 watershed grant comes from volunteer time. The work of the 70 volunteers was valued at \$80,000. A team member helped write the 5 yr. grant, is the science advisor on the grant, and serves on the board of directors for FOLKS.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Water Quality

- a. County agents collaborated with a water quality project team member to produce eight 4H20 programs. Each program was 3 - 5 days, for 4-6 hours per day. These programs, were conducted on water bodies in ten counties. Each program was supported by local Conservation Districts; SCDNR, SCDHEC, and local community organizations who provided instructors and/or financial support. Curriculum materials used in the summer 4H20 - Pontoon Classroom programs were produced at Clemson University and distributed to the counties.
- b. Impact –
Each program hosted 12 - 30 children, ages 8 - 14 years, and enlisted the assistance of 5 to 15 volunteers (80 Volunteers total). In addition, a team member assisted county extension agents in writing two grants for \$15,000, which provided support for their county 4H20 Programs:
 - a. Source of Federal Funds – Smith Lever 3b&c
 - b. Scope of Impact – State

Key Theme – Wildlife Management

- a. The nuisance species project team conducted an inservice training on Nuisance Wildlife Management. In addition, two programs were conducted for the Southeastern Nuisance Wildlife Control Operators Association, and a two-day workshop "Nuisance Wildlife Management" was conducted for government and private -sector professionals as well as county Extension agents
- b. Impact –
Over 60 Extension agents and office support staff, SCDNR biologists and technicians, natural resource public information specialists, and Master Gardeners attended the training. Extensive reference materials were provided to in-service training participants, including a copy of the manual *Prevention and Control of Wildlife Damage*.

Over 90 professionals attended the Southeastern Nuisance Wildlife Control Operators Association, and "Nuisance Wildlife Management" workshop.
 - a. Source of Federal Funds – Smith Lever 3b&c
 - b. Scope of Impact – State

Key Theme – Pesticide Application

- a. Two presentations were made at the NC and SC meetings of The Aquatic Plant Management Society. An Aquatic Pesticide Applicators Training Workshop was conducted in association with The South Carolina Aquatic Plant Management Society.

A presentation on the effects of nuisance aquatic weeds on the rivers of Georgetown County was presented to the South Carolina Aquatic Plant Management Council, and the council toured the Waccamaw, Pee Dee and Black Rivers in Georgetown County.

- b. Impact –
Certified pesticide applicators earned 4.5 hours of continuing certification credit. Presentations on Water Hazard Management, Aquatic Plant Management, Water Quality and Aquatic Weed Control were made at The Clemson University Turfgrass Field Day and the Carolinas Golf Course Superintendents Association Annual Conference. Over 200 golf course professionals attended and earned Continuing Certification Credits.

As a result of the presentation on the effects of nuisance aquatic weeds on the rivers of Georgetown County, the South Carolina Aquatic Plant Management Council has designated this drainage area as a major effort for control of the noxious exotic species, water hyacinths and phragmites.

- a. Source of Federal Funds – Smith Lever 3b&c
- b. Scope of Impact – State

Key Theme – Pesticide Application

- a. Organizing, coordinating and conducting training programs for pest management professionals in South Carolina is a major component of the project, Pest Control/Management Practices in Human Environments. The Annual South Carolina Pest Control Association Winter Meeting and the new Master Pest Control Technician Course (MPCT) are the primary focus of current training efforts. In addition to meeting the Extension mission to educate and train this key target group, these programs generate income.

A new distance learning course was developed for the Master Pest Control Technician Course (MPCT). This ten week course provides a series of satellite-video lectures and one-on-one labs with a focus on monitoring insects in an urban environment and an emphasis on integrated pest management. This included 36 hours of training and all the necessary materials. Seven, two hour lectures were delivered by satellite at County Extension Offices and day-long

laboratory sessions were held at the Sandhill Research and Education Center in Columbia. A MPCT web site was used to transfer course information and keep students in touch with each other and the instructors.

- b. The 2000 conference for the Annual South Carolina Pest Control Association (SCPCA) was held February 8- 10 with over 500 individuals attending. Participants represented over 180 pest control companies in South Carolina or approximately 25% of all registered firms.

The MPCT course received high marks from the participants. Students critiqued the course using a 40-question evaluation form where most questions were on a scale of one to five with 1 = strongly disagree to 5 = strongly agree. When asked “This course provided useful information”, the average response was 4.89. Most of the participants liked the labs, especially the ability to share common pest control problems and solutions with other students during our sessions. Extension specialists who coordinated this effort were invited to present a symposia paper on our experience and insights into developing the MPCT at the National Conference on Urban Entomology.

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Pesticide Application

- a. In April 2000, Specialists conducted an inservice training for County Extension Agents on insect pests around the home. Travel, some meals and resource materials such as field guides and handbooks were provided. A total of \$3,134 was spent to conduct this two day training.
- b. Impact –
For evaluation, on a scale of one to five with 1 = strongly disagree to 5 = strongly agree, when asked “I am pleased that I participated in this workshop”, the average response was 5.00.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Pesticide Application

- a. The Apprentice and Master Termite Technician Schools are primary training programs under the Wood Destroying Insect Pest Control project. Each year, the Apprentice and Master Termite Technician Schools are offered. Each school is offered twice and is a two-day program. In addition to the Termite Technician Schools, Extension Specialists also participate in a four day workshop series around South Carolina with the Department of Pesticide Regulation on how termiticides work and the problems with treating water-saturated soils.

Specialists also have the Dept. of Entomology Household and Structural Urban Entomology web site at: <http://entweb.clemson.edu/urban/index.htm>

- b. Impact –
Every year enrollment totals are limited to approximately 100 registrants to maintain a proper class size for quality hands-on instruction. Most schools are filled months before they are conducted and there are often long waiting lists of individuals hoping for an opening in our classes.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Pesticide Application

- a. Each County office received numerous pesticide safety training and educational resources, as part of the efforts under the Pesticide Applicator Training and Education project. These materials included: a Pesticide Applicator Core manual, two pesticide reference texts, 'Fundamentals of Pesticides' and 'The Pesticide Book', a training manual 'Gempler's Tailgate Training Tips', a video on the Federal Pesticide Recordkeeping requirement, a video on the proper rinsing of empty pesticide containers, and a book by the US EPA on the 'Recognition and Management of Pesticide Poisoning'. Specialists also maintain the Dept. of Entomology Pesticide Information Program web site at: <http://entweb.clemson.edu/pesticid/>
- b. Impact –
There were a minimum of 57 Private Applicator trainings conducted by County Pesticide Training Coordinators, training a minimum of 404 pesticide applicators for Licensing. There were a minimum of 46 Recertification programs conducted by Extension. These programs were

dedicated strictly to Pesticide Applicator Recertification and did not include others meeting and trainings which were commodity oriented and received Recertification credit.

County Pesticide Training Coordinators use a 15 question Pretest and Post Test when they conduct Private Pesticide Applicator/Core training. They also use a program evaluation form when they conduct Private Pesticide Applicator/Core training. They use a different program evaluation form when they conduct pesticide applicator Recertification training. There was an increase in knowledge of 27% based on Pretests-Post Tests.

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Goal 5: Enhanced economy opportunity and quality of life for Americans.

Overview:

Programs under Goal 5 are focused on four major initiative areas: 1) Community, Leadership and Economic Development; 2) Families; 3) 4-H and Youth Development; and 5) Volunteer Management. A total of 21 projects comprised these four initiative areas.

The Community, Leadership and Economic Development initiative is comprised of three project areas: 1) Community Leadership Development; 2) Decision Technologies and Methods; and 3) Marketing Place. This initiative addresses the need for increased leadership training and development in South Carolina's rural, transitional, and inner city areas. The rural areas and inner city neighborhoods are frequently overlooked, ignored, or isolated from the benefits of sustained economic development found in other areas of the state. The transitional areas include counties at the fringe of metropolitan sprawls where the transition from agricultural to residential and industrial uses is taking place. These areas, characterized by flux or deprivation often lack progressive leadership which can foster a sense of teamwork and regionalism to address the locale's economic and quality of life concerns effectively. Of additional concern is the business development, retention and expansion needs in rural counties and also the Community Design Assistance Program. This program provides in-depth architectural, landscape, historical, and preservation designs, downtown historical preservation and rehabilitation to selected communities.

A major focus of the Community, Leadership and Economic Development initiative is to bring together a cross-section of local leaders to work on concerns at the county and regional level. Improving the quality of life and building great communities for the residents of South Carolina is the primary goal within this initiative. Programming efforts have included engaging and partnering with citizens, local leaders, and government officials in a variety of educational settings.

In the Families initiative, the Building Family Strengths project addresses the dramatic social, demographic and economic changes our society has undergone in the past century that have deeply affected youth and their families in this country. Children need families for healthy physical, mental, social, moral, and emotional development. Strong families provide children with a sense of belonging and identity and create hope for the future. At the heart of concern about contemporary families is the awareness that children need committed, supportive caregivers who will be with them throughout their development.

Three projects under the Families initiative address the need for South Carolina families to

have educational information on effective resource management. These projects are Money 2000, Money 2000 for Youth, and Money 2000 for Housing Goals. Family resource management programs focus on decisions which place the greatest demands on family budgets--shelter, transportation, and consumer goods (i.e. food and clothing). Financial management education increases the economic stability of individuals and families. Textile and clothing programs, under the Textile Product Education for Youth project, support agricultural commodities through the promotion, selection, care, and preservation of textile fiber products. Housing programs concentrate on helping people achieve family housing goals, including home ownership and improvement.

Encouraging people to become active in their community is a national, state and local priority. The Extension System as a whole works to develop a statewide management system to more effectively recruit, recognize, promote and value partners/cooperators in order to maximize benefits. Under the Volunteer Management initiative, efforts mainly focused on enhancing effective volunteer management; implementing an effective volunteer management system for collaborating with partners; evaluating use of volunteers in Extension programs; providing training opportunities for programmers and non -Extension personnel; establishing linkages with non -Extension staff; increasing knowledge of volunteer opportunities and program services, and marketing.

Volunteers play a critical role in multiplying the Cooperative Extension Service's efforts to disseminate research-based information to the citizens of South Carolina. Volunteers work in all program areas of the Cooperative Extension Service including 4 -H Leaders, Family and Community Leaders, Master Waste Educators, Master Gardeners, Palmetto Leadership, Master Food Preservers, Advisory Committee, Program Committee, Action Committees, Forest Landowners, Cattlemen Associations, Keep America Beautiful Board and Subcommittees, Focus Groups, etc.

The 4-H and Youth Development initiative, offers a wide variety of programs and activities that can provide experiential learning opportunities for youth ages 5 -19. South Carolina families and youth have basic life skills and developmental needs that are addressed by educational programs offered through 4-H. Adults and family members can benefit from a child's involvement in the 4-H and Youth program and may become involved as volunteers. 4-H programs, activities, and events are conducted in nine project areas. Eight of these project areas are the nationally recognized 4-H curriculum areas: 1) Communication and Expressive Arts; 2) Healthy Lifestyles; 3) Personal Development and Leadership; 4) Consumer and Family Science; 5) Plants and Animals; 6) Citizenship and Civic Education; 7) Environmental Education and Earth Science; and 8) Science and Technology. The ninth project is Teaching KATE (Kids About the Environment) which is a major youth program in South Carolina.

There was a total of 14,789.5 days or 64.3 FTE reported in areas that are classified under Goal 5. The total number of contacts reported in this goal was 242,463. The breakdown of these contacts are as follows: 65,429 white males, 82,138 white females, 39,272 black males, 53,532 black females, 966 classified as other males, and 1,126 classified as other females. From this group, a total of 32,250 were classified as limited resource. Accomplishment that were reported to the Clemson University Information Management System show 6,740 total programs and activities conducted in projects that are classified under Goal 5. There were a total of 128,345 participants who completed these educational programs. Of those completing the programs, 96,735 reported increasing their knowledge as a result of their participation. Of those participants who reported increasing knowledge, 36,586 reported that they adopted or increased the use of recommended practices as a result of the programs. The total state level expenditures for project teams classified under Goal 5 was \$111,909.

Key Theme – Community Leadership Development

- a. This project addresses the need for increased leadership training and development in South Carolina’s rural and transitional areas. Transitional areas include counties at the fringes of metropolitan sprawl as well as and inner city neighborhoods. The target areas often lack progressive leadership who foster a sense of teamwork and regionalism to address the locale’s economic and quality of life concerns effectively. A cross-section of local leaders are brought together to work on regional concerns. A safe forum is created where conflicting interests and policies can be addressed constructively and action plans are formed. The audience must become educated about leadership skills and planning tools to address community issues, concerns, and policies through task forces. Components include needs assessment, asset mapping, strategic and action planning, statistical analysis of county socio-economic profile data, leadership, group process, conflict management, and team building skills, economic development, education improvement, local government, public safety, health care, land use planning, growth management, recreation, tourism, and cultural features. Curriculum outline is followed for each audience. Survey results are compiled for the needs assessment and distributed to participants. Participants engage in task forces to address issues. The publication of newspaper articles reflect task force activities. Local elected leaders and their councils utilize information.
- b. Impacts –
 1. In Spring and Fall 2000, Palmetto Leadership graduated 392 participants in 17 programs in 16 counties: Abbeville Co., Allendale Co., Anderson Co. (Town of Pendleton), Barnwell Co., Tri-County Region - Allendale, Bamberg and Barnwell Cos., Barnwell Co., Beaufort Co.

(Greater Beaufort, Town of Bluffton), Berkeley Co., Greenville Co. (LEND), Lexington Co., Marion Co., Marlboro Co., Newberry Co., Pickens Co., and Spartanburg Co. (Town of Cowpens). CUMIS reports indicate that over 400 programs and activities were reported throughout the state by agents.

2. According to specialists and agents' reports, over 3,000 participants reporting increased knowledge through community development programs.
3. Statewide over 2,000 participants adopted and used the taught practices. This indicates that they remained committed to the program's tasks.
4. The number of task forces and committees reported statewide numbered over 300. The 17 Palmetto Leadership programs formed an average of two task force activities per class. The task forces formed to address youth leadership, economic development, business appreciation, educational system support, county promotion materials, tourism plans, human services, and leadership programs. The key outcomes include the formation of strategic and tactical plans to address local concerns noted above.
5. Youth Palmetto Leadership graduated 140 participants in seven counties: Chester, Darlington, Edgefield, Lexington, Marion, Newberry, and Sumter.
 - a. Source of Federal Funds – Smith Lever 3b&c
 - b. Scope of Impact – State

Key Theme – Promoting Business Programs

- a. This project addresses the need for increased expertise regarding economic development methods and strategies in South Carolina's communities. The focus is placed on business retention and expansion (BR&E). Extension staff must acquire more expertise about economic development. Locally owned small business enterprises are growth opportunities for South Carolina. Extension professionals must increase their knowledge and understanding of economic development principles and become an important part of local and regional economic development. The primary emphasis has been continuing education and staff development of Extension employees. Extension staff should become certified in economic development, business retention and expansion programs, and become knowledgeable in business recruitment and entrepreneurship principles. Extension professionals should attend schools, program, and institutes to increase their understanding of business enterprise and economic development. In the past three years, all community development agents (N=18) have graduated from the S. C. Economic Developer's School and become certified as Economic Developers. Through additional specialized inservice training, these agents became BR&E Certified Consultants. They are qualified to coordinate local BR&E

Programs. Extension staff are expected to become an active resource to local and regional economic development officials. They should facilitate meetings, provide resource information from university-based sources, the internet, and economic development agencies in and outside the state. They should sponsor an active BR&E program in their county or locale..

- b. Impacts –
 1. The Beaufort County BR&E program was started in 1999 and continues to be active to the present time. The County Council and the Economic Development Board of Beaufort County have provided financial support to the program. This is a special role for Extension in the state economic development picture. The report prepared by the county community development agent and his staff has been given significant publicity. The report has influenced public policy and the public officials agenda. Media exposure of the BR&E Report provided an important role in educating public officials and the public about business development opportunities and obstacles in Beaufort County. The report is based on interviews and survey responses from 50 business operators in the county.
 2. A total of 16 participants reported increased knowledge of economic development principles and practices. The data management system indicates that over 500 participants in business-related programs increased knowledge about economic development.
 3. Statewide over 500 participants adopted and used the taught business enhancement practices. A growing number of extension staff are prepared to include BR&E programs in their plan of work for the coming year.
- a. Source of Federal Funds – Smith Lever 3b&c
- b. Scope of Impact – State

Key Theme – Other (Tourism)

- a. The Heritage Corridor was created in South Carolina to attract tourism dollars to a crescent of counties from the foothills to the coast in many historic and rural parts of the state. Rural areas of the state have experienced a shift of jobs and population to urban areas. Many rural areas must rely on tourism, recreation, and non-manufacturing activities for survival. Coupled with this is the South Carolina Design Arts Partnership that provides communities with desired improvements in architectural, landscape, historical, and preservation designs. Many of the state's rural communities are losing tax base which is reflected in the deteriorating physical appearance of streetscapes, parks, public places, landmarks, and historical sites. This partnership functions in concert with the SC Downtown Development Association, the S.C. Arts Commission,

Clemson Extension, historical groups, preservationists, and local government and business leaders to improve and rehabilitate local communities. The methodology for the Design Arts Partnership includes the use of City and Regional Planning faculty, student interns, and planning class projects through a case study approach. Activities follow a consulting model strategy. Students are graded in terms of their contribution to the project. Community leaders provide continuous input and evaluations of the on-going project. The evaluation process is based on costs, visual features, and collaboration.

- a. Impacts –
 1. Over 12 design and landscape projects involving an average of 20 participants engaged in the SC Design Arts Partnership. This effort includes over 120 activities, festivals, and special programs related to community improvement and enhancement.
 2. Approximately 250 community members were heavily involved in the planning and management of the SCDAP landscape, redesign, and rehabilitation program. Reports indicate over 2,200 participants increased knowledge about design arts, landscape architecture, festivals, and special events to market their communities. The number of active participants varied from less than a dozen persons in very small communities to many dozens in larger more comprehensive projects.
 3. Over 200 participants adopted and used the taught practices regarding the promotion and marketing of community-based events and programs.
 4. Over 180 community members were successful in completing their community's landscape design project.
 5. The Heritage Corridor project has hired a blacksmith to construct artistic ironworks for sale, the Interpretation Center was opened in the Foothills Region, the Heritage Corridor Passport Project teaches school teachers about the Corridor, an African American Trail has been identified; an Agricultural Heritage Center Farm -City Day was scheduled, the Dorn Grist and Flour Mill restoration project was planned, and many brochures and news articles were prepared.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Family Resource Management

- a. Programs in this area are focused around the **Money 2000** concept which is enhancing the economic capacity of our families, communities, state, and nation. The basic **Money 2000** personal financial management program is designed to increase the

financial stability and economic well-being of South Carolinians through reduced household debt and increased saving. **Money 2000 for Youth** encourages youth to set and achieve financial goals and increase their consumer and financial literacy. **Money 2000 for Housing Goals** focuses on helping families set and achieve desired shelter goals. Objectives will include reducing debt or saving money in order to qualify for mortgages, housing repair and remodeling, or obtaining accessible housing. **Textile Product Education for Youth** is also included in this report.

Significant activities included an inservice training for EFNEP area agents and program assistants providing update on Money 2000 for the Not- Yet- Wealthy program and new program resources. An additional one day inservice training for 32 agents was also conducted as a Money 2000 Reunion.

Educational programs are also conducted by county agents, specialists, and EFNEP professionals. A quarterly newsletter is mailed to all enrollees with requests for goal accomplishment progress reports.

b. Impacts –

There were 2,862 people enrolled in the Money 2000 program in 96% (44) of the state's 46 counties. Participants had set cumulative savings goals of \$7.3 million and cumulative debt reduction goals of \$4.3 million. A randomly -selected sample (N=353) of the 2700 participants enrolled in the program as of January 2000 was interviewed by telephone and yielded 164 useable responses (46.5%). This follow-up survey documented savings goal achievement of \$264,313 and debt reduction goal achievement of \$151,570 for the 164 useable responses. Generalizing these results to all 2700 participants enrolled at the time of the sample selection would indicate total savings of \$4,351,482 and total debt reduction of \$2,495,367. This is a documented total economic impact of \$6.8 million through the Money 2000 program in three years (the sampling methodology yields a 5% sampling error according to Krejcie & Morgan, 1970).

Additional impact data for each of the Money 2000 projects are as follows:

Money 2000 (Adult Program) - There were 529.5 days planned and 369.5 days reported in this project area equaling 1.6 FTE's with a total of 4,142 contacts.

1. Number of activities and programs conducted.	186
2. Number of people completing non-formal education programs.	1,701
3. Number of participants reporting increased knowledge.	1,094
4. Number of participants adopting or increasing use of practices.	464

Money 2000 for Youth - There were 435 days planned and 395.5 days reported in this project area equaling 1.7 FTE's with a total of 4061 contacts.

1. Number of activities and programs conducted.	215
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2. Number of people completing non-formal education programs.	2,121	
3. Number of participants reporting increased knowledge.	1,464	
4. Number of participants adopting or increasing use of practices.	797	
5. Number of participants in the High School Financial Planning program.	137	
6. Number of participants in the Go for the Goal program.		633
7. Number of participants in the Financial Fitness for Youth program.	227	
8. Number of participants in the Consumer Judging program.		374
9. Number of participants in the Money My Way program.		59
10. Number of volunteers working with youth resource management programs		
85		

Money 2000 for Housing Goals - There were 112.5 planned and 95.5 days reported in this project area equaling 0.4 FTE's with a total of 1,113 contacts.

1. Number of activities and programs conducted.	59	
2. Number of people completing non-formal education programs.	778	
3. Number of participants reporting increased knowledge.	642	
4. Number of participants adopting or increasing use of practices.	260	
5. Number who reduced debt, repaired credit, or saved money for a down payment or closing costs.		102
6. Number saving money for repair or remodeling costs.	47	
7. Number planning or saving money for accessible housing or special needs, such as office, disability.		41
8. Number of consumers setting and attaining affordable housing goals --affordable alternatives, homebuyer education.		
		133

Textile Product Education for Youth - There were 280 planned and 391.5 days reported in this project area equaling 1.7 FTE's with a total of 3,652 contacts.

1. Number of activities and programs conducted.	249	
2. Number of people completing non-formal education programs.	1,778	
3. Number of participants reporting increased knowledge.	1,627	
4. Number of participants adopting or increasing use of practices.	928	
5. Number of volunteers working with youth.		318
6. Number of youth participating in textile and clothing classes and/or workshops.	609	

c. Source of Federal Funds – Smith Lever 3b&c

- d. Scope of Impact – State

Key Theme – Children, Youth, and Families at Risk

- a. Extension programming in Building Family Strengths provides opportunities to strengthen families and address issues facing children, youth and families. The program has a developmentally appropriate curriculum designed to strengthen families. This Building Family Strengths program has been the basis for a four year program of work effort for SC Cooperative Extension. The SC Department of Health & Human Services continue to be partners with continuous financial support throughout this program of work period. Other partners involved in the statewide trainings and county delivery are Department of Social Services (Youth Services Program) Clemson University College of Health Education and Human Development, South Carolina State University, Anderson College, Faith-based institutions and secondary schools in South Carolina. In addition, Building Family Strengths has been identified by the CSREES Family Development/Resource Management base program team as a program of excellence. Utilizing the train-the-trainer model, this holistic approach to family programming has been successful in a variety of settings that include traditional classrooms, state youth services, county extension Family and Consumer Sciences and 4-H agents, student teacher training, and non-profit organizations.

- b. Impact –

In March 2000, a statewide Building Family Strengths training was conducted with over 100 participants for Extension agents and other professionals working with youth and families. Throughout the year, many train-the-trainer workshops were conducted by state and county extension faculty.

The focus of the Building Family Strengths program this has been on curriculum development and training utilizing the train-the-trainer model. To this end, professionals representing Extension, secondary schools, Headstart, daycare personnel, higher education, human service agencies, law enforcement, and clergy have been trained throughout the state.

The trainings were designed for diverse work settings and provides the basis for partnerships in the project. It also increases Extension's visibility and ability to program in many different settings. In addition, the curriculum design is applicable to audiences reached by many organizations.

The delivery of the Building Family Strengths curriculum throughout the state has demonstrated Extension's ability to offer train-the-trainer trainings (for a fee) to other professionals. For the

fourth year, we have provided training for over 120 DSS professionals on the state level and others within agents perspective counties. In addition, sections of the curriculum was a component of a week long 3 hour graduate course in the college of Health, Education and Human Development.

There were 1,400 days reported for this project by Extension personnel across the state. A total of 3,038 white males, 4,778 white females, 3,652 black males, 5,188 black females, 164 other males, 157 other females and 3,987 limited resource contacted by Extension personnel working in this area. This project is reaching a very diverse audience. In addition there were 529 activities and programs conducted with 11,262 participants completed non-formal education programs. Of those individuals completing programs 8,910 participants reported increased knowledge and 2,288 participants adopted or increased use of practices.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Leadership Training and Development

- a. There are many management systems used within the Cooperative Extension Service for collaboration. Some of these systems include Master Gardener Associations, Advisory Councils, Program Committees, Palmetto Leadership Classes, Landowners Associations, Keep America Beautiful Boards and Subcommittees, Family Community Leaders (FCL) Clubs and Associations, 4-H Clubs and 4-H Foundations. All management systems are used to collaborate on specific programs and projects of the Cooperative Extension Service. Volunteer training is offered to these systems by the Cooperative Extension Service offices. Some of these trainings include: leadership development, orientation, goal establishment, meeting deadlines, measuring accomplishments, allocation of resources such as manpower, materials, money and time, and volunteer expectations.

At the state level, through the Volunteer Management Initiative Team, several strategies were implemented to use effective management systems for collaboration. Working relationships were re-established with the Governor's Office on Volunteerism and the South Carolina Association of Volunteer Administrators (SCAVA). In fact, one of the project team members now serves on the SCAVA Board.

The volunteer project team also added an incentive thrust. A Volunteer Management Excellence Award was established for Extension Agents working with volunteers. The team awarded membership and an expense paid trip to the 2000 SCAVA conference for four agents who advanced volunteerism in the Cooperative Extension Service through demonstrated skills in the management and administration of successful volunteer programs.

The project team has also developed a resource library. Information about the library was shared at the Volunteer Management inservice training.

b. Impact –

Volunteer Management inservice training featured a volunteer consultants. The training focused on the art of finding, managing, and retaining volunteers. Seventy -one employees including County Extension Agents, Area Expanded Food and Nutrition Education Program (EFNEP) Agents, and EFNEP Paraprofessionals participated. Of the 71 participants, 65 returned evaluations. With a possible score of 5 (strongly agree), the training received an overall evaluation summary score of 4.26.

During the 1999-00 fiscal year, 640 days were planned in this project area. Five hundred eighty four days were actually reported which included 242 programs which 3,091 people completed. Of those completing the program, 94% (2,928) reported an increase in knowledge and 72% (2,229) reported that they adopted or increased the use of practices that were taught.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Leadership Training and Development

a. Reaching out to non-Extension volunteers opens opportunities for Cooperative Extension Service to become more visible in a community. It also offers an opportunity for non-Extension volunteers to become Extension volunteers.

A second program was designed to increase the knowledge of volunteer opportunities within the Extension System; to increase volunteer program successes within the system; and to utilize mass media to increase public awareness of Extension volunteer programs.

b. During the 1999-00 fiscal year, 435 days were planned in this project area. Five hundred seventy days were actually reported with 220 programs conducted which 2,532 people completed. Of those completing the program, 85% (2,155) reported an increase in knowledge and 54% (1,359) reported that they adopted or increased the use of practices that were taught.

Three hundred sixty days were planned to increase the knowledge of volunteer opportunities. Three hundred forty five days were reported. There were 135 activities and programs

conducted that reached 5,588 citizens. Approximately, 34% reported an increase in knowledge.

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Leadership Training and Development

- a. The purpose of this project was to implement an effective volunteer management system for FCL boards, committees and county organizations and to establish, revitalize and/or improve the cooperative relationship with FCL to expand the scope of its membership and programming efforts.
- b. There were 845 days planned in this area and 1,264 were reported. Six hundred twenty eight activities/programs were conducted with 861 Family, Community Leader (FCL) volunteers conducting programs with other groups. This included 289,510 contacts made by the FCL volunteers.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Youth Development/4-H

- a. Living successfully in the information age requires that youth be knowledgeable and skilled in communicating their ideas and beliefs. This includes the ability to speak with poise and confidence in the public arena, effectively and efficiently communicate utilizing computer technology and through standard written formats. Extension 4-H programs provide opportunities for youth to become proficient in many communications modes. The opportunities exist through different delivery modes in order to reach a diverse audience of young South Carolina citizens. Competitive events are held which are designed to strengthen the skills of the 4-H participants:
 - Method Demonstrations in 4-H project areas
 - Public Speaking Contests
 - Livestock Judging Events with a “reasons” component
 - Consumer Judging Contest
 - Business Demonstration Contest

- Lifeskills Contest - computer component

b. Impact –

In February 2000, a statewide training was conducted with 31 County Extension faculty who work with 4-H youth. The purpose was to train agents to assist youth in making oral presentations in the communications area. The training focused heavily on the linkage between gaining skills through 4-H project work and demonstrating that knowledge and skill through public speaking, demonstrations, judging contests and other competitive events.

4-H youth participating in various contests during the State Fair gave approximately 602,000 fairgoers the opportunity to see what communications skills are developed through the 4-H program.

There were 160.5 days planned in this project with 198.5 days reported. A total of 442 white males, 594 white females, 394 black males, 598 black females, 31 other males, 19 other females and 12 limited resource youth were contacted through this project area.

There were a total of 110 activities and programs conducted in this project area with 1609 youth completing these programs. Of those youth participating, 854 reported an increase in knowledge, 319 reported adopting or increasing uses of practices, and 198 reported they plan to adopt new practices. The 4-H debating contest had 44 participants while 268 participated in public speaking contests with a total of 21 participating in Business Demonstration Contest. A total of 104 volunteers were involved in delivering these programs.

- c. Source of Federal Funds – Smith Lever 3b&c

- d. Scope of Impact – State

Key Theme – Youth Development/4-H

- a. South Carolina agencies continue to join together to address the serious problem of home fire related injuries and deaths involving children. Agencies working through 4-H to address these issues are South Carolina Fire Marshall's Office, South Carolina Firemen's Association, South Carolina Farm Bureau, and South Carolina Department of Health and Environmental Control. A comprehensive approach is needed in order to reach the maximum number of families with fire safety training. The 4-H program in collaboration with other agencies has developed and continues to educate youth in fire prevention and safety. The fire safety curriculum spans K-5 and is provided as school enrichment programs to public and private schools. In support of the curriculum, a fire safety poster contest and creative writing contest are sponsored on the state level.

In addition, strong emphasis is needed on developing an awareness in youth of the relationship between sound nutrition and physical exercise. Healthy practices related to sound nutrition and physical exercise are often misunderstood or simply not practiced by even those youth who participate in organized athletic activities. In nutrition and fitness, the 4-H program offers instruction in workshops, seminars, school enrichment and camping.

b. Impact –

There were 725 days planned with 759.5 days reported for this project. A total of 4,324 white males, 5,840 white females, 4,166 black males, 5,459 black females, 78 other males, 124 other females, and included 4,015 limited resource youth were contacted through this project. There were 392 activities and programs conducted in this project with 16,420 youth completing these non-formal education programs, 14,841 of these youth reported an increase in knowledge with 5,171 youth reported adopting or increasing uses of practices. There were also 2,422 youth completing a program on Healthy Lifestyles who plan to adopt recommended practices. In addition, 19 youth participated in Food Preservation, 1,271 youth participated in health projects, and 270,212 youth participated in Safety projects. A total of 951 volunteer hours were also reported.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Youth Development/4-H

a. Youth are faced each day with making choices, some of which could impact their lives forever. They face the challenge of balancing their desire and ability to make healthy decisions with the desire to feel part of the “group”. Without the skills and confidence to make appropriate decisions, youth often make poor choices about important issues. The 4-H Program provides a variety of programs, events and activities designed to increase the ability of youth to make wise decisions. In addition, the program provides opportunities for youth to serve as partners in planning, implementing and evaluating the overall program. They are seen as partners in the program, not as recipients of the program.

In April 2000, “Unlock Your Leadership Potential” training was held for 36 County Extension Staff. A new curriculum was adopted and a leadership awards pyramid was proposed. This awards program is entering its last stage of development and is expected to be officially adopted in 2001. This awards system enables youth who have a keen interest in developing leadership skills and in service learning, compete without submitting a traditional 4-H record book.

b. Impacts –

There were 749.5 days planned and 1,141 reported for this project. A total of 3,324 white males, 4,163 white females, 3,546 black males, 4,096 black females, 47 other males, 40 other females and including 1,261 limited resource youth were contacted through the efforts made in this project. There were also 473 programs conducted with 7,645 youth completing these non-formal educational programs. Of those youth completing the programs, 6,609 youth participants reporting an increase in knowledge and 1,818 youth reported adopting or increasing the use of practices with an additional 1,787 youth who plan to adopt recommended practices. In addition, 685 volunteers were involved in this project area and reported 2,294 hours of volunteer time.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Youth Development/4-H

a. Society has undergone dramatic changes that have affected youth and families. Strong families provide children with a sense of belonging and the security of being loved and nurtured. Children from families without this strength and security often are at risk. The 4-H program does not seek to replace the influence and purpose of the family unit. It offers youth the opportunity to become a part of an organization where knowledge and skills can be developed for life time learning. The 4-H program seeks to support the family unit and strengthen the individual child, building upon the assets that are present. County Extension Agents receiving training through the Building Family Strengths Program utilize their training to reach and help individual youth and their families.

b. Impact –

There were 480 days planned for this project and 562.5 days reported. A total of 586 white males, 880 white females, 1,059 black males, 1,465 black females, 27 other males, 23 other females and 691 limited resource youth were contacted through efforts made in this project area. A total of 37 volunteers were also reported as participating in this project area. There were 131 programs and activities conducted with 2,428 youth completing non-formal educational programs. Of those youth participating 2,195 youth reporting an increase in knowledge while 667 reported adopting or increasing uses of practices. A total of 174 youth reported completing programs in the Family project who plan to adopt recommended practices. There were also 9 families reported participating in the Family project and 371 youth participating in “Conflict Resolution” programs.

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Youth Development/4-H

- a. Teaching youth about plants and animals is much more than teaching them to appreciate life. Lifelong hobbies and careers develop over the course of a 4-H plant/animal experience. The value of discovering a hobby that is truly cherished and brings lifelong satisfaction coupled with the development of skills and conservation practices, makes this project very significant.
- b. Impact –
There were 1,230 days planned and 1,789.5 reported for this project area. A total of 20,945 white males, 19,126 white females, 7,612 black males, 7,548 black females, 272 other males, 280 other females and including 4,308 limited resource youth were contacted through efforts made in this project area. A total of 1055 volunteers participated in this project area. There were 845 activities and programs conducted with 27,079 youth completing these non-formal education programs. Of those youth completing the programs 16,342 youth reported increased knowledge while 4,333 youth reported adopting or increasing uses of practices. An additional 2,811 youth completing programs in plant/animal science indicated they plan to adopt recommended practices. A total of 7,830 youth participated in 4-H animal projects while 1,472 youth participated in plant projects.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Youth Development/4-H

- a. American culture has undergone dramatic changes over the past few decades. From an agrarian society with interdependent families, we've become a culture of neighborhoods of strangers. The breakdown of the family unit is also evidenced in the breakdown of community. Youth have little understanding of the responsibilities of citizenship yet know much about their rights. The 4-H program is focused on teaching the responsibilities of American citizenship. A ceremony is held during State 4-H Congress recognizing youth who have reached their eighteen birthday and are eligible to vote.

State service projects were conducted to benefit children in crisis. Four-H youth from across South Carolina conducted two major service projects. They collected 5,000 pairs of new shoes for Romanian orphans and collected books and bears which were distributed to children in shelters and hospitals across the state. Local club and county 4-H programs offered numerous opportunities to help others. Four 4-H members attended the National 4-H Conference in Washington, DC to provide input and vision for the 4-H program of the future. The State 4-H Council visited with the governor and were introduced to the South Carolina Senate and House of Representatives.

b. Impact –

There were 384 days planned and 285.5 days reported in this project area. A total of 1,639 white males, 2,253 white females, 4,538 black males, 5,939 black females, 44 other males, 35 other females and included 9,373 limited resource youth were contacted through efforts in this project area. There were 625 programs conducted with a total of 5,080 youth completing these non-formal education programs. Of those youth who completed the programs, 2,970 youth reported an increase in knowledge with 1,566 of these youth reported adopting or increasing uses of practices. There were also 954 youth completing programs in Citizenship who plan to adopt recommended practices. In addition there were 612 youth completed public policy education programs, 12,214 youth participated in service learning, and 1,289 youth who gave leadership to service learning projects. A total of 3,796 volunteer hours were reported in this project area.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Youth Development/4-H

a. Children and youth lack a working knowledge of environmental stewardship. Many have no experience in the natural environment or in outdoor recreation activities. The 4-H program seeks to create an awareness of the natural environment. Included in the program emphasis is the understanding of individual and personal responsibility by every citizen to maintain the natural resources and to develop life skills through outdoor recreation activities.

b. Impact –

There were 659 days planned and 809 days reported in this project area. A total of 5,561 white males, 5,587 white females, 3,279 black males, 3,455 black females, 22 other males, 36 other females and including 436 limited resource youth were contacted through efforts made in

this project area. There were also 469 reported as volunteers. There were a total of 436 activities and programs conducted with 7,101 who completed these non-formal education programs. Of those youth who completed the programs 5,981 reported increase in knowledge and 773 reported adopting or increasing uses of practices. An additional 559 who completed the programs plan to adopt recommended practices. In addition there were 5,873 youth reported in county environmental programs, 386 youth who participated in shooting sports clubs, 46 youth trained in hunter safety, and 403 youth participated in adventure activities.

c. Source of Federal Funds – Smith Lever 3b&c

d. Scope of Impact – State

Key Theme – Youth Development/4-H

a. Youth live in a world where technology rapidly changes and becomes obsolete. Acquiring a basic understanding of electrical and mechanical science is vital to understanding the world around them. Having computer science skills has become a necessity for productive life in the world of work.

Safety skills in all walks of life are often taken for granted during the adolescent years. Vehicle safety is of grave concern during the adolescent years.

The South Carolina 4-H Energy Challenge, with support from SCANA Corporation, Duke Power Company, Inc., and Carolina Power and Light Company, continues to provide an opportunity for South Carolina students to learn about the world of energy. In addition, 4-H youth are actively engaged in electric, computer science, and safety programs.

b. Impact –

There were 423.5 days planned and 546.0 days reported in this project area. A total of 2,961 white males, 2,802 white females, 2,068 black males, 2,261 black females, 49 other males, 53 other females and including 2,189 limited resource youth were contacted through efforts made in this project area. There were 275 activities and programs conducted with 5,352 youth who completed these non-formal education programs. Of these youth who completed the programs 3,878 youth reported increase knowledge and 1,465 youth reported adopting or increasing uses of practices. There were also 1,896 youth who completed programs and plan to adopt the recommended practices. In addition, there were 901 youth enrolled in county energy programs and 150 youth and adults in county computer science programs. A total of 308 volunteers were reported who donated 2,105 hours to this project area.

- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

Key Theme – Youth Development/4-H

- a. Some children never have the opportunity to explore the natural world around them. Experiencing the environment is often done through textbooks and other formal educational methods. Taking kids into the natural world to explore resources is the best way to teach them about the environment. Experiential learning is the hallmark of all 4 - H programs and Teaching KATE (Kids About The Environment) is no exception.
- b. Impact –
There were 82 days planned and 111.5 days reported for this project area. A total of 522 white males, 711 white females, 105 black males, 137 black females, and 3 other females were contacted through efforts made in this project area. There were 20 activities and programs conducted with 458 youth completed these non-formal education programs. Of those youth who completed the programs 448 youth reported increase in knowledge and 17 youth reported adopting or increasing uses of practices. There were also 96 youth completed program and plan to adopt recommended practices. In addition, 225 people were reached in promotion effort of Teaching KATE, 9 teachers took formal courses on Teaching KATE, and 15 teachers received Teaching KATE lesson plans. A total of 404 volunteer hours reported in this project area.
- c. Source of Federal Funds – Smith Lever 3b&c
- d. Scope of Impact – State

B. **STAKEHOLDER INPUT PROCESS**

Section 102(c) of the AREERA Act of 1998 requires that land grant institutions provide information related to stakeholder input. The Act specifies that information on 1) actions taken to seek stakeholder input that encourages their participation and 2) a statement of process used by institutions to identify individuals and groups who are stakeholders and to collect input from them.

At Clemson University, stakeholder input is a key to successful extension programs. Clemson has a long history and tradition of seeking stakeholder input into the plan of work process. The process involved in seeking stakeholder input include the following steps: 1) identification of stakeholders--internal and external that should have input in the POW process, 2) process used in seeking stakeholder input, 3) POW questions for stakeholders, and 4) profile of external stakeholders.

Identification of Stakeholders--Internal and External:

Internal: Internal stakeholders include Extension administrators, program administrators, county Extension directors, Extension agents, agent associations, specialists, faculty, department chairs, school directors, and faculty and administrators from Experiment Stations (Research).

External: Extension advisory boards, commodity groups, community leaders, human service providers, business/industry, and collaborators such as Farm Bureau, Chamber of Commerce, Farm Service Agencies, etc.

Process Used to Seek Stakeholder Input and Questions

Nominal group technique (NGT) was used to garner stakeholder input to the POW process.

NGT is a process where a group of individuals generate a large number of ideas in a relatively short period of time. NGT is helpful in identifying problems, exploring solutions and establishing priorities.

Several steps were involved in conducting the NGT. First, all of the 46 counties were asked to conduct a NGT in their respective counties. Second, instructions were provided to all county offices/county directors of the steps involved in conducting the NGT. Third, to assure diversity, emphasis was placed on obtaining a cross-section of people that represent the local community. Fourth, a set of rules and procedures were established for smooth conduct of NGT. Fifth, a series of questions were identified to which stakeholders were to respond. These questions included: 1) What are the five most critical issues facing your communities in the next five years? 2) Is Extension addressing any of these issues? and 3) What partnerships do you think might be formed with Extension to address the issues or concerns? The responses to these questions were summarized by county, by cluster and by state as a whole. The initiatives and projects that were developed for the state plan of work are a result of this process which were later included in the strategic goals of Public Service and Agriculture (PSA) in South Carolina.

Profile of Stakeholders

Of all the external stakeholders, Extension advisory boards play a significant role in the POW. Extension advisory board members constantly provide input to Cooperative Extension in South Carolina. A profile of advisory board members would help address the diversity issue. Of the 237 advisory board members who provided input, 48% were male, 52% female; 81% Caucasian, 15% African-American, and 4% other. Regarding age, 5% were less than 35 years of age, 46% between ages 36 and 55 years, and 49% more than 55 years. Eighty-four percent were married and living with a partner. Regarding education, 15% had completed high school, 18% some college, 35% were college graduates, while the remaining 32% held masters or professional degrees.

A study conducted by Dukes (1999) on the Expectations of Public Service at Land Grant Institutions for the 21st Century by traditional and non-traditional audiences in South Carolina found that important issues facing communities in South Carolina are: 1) growth and population, environment, community and economic development, agriculture productivity, family issues, and food, health and nutrition.

c. PROGRAM REVIEW PROCESS

There have been no significant changes in the program review processes since the 5 - Year Plan of Work was submitted in July, 1999.

D. EVALUATION OF THE SUCCESS OF MULTI AND JOINT ACTIVITIES

South Carolina participates in a variety of multi-state activities. Several of these activities involve positions that are partially funded by South Carolina Extension funds but are located in other states within the southern region. The activities that are reported below are those activities for which South Carolina provided primary leadership.

Market Risk Management

Response to educational demands from South Carolina agribusinesses, educational programs on risk management tools and products available for use by primary producers and agribusinesses were developed. Eight multi-state workshops were offered on tactical market risk management procedures with a focus on the current agricultural environment. A regional (VA, NC, SC, GA, and FL), in-depth training (3-4 days) on market risk management was developed and offered to agricultural producers, lenders and other agribusinesses under the auspices of the Executive Marketing School. The intent was to offer in-depth training to producers. This project involved significant planning, materials development, promotion, and utilization of the S.E. Region's Agricultural Economists.

Precision Farming

Information technology utilization for analysis and communication of drought information to SC audiences. Utilization of computer programs and record keeping programs for dairy herd management. County and state web page design and management. Regional Internet in-service training involving 5 states, 10 specialists, and over 100 agents.

Farm Safety & Health

Farm Safety & Health program highlights include: joint workshop between Clemson University, SC State University, and University of Kentucky for farm safety issues and to develop future collaborative efforts in ROPS programs; creation of tractor rollover demonstration kit; development of internet based farm safety newsletter; active participation in Progressive Farmer Farm Safety Day Camps; development of farm safety & health advisory board; minority farmer focus group participant with SC State University on safety issues. The Farm Safety & Health project had 1353 youth participants.

Master Tree Farmer/Master Woodland Owner

The Master Tree Farmer/Master Woodland Owner program provides intensive forestry and wildlife training to landowners in return for 25 hours of volunteer time promoting forestry and the Tree Farm program in South Carolina. In 2000, the program was delivered regionally to 10 states and 62 down-link sites across the Southeast. Those states involved in the program in addition to South Carolina were: Alabama, Arkansas, Florida, Georgia,

Kentucky, Mississippi, North Carolina, Tennessee, and Texas. A total of 1,275 landowners representing 372,000 acres of forest land completed the course. Approximately 52 % of the landowners were under 50 years of age and 23 % were female. The Master Tree Farmer Program utilized 21 volunteers. The number of FTE's devoted to this project was 0.6. The following impacts were derived from analysis of evaluation data collected after landowners completed the training:

1. Ninety-nine percent of the participants would recommend the program to other landowners.
2. Ninety-six percent feel that the program will save them money when practicing forestry on their property.
3. Fifty-eight percent of the landowners estimate that the program will save them at least \$10,000, an additional 12 % will save \$25,000 and 7 % estimate a savings of \$75,000 as a result of their increased understanding of forestry.
4. Based on increased knowledge, ninety percent of the landowners completing the course plan changes in the management of their forest property.
5. Ninety-two percent of the graduates indicated that they would attend a more advanced training program if it were offered.

Fire Ant Research & Extension Program

Participants/Collaborators: Dr. Paul M. Horton - Clemson Principal Investigator: cooperating with Dr. Clyde Gorsuch-Clemson; Mr. Tim Davis, Richland County Extension Office; Mr. Randy Cabbage and Mr. Andy Rollins, Bishopville County Extension Office; Dr.'s. Richard Brenner, David Williams, David Oi, and Sanford Porter of USDA/ARS/CMAVE, Gainesville, Florida; Mr. Glenn Williams, USEPA, OPP/BPPD, Arlington, VA; Dr. Steve Bennett, US Army Environmental Center, Aberdeen, MD; Mr. Brian Zeichner and Dr. Lynn Hoch, US Army Center for Health Prevention and Preventative Medicine, Aberdeen, MD; Mr. Malcolm Boswell, Headquarters TRADOC, Ft. Monroe, VA; Dr. Alison Hyder, SCARNG Environmental Office, Columbia, SC; Mr. James Guinan, Pest Management Office, Fort Jackson, SC, Dr. Bastiaan M. Drees, Texas Agricultural Experiment Station and Texas Agricultural Extension Service, Texas A & M University System, Dr. Beverly Sparks, The University of Georgia Cooperative Extension Service, Athens, GA, Dr. Dale Pollet, LSU Agricultural Center, Baton Rouge, LA, Dr. Donna Shanklin and Kelly Loftin, University of Arkansas Cooperative Extension Service, Dr. Karen Vail, University of Tennessee Agricultural Extension Service, Dr. Kathy Flanders, Alabama Cooperative Extension Service, Auburn University, Dr. Phillip G. Koehler, Pest Control and Urban Entomology, University of Florida, Gainesville, FL.

Statement of Problem Prompting Research Initiative: The imported fire ant (IFA) is a non-native, invasive, insect species having no naturally occurring enemies or control agents in North America. It has become an important medical, social, agricultural and economic pest in every county in South Carolina. Current practical management technology is limited

primarily to chemical control. Environmentally -friendly management decisions can only be made based upon sound knowledge of the economic, ecological, social, and biological components of this insect. The South Carolina Legislature specifically stated their intent for us to link the resources provided by their 1998 PSA funding with the USDA/ARS and the other states in the Southern Legislative Conference Imported Fire Ant Task Force Initiative (SLC TF), as full partners.

Scope of Investigation: To maintain SLC TF state/federal demonstration and research field studies of candidate biocontrol agents and to coordinate research and demonstration programs in SC and with other SLC states with the ultimate goal of significantly reducing IFA . To also develop and maintain additional IFA management projects in other counties in SC.

Accomplishments and Results to Date: In an SLC Cooperative project with USDA/ARS, IFA colonies located in two separate sites on the Clemson University campus were inoculated with *Thelohania solenopsae*, a protozoan microsporidia in the summer of 1998. These sites have been continually monitored to determine survivability and potential control of IFA by *Thelohania solenopsae*. Brazilian phorid flies, *Pseudacteon tricuspis* have been released in three widely separated sites. One test site is near Clemson and a second at Myrtle beach, SC. These tests are also to examine the survivability and control potential of these parasitoids on IFA, and to compare their effects with similar tests being installed in other southern IFA-infested states.

A pilot IFA-Integrated Pest Management program with funding from DoD, EPA and Industry was initiated as a model DoD IFA management scheme for use on other southern military bases. In this pilot two test sites were installed on Ft. Jackson, SC and McIntire ANG airbase in June, 2000 and have been monitored since then. This pilot is a fully integrated program which incorporates GIS/GPS mapping and the integrated use of selected chemical management techniques designed to supplement and enhance the release and establishment of the two biocontrol agents (*Thelohania* and *Triscupis*). As of October 2000, both the phorid flies and the microsporidian were found to have survived, reproduced and spread into new colonies locally on these two sites in the midland region of South Carolina. As a result of this success this pilot is being used as a model for the establishment of even larger IFA Management programs on three other military installations in the southern US. The SC tests will continue to be monitored over the next several years.

More than 35 training programs and production meetings were held throughout the state to teach IFA management techniques to more than 1260 agents, farmers and homeowners. Twenty-five research/demonstration sites have also been installed.

The National IFA Research and Extension Conference was held in Chattanooga, TN on April

5-7, 2000 and more than 250 scientists from 15 states and two foreign countries attended. Eleven of the 46 papers presented were made by Clemson faculty/students supported under this program. The Proceedings of this conference were published and distributed internationally.

The Clemson University IFA Team joined with the extension and research personnel of 9 other land grant universities in a project to develop and publish a comprehensive and up-to-date extension bulletin on IFA management in urban areas. The title of the publication is "Managing Imported Fire Ants in Urban Areas." More than 40,000 copies of this 18 page publication were printed and distributed during the past 12 months.

This project is providing guidance and coordination for the CUPSA-IFA Program being conducted by 15 other scientific teams. These efforts are developing customized management strategies, and will ultimately reduce IFA to levels below economic thresholds, provide greater protection and enhancement for native species throughout the ecosystem, reduce the use of harsher chemical strategies, and significantly reduce the IFA as a threat to South Carolinians.

E. **MULTISTATE EXTENSION ACTIVITIES**

Extension faculty and staff are currently involved in five multistate activities. The overall purpose of these programs is to foster interdepartmental, interdisciplinary, and intercampus communication and collaboration in the southern states. In addition, these programs will increase coordination and expansion of efforts in conducting educational programs throughout the southern region.

The Virtual Small Fruit Center is creating more visible and active focal points for stakeholders within and outside the university for research, Extension, and outreach activities related to small fruit production, handling, processing, marketing and consumption. South Carolina is partnering with the states of North Carolina and Georgia on this program.

The Regional Forestry Position is a liaison of the southern land-grant universities and the USDA Forest Service - Southern Region. The Forester is responsible for increasing coordination and regional level technology transfer, information dissemination, and educational activities. Working closely within the Extension System and the USDA Forest Service, the Forester identifies opportunities and works with natural resource professionals to address them. South Carolina is one of 13 southern state cooperating in this effort.

The Water Quality Position is increasing coordination and cooperation among EPA, state environmental agencies, USDA-CSREES, and Cooperative Extension. This position is also responsible for identifying and providing related Extension educational materials to EPA and others as appropriate and communicate research, and other educational needs of Extension audiences to EPA and other appropriate organizations. South Carolina is one of 8 participating states on this position.

The Orchard Floor Management program provides leadership and direction to orchard and vineyard floor management in South Carolina, North Carolina, and Georgia. Specifically the program is used to evaluate orchard and vineyard floor management programs and provide support to county faculty through publications, field days, on-farm demonstrations, and inservice trainings.

South Carolina is an active partner in the Southern Legislative Conference Imported Fire Ant (IFA) Extension/Research Program. This effort between federal, regional, state, and private sectors is essential to ensure that current and emerging IFA management technologies are effectively evaluated for regional effectiveness, and rapidly implemented where appropriate. This is especially important with candidate biological control agents whose survivorship and impact may be influenced by the climate, soils, topography, and native fauna/flora which vary widely throughout the southeast region.

**U.S. Department of Agriculture
 Cooperative State Research, Education, and Extension Service
 Supplement to the Annual Report of Accomplishments and Results
 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)**

Institution Clemson University
State South Carolina

Check one: **Multistate Extension Activities**
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Actual Expenditures

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>Virtual Small Fruit Center</u>	<u>\$12,948</u>	<u>\$35,564</u>	<u>\$35,453</u>	<u>\$37,364</u>	<u>\$38,298</u>
<u>Regional Forestry Position</u>	<u>6,150</u>	<u>4,612</u>	<u>4,727</u>	<u>4,845</u>	<u>4,966</u>
<u>Regional Water Quality Position (EPA)</u>	<u>10,463</u>	<u>4,869</u>	<u>4,991</u>	<u>----</u>	<u>----</u>
<u>Orchard Floor Management</u>	<u>14,500</u>	<u>14,350</u>	<u>14,709</u>	<u>15,078</u>	<u>15,455</u>
<u>Pest Management Handbook</u>	<u>----</u>	<u>20,000</u>	<u>20,500</u>	<u>21,012</u>	<u>21,537</u>
<u>Fire Ant Program.....</u>	<u>30,000</u>	<u>15,000</u>	<u>15,000</u>	<u>----</u>	<u>----</u>
<u>Environmental Housing Issues Affecting the South</u>	<u>----</u>	<u>10,000</u>	<u>10,250</u>	<u>10,506</u>	<u>10,777</u>
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Total	<u>\$74,061</u>	<u>\$104,395</u>	<u>\$106,630</u>	<u>\$88,805</u>	<u>\$91,033</u>

Form CSREES-REPT (2/00) Director Date
02/27/01

E INTEGRATED RESEARCH AND EXTENSION ACTIVITIES

As required by the AREERA Act of 1998, Agriculture and Forestry Research Program and the Cooperative Extension Service at Clemson University have integrated their efforts to foster knowledge development and transfer for the citizens of South Carolina. The process of involving the integration of research and Extension efforts are as follows:

A critical element for successful integration efforts is the joint appointment of faculty in both research and Extension. This is done both at the administrative and specialist levels. For example, the Dean and the Director of Research has a 25% Extension appointment, while the Dean and Director of Extension has a 25% research appointment. Similarly all assistant directors have joint appointments in both research and Extension. These assistant directors coordinate research and Extension programs. These joint appointments provide the foundation for a strong working relationship and better understanding of the process involved in research-Extension integration. To accomplish the five GPRA goals, we have established 15 initiative teams. Each team has faculty and staff drawn both from research and Extension. A marketing program is being initiated with the support of both research and Extension to provide publicity for our joint programs and activities. In addition, programs are jointly conducted by both research and Extension faculty at our Research and Education Centers. Each center has a specific program focus where both research and Extension faculty collectively work together to identify problems, develop solutions to address the problems and then develop a mechanism to transfer appropriate solutions and/or recommendations to the citizens of the state.

U.S. Department of Agriculture

**Cooperative State Research, Education, and Extension Service
 Supplement to the Annual Report of Accomplishments and Results
 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)**

Institution Clemson University
State South Carolina

Check one: **Multistate Extension Activities**
 Integrated Activities (Hatch Act Funds)
 X **Integrated Activities (Smith-Lever Act Funds)**

Actual Expenditures

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>Enhancement of Applied Research and Extension Activities</u>	<u>\$433,517</u>	<u>\$418,112</u>	<u>\$428,565</u>	<u>\$439,279</u>	<u>\$450,261</u>
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Total	<u>\$433,517</u>	<u>\$418,112</u>	<u>\$428,565</u>	<u>\$439,279</u>	<u>\$450,261</u>

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 2/27/01 Director Date

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