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VISIONS *for the* FUTURE

ANNUAL REPORT 1993



**North Carolina
Cooperative Extension Service**

NORTH CAROLINA STATE UNIVERSITY
COLLEGE OF AGRICULTURE & LIFE SCIENCES

NORTH CAROLINA COOPERATIVE EXTENSION SERVICE

1993 ANNUAL REPORT

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PROGRAM OVERVIEW

The North Carolina Cooperative Extension Systems Annual Report for 1993 documents accomplishments in support of the system's long-range plan of work "Visions for the Future". "Visions" commits the North Carolina Cooperative Extension System to deliver educational programs that contribute to a productive and profitable agriculture; a protected and enhanced environment; stable communities; responsible youth; and strengthened families.

The annual report compiles information from 100 counties, the Cherokee Indian Reservation and 46 state program task forces. The report represents a coordinated educational program conducted by the state's two land-grant universities, North Carolina State University and North Carolina Agriculture & Technical State University.

This year the System launched its second strategic plan "Our Commitment to Excellence". The strategic plan, when compiled with the System's 4-year plan of work, "Visions for the Future", provides the basis of a coordinated educational process to help North Carolinians improve the quality of their lives.

HIGHLIGHTS OF NATIONAL INITIATIVES

Rural Revitalization ✓

Strategic plans/economic analyses which identified opportunities for diversification, deterrents to development, and/or infrastructure improvements were started in 126 communities. Over 11,000 citizens demonstrated improved leadership and problem solving skills. Increased economic knowledge was demonstrated by 3,830 young adults and emerging leaders. Almost 500 entrepreneurs were assisted to analyze their enterprises and the estimated investment in new business start-ups with extension assistance totalled over \$13 million. Extension worked with 420 communities who planned or initiated beautification projects and assisted 267 communities with waste, water supply or waste-water management problems.

Sustainable Agriculture

The Sustainable Agriculture Task Force, composed of specialists, agents, researchers and representatives of non-governmental and governmental agencies, provided leadership for programs in sustainable agriculture. Programs were conducted for training agricultural professionals, to develop linkages and working relationships, and to assist farmers in implementing sustainable concepts in their farming systems. Sustainable agriculture systems training was provided to 41 Extension agents. A forum dealing with several issues related to sustainability of agriculture was held, with 175 people with diverse interests in attendance. A number of people participating in the forum from non-government organizations, government agencies and the farming community also are members of the task force advisory committee. This committee assisted in developing a Kellogg proposal, and attended a southern region workshop. In planning and delivering educational programs, Extension faculty conducted 42 sustainable agriculture programs and initiated or continued 190 sustainable agriculture demonstrations. Based on report data from counties, 4989 farmers implemented one or more sustainable farming practices.

Water Quality and Waste Management

Over 18,000 individuals attended 639 meetings to discuss water quality policy, and 7,854 inquiries were received regarding drinking water quality. Five thousand farmers started applying nitrogen at rates based on realistic yield expectations on 340,000 acres. Five hundred forty-two farmers installed new drainage control structures to reduce nitrate concentration on 51,075 acres.

Best management practices to reduce soil erosion and surface water contamination were implemented by 7,500 landowners on 48,694 acres.

Four hundred seventy-seven farmers calibrated spreaders and irrigation systems to apply manure at optimum rates and application patterns on 53,636 acres resulting in a reduction of approximately 25% in the amount of manure applied per acre. Almost 10,000 individuals initiated backyard composting, 52,025 reported more environmentally responsible purchasing decisions and 280,093 increased participation in recycling programs reducing waste going to the landfill by approximately 80,000 tons. Extension also assisted 443 communities to implement new recycling programs.

Food Safety and Quality

Over 8,000 participants adopted safe food handling practices such as temperature control and sanitation that minimize risk; 1800 participants adopted practices that protect the food supply, including appropriate use of drugs and chemicals in agriculture and safe food processing. 2726 participants increased their knowledge of food safety public policy issues. Over 9,000 program participants increased their knowledge of the risks and benefits of specific food components, processing technologies or food protection chemicals. Over 800 pesticide applicators received certification, with 2,020 receiving recertification.

Health and Human Safety

Over 43,000 adults and youth participated in programs aimed at increasing knowledge about or changing attitudes or behavior affecting health status or preventing disease and injury. 14,449 community leaders and members participated in workshops, seminars or other specific educational opportunities. Over 3,000 farmers and farmworkers or their families participated in programs on the proper use and handling of pesticides and the correct use of pesticide contaminated clothing. 18 counties and 80 local communities organized and maintained on-going health promotion and disease and injury prevention programs. 57 Extension Agents in 18 counties collaborated with interagency colleagues to initiate or expand networks and coalitions to increase and strengthen community health.

Youth-At-Risk Initiative

This program is designed to develop support systems for youths who live in environments which may hinder or prevent them from becoming competent, coping and contributing members of society. Effective youth-at-risk programming must be holistic in its design and involve the expertise of various groups and agencies. The North Carolina Cooperative Extension System has provided leadership in building coalitions and designing educational programs for youth in high risk environments. Over 140 coalitions in 39 counties worked together to address youth-at-risk issues. In addition, 70 long-term coalitions were established to help monitor the long term effect of youth-at-risk programs and help develop goals. The agents secured over \$853,000 to support youth-at-risk work.

Youth-at-risk programs had a positive impact on youths. Over 600 adjudicated youth reduced their involvement in the judicial system. Nearly 10,000 youths have improved their academic performance as a result of Extension programs. Improved study habits, increased school attendance, and reduction out-of-school and in-school suspensions also occurred. Career training and preparation were provided to over 8,000 youths. Youth-at-risk are being mainstreamed into 4-H and are increasing their knowledge of numerous 4-H subject matter areas. These youths are participating in summer day and residential camps, public speaking and fashion revue contests, county fairs, presentations and various citizenship and leadership roles.

HIGHLIGHTS OF STATE INITIATIVES

Alternative Income Opportunities

Nine thousand six hundred fifty-six individuals increased their awareness of income diversification, alternative income opportunities and how to properly analyze, evaluate and integrate alternative income opportunities into their current farming operation or traditional livelihood. Over 150 individuals generated an estimated gross income from alternatives of \$570,000 or \$3,757 per individual. Twenty-four new small/part-time farmers joined the "Ways

to Grow" program bringing total participation to 49. Enterprises include meat goats, catfish, llamas, plastic culture strawberries, cantaloupes, lettuce, greenhouse vegetable production and oriental vegetables.

Environment and Conservation of Natural Resources

Almost 300 elected and appointed officials increased their knowledge of forest management, wetlands, endangered species, or air quality issues. Interest in the Stewardship Forest Program continued to increase with training programs offered to 75 professionals on how to incorporate wildlife into stewardship plans. There are now over 175 certified forest stewards in North Carolina. Re-establishment of longleaf pine continued - 74 new acres were established and over 300 landowners, agency representatives, industry and members of conservation organization participated in a workshop to discuss ways to work together to increase coverage and uses of longleaf pine. Multiple use management of forest land increased with 57 new wildlife management plans developed impacting 66,000 acres, and 24 landowners leasing land for recreational purposes with an annual income of \$102,000. Over 300 pond owners improved fish production and water quality. Gaston County implemented a major program to improve air quality involving government, business and industry, youth and interested adults.

Eighty-six new wildlife management plans were developed impacting 70,874 acres. Fifty-two landowners started leasing land for recreational purposes. Over 400 pond owners improved fish production and water quality impacting 1,153 acres. Two hundred nine elected and appointed officials increased their knowledge of forest management, endangered species and air quality issues. Three thousand new acres were established in longleaf pine and 20 acres in Atlantic white cedar. The importance of the later in the reforestation of wetland areas is only beginning to be appreciated.

Families in Crisis

Of the twenty-six counties who identified results for this program, eighteen counties implemented 258 programs to reach Families in Crises as a result of working with 181 agencies. Nine counties presented 62 work-site programs at 54 different industries, reaching 1,699 persons. Individuals learned how to improve family and financial decisions, as well as gained important life skills.

Eleven counties implemented 78 programs targeted at the working poor, reaching 2,321 persons with family resource management and consumer credit information.

Twenty-one counties gave 180 programs on Family Preparedness for Natural Disasters, reaching 7,200 persons; and with mass media (radio and newspapers), 1,741,500 persons.

170 Day Care Workers increased their knowledge of child development, health and safety practices, and nutrition by attending Day Care Association classes; and 165 high risk parents were taught child development, parenting and nutrition skills.

HIGHLIGHTS OF STATE PROGRAMS

Farm Business Management

Results of this year's efforts exceeded expectations in number of clientele reached. Over 3,000 employers of agricultural labor improved their understanding of labor rules and regulations; in one county the value of labor assistance received via the H2-A program provisions was \$982,000. Almost 4,500 farmers and tax preparers improved their understanding of income tax laws and tax management; 3,000 farmers, agribusiness and agency personnel improved their understanding of domestic food, agricultural trade and environmental policies; and 5,000 farmers improved their management decision making skills. Two hundred seven farmers participated in an electronic business records program, FBMS, providing the basis for accurate "on farm" bench mark production and financial data for farmers, lenders and agency personnel; and 404 new farmers adopted some other formalized record system. One hundred fifty-seven lenders improved their understanding of FBMS and integrated financial analysis.

Livestock Production, Processing and Marketing

County accomplishment reports indicated a significant increase in livestock production and the number of producers. Almost 1900 new producers are in business, producing about 1.2 million additional animals; 98% of the additional production was represented by hogs. Eight hundred forty-eight producers began management intensive grazing practices, involving about 25,000 grazing animals. Nine hundred fifty producers used forage/feed testing services and 1,022 producers planned feeding programs by using ration formulation capabilities. Three hundred sixty-five growers made needed improvements in housing ventilation and animal handling equipment. Marketing strategies were improved by 1,436 producers, impacting over 500,000 head of livestock, with over 90% being hogs. Five hundred nineteen growers started or expanded grazing cattle on pastures fertilized with animal waste, with a total estimated impact of \$1,419,730. In addition, 387 producers initiated or expanded integrated pest or reproductive management (IPM or IRM) approaches in their operations. Over 300 producers began production and/or business management records programs. Small farm livestock enterprises were begun on 378 operations, many with small ruminants. Other efforts improved the knowledge of over 28,500 producers on animal welfare, environmental and food safety issues. Particular efforts have involved milk and dairy-beef quality assurance programs. Two hundred forty-one thousand citizens enhanced their knowledge of animal welfare, environmental and food safety issues through extension programs.

Poultry Production, Processing and Marketing

Several objectives for the four year plan have already been exceeded. Efficient lighting technologies were adopted this year by 134 growers in 203 houses resulting in savings of approximately \$100,000 a year. Efficient ventilation was adopted by 262 growers in 473 houses and labor saving technologies by 269 growers in 480 houses. One hundred twenty growers were

assisted in building new houses; 620 gained knowledge of keeping enterprise records; 240 growers and service personnel received training in biosecurity principles and medication/vaccination techniques; and 1,348 regularly monitored pests and ectoparasites. Four hundred ten growers implemented mortality composting, and 614 growers used other mortality recycling technology in a total of 2,603 houses. This removes approximately 11,000 tons of dead birds from the waste stream annually.

Aquaculture and Commercial Fisheries Production, Processing and Marketing

New aquaculture production units increased as follows - acres of ponds - 55, tanks - 7, and raceway volume - 60,460 cu. ft.. Production from new units amounted to 253,500 pounds. Over 9,000 individuals increased their production, processing and marketing knowledge. Improved management and disease control resulted in an 11% increase in catfish production and 3% increase in trout production equivalent to approximately \$360,000 of additional sales income. Hybrid striped bass production remained stable at 600,000 lbs. with a pond-bank value of approximately \$1.5 million. Coldwater aquaculture showed slow growth of about 5% with profit margins extremely variable among farms. Emphasis was placed on waste management, record-keeping and improved product marketing.

North Carolina provided regional/national leadership in development of recirculating aquaculture systems, and in training on application of Hazard Analysis Critical Control Point (HACCP) principles for seafood processors.

Field Crop Production, Processing and Marketing

Advances were made in the adoption of recommended nutrient management practices and systems. In Burke County, increased use of organic nutrients coupled with manure and soil testing by corn growers lowered environmental impacts and reduced nutrient costs by over \$200,000. Statewide use of soil testing increased approximately 10%. Tobacco and soybean farmers applied 3.6 million fewer pounds of phosphorus. Twenty-eight percent of farms implemented new soil management Best Management Practices (BMP's) during 1993; nearly 70% of farms now utilize at least two BMP's for soil management. Over 45% of field crop growers have adopted a system of three or more integrated pest management and crop management (IPM/ICM) practices impacting nearly 2.2 million acres; many other growers use one or two practices. Water table management systems are being used in approximately 20% of poorly drained soils in the coastal plain and tidewater counties. Increasing numbers of farmers took a more comprehensive approach to marketing their field crops. Estimates indicate that 37% of soybeans were marketed using a strategy other than farm storage and direct sale. Efforts to increase tobacco quality resulted in a 12% increase in high quality tobacco marketings and a 28% reduction in very high MH residues.

Commercial Horticultural Crops Production, Processing and Marketing

Vegetable production is increasing in quantity and efficiency. In 1993, 35 growers purchased precision seeders improving seedling emergence and uniformity on almost 3,000 acres. Approximately 350 growers planted 1,654 acres for niche markets, with onion production increasing from almost nothing three years ago to 71 growers with 493 acres in 1993. Strawberry production on black plastic increased from 450 acres in 1991 to 750 acres in 1993. Over 500 vegetable growers adopted IPM programs impacting 20,000 acres. Approximately, 750 horticultural crop producers developed marketing plans and 355 invested in equipment to improve post-harvest handling reflecting the trend for growers to become more sophisticated in their approach to marketing. Increased concern about nutrient management was shown with 1300 growers starting soil testing on 22,000 acres, 318 growers using tissue analysis on 10,000 acres and 388 growers using composted organic waste on 2,000 acres. Many greenhouse floral growers are retrofitting greenhouses to recycle irrigation water to meet run-off standards. Approximately, 40% of the woody ornamental container nurseries either capture and reuse run-off water or have plans developed to install systems.

Urban Horticulture, Forestry and Pest Management

The demand for urban horticulture information continued to grow. The number of urban clientele attending extension meetings, demonstrations and tours increased approximately 10% in 1993 - 50,000 participated in meetings and workshops and 200,000 requests for information were received. Thirty-three counties trained a total of 669 Master Gardener volunteers who contributed the equivalent of almost \$250,000 a year in volunteer time. It is estimated that 5,000 horticultural professionals and 100,000 homeowners adopted practices recommended to improve environmental quality including grasscycling, composting, landscaping to protect water quality and proper pesticide and fertilizer use. One hundred forty-one local governments and communities were assisted with urban forestry management plans and practices. An urban forestry/horticulture reference library was established in each County Extension Center with support from America the Beautiful funds.

Forest Resources and Wildlife Production, Processing and Marketing

Forest landowners increased their earnings by \$3,700,000 using improved forest management and marketing techniques. Over 750 landowners developed forest management plans and began to practice good forest management principles impacting 231,000 acres. Over 900 loggers participated in silvicultural and forest management workshops as part of a new Professional Logger educational program. Twenty-eight firms adopted new manufacturing techniques saving \$757,000. Extension was involved in the creation of 78 new jobs in new or expanded wood products manufacturing facilities. A major initiative in cooperation with industry was launched in value added manufacturing for both softwood and hardwood producers. Almost 20% (500) Christmas tree growers started soil and plant tissue, and 55% of trees sold were USDA grade one or better. Over 8,000 new acres were leased for wildlife activities and landowner income increased by \$344,000.

Nutrition, Food Safety, and Health

106,955 citizens increased their knowledge of how to promote health and reduce the risk of chronic diseases by selecting, preparing and consuming foods according to the National Dietary Guidelines. 27,897 persons with dietary risk factors made positive changes to reduce and manage their risk.

30,064 families gained knowledge to help them provide a healthier diet for their children and teach their children health, diet and lifestyle habits.

5,382 participants in maternal nutrition programs gained knowledge and skills that led to a more healthy pregnancy outcome for both mothers and infants.

30,591 persons gained knowledge of food handling practices and other practices that agriculture-related food risks could endanger the safety of the food supply.

Family Economics

28,681 youth, adults, families gained knowledge of basic money management, credit control and record keeping practices. 31,140 individuals/families acquired information about the need for coordinating legal, financial and health care decision making for personal dependency. 11,181 individuals/families acquired information and made plans about their estate and retirement planning.

36,914 individuals/families adopted practices to improve their housing by repairing, remodeling, or upgrading so that the house meets family needs throughout the lifecycle.

35,834 youth, adults and families gained understanding of their marketplace rights and responsibilities in the selection, use and care of consumer goods and services. 26,279 individuals and families developed and used recordkeeping skills and financial procedures to increase or extend their income.

Family Development

Seventy-five percent of 12,395 parents and youth acquired knowledge and skills associated with effective parenting. Over 3,000 individuals in parent-youth programs reported improved relations, with over 8,000 parents and youth using effective family coping strategies.

2,791 volunteers assisted with delivering family development programs.

Over 5,000 child care providers adopted recommended practices for classroom management, scheduling, and curriculum development; 3,252 child care workers were certified in the American Red Cross Child Care Course, Sesame Street Preschool Education Program and other certifiable child care programs.

8,608 family members increased their knowledge and adopted recommended practices to improve communication skills, stress management, family and work conflicts, interpersonal relationships, decision making and other supportive skills.

3,983 limited resource parents increased their knowledge and skills in effective parenting, child growth and development and building family strengths.

Three hundred forty-seven master volunteers were trained to deliver family development programs. Over 3,063 families and individuals benefitted from volunteer programs, such as Master Parents, Volunteer Adult Sitters Program and Volunteer Information Provider Program.

51,627 individuals participated in Family Development Programs.

Volunteer Development and Management

Over 1,500 volunteers received training to be a county or state master volunteer in 1993. With 73 volunteers reporting, the known outreach of the program to volunteer leaders and was 2,715 people. Thirty-one counties have teens involved in peer helper programs; 645 graduates were reported in Home Economics master and other volunteer programs; resource development funds received were \$158,945; and membership in Home Economics volunteer programs was 27,923. Over 16,000 North Carolina Extension Homemakers Association members participated in issues-based programs such as literacy, environment and family issues, and over 600 partnerships, network and/or alliances with other agencies, groups, organizations, associations were established.

Human Environment and Health

Almost 89,000 families, adults and youth adopted one or more recommended waste management practices of recycling, reducing or reusing various products in the home or community. 30,993 households adopted one or more recommended residential water conservation or water quality measures. 31,478 households and housing providers adopted one or more recommended practices to conserve energy or improve energy efficiency in their homes and communities. 4,857 families, individuals and housing providers gained knowledge about independent living strategies. 46,276 families, adults and youth gained knowledge of personal environmental health and safety practices.

Fourteen counties participated in Master Waste Manager programs, using 150 trained volunteers to conduct over 4,000 hours of community education and outreach in North Carolina.

Drinking water education and testing programs were implemented in at least 50 counties. One county was selected to be a national pilot site for a "Blue Thumb" community water quality program.

More than 36,000 North Carolina households learned about radon health risks, tested their homes for radon, and adopted measures to reduce radon levels in their homes.

4-H Program Management

The overall participation and 4-H Program Management data illustrate the continued strength of the program. Seventy three agents reported receiving a total of \$1,847,515 to support local 4-H programs with \$864,029 being raised through grants. In 1992-93, 190,000 children were active in 4-H along with 45,153 youth who participated in a variety of other extension programs. Of the 34,582 4-H club members reported in 91-92, 61% (21,030) were retained in 1993 while 349 new clubs were organized. The increase in specialized committee formation (87 new committees) and continued growth in the number of county 4-H Foundations (58 foundations) reflect a viable and productive youth program management and community group support system.

4-H Leadership and Volunteer Development

4-H Leadership and Volunteer Development is critical to the continued success of North Carolina 4-H. In 1993, 26,541 caring adult elected to share their skills with 4-H'ers and the local 4-H programs. The expansion of the master volunteer roles and the teen peer-helper program are the foci of this state major program. Two hundred seventy-five (275) master volunteers representing 38 counties were trained this year bringing the total master volunteers trained over the last 5 years to 600. Peer-helper programs are an excellent avenue for teaching life skills and keeping older 4-H'ers involved. Not only did the 1,782 teens reach 17,978 participants with important information but the teenagers learned valuable teaching skills as a result of their role as a peer helper.

Scientific Literacy of Youth

4-H is in an excellent position to assist in improving the Scientific Literacy of Youth. Agents reported that over 94,000 youths and 3,632 leaders participated in extension science programs such as embryology, agricultural field days, fire safety, forestry, economics in action, and wildlife. Because of this involvement in 4-H, students organized almost 200 4-H science clubs with a total membership of 6,178. Teachers found 4-H school enrichment materials helpful in the classroom. Over 2,000 teachers reported that students in school enrichment improved their understanding of science. In Alexander County, 68% of the participating teachers stated that science based school enrichment increased their students understanding of science. In addition, the science coordinator stated that school enrichment curricula helped her teachers handle difficult concepts through hands-on learning.

Human Development Needs of Youth

An important corner stone of 4-H programming is to design educational programs to meet the developmental needs of youth (Human Development Needs of Youth). Many of our traditional 4-H programs reflect our commitment to helping young people develop basic life skills. Verbal communication skills were enhanced among 5,053 4-H members through

presentation programs, public speaking events, 4-H entertains and arts programs. One county reported that 48 youths taught 1300 people while in another county 78 youth reached 2500 others. Over 180,000 young people gained recordkeeping and written communication skills by completing one or more 4-H projects. In addition, 579 cumulative records were turned in for competition. Youth participated in a wide variety of subject matter including 6,856 youth in county and state government programs, 2,535 young people in child care, 4,229 in consumer education and 14,633 in the dramatic arts.

Health and Safety Needs of Youth

The Health and Safety Needs of Youth comprise another 4-H State Major Program. Programs conducted under this area included alcohol and drug abuse programs by 4-H Peer Teams, skin cancer prevention programs by TRY-ACT Teams, health fairs and exhibits, and a variety of special interest programs that included bike safety, fire safety, nutrition, self-esteem and healthy life styles. Lenoir County reached over 8,000 people through exhibits that targeted personal safety, home safety and farm safety. Lenoir also has a strong tradition of fire safety education. Delivered by firemen, all 5th graders were targeted. The culminating activity is a countywide 4-H Fire Quiz Bowl.

Care and Education of School Age Children

For thirty nine (39) counties, the Care and Education of School Age Children was a priority. In 1993, over 22,000 children were served by child care programs using extension curriculum and another 4,403 children were in programs established with extension involvement. Providing staff training to child care providers is one way Extension has helped improve the quality of child care in participating counties. Agents trained a total of 1813 child care staff members in a variety of child care topics and issues during the year. Three hundred twenty four (324) child care facilities reported improvement in the quality of their programs as a result of extension child care training and support. In an effort to improve the quality of school-age child care and increase the availability of child care services in communities, 17 counties were awarded over \$318,000 to establish Child Care System Manager Programs to bring the total number of Systems Managers to 29.

Special Needs Populations

While 4-H is available to all youth of North Carolina, special efforts are made to target and program for Special Needs Populations. Special needs populations included youth residing in diverse housing, adjudicated youth, impaired youth, EFNEP youth and teen parents. Agents reported that 945 adjudicated youth increased their knowledge, self esteem, social skills, increased school performance and decrease in discipline problems through participation in wilderness camps and other specially designed county programs. Through a variety of 4-H

programs, 3,448 youth residing in diverse housing gained better decision making skill, exhibited an increase in positive behavior and developed a positive attitude toward themselves. In addition to working with special needs populations, 1,364 youth enrolled in 90 4-H units increased their awareness, understanding and knowledge of youth with special needs through involvement in 4-H programs.

Environmental Stewardship

Environmental stewardship is a strong area of interest among 4-H'ers and volunteers. Agents from 30 counties reported 30,416 young people and 1,555 volunteers participated in environmental stewardship programs. County efforts in environmental stewardship range from environmental field days, recycling special interest programs, CATCH clinics to energy conservation. Buncombe County developed an innovative series of curricula centered around the Earth Angle character using dramatic arts to help youth and adults learn about recycling and environmental shopping. As an outgrowth of the program, a family retreat was conducted involving 19 families (54 people). In addition, train the trainer kits were provided for teachers and after school day care as an outcome of the workshop. In addition to county based programs, residential environmental educations programs were offered at 4-H Centers involving 4,596 students and 351 adults. In addition, programs for all county junior summer camps were designed to include a minimum of 6 hours of environmental education and involved 2,510 participants.

The accomplishments reported in this overview represent only a portion of the 4-H programs youth have participated in throughout the year. In summary, 4-H youth were involved in over 600,000 age appropriately designed educational experiences in 1993. Most learning experiences were between 3 and 6 hours in length and were taught by trained volunteers. Major categories of participation were:

Animal Science	156,112
Environmental Stewardship	120,369
Nutrition & Family Resources	60,618
Energy & Engineering	54,017
Government & Community Service	50,608
Health & Safety	47,622

The partnership of ES-USDA and the land grant universities in North Carolina has resulted in a significant outreach to all citizens, while projecting program and participation balance.

HIGHLIGHTS OF 3(D) AND SPECIAL FEDERALLY FUNDED PROGRAMS

Environmental Education

Over 70,000 individuals increased their awareness of public policy issues related to environmental action, and almost 20,000 increased their participation in public issues. Areas of interest included maintenance and improvement of water and air quality, solid waste management, forest and wildlife management, wetlands and endangered species. Practices designed to improve environmental quality were adopted by 482,000 people. These included adoption of agriculture and forestry best management practices; wellhead protection; and source reduction, composting and recycling to reduce solid waste going to the landfill. Almost 35,000 young people participated in environmental education programs with leadership from 1,555 volunteers.

Limited Resource/Low Income Individuals and Families

Lack of certain basic life skills reduced the potential of limited-resource individuals and families to become contributing members of society. Nine thousand two hundred twenty-three (9223) limited-resource individuals improved life skills by participating in Extension sponsored programs. One thousand nine hundred twenty-three (1923) limited-resource parents increased knowledge of child growth and development and six hundred forty-one (641) parents adopted effective parenting skills. Five hundred forty-six (546) of the 1638 participants in parent and youth programs reported improved communication which resulted in improved relations. Four thousand (4000) limited-resource adults reported improved problem solving skills and practiced for selected personal and community problems. Three thousand four hundred forty-eight (3448) youth residing in limited-resource communities (Public and Section VIII Housing) gained better decision-making skills, exhibited an increase in positive behavior, modified health practices, improved family communication skills and explored career choices. Approximately three hundred (300) small and limited-resource farmers improved their managerial skills by adopting a farm planning and recordkeeping system. One hundred fourteen (114) small and limited-resource farmers increased their awareness of at least one alternative enterprise that could generate additional income. Ninety-eight (98) small and limited-resource farmers improved their marketing plans that resulted in an additional \$125,000 in income. Twenty-four (24) "new", small, and part-time farmers in "Ways To Grow", a comprehensive, experiential, educational program on alternative agricultural enterprises, increased knowledge and skills on marketing, the decision-making process, financing and production technologies associated with production of alternative enterprises.

Conservation and Forestry Titles of 1990 Farm Bill

Almost 3,800 persons became more knowledgeable about the Conservation Title of the Bill. Nineteen thousand conservation practices were installed with Extension assistance. Practices included waterways, strip cropping, transplanting, field borders, subsurface irrigation with water structures, conservation tillage, sequential and continuous no-till, diversions, terraces, sediment

ponds, cross-slope farming, fencing, critical area treatment, spring development, filter strips and ponds. One thousand individuals became more knowledgeable about the Forestry Title of the Bill and installed 176 practices. A total of 4,712 acres was bid into the wetlands reserve program. One tract of 4,632 was rejected and the remaining three tracts are under review. Response to the program was less enthusiastic than expected.

Parenting and Family-Youth Programs

Trends from this year's report indicated an increase in court ordered parent education and financial counseling, more collaboration with agencies and family related groups, enhanced use of volunteers, increased resource development, more diverse participants, and more entrepreneur programs for individuals interested in starting home-based businesses. Agents are also teaching more classes for JOBS participants, foster parents and other social services clients. Extension agents are being recognized as experts with research-based information to meet the needs of parents and families.

Parents are still struggling to rear their children and to provide a comfortable environment for their family. Much work is still needed to deal with some social ills, such as teen pregnancy, child abuse and neglect, child care and family instability. Recurring themes and emerging program needs identified were: intergenerational needs of families, budgeting, self-esteem for both youth and adults, interpersonal relationships, and strategies to strengthen families. Agents reported a need for programs and resources to help families cope with the lack of jobs, low wages, poverty, stress, parenting, and work-related issues.

Agents and specialists increased resource development to support child and family programs (\$106,708). Financial support ranged from starting aging coalitions to establishing local model parent education and family education programs.

Interagency collaborations and volunteers helped to deliver coordinated and diverse programs to individuals and families. Innovative ways to reach more and diverse customers are current challenges for Extension.

Multi-Cultural Diversity

During FY1993, the North Carolina Cooperative Extension Service began a full implementation of its diversity plan. A team of eight people attended the National "Train the Trainer" Workshop. This group will provide the long term direction/support for diversity. The FY1993 Conference utilized the theme of "Strength in Diversity." During the conference, all state and county staff received diversity training. A team of consultants was employed to assist the Extension diversity team.

Future plans are to train a diversity team for each of the eight Extension districts. The district teams would train both county workers and Extension cooperators. The National Coalition model will probably be used in this training.

Volunteer Development and Management

Over 1,500 volunteers received training to be a county master or state master volunteer in 1992. With 73 volunteers reporting, the known outreach of the program to volunteer leaders and 4-H'ers was 2,715 people. Thirty-one counties have been involved in peer helper programs cooperatively with schools. There were 645 graduates of Home Economics master and other volunteer programs. Resource development funds received were \$158,945. The membership of Home Economics volunteer programs was 27,923. There were 16,814 NCEHA members participating in issue oriented programs. 601 partnerships, network and/or alliances with other agencies, groups, organizations, associations, etc. were established.

Expanded Food Nutrition Education Program

Nutrition Program Assistants worked with over 6000 adults and 5399 youth, assisted by over 1800 volunteers. Almost 3500 homemakers improved their diets to include at least one serving of foods from each food group. This represented a 37% increase. 1621 achieved recommended food servings in all food groups.

89% of homemakers who graduated from EFNEP increased their knowledge of nutrition and 78% increased their ability to manage food budgets and related resources (Food Stamps and WIC food packages).

Of 5399 4-H EFNEP youth who participated in programs to eat a variety of foods, 70% reported increased knowledge of the essentials of human nutrition. 64% improved their food selection and practices in food preparation and safety.

Special WIC/EFNEP Breastfeeding Project, Wake County

EFNEP coordinated with WIC (Women, Infants and Children Program) and Food Stamp agencies in all 37 EFNEP counties. 62% enrolled homemakers are WIC recipients, an increase of 281 from 1992. Food Stamp enrollment increased also; 3789 families (57%) received food stamps, an increase of 419 from 1992. 3854 participants (58%) were taught in group settings in 1993.

The breastfeeding project in Wake County is funded to continue in 1994. The breastfeeding support model will be tested in four additional counties in North Carolina as part of CES/WIC Nutrition Education Initiative.

Pesticide Applicator Training

Fourteen hundred commercial applicators, dealers and consultants were certified and 3,700 recertified. Five hundred twenty private applicators were certified and 9,248 recertified. In addition, approximately 5,000 homeowners received pesticide training. Worker protection and private applicator recordkeeping programs were developed and introduced.

Integrated Pest Management for Row Crops, Horticultural Crops and Livestock

Over 2,000 growers were involved in IPM training efforts and tours. Demonstrations were conducted in 21 counties on alfalfa, apples, Christmas trees, corn, cotton, Irish potatoes, peanuts, small grains, soybeans, tomatoes, beef, swine and poultry. Fifteen counties targeted increased uses of post emergence herbicides to avoid use of preplant incorporated and premergence herbicides. As a result growers saved \$1.1 million and reduced herbicide use by 80 tons total active ingredient. Another state-wide program targeted increasing the number of non-pesticide pest control practices adopted by growers. Seventeen counties used this approach resulting in 1,500 growers initiating new practices on 175,000 acres. A survey of cotton growers showed that 98% use scouting and 60% use rotation as a means of controlling pests.

Pesticide Impact Assessment

Extension conducted a mail survey of 1,115 cotton growers in 18 North Carolina counties to determine pesticide use patterns. Data on the herbicides, insecticides, miticides, nematocides, fungicides, growth regulators, and non-chemical pest management practices used by cotton growers was used to respond to inquiries for pesticide use data from USDA's NAPIAP and other organizations. Pesticide use information was presented at the annual meetings of the Entomological Society of American and several North Carolina agribusiness and farm groups.

Farm Safety

Twelve hundred volunteers were recruited and trained in agricultural health and safety measures. Seven hundred agricultural and landscape managers adopted two or more safe pesticide handling practices and 380 adopted two or more power equipment safety measures. Almost 500 medical professionals increased their knowledge of agricultural safety and health. Nine hundred exhibits, screening and health fairs were held targeting health and safety needs of youth. Over 3200 families, adults and youth increased their knowledge of personal environmental health and safety practices. A Health and Safety Resource notebook and educational modules on Improving the Health and Safety of Swine Facility Workers and Poultry Workers were developed and placed in each county.

Small and Limited Resource Farmers

One hundred forty-one small farmers became aware of USDA services resulting in \$350,000 in benefits. Seventy-one small farmers improved their managerial skills by developing and adopting a farm record keeping system. Emphasis on alternative enterprises resulted in 809 farmers becoming familiar with at least one alternate enterprise that could generate additional income, 118 farmers adding new enterprises that resulted in \$531,000 in additional income and 135 farmers adopting improved marketing plans resulting in an additional \$283,000 income. One hundred fifty-eight minority farmers owning 30,000 acres became familiar with ways to retain their farm land.

Renewable Resources Extension Act

The application of improved forestry, wildlife and other natural resource management practices learned through Extension educational efforts resulted in landowner savings and increased revenues of \$3,822,000. Improved processing and utilization techniques resulted in savings of \$845,000 for producers and consumers of wood products. New land leases by forest landowners increased their income from wildlife and recreational leases by approximately \$446,000. Over 900 loggers harvesting 400,000 acres of timber a year received training on silvicultural implications of timber harvesting. Two hundred ninety-three elected and appointed state and local government officials increased their knowledge of forest management, wetlands, endangered species and/or air quality through participation in extension programs. Over 2300 contact hours were provided in forestry, wildlife and outdoor recreation training.

30 small, part-time and/or limited resource farmers will participate in a comprehensive educational program called "Ways To Grow" on intensive agricultural enterprises

NON-EXTENSION BENEFITS

1	Number of volunteers	194
2	Total number of volunteer days	682
3	Value of federal government funding (cents)	\$1,412
4	Value of state government funding (cents)	\$2,820
5	Value of local government funding (cents)	\$10,000
6	Value of private funding (cents)	\$10,172

TRIPLATED INDICATORS AND ACCOMPLISHMENTS

Five thousand six hundred and fifty-six (5,656) individuals representing 14 counties increased their awareness of environmental, economic, and social opportunities and how to properly manage wetland and riparian resources through participation in their current farming operation or individual livelihood. Eight thousand nine hundred and thirty-one (8,931) of these contacts were generated by two counties alone last year. Individuals continue to explore water, wildlife, and timber resources, such as forest, grassland, riparian, and wildlife management techniques, through various programs, including riparian and wildlife habitat restoration. Twenty-eight (28) meetings and sixty-nine (69) demonstrations were conducted during the last year. Expanding 2,486 individuals to the economic opportunities offered by alternative income opportunities.

ANNUAL REPORT 1993

NC01 - ALTERNATIVE INCOME OPPORTUNITIES

A. OBJECTIVES

1. 6,000 individuals will learn about income diversification, enterprises and marketing strategies, and how to properly analyze, evaluate and integrate alternative income opportunities into their current farming operation or traditional livelihood.
2. 1,500 individuals will generate income from one or more alternative income enterprises.
3. 50 small, part-time and/or limited-resource farmers will participate in a comprehensive educational program, entitled "Ways To Grow", on alternative agricultural enterprises.

B. NON-EXTENSION RESOURCES

1. Number of volunteers	194
2. Total number of volunteer-days	685
3. Value of federal government funding (grants)	\$1,425
4. Value of state government funding (grants)	\$6,650
5. Value of local government funding (grants)	\$20,000
6. Value of private funding (grants)	\$10,175

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Nine thousand, six hundred and fifty-six (9,656) individuals, representing 14 counties, increased their awareness about income diversification, alternative income opportunities and how to properly analyze, evaluate and integrate alternative income opportunities into their current farming operation or traditional livelihood. Eight thousand, nine hundred and thirty-one (8,931) of those contacts were generated by two counties alone last year. Individuals continue to explore and/or establish new enterprises, such as meat goats, catfish, llamas, plastic culture strawberries, cantaloupes, lettuce, greenhouse vegetable production, oriental vegetables, farmers markets and skilled labor for hire. Seventy-eight (78) meetings and sixty-nine (69) demonstrations were conducted during the last year, exposing 2,496 individuals to the economic opportunities offered by alternative income enterprises/opportunities.

One hundred and fifty-two (152) individuals generated income from the production and marketing of alternative income enterprises. Estimated gross income generated from these new alternatives is \$571,100, with an average income of \$3,757.24 per individual involved in alternative income opportunities.

Twenty-four "new" small/part-time farmers, representing 18 counties, were selected for participation in "Ways To Grow", a comprehensive educational program on alternative agricultural enterprises. Participants were involved in an intensive 2 1/2 day Small Farm Institute dealing with the marketing, decision-making process, financing and production technologies associated with the production of alternatives.

Subsequent to the institute, each participant returned home and began to implement a plan of action, leading to the establishment of 24 on-farm demonstrations on various alternatives. Twenty-five (25) small/part-time farmers, from last year's institute, continued for a second year in the program; carrying out production practices and data collection on their individual on-farm demonstrations. Currently, there are forty-nine (49) "Ways To Grow" on-farm demonstrations across North Carolina; sharing information about the production and marketing of alternatives with other small and part-time farmers throughout the state.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Agriculture, as well as its relating technologies, is changing at an escalating pace. Producers are learning to improve their economic situation by adopting new technology, using resources available to them, better using existing markets and exploring new marketing strategies. Individuals are beginning to understand the importance of enterprise selection and enterprise diversity. Direct marketing, via farmers markets, roadside stands, etc., has increased significantly and will play an even larger role in the marketing of alternatives in the future. Creative Extension programs and technology are still needed to assist agents, paraprofessionals and farmers in making correct decisions relative to the production and marketing of alternatives, as well as to the integration of these alternative income opportunities into existing farming operations.

- F. COORDINATOR AND TEAM MEMBERS:**
- Ray McKinnie
 - Matt Claeys
 - Janet Ferguson
 - James Green
 - Scott Mickey
 - Carl Niedziela
 - Larry Roper
 - Frank Simpson

ANNUAL REPORT 1993

NC02 - THE ENVIRONMENT AND CONSERVATION OF NORTH CAROLINA'S NATURAL RESOURCES

A. OBJECTIVES

Government officials and other decision-makers will be more knowledgeable about natural resources and familiar with available resources and professionals knowledgeable in these areas.

Youth, volunteer leaders, teachers, and 4-H agents become more aware of the environment, environmental issues, impacts of production practices on natural resources, global climate change, atmospheric sciences, and air pollution problems.

Landowners will increase their knowledge of stewardship of the land and enroll in the Forest Stewardship Program.

Natural resource consultants, managers and related agency personnel will improve their abilities in developing multiple use management plans and be knowledgeable of how to implement the provisions of the 1990 Farm Bill.

Landowners will learn the compatibility of wildlife management, forestry and agriculture, including the impacts of and alternatives to various production practices on wildlife populations and habitat will be increased.

Farmers will meet the conservation compliance provisions of the 1985 Farm Bill.

Landowners will become aware of and begin to comply with the provisions of legislation regulating wetland usage and management.

Wetland regulatory agency personnel will be able to utilize quantitative evaluation procedures to improve reliability of wetland determinations.

Citizens will be more aware of wetland types, values and functions.

County governments, businesses, and citizens will meet new air quality standards in counties where new clean air restrictions are imposed.

B. NON-EXTENSION RESOURCES

- | | | |
|----|-------------------------------------|----------|
| 1. | number of volunteers | 474 |
| 2. | total number of volunteer-days | 781 |
| 3. | value of federal government funding | \$ 3,400 |
| 4. | value of state government funding | \$ 1,500 |
| 5. | value of local government funding | \$56,400 |
| 6. | value of private funding | \$90,850 |

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of new wildlife management plans developed 57, acres impacted 65,967.
2. Number of new landowners leasing land for recreational purposes 24, value of these new leases \$102,600.
3. Number of pond owners improving fish production and water quality 333, acres impacted 695.
4. Number of elected and appointed officials who increased their knowledge of forest management, wetlands, endangered species, or air quality issues 293.
5. Number of new acres established in longleaf pine 74, and in Atlantic white cedar 0.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Gaston County has implemented a major program in air quality. Sixty-five business and industry representatives increased their knowledge of the Clean Air Act and evaluated the effectiveness of a local program versus a state program. Bessemer City Junior High School received a \$10,000 EPA education grant. Brochures were distributed to 4,000 automobile owners at NC inspection sites on clean air. "1993 Gaston County Environmental Calendars" were distributed to 2,000 citizens.

In Currituck County the County Commissioners sponsored an environmental issues newsletter distributed to 7,000 citizens.

The Stewardship Forest Program has been a major effort in North Carolina. Three training programs, each three days long, were implemented to train NC Forest Service, Forestry Consultants, and other resource agency personnel in the principles and practices of wildlife management. The 75 plus participants learned how to incorporate wildlife into Stewardship plans. Additional trainings were held to train potential consultants in preparing wildlife management plans. Over 141 Forest Stewards were certified in North Carolina during the last year.

The re-establishment of longleaf pine is a major programmatic effort. The North Carolina Forest Service is increasing production of longleaf seedlings and improving its nursery practices as a result of NCCES efforts. In addition, to increase appreciation and establishment of longleaf, a workshop with over 300 participants that included landowners, conservation and environmental organizations, state and federal agencies, and industry was convened that discussed ways to work together to increase the acreage and uses of longleaf pine. This effort provided a forum for cooperation by groups that frequently are on opposite sides to creatively work together.

In addition to the acreage put into the Stewardship Forest Program, 323 landowners implemented forest management plans encompassing 16,401 acres. Over 950 new acres of wildlife habitat was developed.

Over 100 teachers and other professionals have been trained to be presenters or facilitators of Project Learning Tree.

Reforestation is promoted in connection with other natural resource issues. Counties report that they were responsible for over 4,000 acres being reforested with reforestation rates of harvested land being increased to over 45%.

Urban forestry is being addressed in many counties. Assistance with towns implementing inventories and ordinances to protect the urban environment.

E. NARRATIVE AND IMPLICATIONS

Indicators show that efforts are continuing statewide to improve forests, wildlife and fisheries. Landowners are receiving aesthetic and economic benefits from participation in Extension activities and programs.

The Stewardship Forest Program continually increases and improves the multiple use management on private lands. In North Carolina, the emphasis has been on quality of plans and the potential for implementation rather than the total number of plans developed. This program is also providing an opportunity for the education of adult and youth audiences in natural resources management.

The importance of Atlantic white cedar in the reforestation of wetland areas is only beginning to catch on. Efforts will continue to demonstrate the ecological and economic benefit of this species.

Landowners are also concerned about the implications of Wetlands and Endangered Species Regulations. There has been minimal effort until rules have been developed for wetlands as well as private landowner guidelines for red-cockaded woodpeckers. These issues have been incorporated in many county and state programs.

Efforts must continue to inform local and county government officials on the implications of environmental regulations to their local situation and the importance of natural resources to the public and the economy.

F. COORDINATOR AND TEAM MEMBERS:

Edwin J. Jones
Peter T. Bromley
Claire-Marie Hannon
Charles Hammond
Tom Hoban
J. Paul Lilley
Robert Williamson
Sandra Zaslow

ANNUAL REPORT 1993

NC03 - FAMILIES IN CRISES

A. OBJECTIVES

In North Carolina all families are vulnerable to experiencing some type of crisis. The crisis may be in terms of one or more of the following: financial difficulties, family disruption, family dislocation, family violence and family care needs. Many times a family in crisis incurs economic, social and/or legal stresses. Specialists at N.C. State University and A & T State University in conjunction with twenty-six county staffs focused their efforts on developing and implementing coping programs and strategies to help families who are experiencing one or more crises. Specific objectives to help families in crises were:

- Families having financial difficulties will improve their financial positions by learning to manage and maintain their monetary and non-monetary resources, and if needed, to acquire appropriate job skills using available community resources.
- Families who experience violence, disruption and dislocation will learn about community resources and become involved with support groups that provide emotional help in alleviating the traumas incurred by the specific crisis.
- Families of diverse structures will gain knowledge, acquire skills and develop strategies to better use available economic and social support systems to enhance quality of life.
- Caregivers of children and/or adults who have special care needs will gain knowledge and acquire skills needed to provide appropriate physical and emotional care for the individual, to acquire coping skills to reduce the physical and mental stresses of caregiving, and to access community resources.
- Parents, expectant parents and caregivers will gain knowledge and acquire skills in parent education and the selection of quality child care.
- Families of diverse structures will acquire information about their legal rights, responsibilities and obligations.
- Limited resource single parents and child day care workers will increase their knowledge and skills in effective parenting, child growth and development, and self esteem.

Objectives for 1890 Staff were:

- . Limited resource single parent families will learn problem solving techniques need to facilitate positive interpersonal and family relationships and to manage stress.
- . Limited resource single parents and child day care workers will increase their knowledge and skills in effective parenting, child growth and development, and self esteem.

B. NON-EXTENSION RESOURCES

Specialists and agents in fourteen counties received \$197,957 to support programs in the Families In Crises State Initiative. Volunteers and financial contributions were as follows:

1. Number of Volunteers - 611
2. Total Number of Volunteer Days - 886
3. Value of Federal Government Funding (Grants) - 0
4. Value of State Government Funding (Grants) - \$70,836
5. Value of Local Government Funding (Grants) - \$55,196
6. Value of Private Funding (Grants) - \$71,925

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Of the twenty-six counties who identified the State Initiative, Families In Crises as a program focus, twenty counties reported the following program results.

1. Eighteen counties implemented 258 programs to reach Families In Crises audiences as a result of collaborating with 181 agencies.
2. Nine counties presented 62 work-cite programs at 54 different industries, reaching 1,699 persons.
3. Twenty one counties gave 180 programs on Family Preparedness for Natural Disasters, reaching 7,200 persons, face to face, and with mass media (radio and newspapers), 1,741,500 persons.
4. One county reported training all of the county's day care workers on what to do in case of a natural disasters when responsible for other peoples' children.

5. Eleven counties implemented 78 programs targeted at the working poor, reaching 2,321 persons with family resource management and consumer credit information.
6. Three counties and the Cherokee Reservation reported 115 limited resource audience women have been trained or retrained for employment as a result of participating in the Economic Development for Women Project.
7. Two counties and the Cherokee Reservation stated that 37 women have jobs as a result of participating in the Economic Development for Women Project.
8. Four counties and the Cherokee Reservation reported that as a result of being involved with the Economic Development for Women Project, 103 women have developed a stronger self confidence and healthier self esteem about themselves and the relationships they have with their families.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

- . 175 limited resource individuals improved their life skills in budgeting and consumer education.
- . 10 homemakers in one county supplemented family income using skills gained.
- . 9 volunteers in one county have been recruited as SHIPP Volunteers, assisting approximately 45 individuals with health insurance and Medicare questions.
- . 29 individuals in one county who were enrolled in a basic literacy curriculum learned tips in developing an healthy self esteem.
- . 247 limited resource persons in one county participated in 18 skill building and practice workshops that focused on effective communication, active listening and problem solving.
- . 251 limited resource audience families in one county learned how to budget, 6 non-readers learned how to budget, and 195 families learned basic recordkeeping procedures.
- . 52 women in the JOBS program learned effective parenting skills; 25 teenage mothers were taught basic parenting skills; and 165 high risk parents were taught child development, parenting and nutrition skills.
- . 5 Farm Opportunities Program families developed recordkeeping systems to improved their money management skills.

170 Day Care Workers increased their knowledge of child development and nutrition by attending Day Care Association classes; 9 Day Care employees have been trained to observe and refer youth mothers in crises to appropriate agencies for assistance.

503 incarcerated males and females at one county's detention centers learned basic life skills (budgeting, nutrition, decision-making, self-esteem building techniques, and housekeeping procedures).

40 homeless persons in one county who were perspective home owners learned home maintenance and low-cost decorating techniques. The do-it yourself decoration workshops have saved 4 persons placed in their own home \$500.

89 juvenile delinquents in one county made progress in redirecting their lives by participating in a Community Based Alternatives Program. Of the youth involved in the program, 72 had made progress as assessed by the juvenile courts, 53 had made progress in their school work, and 70 had made progress in their home situation.

200 Info-grams were distributed in one county to 6 limited resource housing developments to help residences use money and resources more wisely.

E. NARRATIVE AND IMPLICATIONS

Because of the complexity of the problems addressed within the parameters of the Families In Crises State Initiative, it is necessary for the Cooperative Extension Service to collaborate with other agencies and civic organizations to help families to solve their own problems. This year the accomplishment reports have shown that the twenty counties reporting have been diligent in networking with other agencies to implement programs targeted at specific audiences who are experiencing family crises. Programs are becoming more focused to meet the needs of the identified audiences. County staffs are developing new clientele, such as the working poor, industry workers, homeless, the incarcerated, minorities with an English language barrier.

Agents are also becoming more involved with entrepreneurship and helping individuals, particularly women to develop job skills. In fact, one county reported the following successes of the three women that were involved with the Economic Development for Women Project: one woman got a job as a mail carrier to earn \$10,000 so that she could start her own home based business; one participant enrolled in a 4-year college to continue her studies in a medical related career; and one secured a permanent part-time job as a public school bus driver and works another part-time job as a Department of Social Services JOBS program assistant.

With the number of natural disasters that our state has suffered in the recent past - blizzards, wind storms, hurricanes and tornados - the Natural Disaster Program For Families has given county staffs camera ready materials to give to their local radio stations and newspapers. One agent reported that their county was without electrical power for eight days. The survival information quickly written with the aid of the camera ready PSA's for the newspapers during the blizzard helped people to be better cope with being on their own.

Another agent presented a program on Family Preparedness for Disasters to Extension Homemakers Association Club members one month before the Blizzard of '93 hit. When the blizzard occurred, these women told their neighbors about the information, particularly food safety, they had learned from Extension. Two days into the storm, when access to auxiliary power in the courthouse was resumed, the agents faxed PSA's to the radio stations in the county. When telephone service was restored during day 4, one agent handled approximately 50 calls a day during the first week and approximately 30 calls during the next several week. Both the radio stations and the local newspapers referred calls they were getting to the Cooperative Extension Service. Several of the staff were interviewed for follow-up stories. Because the information on what to do in case of natural disasters was readily available in the North Carolina generated Natural Disaster Program For Families Handbook, the Cooperative Extension Service was seen by many persons in the community as the agency who could help with personal questions in times of natural disasters.

Agents and specialists have also been resourceful in locating money to develop and implement needed family programs. More money and human resources for program development are needed to help limited resource families, working poor families, single parent families, dysfunctional families, and dislocated families. By helping these families who are experiencing crises, the Cooperative Extension Service can help to strength the economic and social fibers of our state.

F. COORDINATOR AND TEAM MEMBERS: Harriet T. Jennings, Chair
Thearon McKinney
Carol Schwab
Cynthia Johnson
Arnold Oltmans
Lucille Carter
Deborah Howard
Wayne Matthews
Jean Baldwin
Ad Hoc Members
Eddie Locklear
Carolyn Dunn

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NC04 - FOOD SAFETY AND QUALITY IN NORTH CAROLINA

A. OBJECTIVES

1. Targeted audiences will increase their adoption of recommended food handling practices.
2. Targeted audiences will improve practices and processes that promote the production and protection of a food supply with minimal risk.
3. Targeted audiences will improve their understanding of risks and responsible practices in relation to food and health.

B. NON-EXTENSION RESOURCES

- | | |
|---|----------|
| 1. number of volunteers | 355 |
| 2. total number of volunteer-days | 324 |
| 3. value of federal government funding (grants) | \$34,000 |
| 4. value of state government funding (grants) | \$ 250 |
| 5. value of local government funding (grants) | \$ 500 |

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number who adopted safe food handling practices (temperature control, sanitation). 8610
2. Number of participants who increased adoption of practices that protect the food supply (appropriate use of drugs and chemicals in agriculture, safe food processing, IPM practices, pesticide applicators certification exam). 1814
3. Number of participants who increased their knowledge of food safety public policy issues (risk assessment/management, laws/regulations, surveillance/monitoring). 2726
4. Number of participants increasing knowledge of risks and benefits of specific food components, processing techniques or food production chemicals. 9141
5. Number of professional food handlers receiving certification for successful completion of a Food Handler, Food Safety Certification Course. 280

6. Number of food handlers receiving training in safe food handling (occasional quantity food preparers, restaurant personnel, etc.) 871
7. Number of pesticide applicators receiving (a) certification 894 and (b) recertification 2020.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

The Food Safety and Quality in North Carolina Initiative was addressed by multidisciplinary programming at state and county levels. Targeted audiences included dairy producers, food processing employees, foodservice employees, day care providers, commercial and private pesticide applicators, occasional quantity food preparers, populations at greater risk for foodborne disease and the home food handler.

Programs were delivered in a variety of settings including school systems, 4-H Youth clubs, Senior Citizen Nutrition sites, Day Care employee continuing education classes, Child Day Care Sanitation and Food Safety Certification courses, Pesticide Applicator Certification and Recertification courses, Dairy Quality Assurances Programs, Boy's Clubs, Civic Clubs and Community Cannery.

A variety of educational methods were used to reach targeted audiences and the general public. Mass media (radio, newspapers, newsletters and television) were used to provide both general food safety information and to cover food safety crisis issues. The Extension Service's Crisis Management Plan was activated several times to deal with food safety and quality issues emerging in the state. The Systemwide computer network facilitated getting timely information into agents hands.

Food Safety and Sanitation Certification courses, HACCP programs and inservice/continuing education programs were attended by food handlers including day care providers, restaurant managers and employees, Head Start educators, Senior Meal site managers and Home Health Care Aides. Special topic classes were provided in areas such as IPM practices and food safety, seasonal food safety handling issues, food laws and regulation and food safety, lead and food safety, meat products and handling and foodborne disease, pesticide residues and food safety, foodborne disease and populations at greater risk; and animal health, medication and food safety.

Program planning and delivery linkages were established with other state agencies such as the NC Food and Drug Administration; NC Department of Environment, Health and Natural Resources; NC Department of Agriculture; and with local and state groups such as the Cancer Society, Food Banks, School Foodservice Association chapters and Restaurant Associations.

F. COORDINATOR AND TEAM MEMBERS:

- C. Lackey
- P. Curtis
- E. Estes
- A. Frazier
- D. Hearne
- F. Jones
- J. Rushing
- M. B. St. Clair
- D. Sanders
- J. Walker
- D. Wesen

NC04 - HUMAN SAFETY

1. Community leaders and members will become more knowledgeable about the determination of health-related public policy.
2. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.
3. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.
4. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.
5. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.

B. EVALUATION INDICATORS

National Institute of Occupational Safety and Health

C. IMPLEMENTED INDICATORS AND ACCOMPLISHMENTS

1. 4,475 adults and youth participated in programs aimed at increasing knowledge about occupational safety and health-related health issues in five states in five years.
2. 1,440 community leaders and members participated in workshops, seminars or other specific educational opportunities.
3. 2,050 leaders and members of their families participated in programs on the proper use and handling of pesticides and the correct use of pesticides when used.
4. 14 counties and 80 local organizations organized and maintained on-going health promotion and illness and injury prevention programs.

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NC05 - HEALTH AND HUMAN SAFETY

A. OBJECTIVES

1. Communities, families and individuals will become more knowledgeable about improving health and preventing disease and injury.
2. Agents and interagency colleagues will initiate or expand networks and coalitions to increase and strengthen community health promotion and disease and injury prevention programs.
3. Counties and communities will organize or expand and maintain health promotion and disease and injury prevention programs.
4. Communities, families and individuals will become aware of the availability of, and approaches for, accessing health and health-related services.
5. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.

B. NON-EXTENSION RESOURCES

National Institute of Occupational Safety and Health

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. 43,639 adults and youth participated in programs aimed at increasing knowledge about or changing attitudes or behavior affecting health status or preventing disease and injury.
2. 14,449 community leaders and members participated in workshops, seminars or other specific educational opportunities.
3. 3,060 farmers and farmworkers or their families participated in programs on the proper use and handling of pesticides and the correct use of pesticide contaminated clothing.
4. 18 counties and 80 local communities organized and maintained on-going health promotion and disease and injury prevention programs.

5. 57 Extension Agents in 18 counties collaborated with interagency colleagues to initiate or expand networks and coalitions to increase and strengthen community health.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

These indicators report the health and safety activities of the counties selecting Health and Human Safety as an initiative. It is clear that health and safety concerns cut across Extension programs as surely as they effect all individuals, families and communities. There are fifteen identifiable health and safety areas (corresponding to the key words). The substantial contributions being made by specialists and agents throughout NCCES and the numbers of people participating in programs or requesting information indicate that the Extension model is highly suitable for the dissemination of urgently needed knowledge for health promotion and disease or injury prevention.

F. COORDINATOR AND TEAM MEMBERS:

Garland B.
Leker R.
Lilley S.
McLymore R.
Rowland S.
Smith M.
Smith N.
Wade W.
Wilson J.
Yelverton F.

ANNUAL REPORT 1993

NC06 - NORTH CAROLINA RURAL REVITALIZATION INITIATIVE

A. OBJECTIVES

1. Communities (counties) will analyze their economic base and implement strategic planning.
2. Rural citizens/leaders will increase leadership and problem solving skills, knowledge of public participatory processes and economic awareness.
3. Current and potential entrepreneurs will analyze their situation/prospects and make informed decisions about their current/potential operation.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	1240
2.	total number of volunteer-days	2965
3.	value of federal government funding (grants)	\$10,000
4.	value of state government funding (grants)	\$16,500
5.	value of local government funding (grants)	\$ 3,400
6.	value of private funding (grants)	\$96,275

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of economic analyses started. 15
2. Number of citizens/emerging leaders who demonstrated improved leadership and problem solving skills. 1659
3. Number of young adults and emerging leaders who demonstrated increased economic knowledge. 1084
4. Number of strategic plans which identified opportunities for diversification, deterrents to development and/or infrastructure improvements, started or revised. 45
5. Number of current and potential entrepreneurs who were assisted to analyze their enterprise; 924 and, who made adjustments to increase profitability. 477

6. Number of potential entrepreneurs who made informed decisions about a business start-up as a result of assistance; 326
estimate of investment in new business start-ups. \$9,057,730

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Many rural communities in North Carolina continue to be affected by the social and economic changes taking place on a global scale. The social and economic transition these communities are experiencing are requiring the local citizenry to take stock of and address their opportunities and limitations. Strategic planning is a viable method of doing this. Successes in strategic planning underscore the importance a concerned citizenry that is knowledgeable of the economic and social processes affecting their communities, and a cadre of leaders who are knowledgeable of and willing to use public participatory processes to address local concerns. Hence, strategic planning, leadership development continue to be the three most effective thrusts for Extension in helping rural communities revitalize.

The accomplishments in helping small business entrepreneurs to succeed are robust indicators pointing to the effectiveness of extension's entrepreneurial education programs. The greatest successes continue to occur when our personnel are available to new entrepreneurs over a period of time. Many businesses continue to fail within a three to five-year period because of inadequate skills and information. As the rural areas continue to be buffeted by social and economic change and unemployment or underemployment remains critically high in rural areas, the need for entrepreneurial education will continue.

- F. COORDINATOR AND TEAM MEMBERS:**
- Simon Garber
 - Mitchell Renkow
 - Janice Lloyd
 - Robert Usry
 - Stephen Lilley
 - John Richardson
 - Shirley Callaway
 - Patricia Peele
 - Marilyn Gray
 - Mike Levi

ANNUAL REPORT 1993

NC07 - SUSTAINABLE AGRICULTURE

A. OBJECTIVES

Extension improves the use of integrated, interdisciplinary systems approach to the development of the sustainable agriculture programs by Extension staff members and its clientele.

Public and private research and Extension organizations cooperate and coordinate efforts to develop sustainable agriculture systems in the United States.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	597
2.	total number of volunteer days	1,390
3.	value of federal government funding (grants)	\$144,500

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Sustainable agriculture practices are defined to include:

- a. new income sources
 - b. conservation tillage systems
 - c. IPM or IRM
 - d. total organic systems
 - e. land receiving animal waste
 - f. biocontrol
 - g. cultural control of pests
 - h. wildlife management in commercial farming
1. The number of meetings, workshops and tours that dealt with sustainable agriculture practices 248, total participation 4,989.
 2. The number of sustainable agriculture on-farm demonstrations is 192.
 3. Number of farmers that implemented sustainable agriculture practices: (see above)
 - a. farmers - 363; acres - 4,865; animals - 2,432
 - b. farmers - 942; acres - 34,420; animals - 1,110
 - c. farmers - 890; acres - 90,742; animals - 1,193

- d. farmers - 24; acres - 83; animals - 20
- e. farmers - 1,327; acres - 62,305; animals - 40,750
- f. farmers - 158; acres - 30,500; animals - 4,756
- g. farmers - 2,622; acres - 223,869; animals - 425
- h. farmers - 25; acres - 2,740; animals - 30

- 4. Total number of acres of crop land using sustainable agriculture practices: (see above)
 - a. acres - 17,297
 - b. acres - 124,398
 - c. acres - 127,425
 - d. acres - 84
 - e. acres - 160,627
 - f. acres - 49,081
 - g. acres - 218,641
 - h. acres - 4,962

D. OTHER INDICATORS AND ACCOMPLISHMENTS

There continue to be many concrete indicators of progress in the sustainable agriculture program. As the program develops, there will be need to build on this initial foundation and expand as new opportunities are encountered. A summary of the salient success indicators are:

- 1. Forty-one agents trained in the implications of sustainable agriculture and IPM on farm policies and farming practices.
- 2. A summary of county reports for the current year indicated that 42 counties had active sustainable agriculture programs.

E. NARRATIVE AND IMPLICATIONS

The College of Agriculture and Life Sciences Task Force on Sustainable Agriculture has provided direction for CES sustainable agriculture activities in 1993. This group, composed of extension specialists, extension agents, researchers, farms and representatives of non-governmental organizations and governmental agencies has been instrumental in providing leadership for sustainable agriculture in North Carolina. Several noteworthy activities include:

- 1. A training session for 41 CES agents was held at the Tidewater Research Station. This training included both field and classroom sessions. All of the agents involved evaluated the training as being worthwhile and informative.

2. A group of 44 individuals including farmers and CES faculty attended the Southern Regional Sustainable Agriculture Workshop held in Calloway Gardens, Georgia. The North Carolina contingent was the largest in the region.
3. A Sustainable Agriculture Forum was held in Raleigh and attended by over 175 farmers, CES staff, agricultural agency workers and others. The Forum included keynote speakers, a panel discussion and six breakout sessions.
4. CES faculty representing the state's two landgrant universities collaborated with five NGO's on a \$1.1 million proposal to the Kellogg Foundation's Integrated Farming Systems Program.
5. CES faculty submitted a proposal to the Z. Smith Reynolds Foundation to support sustainable agriculture research and demonstration program at NCSU.

F. COORDINATOR AND TEAM MEMBERS:

J.P. Mueller
 J.A. Anderson
 M. Poore
 S.C. Lilley
 G.C. Naderman
 S.G. Gibson
 P.T. Bromley
 D.M. Rives
 H.M. Linker
 J. O'Sullivan
 T.B. Sutton
 J.P. Zublena
 G.P. Upton
 R.H. Pleasants
 D.C. Sanders

ANNUAL REPORT 1993

NC08 - WATER QUALITY AND WASTE MANAGEMENT

A. OBJECTIVES

1. Education of all audiences on the importance of drinking water safety.
2. Education of all audiences on the importance of protecting surface and ground water quality.
3. Educate and assist farmers to apply nitrogen based upon soil test results, soil type and realistic yield expectations.
4. Assist livestock and poultry producers to implement and manage production and animal waste facilities that protect water quality and minimize odor.
5. Conduct educational and technical assistance programs to encourage the land application of wastewater and sludge to productive agricultural lands at agronomic rates.
6. Educate and assist farmers to install drainage control structures to protect water quality.
7. Assist farmers and forest landowners to implement BMPs to reduce soil erosion and surface water contamination from sediments, pesticides and associated nutrients.
8. Assist and educate farmers to calibrate spreaders and irrigation systems to assure proper application rates and patterns.
9. Provide education and technical assistance for implementing landscape techniques to protect water quantity and water quality
10. Provide education and technical assistance for backyard composting.
11. Provide education and technical assistance for more environmentally responsible purchasing decisions.
12. Provide education and technical assistance for implementing new solid waste management options.

13. Provide education and technical assistance for implementing new recycling programs.
14. Provide education and increased capability for all audiences to participate in the public policy area of water quality and waste management.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	25,591
2.	total number of volunteer days	11,605
3.	value of federal government funding	\$955,225
4.	value of state government funding	\$ 62,325
5.	value of local government funding	\$137,495
6.	value of private funding	\$ 99,925

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of inquiries regarding drinking water quality 7,854
2. Number of meetings held to discuss water quality policy 639
No. attending 18,325
3. Number of farmers who started applying nitrogen 5,000
No. acres impacted 339,740
4. Number of farmers installing new drainage control structures to reduce nitrate concentration 542
No. acres impacted 51,075
5. Numbers of farmers and forest landowners who implemented BMPs to reduce soil erosion and surface water contamination 7,489
No. acres impacted 48,694
6. Number of farmers who calibrated spreaders and irrigation systems to apply manure 477
No. acres impacted 53,636

7. Number of clientele initiating backyard composting 9,873
8. Number of clientele reporting more environmentally responsible purchasing decisions 52,025
9. Number of communities assisted in successfully implementing new solid waste management options 259
10. Number of communities which successfully implemented new recycling programs 443
11. Number of clientele reporting increased participation in recycling programs 280,093

D. OTHER INDICATORS AND ACCOMPLISHMENTS

A workshop for pesticide workers dealing with analytical techniques and data management was attended by 60 individuals from 20 cooperative agencies in North Carolina .

A Water Quality and Waste Management Educational Resources Catalog was developed that is available electronically through Almanac in North Carolina. This catalog lists 121 publications, 5 resource notebooks, 4-H programming materials, videotapes and exhibits. The publications are also available electronically through the National Water Quality Information Project conducted by Purdue University. Instructions are in the catalog for electronically accessing this information either through the North Carolina or the Purdue system.

A Resource Notebook on Landscaping to Protect Water Quality has been developed and is being distributed to each county office and cooperative agencies.

A county environmental assessment led to the establishment of Quality of Natural Resources Commission which recommended that the county fund an Extension Agent in Natural Resources. They also funded initial water quality monitoring work in the county which served as the basis for obtaining a \$900,000 grant from EPA for national watershed monitoring projects.

Under a county Blue Thumb Drinking Water Project, 400 homes were screened for lead in drinking water. Forty volunteers representing 5 organizations assisted with the screening. This project created renewed interest in water quality and conservation with 211 requests for additional information and 670 brochures distributed on Lead in Drinking Water.

A major effort to reduce pesticide use was initiated by a county Extension Center cooperating with the County Christmas Tree Association. The effort identified neglected yard trees and abandoned field trees as host plants and vectors of the balsam woolly adelgid, a destructive pest of Fraser fir. Citizens were urged to remove infected trees and plant other varieties of conifers in home landscapes. June 12 was designated as "Cut Day" and Extension and the County Christmas Tree Association volunteers helped remove several infested trees. Twenty-three homeowners have sought help with tree removal and the effort is continuing. The program has been reported by two TV stations, including CNN, and has been publicized in at least 8 newspaper articles. An educational exhibit was designed for the "Christmas in July" festival, featuring alternative trees for home landscapes. The festival attracted an estimated 65,000 people.

Teachers of 1575 elementary school students who participated in "The Smart Shopping Bag Program" responded: "77% of the teachers indicated that the precycling information presented was new for the students. They also indicated that the shopping bag program relating to recycling was reinforced for environmental education already being taught in the schools.

School Enrichment in one county was one method used to increase youth awareness of solid waste management. Youth and teacher volunteers viewed a video, "Trashbusters" to get them started. Next they participated in making landfills in jar and recycled paper from waste paper generated in their classroom. Youth and teachers wrote and produced a play they titled, "Be a Sport, Trash Sort." The idea was selected from other recycling lessons from the "Ripples" curriculum used by the teacher. Students, teachers and parents also met and constructed props needed for the play. Twenty-seven students, two teachers and eight volunteers were involved in reaching approximately 350 other youth. The final learning experience for the youth was a tour of the local landfill, a recycling center and water treatment plant.

E. NARRATIVE AND IMPLICATIONS

Preserving the quality of the rivers and streams is a big concern on the Cherokee Reservation. A significant portion of the Tribal economy comes from the selling of fishing permits to the many tourists who frequent the area each year. To provide a good habitat for the trout, the waters must be as clean and free of pollutants as possible. Not only is this program for the fish but the human health aspects as well. Therefore, the majority of programs include ideas on being environmentally conscious.

A major issue facing the swine industry in the United States is environmental stewardship. Basic research in the area of swine waste nitrogen availability and nitrogen uptake by grass crops is desperately needed by the industry. This will lead to Extension recommendations for refining nitrogen rates on bermudagrass at a level that will not impact ground water nitrate levels.

The development and implementation of a total waste management program is needed to help educate the citizens, elected officials, different agencies, private groups and businesses in the area of waste management, water quality and the environment. Extension has been recognized as the agency or educational organization that can supply the technical, research-based information that people trust in order to make some important decisions in the area of waste management.

A recycling project was chosen by a newly formed student council at one of the county's elementary schools, K-5. The council members were from the 3-5 grades, but the project was school-wide. Home Economics Extension Agents (HEEA) visited the 3-5 grade students and teachers and presented an overview on recycling, separating, and markets in the area for youth projects. Agents also provided the advisor-teacher with suggestions for in-school projects. The council chose to recycle school (white) paper, not including computer paper, and aluminum beverage cans which are utilized by the school faculty and staff. The collection was conducted within a four-month period. Due to storage space the project could not continue for the total school year. The collection totaled an average size pick-up truck load of paper and two garbage bags of aluminum cans. Their project netted \$11.60, a lesson in economics, much less than anticipated! A successful end to this project was a tour of the facility, East Carolina Vocational Center, that accepted their recyclables. The students were intrigued with the paper baling equipment and the magnitude of its capacity. This really reinforced the project's objectives for the students to see beyond their efforts of collection and drop off.

"Clean Cat" (a waste management K-3 grade curriculum) was selected by a school kindergartens this spring. "Clean Cat" made a personal visit with the HEEA assisting with the litter/recycling lesson. The 78 students were encouraged to complete their work books, with their teacher's direction, and learn the song and rap that accompanied the project. Their Kindergarten graduation focused on the environmental theme "It's Our World." The HEEA was invited to return to address the students' parents about local environmental issues and to encourage parents to actively support what their children had learned. Then the students preformed the project's song and rap. "Clean Cat" also made another popular personal appearance at graduation. She made a big impression, so much so that one kindergarten student called the HEEA at the Extension Office after the close of school to see if "Clean Cat" could visit her home in Robersonville. When asked why, the student responded, "I want my little brother to meet "Clean Cat"!!!" After much inquiry, the student reluctantly accepted the fact that "Clean Cat" would not be able to make a personal home visit!

F. COORDINATORS AND TEAM MEMBERS:

- Frank J. Humenik, Chair
- Kenneth R. Bateman
- Ted Bilderback
- Martha Burris
- Billy Caldwell
- Roy Carawan
- Tom Carter
- Leon Danielson
- Earl Deal
- Tara Disy
- Robert Evans
- Gregory Jennings
- Michael Levi
- Ed Maxa
- Judy Mock
- Kim Powell
- P. Sterling Southern
- Joseph Zublena

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NC09 - YOUTH-AT-RISK

A. OBJECTIVES

1. North Carolina Cooperative Extension Service (NCSU) and (N.C. A&T SU) will help communities in 75 North Carolina counties establish school age child care educational programs for ages 5-14 and encourage existing providers to adopt Extension curriculum through:
 - Training of school-age child care providers
 - Empowering individuals, families and communities to address family and youth issues through public policy education
 - Encouraging community resources to support school-age child care programs
 - Improving parenting and family support skills
 - Building networks, coalitions, and support groups to assist with school-age child care programs

2. The North Carolina Cooperative Extension Service (NCSU) and (N.C. A&T SU) will enhance the reading and science/technology literacy of youth through:
 - Improving basic science and literacy competencies
 - Communication and information skills

3. The North Carolina Cooperative Extension Service (NCSU) and (N.C.A&T SU) will obtain the commitment of other academic resources at the land-grant university and work with ten state-level agencies and their community counterparts to provide training and other educational components for the developmental needs of high-risk youth which will specifically address:
 - Career education
 - Parenting skills and family support
 - Peer education programs for high-risk youth
 - Physical and mental well-being of at-risk youth
 - Teen pregnancy
 - Referrals to appropriate community agencies
 - Develop support systems for at-risk youths

B. NON-EXTENSION RESOURCES

1. Number of volunteers: 4,277 (49 counties reported)
2. Total number of volunteer-days: 10,517 (49 counties reported)
3. Value of federal government funding (grants): \$301,632 (5 counties reported)
4. Value of state government funding (grants): \$415,046 (24 counties reported)
5. Value of local government funding (grants): \$58,225 (13 counties reported)
6. Value of private funding (grants): \$78,912 (14 counties reported)

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of adjudicated youths who reduced their involvement in the judicial system after participating in Extension sponsored program 613 (21 counties reported)
2. Number of youths who improved school performances after participation in Extension sponsored program 9,491 (34 counties reported)
3. Number of youths who decreased their alcohol and other drug usage after participating in Extension sponsored program 2,140 (15 counties reported)
4. Number of youths who gained knowledge of work patterns, training requirements, certification, potential safety and job availability and increased their employment opportunities 8,130 (40 counties reported)
5. Number of communities needing School-Age Child Care programs 430 (36 counties reported)
6. Number of children served by above programs 23,475 (39 counties reported)
7. Number of providers trained and practices adopted 2,060 (42 counties reported)
8. Percent of persons in literacy programs showing improvement Ranged from 10% to 100% (actual responses: 10%, 20%, 80%, 100%, 10%, 100%, 25%, 90%, 88%, 10%, 80%)
9. Number of programs to emphasize science/technology approaches 353 (34 counties reported)

10. Number of coalitions organized to address needs 140 (39 counties reported)

Describe purposes of coalitions:

Coalitions were organized to bring together the expertise of appropriate youth serving agencies and groups and to maximize scarce resources. Coalitions assessed needs of youth-at-risk audiences and prioritized the needs. Based on needs, coalition members worked together to design and implement educational programs to address the needs of youth-at-risk. Coalitions were also used to evaluate the programs and provide accountability to appropriate stakeholders. Coalitions were used to provide funding, help monitor programs, and to refer youths to other educational programs or support systems. Members of coalitions served in an advisory role and provided directions for the youth-at-risk programs. The overall purpose of the coalition was to serve as a support network for youth-at-risk. This goal was accomplished by providing educational programs to help youths improve academic performance, develop life skills, improve their self-esteem, improve their decision-making skills, and gain knowledge in various subject matter areas. Specific programming areas addressed by coalitions were the following: substance abuse, parenting skills, literacy, AIDS, teenage pregnancy prevention, nutrition, science and technology, citizenship, leadership, career education. Several coalitions also provided educational programs for parents.

11. Number of long-term coalitions to address complex issues 67 (36 counties reported)

Describe purposes of coalitions:

The long-term coalitions were used for many of the same purposes identified in Number 10 above; however, the long-term coalitions developed holistic programs designed to address issues of families and their children. The primary goal of the long-term coalitions was to develop resources which would improve the quality of life for families. Many of the programs had parent components in addition to the youth-at-risk aspect. Coalitions were also used to identify long-term goals and reduce and prevent duplication of services. These coalitions provided long-term tracking and evaluation of educational programs provided to youth-at-risk audiences. Specific roles of coalition members included accessing needs, prioritizing needs and programs, funding, referral services, networking to maximize resources, advisory, teachers, and mentors. Subject matter taught and programs addressed were identical to those listed in Number 10 above.

12. Number of joint agreements with other agencies 105 (28 counties)

Describe purposes of agreements:

Joint agreements were used to ensure that all groups and agencies involved with the educational programs of the N.C. Cooperative Extension Service understood their roles and responsibilities. The agreements delineated everyone's commitment and contribution to the educational programs targeted to youth-at-risk. The agreements enabled Extension personnel to reach larger numbers of youths, provide better services, use the expertise of various agencies, have access to more suitable facilities, and have support for the administration and management of youth-at-risk programs. The agreements also provided financial support, labor, volunteers, other resources, and helped eliminate duplication of services to youths. The agreements helped identify needs of youths, the families and youths who should be targeted with educational programs, and provided a network to maximize services offered to families and youths.

Describe functions of community linkages:

Numerous functions were performed by the community linkages. Groups worked together to plan, implement, and evaluate educational programs based on needs of at-risk youths and their families. Training of volunteers, teaching, curriculum planning, coordination of human and financial resources, referrals, recruitment, transportation, screening of participants, marketing, advisory, communication, and sharing resources were some of the functions of the community linkages. The linkages provided hands-on, educational programs to youth-at-risk and their parents. Subject matter taught covered a wide range of the land grant university curricula areas. The primary function of community linkages was to deliver appropriate educational programs to parents and their children based on results of needs assessments. This approach enabled a multi-directional program to be offered to youth-at-risk audiences.

The Youth-At-Risk Initiative is designed to develop support systems for youths who live in environments which may hinder or prevent them from becoming competent, coping, and contributing members of society. Effective youth-at-risk programming must be holistic in its design and involve the expertise of various groups and agencies. The coalition of agencies must identify the needs of youths and design programs to address the needs and build support systems for youths and families. The North Carolina Cooperative Extension Service has provided leadership in building coalitions and designing educational programs for youths in high risk environments.

Over 140 coalitions in 39 counties are working to address youth-at-risk issues. These groups are involved with needs assessments and helping Extension agents plan, implement, and evaluate programs for youth-at-risk. Coalition members are active as teachers, mentors, and role models for at-risk youths. Coalition

members also help identify financial and human resources, prioritize needs and programs, and provide accountability to stakeholders. Coalitions have helped maximize scarce resources and bring together the expertise needed for effective and efficient youth-at-risk programming. Nearly 70 long-term coalitions are working to help monitor the long-term effect of youth-at-risk programs and help develop long-range goals. More than 4,277 volunteers have donated over 10,517 days to the Youth-at-Risk Initiative. Over \$853,000 of federal, state, and local government and private dollars were used to support youth-at-risk work.

School-age child care programs were also used to support at-risk youths and families. Extension agents provided training for over 2,000 school-age child care workers. These workers provided care for nearly 24,000 youths. The 4-H Youth Development Department provided over \$318,000 to 17 counties to improve the quality of school-age child care and increase the availability of child care services. Youths in before and after school child care participated in many Extension sponsored educational programs, including 4-H, home economics, and agriculture.

Youth-at-risk programs have had a positive impact on youths. Over 600 adjudicated youth have reduced their involvement in the judicial system. Nearly 10,000 youths have improved their academic performance as a result of Extension programs. Improved study habits, increased school attendance, and reduction of out-of-school and in-school suspensions have also occurred. Nearly 2,200 youths have decreased their alcohol and other drug usage after participating in Extension programs. There has been a reduction of behavior problems at home, school, and with authority figures. Many youths are postponing sexual involvement. There has also been a reduction in teenage pregnancy. Career training and preparation have been provided to over 8,000 youths. Many youths have improved their literacy skills as a result of youth-at-risk programs. Thirty nine counties provided over 350 science and technology programs for youths-at-risk. In addition to these results, youths have improved their life skills, self-esteem, and decision-making skills. Youths have developed conflict resolution skills and improved their interpersonal skills.

Youth-at-risk are being mainstreamed into 4-H and are increasing their knowledge in numerous 4-H subject matter areas. These youths are participating in summer day and residential camps, public speaking and fashion revue contests, county fairs, presentations, and various citizenship and leadership roles. Many have improved their communication skills with peers, parents, and other adults. Parenting classes have been provided to help parents be more effective at communicating with and relating to their children.

Extension agents in 49 counties are supporting the Youth-At-Risk Initiative. The effective use of coalitions and volunteers has enabled the Extension Service to develop support systems for youths in environments which place them at risk of negative behaviors which may prevent them from reaching their potential.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Dual working parents, single parents, poverty, and negative peer pressure continue to place youth at risk of failing to reach their potential. Many youth do not have support systems to help them cope with risk factors (e.g., poor parenting, negative peer pressure, poverty, poor school performance, etc.) which they face. Research suggests that protective factors at various levels--individual, family, peer group, school, and community--must be in place to support youth-at-risk

audiences. The global society of today is creating greater competition in the marketplace. Many youths are not prepared for the job market. School dropout, low academic achievement, teen pregnancy, drug abuse, child abuse, crime, violence, and other adverse behavior prevent youths from being competent, coping, and contributing members of society.

Extension agents in nearly 50 counties demonstrated a need for youth-at-risk programming. These agents have been successful in building coalitions to identify youth needs and design programs to address these needs. The agents have secured over \$853,000 to support youth-at-risk work. Agents have been effective in utilizing volunteers and other resources to build support systems for youth-at-risk audiences. Agents in 36 counties are using long-term coalitions to help administer, manage, and monitor long-range youth-at-risk programs and the long-term impact on targeted audiences. Agents have developed holistic programs which involve all aspects of the youths' environments: parents, families, schools, peers, and community. Appropriate resource people are being used to ensure effectiveness and efficiency of programs delivered.

In summary, there continues to be a need for youth-at-risk programming. Extension agents have been successful in building coalitions, utilizing diverse volunteers, and securing funding to help establish support systems for youths. The Cooperative Extension Service is an important component in helping communities develop effective youth-at-risk programs. Therefore, there is a need for Cooperative Extension to continue providing leadership in helping design programs for youths who live in high-risk environments. With Extension's leadership and support, programs can be designed to help youths become competent, coping, and contributing members of society.

F. COORDINATOR AND TEAM MEMBERS:

- Locklear, E.
- Proctor, D.
- Butler, D.
- Chesney, C.
- Davis, C.
- Dunn, C.
- High, C.
- Hudson, C.
- Johnson, C.
- Lilley, S.
- Lowery, C.
- Rouse, S.
- Scott, H.
- Wade, W.
- Watts, J.
- Wiggins, M.
- Woodard, S.

ANNUAL REPORT 1993

NC10 - FARM BUSINESS MANAGEMENT

A. OBJECTIVES

Farmers will improve their appreciation for and ability to develop and use farm management tools such as budgets, records, and computers in farm decisions regarding alternative enterprises, investments, farm program participation, expansion or contraction of the business and other aspects of the business.

Farmers and lenders will become more aware of the need to improve farm business record keeping skills and to improve the understanding of the benefits of more complete business records in the management of their businesses.

Farmers and lenders will increase their understanding of and ability to develop integrated financial statements and to use such to evaluate and analyze business performance and credit worthiness.

Participation in the Farm Business Management System (FBMS) program will increase, and an increased number of participants will annually have complete farm analyses.

Income tax practitioners and farmers will increase their understanding of the income and estate tax laws and the legal and economic consequences resulting from various management decisions.

Employers will increase their awareness of and improve their understanding of state and federal rules and regulations governing the recruiting, hiring, housing, and health of agricultural laborers in North Carolina as well as improve personnel management skills.

Farmers, agribusinessmen, and agency personnel will improve their awareness and understanding of the provisions and consequences of domestic food and agricultural policies, international trade policies, and environmental policies.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	310
2.	total number of volunteer days	566
3.	value of federal government funding (grants)	\$16,292
4.	value of state government funding (grants)	\$ 2,800

- | | | |
|----|--|----------|
| 5. | value of local government funding (grants) | -0- |
| 6. | value of private funding (grants) | \$ 8,760 |

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of employers of agricultural labor who improved their understanding of labor rules and regulations. 3260
2. Number of farmers and tax preparers who improved their understanding of income tax laws and tax management. 4439
3. Number of farmers, agribusiness and agency personnel who improved their understanding of domestic food and agricultural trade and environmental policies. 2972
4. Number of farmers who improved their management decision-making skills (including production, marketing, retirement planning, etc.). 4976
5. a. Number of new farmers who adopted FBMS. 48
b. Total number of farmers who participated in FBMS. 207
c. Number of new farmers who adopted some other "formalized" record system. 404
6. Number of lenders who improved their understanding of FBMS and integrated financial analysis. 157

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. As a result of labor law education, it was estimated that in one county the value of labor assistance received via the H2-A program provisions was \$982,000.
2. As a result of financial analysis assistance, three farmers in one county accurately arrived at capital investment decisions with an estimated value of \$2 million.
3. A "farm women's group" was established which provided the vehicle for increasing 65 women's awareness of the economic, political, and resource management issues affecting their families and their farm businesses.

4. Establishment of three marketing clubs provided a "real life" futures marketing experience where 56 farmers learned the usefulness of futures hedging to manage price risk.
5. The Farm Business Management System and the 207 participants provide the basis for accurate, "on farm" bench mark production and financial data for producers, lenders, and agency personnel to use in evaluating farm business performance.

E. NARRATIVE AND IMPLICATIONS

The results of this year's efforts in farm business management education have exceeded expectations in terms of the number of clientele reached with programs. There continues to be increased recognition of the need for improved decision making skills in our competitive economic environment. Producers' costs of production continue to rise as do total business investments. Thus, the financial risk of each decision escalates.

As environmental regulations, food safety concerns, and domestic and international agricultural policies add to the complexity of farmer and lender decisions, the need for more complete and accurate business data (records) becomes more critical. Producers and lenders must continue to improve their abilities to evaluate the impact of new regulations and policies on their businesses.

Changing income tax and estate tax laws require that producers stay abreast of a vast array of new laws and regulations in order to make wise, economically sound business decisions. An inadequate supply of agricultural labor and the increasing cost of labor (employment taxes and possible health care costs) demand that managers understand the numerous provisions of "labor law" and the economic impact of alternative labor decisions on their businesses.

Much has been accomplished in the area of farm business management education, but as producers become more aware of the competitive, complex global economy in which they operate, they demand more programs to improve their management decision-making ability.

F. COORDINATOR AND TEAM MEMBERS:

C. L. Moore, Coordinator
W. D. Eickhoff
A. W. Oltmans
J. M. O'Sullivan
S. Lilley
L. E. Rogers
S. A. Mickey

ANNUAL REPORT 1993

NC11 - LIVESTOCK PRODUCTION, PROCESSING AND MARKETING

A. OBJECTIVES

1. Producers will establish Integrated Resource Management projects.
2. Producers will adopt herd health programs.
3. Producers will use feed testing and recommended nutrient requirements.
4. Beef producers will utilize intensive grazing.
5. Beef producers will develop alternative marketing plans.
6. Farms will renovate cattle handling facilities.
7. Genetic evaluation programs will be utilized on beef, dairy, and swine farms.
8. Beef, dairy and swine producers will learn breeding management skills.
9. Producers will improve the environment in swine buildings.
10. Horse owners will improve their management skills.
11. Producers will use animal drugs wisely to enhance food safety.
12. Dairy cows will have a somatic cell score of less than four.
13. Dairy calf losses and calving age will decrease.
14. Dairy farmers will improve labor training and management skills.
15. Livestock producers will prevent excessive losses of manure and waste water into surface and ground waters and onto land.
16. Swine producers will keep adequate finance and production records and be knowledgeable about alternative marketing methods.
17. Dairy farms will understand government policy, be capable of evaluating alternative farming practices and be able to seek alternative businesses.
18. Small farmers will become aware of the economic potential of livestock production and develop correct management procedures.
19. Producers will learn IPM practices.
20. New processing systems for red meat will be developed.
21. Informational programs for nutritional labeling of red meat products will be available.
22. Beekeepers will learn how to deal with mites and Africanized bee problems and more beekeepers will enroll in the N.C. Master Beekeepers Program.

B. NON-EXTENSION RESOURCES

- | | |
|---|----------|
| 1. number of volunteers | 2,297 |
| 2. total number of volunteer-days | 4,622 |
| 3. value of federal government funding (grants) | \$ 2,909 |

- 4. value of state government funding (grants) \$ 20,300
- 5. value of local government funding (grants) \$ 31,760
- 6. value of private funding (grants) \$ 61,807

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

- 1. The number of:
 - a. New beef producers 739, total head new production 17,562.
 - b. New swine growers 165, total head new production 1,129,501.
 - c. New dairy producers 7, total head new production 990.
 - d. New horse producers 661, total head new production 1,753.
 - e. New small ruminant producers 303, total head new production 3,822.

- 2. The number of new producers who implemented:

- a. Intensive grazing management:
 - beef producers 548, total head new production* 18,712.
 - dairy producers 39, total head new production* 3,890.
 - sheep/goat producers 130, total head new production* 2,393.
 - horse producers 131, total head new production* 777.
- b. Improved housing ventilation:
 - dairy producers 44, total head new production* 5,450.
 - horse producers 30, total head new production* 500.
 - swine producers 201, total head new production* 1,031,445.

*** Note: Agents reported new or improved handling facilities on 89 beef farms. Because this was not in the template, there may have been more.

- c. Artificial insemination:
 - beef producers 355, total head new production* 9,698.
 - dairy producers 74, total head new production* 8,405.
 - sheep/goat producers 2, total head new production* 77.
 - horse producers 22, total head new production* 418.
 - swine producers 29, total head new production* 90,200.
- d. Improved marketing strategies:
 - beef producers 895, total head new production* 27,285.
 - dairy producers 70, total head new production* 7,360.
 - sheep/goat producers 173, total head new production* 3,772.
 - horse producers 99, total head new production* 1,042.
 - swine producers 199, total head new production* 487,325

- e. Forage/feed testing:
 - beef producers 437, total head new production* 17,446.
 - dairy producers 187, total head new production* 12,535.
 - sheep/goat producers 59, total head new production* 1,156.
 - horse producers 138, total head new production* 1,166.
 - swine producers 128, total head new production* 195,130.
- f. Ration formulation:
 - beef producers 412, total head new production* 15,743.
 - dairy producers 203, total head new production* 16,390.
 - sheep/goat producers 99, total head new production* 1,563.
 - horse producers 184, total head new production* 947.
 - swine producers 124, total head new production* 72,335.

*from existing and new producers

3. Producers that implemented integrated management systems:

- a. Number of producers that started or expanded grazing cattle on pasture fertilized with poultry or swine waste 519, estimated total impact \$1,419,730.
- b. Number of producers that started or expanded livestock IMP programs 177, estimated total impact \$ 187,900.
- c. Number of producers that started or expanded IRM program 210, estimated total impact \$ 198,075.

4. The number of producers that started:

- a. on-farm or central performance testing programs 143
- b. farm records/business analysis programs 159
- c. quality assurance programs 1,337
- d. small farm livestock enterprises 378

5. Enhanced people's knowledge: (citizens=non-farm citizens)

- a. Number of producers who increased knowledge of animal welfare issues 6,605.
- b. Number of producers who increased knowledge of environmental issues 11,763.
- c. Number of producers who increased knowledge of food safety issues 10,162.
- d. Number of citizens who increased knowledge of animal welfare issues 71,581.

- e. Number of citizens who increased knowledge of environmental issues 104,756.
- f. Number of citizens who increased knowledge of food safety issues 64,674.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Most Extension Agents with livestock responsibilities have reported significant efforts in the area of 4-H animal science activities. These include shows, training judging teams, assisting with projects, and quiz bowls. In addition, livestock agents are assisting with various educational activities within local public school systems.

Programs in beef cattle area have been growing in terms of farms, cattle, integration on swine and poultry units, and in integrated approaches to management (IRM). Innovative marketing (see below), use of intensive grazing, use of artificial insemination, improved handling facilities, and interest in forage testing and ration formulation reflect the optimistic outlook in the NC beef industry. Producers are learning more about tools of genetic progress (EPD's) and are selecting bulls more discriminately from central test station sales. A new forage-tested bull test in Sampson County was quite successful last year and will be continued in the future. Several counties (Sampson, Nash, Columbus, Vance, Warren) have reported cooperative efforts with local or NCSU veterinarians and state specialist in conducting breeding soundness examinations (BSE) on bulls. Sampson County reported that 9 of 28 bulls (from 9 producers) failed the BSE. This could have cost those producers 270 calves or \$94,000 in lost income if those bulls had been used in breeding herds. Combined programs on quality assurance and preconditioning before marketing have the potential to greatly enhance reputation of NC cattle and to put more dollars in producers' pockets. Agents reported increased participation in IRM programs (all species but primarily beef cattle) by 210 farms with an estimated economic impact of nearly \$200,000.

Milk production continues to be stable with a few new producers partially offsetting some leaving the business. Milk production per cow and percentage of cows on DHI programs continues to keep NC among the leaders in the eastern half of the country. Aggressive efforts by specialists and agents have led to routine use of forage testing, ration formulation, and use of various by-product and commodity feeds in dairy rations. Rations are formulated by producers, agents, consultants (many trained by extension), and specialists using a computer program developed at NCSU and available through DHI. Several agents reported efforts to assist producers in meeting new regulations for lower tolerances for somatic cell counts that went into effect on July 1, 1993. This was incorporated with an on-going major effort in the milk and dairy-beef quality assurance program in cooperation with the state specialist and local veterinarians. Agents reported on continued efforts to get producers to use artificial insemination, improve reproductive efficiency, and emphasize replacement heifer management. A recent trend of interest in intensive grazing management continues with 39 producers with 3,890 cows starting or expanding grazing programs in the last year.

Horse owners and horse numbers continue to increase in most areas of the state (+661 and +1,753, respectively were reported). Agents report working locally with producers on general management, feeding, and management of pastures. A series of eight state Horse Extension short courses and clinics were held from December, 1992 to April, 1993. They included two riding clinics, a judging clinic, and a breeding clinic as well as feeding, foaling, farm manager, and horse protection officer (with horse responsibilities) short courses. The short courses were designed to supplement introductory level management information previously taught in county extension meetings. These events attracted 889 horse owners from 13 states. Participants received 123 hours of advanced level instruction over 14.5 days for a total of 14,352 student contact hours. Also 1,160 horse owners were participants in eight 2-hour interactive television broadcasts to seven areas of the state. These broadcasts covered basic management information (see below).

Interest in small ruminants (particularly goats) has grown in the past year. Agents collectively reported 303 new producers with 3,822 additional animals. There is a statewide goat association being formed and a new abattoir is being constructed in Bladen County to process both goats and sheep. Producers are interested in goats for brush control, for complementary grazing of pastures with cattle, and for supplementary income potential.

Swine production continues to expand and North Carolina has emerged as a national leader in size (currently 4th), integrated production systems, and innovative management of manure. Agents and specialists have worked closely with swine industry leaders in development of forage-cattle systems to help use and recycle nutrients available from lagoons associated with intensive swine production facilities. Together with use of nutrients from poultry litter (cattle feed and fertilizer) agents reported expansion of integrated systems on 519 farms for an estimated impact of \$ 1,419,730. Significant effort has also been reported in improving design of ventilation systems in swine buildings (see below). Agents and specialists have also reported increased use of feed testing, ration formulation, and artificial insemination, along with improved marketing strategies for nearly 500,000 pigs.

Three hundred seventy-eight (378) small, part-time and limited resource farmers became aware of the economic potential of livestock production and/or gained knowledge of correct management procedures pertaining to the production of feeder pigs, rabbits, sheep and meat goats. Eleven (11) meetings and tours, involving specialists and agents, were carried out which centered around various production, management and marketing topics. Two hundred and fifteen (215) specialists, agents, farmers and interested individuals attended meetings statewide on the production and marketing of goats for meat. Two hundred and forty-two (242), 205 and 42 pieces of information, pertaining to rabbits, sheep and goats, and swine, respectively, were distributed to individuals seeking

information on the production and marketing of these livestock enterprises. Included in this total are sixteen (16) Sow Herd or Commercial Rabbit Production Management Calendars and Wheels, a simplified production management and record keeping system developed for use with small-scale swine and rabbit producers.

Part-time, limited-resource producers are learning how to improve their economic situation by diversifying their farming operations through the systematic adoption of new innovative livestock enterprises, such as commercial rabbit production or the production of goats for meat. Small farmers have become prudent and are beginning to understand the importance of enterprise selection and are making better use of available resources, existing markets and new marketing strategies/technologies. Creative Extension programs and technologies are still needed and will continue to play an important role in the transfer of knowledge and information, concerning the production and economic potential of livestock production, to small, part-time and limited-resource farmers.

E. NARRATIVE AND IMPLICATIONS (optional; include program accomplishments or impacts not described in Items C and D).

The following areas are suggested for development of "SILVER BULLETS" to further elaborate on the impact of NC Cooperative Extension efforts in livestock production, processing, and marketing:

1. Beef cattle -- Innovative marketing programs including the concept of retained ownership of feeder cattle fed under contract; and development of preconditioning programs of vaccinations and weaning for enhancing value and health of feeder cattle in special sales or direct from farms. Contact Beecher Allison, Carl Pless, and Dale Miller.
2. Dairy cattle -- Expand on collaborative efforts in presenting the Milk and Dairy Beef Quality Assurance Program particularly in relation to tighter regulations on allowable somatic cell counts in milk. Contact Don Wesen, Bob Edwards, Nancy Keith, and Tony McGaha.
3. Horses -- Interactive (two-way) television was used to present basic management information to horse owners in eight 2-hour sessions. Over 1,160 producers owning a total of 3,200 horses attended sessions at seven sites in NC to participate in the programs broadcast on the MCNC network. Evaluations were completed by 79% of participants who reported over \$50,000 saved or earned as a direct result of the broadcasts. Most of the horse owners reported that the two-way television broadcasts improved the quality of their management (83.1%), permitted adequate audience interaction (88.4%), and were an acceptable method of teaching basic management skills (91.1%). Contact Bob Mowrey, Bob Gregory, and Cynthia Gregg.

4. Goats -- Report on general interest in meat goats, development of a new statewide meat goat association, and availability of a commercial abattoir. This report indicates 303 new producers of small ruminants with new production of over 3,800 head, most of which are likely to be goats. Contact Matt Poore, Dwain Pilkington, and Jim Green.
5. Swine -- Report on impact of improvements in ventilation of swine units. See report below for Sampson County. Perhaps this impact can be summarized for the whole state. Contact Charles Stanislaw, Jim Barker, and Dan Bailey.

E. NARRATIVE AND IMPLICATIONS

F. COORDINATOR AND TEAM MEMBERS:

Steven P. Washburn
James C. Barker
Geoffrey A. Benson
Darwin G. Braund
James T. Green, Jr.
Roger L. McCraw
M. Ray McKinnie
Robert A. Mowrey
Dwain H. Pilkington
Charles M. Stanislaw
Donald P. Wesen
Lon W. Whitlow

ANNUAL REPORT 1993

NC12 - POULTRY PRODUCTION, PROCESSING AND MARKETING

A. OBJECTIVES

One hundred persons considering contract poultry production will understand the concept and economic return of contract production.

At least 2,000 of the more than 4,000 contract growers of poultry will know how to keep enterprise records.

Seventy-five poultry producers and agricultural professionals will know how to find outlook information, how to interpret it, and how to use it in planning.

Hatchery personnel from ten poultry companies will learn factors affecting the fertility and hatchability of broiler and turkey hatching eggs.

Ten poultry companies' production managers and four nutritionists will learn and adopt information relating to feed formulations, improved pellet quality, efficacy of new feed additives, improved feed production time, and feed uniformity.

Five turkey companies will increase the use of restricted feeding of breeder turkeys and modern turkey semen storage programs.

Fifty poultry producers will adopt efficient lighting and other modern housing technologies that will enhance poultry house environments.

Fifty poultry flock supervisors and production managers will increase their understanding of the mode of action and application of vaccines and pharmaceuticals.

Two hundred poultry production managers, flock supervisors and growers will increase their awareness of the importance and implementation procedures of biosecurity and will adopt practices that will decrease medication costs while maintaining equal bird performance.

One hundred poultry producers/service personnel will institute regular monitoring procedures for pests and ectoparasites, recognize problems prior to the pests and ectoparasites exceeding economic threshold, and institute appropriate control/management practices.

Ten poultry production managers, five nutritionists, and ten contract supervisors will learn nutrition and management programs that reduce poultry mortality.

Four hundred North Carolina poultry growers and industry personnel will become aware of environmentally sound and approved mortality pit construction criteria.

Two hundred North Carolina poultry growers will construct 200 mortality composting units.

One hundred people in the poultry industry will learn the potential of fermentation preservation of mortality as a precursor for extrusion or rendering.

One poultry company will adopt extrusion for recycling poultry mortality, hatchery offal, and/or processing by-products into feed ingredients.

Three hundred poultry growers, crop farmers, poultry company personnel will adopt economical BMP (Best Management Practices) related to manure containment, waste water treatment, by-products recycling, and land application systems which conserve natural resources and are environmentally sound.

Ten poultry companies will learn Salmonella control procedures and two integrated companies will adopt Salmonella control programs.

Ten poultry processors will learn labeling regulations and scientific nutrition information and provide consumers with up-to-date nutrition information on new label formats.

B. NON-EXTENSION RESOURCES

1. number of volunteers	315
2. total number of volunteer-days	376
3. value of federal government funding (grants)	\$ 2,000
4. value of state government funding (grants)	0
5. value of local government funding (grants)	\$ 500
6. value of private funding (grants)	\$15,878

C. TEMPLATE INDICATORS AND ACCOMPLISHMENTS

1. The number of contract growers that gained knowledge of keeping enterprise records 620.
2. Number of growers assisted in building new houses 120.

3. The number of growers that adopted:
 - a. efficient lighting technology 134, number of houses 203.
 - b. efficient ventilation technology 262 , number of houses 473.
 - c. labor saving technologies 269, number of houses 480.
4. The number of growers/service personnel that regularly monitored pests and ectoparasite 1348.
5. The number of growers that implemented:
 - a. mortality composting technology 410, other mortality recycling technology 614, number of houses 2603.
 - b. other methods of improved litter management 412, number of houses 892.
6. The number of growers that implemented Best Management Practices related to poultry manure and litter utilization 508, number of houses impacted 1315.
7. The number of growers/service personnel provided training in biosecurity principles and medication/vaccination techniques 240.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Twenty-nine people representing 11 different poultry companies participated in a "hands-on" workshop where they learned to develop a HACCP plan for their company aimed at reducing pathogens.

All North Carolina poultry processors were offered assistance with label preparation to meet NLEA regulations through a Workshop (August 23-24, 1993) and provided updated information through periodic newsletters and regular processor education meetings.

Work through a "turkey mortality task force" has identified ingestion of darkling beetle larvae as a means of transmitting infectious agents involved in high poult mortality.

Work toward formulating a HACCP plan for prevention of Salmonella contamination in poultry products is continuing. However, the comprehensive scope of such a plan means that formulation of a plan is a long term goal which will require perhaps more than the four years allotted to it. Progress has been made toward understanding the factors which influence Salmonella contamination in broiler breeders. The following factors have been found to influence the degree of Salmonella contamination in broiler breeders: 1. Bird health; 2. Improper management; 3. Exposure to certain diseases (particularly fowl cholera); 4. Stress (particularly heat stress). A HACCP plan for control of Salmonella in feed manufacturing facilities. This plan will include an identification of critical control points; monitoring procedures and suggested response procedures when discrepancies are found.

To determine the influence of carcass component yield and methods of yield evaluation, a comprehensive study of industry standards was first done by determining the relationship of sex, age, and body weight to carcass yield and offal production of broilers and turkeys. Results of the broiler study have been published and data analysis of the turkey data is being completed.

E. NARRATIVE AND IMPLICATIONS

Most of the program objectives are on track to meet stated four year planning goals. Objectives in the nutrient management and energy conservation areas have already exceeded stated four year goals.

- F. COORDINATOR AND TEAM MEMBERS:**
- T. A. Carter
 - P. A. Curtis
 - F. T. Jones
 - D. V. Rives
 - S. M. Stringham

ANNUAL REPORT 1993

NC13 - AQUACULTURE AND COMMERCIAL FISHERIES PRODUCTION, PROCESSING AND MARKETING

A. OBJECTIVES

Increase the knowledge level of Extension Agents, producers and potential producers in the appropriate aquaculture technology options for use in their region of NC. Expand the aquaculture industry in NC and increase its profitability. Reduce the real or perceived impact of commercial aquaculture activities on the environment in NC. Continue marketing and production economics workshops for aquaculture producers/potential producers, lenders and other interested individuals. Develop a Hazard Analysis Critical Control Point (HACCP) training program for the seafood processing industry, which can be used in North Carolina and nationally, to assist the industry in understanding HACCP. Improve understanding and application of advanced techniques for valuing changes in recreational and commercial harvests, effects of changes in water quality on fisheries, and economic values associated with estuarine fisheries for freshwater sportfish (particularly largemouth bass).

B. NON-EXTENSION RESOURCES

1.	number of volunteers	79
2.	total number of volunteer-days	103
3.	value of federal government funding	\$368,274
4.	value of state government funding	\$271,581
5.	value of local government funding	0
6.	value of private funding	\$ 42,650

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. The number of new aquaculture production units.
 - a. acres of ponds, 55
 - b. tanks, 7
 - c. raceway volume, 60,460
2. Total pounds of production from new units, 253,500
3. Number of individuals with increased knowledge or skills in aquaculture or commercial fisheries production, processing or marketing, 9,313

4. Increased total production due to improved management and disease control.

- a. lbs/pond: catfish 500, hybrid striped bass 500, trout 140
- b. lbs/tank: 0
- c. lbs/raceway: 70-550

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Warmwater Aquaculture:

The warmwater aquaculture industry has moved out of the economic recession that began in late 1989-1990 almost completely intact. Compared with the Mississippi catfish production industry which has suffered nearly a 17% rate of catfish farm failures (300 out of 1800 have failed since 1990), North Carolina has experience only one business failure out of 57 growers (1.75%). In the words of the President of the NC Aquaculture Association in a recent newsletter, "The industry has come out of the recession not only intact, but stronger than ever ..."

As an indicator that the NC Cooperative Extension program has made an impact on aquaculture as an industry, the NC Aquaculture Association drafted and adopted a resolution "supporting North Carolina State University as the lead institution in aquacultural research and education". The resolution was sent to President Spangler, the UNC Board of Governors, Governor Hunt, and Key members of the NC General Assembly.

Extension personnel continue to improve producers' understanding of best production, processing, and marketing practices, through a variety of workshops, field days, demonstrations, presentations, publications, newsletters, media interviews, and personal contacts. These efforts are producing tangible results. For example, in Northeastern North Carolina, over 75% of producers better understand the principles of maintaining good water quality, and 50% understand causes and remedies for stress and disease problems. As a result, the incidence of pond mortalities in this area has declined from 11 in 1992 to 3 in 1993, and disease diagnostic requests have declined 80% since 1991. Development of a mobile disease diagnostic lab has produced similar benefits in the Southeastern region.

With the pond-bank price of catfish back to \$0.72/lb, the extension offices are again fielding questions from farmers concerning catfish farming. We expect to see the current 1,500 acres of production increase in the next year. Catfish yields are averaging very near the target goal of 4500 lbs/acre, with some producers surpassing this level. Stronger markets and improving production practices should push this yield toward 5000-5500 lbs/acre. Interpersonal conflicts between producers and/or processors are one of the larger problems within the industry. Extension personnel have had some success in promoting cooperation and "win-win" situations.

North Carolina's hybrid striped bass industry remained stable during 1992-93. Production remained at 600,000 lbs. with a pond-bank value of approximately \$1.5 million. Nationally, production did not increase either. The recession and investor conservatism probably accounts for the lack of growth in the industry during 1992. Growth should continue in the future as economic conditions improve. Two new producers have already built and stocked new ponds bringing the total HSB production acres in North Carolina to 224. Their first production will be sold in 1994.

North Carolina HSB producers will be the first in the nation to test triploid black carp for snail control in ponds. Snails, along with birds and fish are part of a complex life cycle for a parasitic digenetic trematode commonly called yellow grub because of its appearance in fish. Producers throughout the southeast have had increasing problems with yellow grubs in their fish as the industry grows. Realizing that the presence of yellow grubs may affect the sale of their product, even though yellow grubs are not a threat to humans, North Carolina producers are inspecting all fingerlings for grub problems. However, it appears that using triploid (sterile) black carp, which eat snails, may be their best chance of interrupting the life cycle of yellow grub. North Carolina HSB producers want to solve this problem before it impacts the sale of all HSB.

Crawfish producers have developed a strong market demand for their products which currently exceeds supply. In 1989, the crawfish industry indicated a need for improved marketing of crawfish in North Carolina. Extension personnel have provided information and assistance in identifying and developing markets, which helped raise demand beyond current production levels. Since 1989, the price of North Carolina crawfish has increased from \$1.50/lb to \$2.25/lb. Current and future efforts will focus on enhancing production.

Crawfish yields have remained around 600 lbs/acre due to inconsistent weather patterns, although some producers have exceeded the target goal of 700 lbs/acre. Several crawfish growers are implementing aeration techniques developed through an Extension research and demonstration project.

Coldwater Aquaculture:

The focus of this year's efforts has been to increase profitability of the coldwater aquaculture industry in North Carolina, particularly through improved waste management. Although the industry is stable and showing a slow growth rate of about 5%, profit margins are extremely variable among farms. Extension personnel have used a variety of methods including workshops, farm tours, demonstration projects, direct contacts, and a regional newsletter to improve farm management and profitability. These efforts have produced concrete results. For example:

- 28 trout producers gained an understanding of the beneficial aspects of record keeping and its role in overall management of the farm.

- 9 trout producers adopted adequate record keeping and inventory practices.
- 49 producers were made aware of necessary permits and evolving regulations.
- 17 trout producers established beneficial communication with regulatory personnel.
- 37 producers were made aware of current methods of solid waste management and use.
- 14 producers adopted acceptable waste management practices.
- 37 trout producers were made aware of available cost-share funding.
- 52 producers were made aware of available diagnostic services.
- 38 producers were made aware of disease certification services.
- 17 trout producers comprehend the most efficient fish health and disease management practices.

Trout processing in North Carolina generates about 2 million pounds of waste (carcasses and viscera) each year. These wastes have been difficult to dispose of and impose an additional cost. At the same time, there is a growing demand for high-quality compost from nurseries, greenhouses, landscapers, gardeners, and others. A demonstration project on composting of trout processing wastes is underway to demonstrate and evaluate three different approaches to combining fishwastes with wood waste products (chips, sawdust) to produce a saleable product. Trout producers and processors can capitalize on this market once the composting process and nutrient analysis have been demonstrated and completed.

At most trout farms solids removal is necessary to improve fish health and comply with existing effluent discharge regulations. Projects on three different farms are demonstrating methods of solids removal that can be used to remove trout manure from production systems and reduce loading to receiving waters.

There have been no regulatory violations in the past year, demonstrating an understanding of the regulations by trout producers and effective communication with the regulatory agencies. A general permit for construction of a trout production facility has been approved, which expedites the permitting process.

Two record-keeping demonstrations have been completed, illustrating the benefits of sample counts and inventories in improving farm efficiency and decreasing production costs.

A facility for the demonstration of highly intensive production of coldwater fish was constructed in 1993, and will be the focus of workshops on this and other topics in 1993/94. This project will evaluate the potential for diversifying trout production methods in North Carolina.

Though North Carolina's trout industry is over 30 years old, the industry remains fragmented and has no operating mechanisms through which the production of trout could be aligned with the processing and marketing needs of the processors. During the past year, Extension has taken the lead in developing a cooperative project with NCDA and the NC Trout Growers Association to establish a means of achieving that coordination. With initial funding provided by contributions from trout processors, TVA, and NCDA, a production and marketing coordinator was hired (through NCDA) and by July 1993 had contacted every NC trout producer to establish a current "swimming inventory" of trout in the area. Processors in NC were surveyed to determine their needs for trout in terms of quantity and quality of product. By working with farmers to help schedule their trout production to match the needs of the processors, and by keeping the processors abreast of the numbers of marketable fish in the area, we will help the industry grow and maintain profitability by avoiding surpluses or shortages of trout on farms in NC. The project is co-directed by the Extension Coldwater Fisheries Specialist and the Director of Aquaculture for NCDA. The Board of Directors of the NC Trout Growers Association serves as an advisory committee for the project. The NC General Assembly has provided additional support which will allow the project to continue for at least two more years. Approximately 69% of the NC trout producers are participating in the project; the remainder either do not market through processors or have very specialized markets.

Recirculating Aquaculture Systems Demonstration and Education:

The National Council for Agricultural Education of Alexandria VA, provided a grant to the North Carolina Cooperative Extension Service Aquaculture Program to design and build a model aquaculture recirculating system (MARS) for high school lab use. The model system is located on the NCSU campus in Raleigh, adjacent to the Jane S. McKimmon Center. The system was designed to provide Science and Agri-science educators with the infrastructure to teach science to students through aquaculture in a laboratory setting.

During the week of September 10th, 1992, The Council held an in-service training conference in Raleigh, introducing the new curriculum to 250 teachers, administrators, and extension professionals from all 50 states and all US trust territories. All of the teachers and extension personnel were introduced to the MARS unit and provided with a detailed manual on its construction and operation.

Since the training conference, MARS units have been constructed at numerous locations across the USA. Within North Carolina, Riverside HS in Durham, and a High School in the Charlotte area are building a MARS unit for use within their agri-science curriculum. The Council curriculum with recirculating aquaculture labs are being instituted in no less than six schools across the state.

The North Carolina Fish Barn project continues to serve as a center for aquaculture demonstration for the Piedmont of North Carolina. During the second phase of this four year project, over 14,000 pounds of Tilapia fish have been grown, harvested and test marketed.

As a result of training workshops at the Fish Barn, the first commercial recirculating fish production unit is under construction in the Piedmont of NC. This system will produce ornamental goldfish and koi carp on a year-round basis. Additionally, we are holding serious design and business economic discussions with individuals from Lenoir, Nash, Johnston, Iredell, Mecklenburg, and Union counties in the development of production systems based on the Fish Barn technologies.

Seafood Processing:

On March 22, 1993, Dr. David Kessler, Commissioner of the U.S. Food and Drug Administration, announced that the FDA was moving forward with plans to mandate the inspection of seafood processing plants, based on Hazard Analysis Critical Control Point (HACCP) principles. When this will become reality is speculative. Nonetheless, as a result of this mandate the seafood industry will require a significant level of educational assistance in the form of HACCP training. Toward this end, extension specialists in the Department of Food Science have taken the lead in developing such a training program. During the past year, six programs were conducted across the country for 125 seafood processors. Coordination for these programs was provided by the National Fisheries Institute, and extension personnel in various states (CA, RI, WI, VA, NC, LA, and FL) participated as trainers.

Extension food science personnel have been conducting a demonstration project funded by National Coastal Resources Institute to illustrate the benefits of cryogenic preservation of crab products. Estimating the economic benefits of introducing cryogenic technologies into the blue crab processing industry is difficult. There are over 230 blue crab processing firms from Maryland to Texas, but only two companies were known to use cryogenics for freezing crabs or crab meat in 1990, prior to the beginning of the NCRI demonstration project. In 1993, there are now 12 processors employing cryogenics. As markets for high quality frozen crabs and crab meat continue to grow, so will the number of processors interested in using the technologies demonstrated in this project.

Commercial and Recreational Fisheries:

Both commercial and recreational fishing are major economic forces in coastal North Carolina. Economic valuation of fishery resources and ways to improve the economic returns to estuarine and marine fisheries are important issues currently being addressed by extension personnel. A combination of workshops, publications, and presentations have been used to disseminate information on these topics to fishery managers, major national environmental groups, and food scientists specializing in fishery products.

A major fishery management concern continues to be the economic effects of reallocating allowable harvest between competing recreational and commercial fishermen. The NC Division of Marine Fisheries provided support to involve several nationally known economists in a day-long training session on how to measure the economic effects of reallocating allowed harvest between competing user groups. This information was also shared with 300 fisheries managers and others concerned with fisheries resources through a series of six workshops on Economics of Reallocating Harvest Between Commercial and Recreational Fishermen.

Significant progress has been made in extending results of research into an improved demand function specification for commercially harvested fishery species. The technique (the general equilibrium derived demand) measures effects in more markets than the more traditionally used partial equilibrium derived demand. Results of its application to the NC flounder fishery were presented to fishery managers during the Fisheries Economics Summit, to South American & Gulf of Mexico Fishery Management Council staff, and to an international fisheries economics conference in Bergen, Norway. Approximately 150 individuals concerned with fishery management have been exposed to this technique, and interest by managers is growing in its application.

This year a workshop was held for State's Attorneys and other personnel involved in planning for oil or other hazardous waste spills. Funding from the NC Division of Emergency Management allowed us to involve three of the nation's best environmental economists in this day-long session. Approximately 30 state agency personnel were exposed to how economists value the damage to natural resources (and/or their services) from spills. Three additional workshops were held for 160 managers and fisheries workers on Managing Freshwater Fisheries.

E. NARRATIVE AND IMPLICATIONS

The aquaculture extension program of the NCCES has assisted numerous aquaculture farmers in weathering the economic recession of the early 1990's. Having established itself as the chief source of technical information within North Carolina, the NCCES will guide the efforts of individuals and the NC Aquaculture Association in the future expansion of this industry.

Just as important, our program has helped many individuals that were not suited for aquaculture as a business to make an informed decision not to initiate an aquaculture enterprise. These important efforts have saved the citizens of NC a sizable amount of money that may have been lost in ill-founded aquaculture business ventures.

Our aquaculture program will continue to focus on ways to enhance the long-term stability and viability of North Carolina's aquaculture industries. Special efforts will continue on waste management and disposal, management strategies to reduce fish stress and disease, market development, and effective farm management for improved

efficiency and profitability. Our approach will continue to emphasize innovative solutions such as the ongoing efforts in composting fishwastes, parasite control for hybrid striped bass, and development of the Model Aquaculture Recirculating System for high school laboratories.

North Carolina research on intensive recirculating aquaculture production systems is setting the standard for the nation. The Fish Barn project has continued to provide a nationally recognized program of extension education and applied research in water reuse systems for aquaculture production. Within the next few years, we believe numerous entrepreneurs will begin to commercialize the technologies that have been evaluated and developed within this unique program. The recent development of a similar facility in western North Carolina for coldwater production research will allow us to extend this effort to trout and other coldwater species.

North Carolina is providing national leadership for implementation of the HACCP seafood inspection procedures now mandated by the FDA. Similarly, efforts by North Carolina Extension food scientists to demonstrate the benefits of cryogenic preservation of crab products are resulting in increased use of this new technology across the country. We will maintain these leadership roles.

In many cases, economic considerations have a greater impact on the dynamics and health of commercial and recreational fisheries than do biological factors. Yet most fishermen and fisheries managers have little knowledge of the economic processes influencing their success or the health of the resources they harvest. Our efforts to both develop better economic valuation approaches and to educate users and managers of fisheries resources regarding their use will continue.

- F. COORDINATOR AND TEAM MEMBERS:**
- J. Rice, Program Coordinator
 - J. Easley
 - S. Gabel
 - J. Hinshaw
 - R. Hodson
 - T. Losordo
 - D. Ward
 - B. Williamson

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NC14 - FIELD CROP PRODUCTION, PROCESSING AND MARKETING IN NORTH CAROLINA

A. OBJECTIVES

Producers adopt a comprehensive approach to nutrient management, integrating the use of soil, tissue and manure testing, utilization of both organic and inorganic nutrients and effective placement and timing of nutrients.

Producers adopt a comprehensive approach to soil management, including the use of best management practices and crop/site selection.

Producers adopt an integrated approach to pest management to minimize production costs and negative environmental impacts.

Producers take a more comprehensive approach to developing and implementing marketing plans and adopting economically sound production practices.

Growers will adopt practices to produce high quality produce and to safeguard quality during harvesting and post-harvest processing.

B. NON-EXTENSION RESOURCES

A. Outside Funding:

Substantial funding from outside sources has been utilized in support of field crops programs at both the state and county level. Many of the state's 100 counties report funding in the \$1,000 range. Private, county and state grants to county programs totaled over \$171,000. Campus based departments and programs received support in excess of \$300,000. Grants, contracts and gifts are supplied by many individual agribusinesses, agrichemical firms, commodity organizations, TVA, PIAP, NAPIAP, banks and lending agencies, marketing services, etc.

B. Outside Organizations/Resource People/Volunteers:

A wide variety of organizations and individuals provided support to Extension programs. Many activities were conducted in cooperation with other agencies such as SCS, ASCS and the North Carolina Department of Agriculture. In addition, representatives of these agencies served as important resource people in support of our programs. The soil, manure, and tissue test labs and the nematode assay lab of NCDA were critical resources

in meeting our objectives in nutrient and pest management. The cooperation of the electronic and print media at the local, state and national level was invaluable in allowing NCCES to disseminate information; in excess of one hundred media outlets were involved. In addition to providing financial support (above), agribusiness units, commodity groups and farm organizations cooperated in conducting a wide range of meetings, field days and demonstrations. Independent crop consultants and farmer cooperatives provided scouting and trap data to our pest survey and prediction program. Individual farmers provided resources and labor in the conduct of numerous on-farm tests and demonstrations and provided direction to our activities through the Advisory Leadership Program.

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Advances have been achieved in the adoption of recommended nutrient management practices and systems. County programs have reported increased use of organic nutrients coupled with manure and soil testing. In Burke Co., for example, corn growers using these tests to minimize costs and environmental impact reduced nutrient costs by over \$200,000. Yadkin Co. reports that costs of nutrients have been reduced up to 80% for some farmers. The use of soil testing (indicator 2 in state pow) increased in 1992 and 1993. For the three year period 1989-91 an average of 127,936 soil tests were taken annually for six major crops/groups (corn, cotton, peanuts, small grains, soybeans and tobacco). Weighted for changes in acreage for these crops, this represents 0.031 samples per acre. In 1992-93, an average of 133,868 samples were taken annually, representing 0.035 samples per acre. Thus, the use of soil testing has increased ca. 10% in comparison to the base-line period). Agents and specialists estimate that phosphorus application rates declined in 1992 and 1993 (indicator 3). Base-line data for 1990 and 1991 (for NC) are available from the National Agricultural Statistics Service: corn - 56 lb/A; peanuts - 45 lb/A; soybeans - 37 lb/A. Data for 1992 have recently been published by the same agency: corn - 56 lb/A (no change); soybeans - 35 lb/A (5% reduction); peanuts - not available. Data from state fertilizer tonnage reports indicate phosphorus use on tobacco of 61 lb/A for 1990-91 and 58 lb/A in 1992-93 (5% decrease). These data suggest that North Carolina's tobacco and soybean farmers applied 3.6 million fewer pounds of phosphorus in 1993, contributing to increased profitability and decreased nutrient load on the state's waters. Soil pH levels in tobacco (indicator 4) have remained relatively stable. Average pH in soil tests for 1989-91 was ca. 5.6 and remained so in 1992 and 1993.

Agent estimates indicate broad acceptance and use of soil management practices (indicator 5). A survey of 84 (of 100) counties indicate nearly 70% of farms utilizing at least two BMP's for soil management. These practices impact over two million acres of crop land. Moreover, 28% of farms implemented new BMP's during 1993.

Integrated pest management systems have been promoted by NCCES and adopted by many North Carolina field crop producers. A statewide survey of agents indicates that over 45% of field crop growers have adopted a system of three or more IPM/ICM practices (indicator 6). Such systems impact nearly 2.2 million acres. Many other growers utilize at least one or two IPM practices, and adoption of a system of practices is at a much higher percentage in some crops (eg. cotton). Increasing numbers of farmers took a more comprehensive approach to marketing their field crops in 1993. Agent estimates (64 of 100 counties) indicate 37% of soybeans were marketed using a strategy other than farm storage and direct sale (indicator 7).

Producers in critical areas were encouraged to install and operate water table management systems (WTMS). Agent surveys in 20 coastal plain and tidewater counties with poorly drained soils indicate WTMS are used on ca. 20% of acreage and 31% of farms.

State and county programs directed to tobacco farmers emphasized the need to produce a high quality crop. Two areas were stressed, the harvesting and curing of mature to mellow tobacco grades and the reduction of MH residues which threaten the marketability of the crop. Significant progress was made in the production of mature and mellow grades (indicator 10). In crop years 1990 and 1991, an average of 61.3% of N. C. flue-cured tobacco was graded mature to mellow. In 1992 ca. 74% of the crop was so graded, an increase of over 12%. Data for 1993 are not yet available, but are expected to indicate a decline in mature and mellow grades (compared to 1992) due to very poor growing conditions. An average of 13.7% of tobacco marketed in the period 1989-91 exceeded 250 ppm MH residues (indicator 9) and 32.5% exceeded 150 ppm. In 1992, the first year of the current four year plan, only 9.8% of marketed tobacco exceeded 250 ppm MH residues and 29.3% exceeded 150 ppm. Thus, for 1992, tobacco exceeding 250 ppm was reduced by 28% (calculated for a constant crop size). Residue data for 1993 are not yet final. However, preliminary data indicate less than 12% of the crop will exceed 250 ppm. This reduction relative to the base-line years is significant in view of the crop and weather conditions in 1993 (highly conducive to excess MH residues).

D. OTHER INDICATORS AND ACCOMPLISHMENTS

A high concentration in North Carolina of confined poultry and swine production units, as well as dairy and other livestock operations presents the state with a problem and an opportunity. Waste from confined animal operations threatens both ground and surface water quality but provides an abundant supply of cheap nutrients for field crops. The NCCES has been active in developing and demonstrating methods by which animal wastes can be effectively used in field crop production. As a result, corn producers in Burke Co. have reduced the need for commercial fertilizers and saved over \$2200,000 in 1993. By utilizing soil tests and manure and tissue analysis, farmers in Wilkes Co.

have reduced fertilizer costs by ca. 80%. Pender Co. reports an increase in 1993 of 20 growers using animal wastes as nutrients based on soil and manure testing. Additionally, an educational program to encourage the use of high analysis (and relatively cheaper) fertilizer has been successful with tobacco farmers throughout the state. This has resulted in a savings to farmers of over \$50,000 in Lee Co. alone.

On-farm tests and demonstrations and a general educational effort have been used to promote Best Management Practices for soil and water management. One emphasis has been on the use of minimum-till and no-till systems. Grower adoption has been good. For example corn produced using conservation tillage increased to 4,200 acres (ca. 50%) in Henderson Co. and increased by 5,000 acres in Iredell Co. Martin Co. saw 8% of corn produced no-till with a production cost reduction of 25% and an increase in gross return of \$20 per acre. No-till production of burley tobacco has been promoted. Increasing adoption of this practice has allowed the continued production of this very valuable crop in an area of farms consisting almost entirely of highly erodible land.

IPM as a means to reduce production inputs was promoted through a variety of means. These included on-farm tests, demonstration IPM/ICM programs, scout training schools, meetings, workshops and publications. Pest detection and prediction systems were also made available. Estimates of savings in input costs and yield loss as a result of cotton scouting are \$318,000 in Scotland Co. and \$50,000 in Craven Co. (1992 - last data available). A peanut leafspot advisory system was widely used throughout the peanut production area, resulting in estimated savings in Bertie Co. of \$200,000 through reduced fungicide use.

Although much of the programming effort was directed to the major objectives outlined above, significant effort was also directed to other goals. Examples include: a) Educational events, publications, and demonstrations were directed to improving tobacco farmers ability to efficiently produce transplants in greenhouses. In 1993, 46% of tobacco seedlings used in North Carolina were produced in greenhouses (18% in 1990). As a result, crop uniformity (and quality) was increased, labor costs reduced \$25 per acre (\$3 million statewide), risks of transplant production failure reduced, and the use of methyl bromide for soil fumigation reduced (over one million pounds statewide). b) In Greene Co. an effort to reduce inputs for soybean and corn production has reduced costs by \$220,000 without yield loss (1992 data - last available). c) Demonstration of new technology to determine peanut maturity has resulted in increased yield and quality through proper harvest timing. In Bertie Co., this is estimated to have added \$680,000 to crop value.

E. NARRATIVE AND IMPLICATIONS

NCCES field crop program is directed to increasing profitability and decreasing environmental impacts through:

Improved nutrient management

Improved soil management

Improved pest management

Aggressive marketing

Improved water management

Improved product quality

Major indicators of success:

10% increase in use of soil tests for nutrient management.

Increased use of animal waste as a nutrient source, coupled with the use of soil and manure testing.

Increased use of high analysis fertilizer.

3.6 million pound reduction in phosphorus use in soybean and tobacco production

70% of farms using at least 2 BMPs for soil management.

Increased use of conservation tillage.

20% of poorly drained fields using water table management systems.

45% of farms using a system of at least 3 IPM/ICM practices.

One million pound reduction in methyl bromide use.

37% of soybeans aggressively marketed.

12% increase in high quality tobacco marketings and 28% reduction in very high MH residues.

Increased adoption of nutrient management systems, including the use of soil, tissue and manure testing; use of organic fertilizers; and improved placement and timing of application has the reduced excessive use of nutrients. This in turn has reduced production costs and the negative impact of nutrients such as nitrogen and phosphorus on surface and ground water. In many cases, insect and disease pressures have also been reduced. Alternatively, crop vigor and net returns are increased when testing reveals nutrient deficiencies or toxicities. Further, the use of animal wastes as a carefully managed nutrient source has reduced the environmental impact of animal operations. Those indicators measured for 1992 and 1993 (as well as observations and estimates by agents) demonstrate significant improvements and the success of Extension programs. Nonetheless, continued improvement is needed.

The adoption of soil management practices have an obvious positive impact on soil conservation and surface water quality (sediments are the state's most common pollutant). However, tools such as reduced tillage, increased rotation, etc. require the development and promotion of modified farm, crop and pest management systems. Much of this responsibility will fall on Extension and will require continued effort. While the data available indicate increased use of recommended soil management practices, it is clear that significant advances are possible and needed.

Widespread use of pest management systems protects (and in many cases increases) net profits while protecting workers and the environment from excessive pesticide use. It is clear from available data that many farmers use the tools of IPM to the benefit of their operations and to the state as a whole. It is also clear, nonetheless, that further acceptance of these tools and better integration of the tools in well thought-out systems is desirable. Increasing use of comprehensive marketing approaches adds stability to the economics of field crop production.

Increased quality of tobacco (and other commodities) adds value to the state's crop production and increases marketability in the face of growing foreign competition. Prices in 1992 for ripe tobacco averaged six to ten cents per pound higher than those for unripe grades. Thus a 12% increase in tobacco graded as ripe represents \$4.2-7.0 million increase in crop value for the state.

F. COORDINATOR AND TEAM MEMBERS:

P. S. Naderman
J. E. Bailey
J. M. Ferguson
C. D. Fountain
R. E. Jarrett
L. T. Lucas
K. B. Perry
G. C. Naderman
W. D. Smith
A. C. York

ANNUAL REPORT 1993

NC15 - COMMERCIAL HORTICULTURAL CROPS PRODUCTION, PROCESSING AND MARKETING

A. OBJECTIVES

1. For vegetable, fruit and ornamental growers to become more competitive by adopting more efficient, high intensity production practices and new technologies.
2. For horticultural crops growers to become more efficient by reducing losses from pests by adopting Best Management Practices to more carefully target pesticide applications, adopt biological control strategies, and protect water quality.
3. For growers to develop and implement a marketing plan.
4. For growers to adopt modern post-harvest handling procedures.

B. NON-EXTENSION RESOURCES

1. Number of volunteers	1,046
2. Total number of volunteer days	2,212.10
3. Value of federal government funding (grants)	\$ 14,880
4. Value of state government funding (grants)	\$ 6,600
5. Value of local government funding (grants)	\$ 1,975
6. Value of private funding (grants)	\$122,155

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Fruit - Tree fruit profits continue to remain low due primarily to late spring frost damage to the flowers. Peach acreage continues to decline in the Sandhills area. Peaches are being planted in other parts of the state in small blocks for "pick your own" or roadside marketing. Strawberry production on black plastic is increasing rapidly. In 1991, there were 450 acres; in 1992, there were 600 - 650 acres; and in 1993, there were 700 - 750 acres harvested. The acreage is expected to increase again in 1994. Based on profit, 2 1/2 - 3 acres of matted-row strawberry equals one acre of plastic culture strawberry. Sales of strawberry plants from North Carolina nurseries are also increasing and most strawberry plants for the mid-Atlantic area are produced by North Carolina nurserymen. Cost to produce one acre of strawberries on plastic can be as high as \$10,000.

Ornamental plant production in North Carolina is increasing in total volume, growers are trying to improve their efficiency, diversify the range of species being grown to meet market demands and to attract new buyers, etc. Larger greenhouse floral growers are building 5 - 15 acres of new greenhouse space each year as well as totally new greenhouse operations are going into production. Many greenhouse floral growers are retrofitting greenhouses to recycle irrigation water to meet run-off standards. Approximately 40% of the woody ornamental container nurseries either capture and reuse run-off irrigation water or have plans developed to install water capture systems. Serious disease problems are showing up in recycling water systems. Many of the larger growers are installing some type of system to treat the recycled water. Most of these systems inject chlorine into the irrigation line which may not be effective.

Vegetable production is increasing in total production, is also moving to more efficient production systems and is diversifying to meet niche markets. New crops for niche markets include; onions, oriental vegetables, Shitake mushrooms, fresh herbs, organically produced vegetables, small seedless watermelons, etc. In 1993, 35 growers purchased precision seeders, improving seedling emergence, uniformity, etc. on 2,945 acres. Approximately 354 growers planted 1,654 acres for niche markets. Onion production has increased from almost nothing to 71 growers producing 493 acres in just three years. Over 504 growers have adopted IPM programs impacting 20,084 acres.

Commercial horticultural crop producers are becoming increasingly sophisticated in their approach to marketing. Approximately 746 have developed marketing plans. Similarly 355 growers have invested in equipment to improve post-harvest handling for 14,106 acres to maintain high level of quality. The number of local farmer's markets continues to increase.

Agent training and grower meetings remain a high priority for Specialists. Approximately 7 county agents with horticultural crops responsibility are presently pursuing an advanced degree. The grower attendance at the Grower Expo continues to grow. This meeting gives county agents a chance to present papers before growers on applied research conducted with Specialists. This is excellent training, gives agents visibility at grower meetings and provides excellent professional development for agents. Two programs have been presented to growers and county agents utilizing the 2-way live interactive video at seven locations across the state. Increased use of this type of distance learning technology will greatly improve the efficiency of Specialists and increase Specialist's opportunity to utilize teaching and research faculty in our Extension programs.

Horticultural crop processors are struggling to remain profitable while meeting the increasing costs of complying with regulations. Specialists have conducted focused educational programs for the processing industry on strategies to deal with regulations and waste water quality.

E. NARRATIVE AND IMPLICATIONS

Most areas of commercial horticultural crop production, marketing and processing are increasing, expanding, diversifying, or becoming more efficient. The future for horticulture in North Carolina is excellent. Growers are searching for profitable farming alternatives to traditional row crops. If growers follow production guidelines, horticultural crops can be profitable on small acreages. However, growers must become very knowledgeable in the production practices, they must have a marketing plan developed and the product must be handled properly. Most of the crops are perishable and it is very easy to over-produce with few or no alternative uses for the product. All of this requires a good research base to extend, much applied or adaptive research, and a great deal of work by well-trained Extension personnel to assist these growers, many of whom do not have a background in horticultural crop production. This type grower, frequently scattered over the state, generally needs more assistance from Extension than do traditional row crop growers. Horticultural crops offer a great opportunity to North Carolina farmers and a great challenge for the North Carolina Cooperative Extension Service. Extension must maintain a competent staff and we must find the resources to deliver the package.

F. COORDINATOR AND TEAM MEMBERS:

Ron Jones, Chairman
Donn Ward
Ted Bilderback
J. R. Schultheis
E. Poling
Ed Estes
Ken Sorensen

ANNUAL REPORT 1993

NC16 - URBAN HORTICULTURE, FORESTRY, AND PEST MANAGEMENT

A. OBJECTIVES

1. For home gardeners to become more knowledgeable about landscaping, insects, disease and weed management, gardening and turf related subjects.
2. For community associations, schools, state agencies and local beautification committees to become more knowledgeable concerning tree selection, care and management.
3. For homeowners and commercial pesticide applicators to improve the management of selected pests in urban and suburban environments while concomitantly reducing the use of pesticides.
4. For landscape contractors, designers and maintenance contractors to become more knowledgeable about horticulture and related subjects.
5. Master Gardener volunteers to become better disseminators of home horticulture information to the public.
6. Horticultural agents to improve the informational content of their training programs for Master Gardener volunteers.
7. Horticultural agents to increase their knowledge base skills for improved delivery of home horticulture information to the public.

B. NON-EXTENSION RESOURCES

1. number of volunteers	792
2. total number of volunteer-days	3,700
3. value of federal government funding (grants)	\$20,000
4. value of state government funding (grants)	\$57,000
5. value of local government funding (grants)	\$ 4,500
6. value of private funding (grants)	\$10,000

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. a. Number of new professional landscape contractor registrations - 37
b. Number of registered professional landscape contractors - 1001
2. a. Number of requests for home horticulture information - 200,000
b. Number of requests previous year - 90,000
3. Number landscape and home gardening meetings and workshops - 1173
Total participation - 50,000
4. Number of volunteers who increased their knowledge base - 3576
5. Number adopting recommended practices concerning environmental horticulture, professionals - 5000
Homeowners - 100,000
6. Number of individuals who participated in the Master Gardener training programs - 893
7. Number of local governments and communities assisted with urban forestry management plans or practices - 141

D. OTHER INDICATORS AND ACCOMPLISHMENTS

(Kim Powell) - The demand for urban horticulture information continues to grow. In 1993 major emphasis was given to the areas of water quality, waste disposal and pesticide use in the landscape.

County agents in over 49 counties are pro-active in addressing these environmental issues. The number of urban clientele attending extension meetings, demonstrations and tours has increased by approximately 10% in 1993. Programs in landscaping, home vegetable gardening and care of fruit trees continues to be the most well attended programs.

The number of new registered landscape contractors was 37. The exam review was conducted by Extension specialists in December 1992 and the exam was given in January 1993 at the Annual Conference. Registrations are expected to continue to increase as the need for "professionalism" in the industry increases.

A major program, Backyard Composting, which began in 1992 continued in 1993. This project was funded by a grant from the Office of Waste Reduction. Emphasis was on developing brochures, posters, pamphlets, horticulture leaflets and slide sets. Fourteen

counties had active demonstrations on backyard composting. We received additional funding and were able to add 28 additional demonstration sites. A survey was conducted in the fall of 1993 to measure the impact of this project.

(Steven Toth) - The National Pesticide Information Retrieval System (NPIRS) was used to provide Extension and research personnel with current information on pesticide products registered with the U.S.

Environmental Protection Agency and the North Carolina Department of Agriculture. A monthly pesticide newsletter, "Pesticide Broadcast", was published through the North Carolina Cooperative Extension Service.

The newsletter, which is sent to approximately 250 persons, contained information on pesticide registration, use and safety. Pesticide information was also distributed on a statewide Extension electronic news network. A presentation on federal regulations affecting pesticide use on turf and ornamentals was delivered at the Turf and Ornamental Field Day in Raleigh on May 12, 1993 over 1100 professionals in attendance.

(Rick Brandenburg) - The improved use of IPM concepts in commercial turf management has been a significant accomplishment. This has been enhanced through the ability to monitor and predict insect outbreaks on a regional basis through local weather information. Additionally, the use of new application technology for turf insecticides has rapidly gained acceptance. These new technologies improve product efficacy, reduce environmental risk, and reduce application rates. Some of the initial studies conducted in the United States were done in North Carolina which has contributed to the fact that we are leaders in the use of this technology.

(Charles Apperson) - A management strategy was developed for psychodid flies breeding in a reed canary grass waste water treatment site operated by Golden Poultry Company in Chatham County. The flies, breeding in the 120 acre treatment site, were causing a considerable nuisance in the adjacent residential area. Consequently, the North Carolina Division of Environmental Management threatened to prohibit further application of waste water to the reed canary grass site if a fly management program was not immediately implemented. Curtailment of the application of waste effluent would have effectively shut down operation of the poultry processing plant. Plant management officials solicited assistance from entomology extension specialists. Field tests of commercial formulations of *Bacillus thuringiensis* (serotype H-14), applied using the in-line sprinkler irrigation system, were evaluated.

(Larry Bass) - Presently, 33 of the state's 100 counties are using Master Gardener volunteers to assist in the delivery of home horticulture information at the county level. The 669 Master Gardener volunteers in the program have allowed horticultural agents to make an additional 121,131 contacts annually with homeowners. Paying the

volunteers a minimum of \$8.00 per hour for the 29,607 hours of donated time would cost the Extension Service at least \$236,856.00 each year. Over a four year period, the Extension Service could receive over \$947,432.00 of volunteer service.

(Jim McGraw) - With the increased interest in urban and community forestry generated by America the Beautiful (ATB) and Small Business Administration (SBA) grants programs, the Cooperative Extension Service applied for and received ATB grants valued at over \$19,000 to establish a state-of-the-art urban forestry/horticultural reference library in each County Extension Center. In addition to providing Cooperative Extension Agents and Master Gardeners with a comprehensive source of technical tree and ornamental information to better serve their clientele, these libraries have also been available to the public and private sectors, to enhance their planning, development and implementation of local urban and community tree planting and aftercare activities. Urban forestry and shade tree in-service training was provided to Agents, Master Gardeners, and Division of Forest Resources personnel encompassing over 40% of the counties. Shade tree workshops were also conducted for professional arborists and landscapers in both the public and private sectors. Comprehensive assistance was provided to several municipalities regarding the evaluation of hazardous street trees and the protection of street trees including assisting the largest city in the state with planning and public education associated with an aerial spray operation to protect both public and private shade tree in a 1,600 acre urban residential area.

E. NARRATIVE AND IMPLICATIONS

A major emphasis will continue in all areas of environmental issues. New programs will be planned for landscaping to protect water quality. The areas of Backyard Composting, Grasscycling and Pesticide Education for home gardeners will continue to be a high priority. Beautification projects will continue as "Keep America Beautiful" funds continue in communities across North Carolina. Landscape contractors will continue to be updated, educated and registered.

The demand for home horticulture from the public will continue at the same or higher level into the future. Volunteers will continue to play a key role in the delivery process due to personnel reductions in the counties. Timely horticulture information delivered electronically will play a key role in keeping agents and volunteers current on the best horticultural recommendations.

F. COORDINATOR AND TEAM MEMBERS:

M. A. Powell, Coordinator
C. Apperson
L. Bass
R. McGraw

ANNUAL REPORT 1993

NC17 - STATE ACCOMPLISHMENT REPORT FOR NORTH CAROLINA FOREST RESOURCES, WILDLIFE PRODUCTION, PROCESSING AND MARKETING

A. OBJECTIVES

To increase the timber income potential from private timberland while upgrading the state's forest resource base through improved reforestation, intermediate stand improvement and timber stand protection.

To improve compatible multiple use management of forest resources with continuing emphasis on income opportunities from wildlife, recreation, firewood, pine straw, mushrooms and timber.

To increase income to landowners through improved business management of timberland and marketing of forest products.

To increase the competitiveness and profitability of forest products manufacturers by facilitating adoption of improved utilization techniques, encouraging better management principles, increasing production efficiency and improving product quality.

To increase markets for North Carolina forest products by attracting new or expanding existing industries, improving marketing skills of managers and increasing exports.

To educate the consumer about new wood products entering the market place, their proper application and protection.

To improve the quality and reduce the time it takes to produce marketable Christmas trees by adopting cost effective technology in site preparation, nutrition, weed, insect and disease control, shaping and post-harvest handling.

To develop better Christmas tree merchandising methods to increase market share.

To increase the understanding of growers and the public on the environmental impact of pesticide use in Christmas tree production.

To increase landowner income by the use of wildlife through fee hunting and fishing.

To provide extension agents with annual training opportunities in wildlife damage control.

To obtain factual data on the distribution and severity of wildlife damage to address new problems and to gain support for necessary changes in public policy.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	625
2.	total number of volunteer days	1,291
3.	value of federal government funding	49,560
4.	value of state government funding	186,880
5.	value of local government funding	4,500
6.	value of private funding	74,425

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Forestry

1. Number of landowners who began to practice good - 767; forestry management principles & acres impacted - 231,025
2. Increased earnings generated by improved - \$3,719,700; forest management and better application of marketing techniques
3. New forest management plans adopted - 779; & acres impacted - 133,252

Wood Products

1. Number of firms adopting new manufacturing - 28; techniques such as quality control, thin kerf machines or computerized networks & money saved - \$757,000
2. Number of jobs created with new or expanded wood - 78; products manufacturing facilities

Christmas Trees

1. Number of growers who started soil and plant - 489; tissue testing
2. Number of trees sold with a USDA grade #1 or - 2,075,000; better & total trees sold 3,804,104

Wildlife

1. Increase in landowner income from wildlife activities - \$343,860
2. New acres leased for wildlife activities - 8,417

D. OTHER INDICATORS AND ACCOMPLISHMENTS

A major statewide initiative on Longleaf pine ecosystem restoration involving industry, associations and other agencies was initiated. Two workshops attracting over 500 individuals were held with a plan of action developed for future efforts.

Workshops attracting approximately 480 people were held on marketing, taxation and general management.

Interagency and consultant workshops on stewardship planning have been held with 165 individuals attending.

Fifteen stewardship/wildlife factsheets have been produced with over 500 copies distributed to date.

Five issues of the Stewardship News have been published with 1100 individuals receiving copies.

One hundred and forty-one state stewardship plans have been completed during this year.

A major initiative in cooperation with industry and the Hodges Productivity Center (NCSU-CFR) has been launched in value added manufacturing for both softwood and hardwood producers. Two workshops and a demonstration project have been conducted. The formation of a value added consortium between the University and Industry is now in the process of being organized.

Over 425 questions on wood product specifications, use and protection have been answered throughout this year.

Publications entitled "Comparison of Floor Joist Spans," "Fence Posts for Farm and Home," "Industrial Development Opportunities for Forest Products Within a 50 Mile Radius of Morganton, NC," "Directory of North Carolina Wooden Pallet Recyclers," "Directory of Wooden Pallet Chippers, Grinders, Hogs and Shredders," and "Exterior Wood in the South" have been completed by Larry Jahn.

A book entitled Small Sawmill handbook - Doing it Right and Making Money was written by Joe Denig and published by Miller Freeman Publications, San Francisco.

Six issues of the Tarheel Timberman newsletter were published and distributed to 2800 subscribers.

Four issues of the Wood Products News newsletter were published and distributed to approximately 800 subscribers.

A recent report by a maker of cabinet-grade plywood in Western North Carolina credits assistance from the Wood Products extension faculty with saving their firm \$450,000 annually through the use of an extension developed quality control program.

A workshop conducted on the utilization of residues is credited with saving one firm \$72,000 per year in energy cost associated with their dry kilns.

A direct result of Wood Products Extension faculty's providing information on the latest kiln design and operation is the \$100,000 savings by one firm in reducing dry kiln lumber losses.

One homeowner saved \$135,000 in repairs and replacement by obtaining information from Wood Products Extension faculty on the proper use of wood, building codes and methods of filing complaints with appropriate authorities on violations.

Seven thousand (7000) copies of the A comparison of Floor Joist Spans have been distributed to wood products firms, builders, building supply firms and building inspectors. This popular pocket guide is now in its third printing.

North Carolina was one of the three pilot states that received grants for the development of a logger education program. This grant has been used to develop silvicultural and forest management education programs for loggers. Ten workshops and the development of a PRO Logger educational program have been accomplished to date. Over 900 loggers have participated in the initial workshops.

In an effort to improve productivity and reduce the cost of producing Fraser fir Christmas trees, an IPM scouting program was initiated. A full color publication and video production were developed to aid growers in their scouting program.

An Eastern Wild Turkey management workshop was held to inform landowners and resource professionals about management techniques for this important game bird in North Carolina. Over 180 individuals participated with plans developed to expand this educational program in the future.

F. COORDINATOR AND TEAM MEMBERS:

Larry G. Jahn, Chair
Peter T. Bromley
Jill Sidebottom
Edwin J. Jones
Charles D. Safley
Robert D. Williamson
Earl L. Deal

ANNUAL REPORT 1993

NC18 - NORTH CAROLINA COMMUNITY AND RURAL DEVELOPMENT

A. OBJECTIVES

Rural communities and existing/emerging entrepreneurs will undertake recreational and tourism development.

Homeowners, lending institutions and realtors will understand and undertake, where appropriate, proper maintenance of on-site waste water treatment and disposal facilities.

Municipalities and counties will plan and develop a comprehensive, integrated solid waste management program that will address recycling efforts at both the private and public levels.

The general public, farmers and consumers in particular, will understand the implications of soil and water contamination, and take the necessary steps to protect these resources.

B. NON-EXTENSION RESOURCES

1.	Number of volunteers.	13,046
2.	Total Number of volunteer-days.	17,004
3.	Value of federal government funding (grants).	\$ 36,056
4.	Value of state government funding (grants).	\$ 65,319
5.	Value of local government funding (grants).	\$ 24,200
6.	Value of private funding (grants).	\$113,717

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of citizens/emerging leaders who demonstrated improved leadership and problem solving skills. 11,346
2. Number of young adults and emerging leaders who demonstrated increased economic knowledge. 3,830
3. Number of strategic plans/economic analyses which identified opportunities for diversification, deterrents to development and/or infrastructure improvements, started or revised. 126
4. Number of new current and potential entrepreneurs who were assisted to analyze their enterprise. 488

5. Number of potential entrepreneurs who made informed decisions about a business start-up as a result of result of extension assistance; 379
Estimate of investment in new business start-ups. \$13,576,750
6. Number of communities who planned or initiated beautification projects. 420
7. Number of communities assisted with waste, water supply or waste-water management problems; 267
Total number of citizens impacted. 458,597

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

While many of North Carolina's rural communities are undergoing economic transition, rural community economic performance, infrastructure and community amenities vary widely. Many improvement activities, such as strategic planning, solid waste management, and water system development have been addressed at the county or regional level to gain efficiencies of scale. There are also concerns that affect the quality of life which are best addressed at the community level. Extension needs to encourage and support both types of efforts.

The many clean-up and beautification efforts attest to citizen awareness of their environmental surroundings. Many citizens also have become informed about the new regulations governing the protection of our water resources and the management of wastes. Response to the state legislative mandate to reduce community solid waste stream by 25 percent through recycling has been very encouraging, but more needs to be done so that all communities/counties are in compliance. Greater emphasis also needs to be placed on informing rural residents about the regulations governing use of septic tank systems, non-point source management of stream pollution and the use and disposal of chemicals.

F. COORDINATOR AND TEAM MEMBERS:

- Simon Garber
- Mitchell Renkow
- Janice Lloyd
- Robert Usry
- Stephen Lilley
- John Richardson
- Shirley Callaway
- Patricia Peele
- Marilyn Gray
- Mike Levi

ANNUAL REPORT

NC19 - CONSERVATION OF NORTH CAROLINA'S NATURAL RESOURCES CORE PROGRAM

A. OBJECTIVES

Landowners with more than 10 acres of timberland will know about the Forest Stewardship Program.

Landowners with wetlands will learn about state and federal regulations regarding their conversion and the environmental values of wetlands.

Landowners and sportsmen interested in wildlife will learn about appropriate forest and wildlife management practices to improve habitat and populations of preferred wildlife species.

Landowners with endangered species will know the provisions of the Endangered Species Act and how to comply with the Act.

Youth and adults will become more aware of the importance of natural resources and appropriate management practices.

Elected and appointed officials in counties without land use plans will implement comprehensive land use planning policies and practices.

County governments, businesses and citizens will meet new air quality standards in counties where new clean air restrictions are imposed.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	408
2.	total number of volunteer-days	450
3.	value of federal government funding	\$44,800
4.	value of state government funding	\$ 780
5.	value of local government funding	\$ 500
6.	value of private funding	\$ 7,420

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of new wildlife management plans developed 86, acres impacted 70,874.
2. Number of new landowners leasing land for recreational purposes 52, value of these new leases \$5,020.

3. Number of pond owners improving fish production and water quality 424, acres impacted 1,153.
4. Number of elected and appointed officials who increased their knowledge of forest management, wetlands, endangered species, or air quality issues 209.
5. Number of new acres established in longleaf pine 3,102, and in Atlantic white cedar 20.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

An additional 4,000 acres of wildlife habitat were created or improved without written management plans.

Over 75 adults were trained in Project Learning Tree.

A comprehensive management plan for the town of Oriental was developed. A \$10,000 grant was secured to train volunteers in tree inventory and tree care. A similar \$8,000 grant was secured for the town of Davidson.

A Master Ecologist program was initiated in Mecklenburg County. Ten volunteers received 30 hours of training in natural resources management with the agreement that they donate 30 hours of time in return. This program will be expanded in 1993-1994.

Twelve additional natural resources demonstration sites were established.

To address the need for information on small game management and cost-share programs for landowners, a cooperative effort with Wildlife Resources Commission to develop a videotape and handbook on cost-share programs was established. The products have been distributed to counties and other natural resource professionals.

A series of 16 notes on how to manage different wildlife species were created to help in the development of Forest Stewardship Plans. These notes include information on SIP opportunities as well as general habitat needs and management practices to address those needs. These notes are being distributed by the U.S. Forest Service to other states to assist in their Stewardship Programs.

E. NARRATIVE AND IMPLICATIONS

Indicators show that efforts are continuing state-wide to improve forests, wildlife and fisheries. Landowners are receiving aesthetic and economic benefits from participation in Extension activities and programs.

The Stewardship Forest Program continually increases and improves the multiple use management on private lands. In North Carolina, the emphasis has been on quality of plans and the potential for implementation rather than the total number of plans developed. This program is also providing an opportunity for the education of adult and youth audiences in natural resources management.

The importance of Atlantic white cedar in the reforestation of wetland areas is only beginning to catch on. Efforts will continue to demonstrate the ecological and economic benefit of this species.

Landowners are also concerned about the implications of Wetlands and Endangered Species Regulations. There has been minimal effort until rules have been developed for wetlands as well as private landowner guidelines for red-cockaded woodpeckers. These issues have been incorporated in many county and state programs.

Efforts must continue to inform local and county government officials on the implications of environmental regulations to their local situation and the importance of natural resources to the public and the economy.

- F. COORDINATOR AND TEAM MEMBERS:**
- Edwin J. Jones
 - Peter T. Bromley
 - Claire-Marie Hannon
 - Charles Hammond
 - Tom Hoban
 - J. Paul Lilley
 - Robert Williamson
 - Sandra Zaslow

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NC20 - PESTICIDE EDUCATION

A. OBJECTIVES

The objectives of this program are to train and re-train (certify and recertify) commercial and private applicators, dealers and consultants in the safe and proper use of pesticides.

B. NON-EXTENSION RESOURCES

EPA - (part of 3 below)	38,407
USDA (AMS) - (part of 3 below)	7,153
1. number of volunteers	0
2. number of volunteer days	0
3. value of federal government funding (grants)	45,560
4. value of state government funding	0
5. value of local government funding (grants)	0
6. value of private funding	0

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Commercial applicators trained (certified)	1406
Dealer - trained	22
Consultants - trained	12
Commercial applicators - re-trained	3201
Dealers - re-trained	452
Consultants - re-trained	35
Private applicators - trained (certified)	520
Private applicators - re-trained	9248
Homeowner pesticide training (estimate)	5000

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Revised Ag. Pest Animal Manuals (includes separate manual on ectoparasite of pets)

Revised folder on "Disposal of Pesticides and Pesticide Containers (includes container recycling)

Developed Worker Protection and Private Applicator Recordkeeping Programs - delivered to 100 agents

Revised NC "Pesticide Laws and Regulations" training manual

Revised brochure on "Restricted Use Pesticides - Availability, Application and Record Keeping"

Attended National Pesticide Applicator Workshop in New Orleans, Region IV Worker Protection Standard Workshop in Atlanta and the Southern Region Workshop in Roanoke, Virginia. Wrote 150 letters and answered over 300 telephone calls to pesticide clients. Calls and correspondence to 100 County Pesticide Coordinators were estimated at 455. Held 24 two day commercial schools and 20 recertification classes (the counties held an additional 212 classes for private and commercial clients

E. NARRATIVE AND IMPLICATIONS

F. COORDINATOR AND TEAM MEMBERS:

- John Wilson, Coordinator
- H. Duncan
- J. Mock
- T. Hoban
- M. B. Sinclair
- F. Yelverton
- J. Pearce

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NC21 - INTEGRATED PEST MANAGEMENT FOR ROW CROPS, HORTICULTURAL CROPS, AND LIVESTOCK IN NORTH CAROLINA

A. OBJECTIVES

Producers will increase use of recommended integrated pest management practices, which involves alternatives to chemical pest controls, including rotations, biological controls, proper manure management, improved animal confinement building construction and operation, and reduced pesticide use as shown in Extension demonstrations

Growers will adopt pest control methods which reduce negative impacts on wildlife and water quality.

Private crop consultants will gain knowledge of integrated pest management practices.

Agrichemical dealers knowledge of integrated pest management principles and practices will be increased.

Urban audiences will gain a knowledge of appropriate pest management approaches.

Pest control operators will have instruction on integrated pest management techniques which can be used in structural and horticultural systems.

Crop scouts will be trained in pest sampling, beneficial insect identification, economic thresholds and minimizing pesticide use.

Poultry industry fieldmen will be instructed in insect and rodent pest management, monitoring procedures, and beneficial insect identification.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	1,035
2.	number of volunteer-days	5,175
3.	value of federal government funding	100,000
4.	value of state government funding	25,000
5.	value of local government funding	0
6.	value of private funding	200,000

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of farmers who started or expanded scouting or using scouting services 405; new acres impacted 150,109.
2. Number of growers who started or expanded use of post emergence herbicides as a replacement for ppi or pre-applications 703; new acres impacted 122,696.
3. Amount of pesticides reduced due to scouting and using economic thresholds 162,281 lbs. (ai), savings due to reduced pesticide use \$1.1 million.
4. Number of scouting schools 45; total participation 1,035.
5. Number of growers who participated in county IPM demonstration programs 1,035; acres involved 43,192.
6. Number of new farmers who started or expanded animal IPM programs 31; animals impacted 395.
7. Number of farmers who started or expanded using alternatives strategies (rotation, trap crops, etc.) other than pesticides to reduce pests 1,553; acres impacted 174,376.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Demonstrations were conducted in 21 counties on alfalfa, apples, Christmas trees, corn, cotton, I. potatoes, peanuts, small grains, soybean, tomato, urban, beef, swine and poultry. Over 2,000 growers were involved in IPM training efforts and tours. Fifteen counties targeted increased use of postemergence herbicides as a special effort to avoid the use of preplant incorporated and preemergence herbicides. As a result, growers saved \$1.1 million and reduced herbicide use by 80 tons total active ingredient reducing the chance of ground or surface water contamination since postemergence herbicides have a low probability of moving off site. Another state-wide program targeted increasing the number of alternative (to pesticides) pest practices adopted by growers. Seventeen counties used this approach resulting in 1,500 growers initiating new practices on 175,000 acres. A new grower IPM cooperative was started which involved 60 growers and 5,000 acres. A state wide survey of cotton growers showed that 98% have their crop scouted and that 60% used rotation as a means of controlling pests. A new program of extension agent training in IPM was started with both classroom and field components. This effort is targeted at agents with no previous IPM training with the intent to increase the IPM educational programs at the county level. Eighteen agents participated in the classroom training (a total of 60 contact hours) which meet weekly for three hours over

a four month period (Jan. - Apr.). Ten agents participated in the field training (total of 80 contact hours) conducted during the growing season. This training was held for 8 hours, one day a week during a 10 week period. Agents were taught IPM procedures in field crops, vegetables, and livestock as well as pest and beneficial insect identification. Nineteen agents attended a one-day training session which familiarized them with the history and philosophy of IPM as well as the practical application. The need to coordinate sustainable agriculture efforts and IPM continues. A classroom and field joint training effort was held for county agents. Sixty-seven agents attended the classroom training and 41 attended the field training. The overall impact of the IPM program on growers this year cannot be estimated. Due to the drought there were many unusual pest problems, such as rare pests occurring, common pests at unexpected times, and high levels of certain pests. This uncommon year, combined with the loss of certain pesticides, caused anxiety and concern among growers. Because the IPM program is involved in scouting so many acres, many problems were discovered early enough to avoid either economic loss or the unwarranted use of pesticides. Extension specialists from many departments worked especially hard to help growers cope with these problems and use pesticides only when necessary.

F. COORDINATOR AND TEAM MEMBERS:

Mike Linker
J. R. Anderson
J. S. Bacheler
J. J. Arends
D. L. Hoag
D. F. Ritchie

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NC22 - PESTICIDE IMPACT ASSESSMENT IN NORTH CAROLINA

A. OBJECTIVES

To provide the USDA's National Agricultural Pesticide Impact Assessment Program (NAPIAP) with accurate and timely data on the uses and benefits of pesticides in North Carolina.

For extension personnel in the state to be informed of regulatory actions affecting pesticide use in order to assist clientele with necessary changes in pest management.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	0
2.	total number of volunteer-days	0
3.	value of federal government funding (grants)	\$16,614
4.	value of state government funding (grants)	0
5.	value of local government funding (grants)	0
6.	value of private funding (grants)	0

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1.	number of cooperative relationships	2
2.	names of cooperators:	
	a. National Agricultural Pesticide Impact Assessment Program (USDA)	
	b. Southern Extension and Research Activity - Information Exchange Group 1 (Pesticide Impact Assessment)	
3.	number of NAPIAP linkages	9

4. purposes of linkages:

a. Exchanged data on pesticide uses and benefits with the following agencies and organizations:

National Agricultural Statistics Service (USDA)
North Carolina Department of Agriculture
North Carolina Farm Bureau Federation
Resources for the Future, Inc. (Washington, D.C.)

b. Presented pesticide use information at the annual meetings of the following organizations:

Entomological Society of America
North Carolina Agricultural Chemicals Association
North Carolina Fresh Vegetable Growers' Association
North Carolina Pickle Producers' Association
North Carolina Sweetpotato Commission

5. developed databases:

Conducted a mail survey of 1,115 cotton growers in 18 North Carolina counties to determine pesticide use patterns on the 1992 cotton crop. Data on the herbicides, insecticides, miticides, nematicides, fungicides, growth regulators, and nonchemical pest management practices used by cotton growers in 1992 were collected and stored in a computer data base which includes pesticide use data for the 1988 peanut crop, 1989 potato and flue-cured tobacco crops, 1990 apple and cucumber crops, and 1991 sweetpotato crop. Information from the database is used to respond to inquiries for pesticide use data from the USDA's NAPIAP and other organizations.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. Provided extension and research personnel in North Carolina with current information on pesticide products registered with the U. S. Environmental Protection Agency and North Carolina Department of Agriculture via the National Pesticide Information Retrieval System (NPIRS). A total of 26 NPIRS searches were performed.
2. Distributed a pesticide newsletter containing information on pesticide registration, use and safety. Seven issues of the newsletter were mailed to approximately 250 persons. Pesticide information was also distributed on a statewide extension electronic news network. More than 10 articles were posted on the electronic news network, including the pesticide newsletter and notices from the NAPIAP's Registration Notification Network.

3. An extension bulletin entitled "Potato Pest Management 1989: A Survey of Pesticide Use and Other Pest Management Practices by North Carolina Potato Producers" (AG-497) was published and distributed in the state. Separate displays containing information on insecticide use on the 1990 cucumber crop and the 1991 sweetpotato crop were presented at professional meetings and state and county cucumber and sweetpotato meetings.

E. NARRATIVE AND IMPLICATIONS

The judicious use of pesticides is necessary for competitive and sustainable agriculture in North Carolina. Benefit/use data for pesticides undergoing special review and/or reregistration by the U. S. Environmental Protection Agency must be provided by state extension specialists and researchers to USDA in a timely manner in order to maintain critical pesticide registrations. Statewide surveys of pesticide use on selected commodities are a means to supply more complete and accurate data to USDA. A survey of 1,115 cotton growers was conducted in 1993 and similar surveys will be conducted for additional commodities in the future. As a result of reregistration, 20-25,000 registered pesticide products have already been canceled and many more products will be canceled in the future. Extension specialists and county agents need to be continually informed of the regulatory status of pesticide products used on agricultural crops and other sites in order to provide their clientele with accurate and timely information on pest management. This is accomplished by performing searches of computerized data bases (such as the NPIRS) and publication of newsletters and other educational materials. Finally, programs must be established to meet the future educational needs of farmers and other pesticide applicators resulting from emerging pesticide issues such as groundwater and endangered species protection, worker safety standards, and pesticide record keeping.

F. COORDINATOR AND TEAM MEMBERS: Toth, S. J., Jr. (Coordinator)
Bailey, J. E.
Brandenburg, R. L.
Skroch, W. A.
York, A. C.

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NC23 - FARM SAFETY

A. OBJECTIVES

1. Extension will promote farm safety awareness and adoption of safe farming practices.
2. Farm workers, rescue and medical personnel will increase knowledge of appropriate injury prevention and accident response.
3. Farmers participating in a farm and safety seminar. Landscape professionals participating in a power equipment and pesticide safety seminar.
4. For county firefighter and rescue squad personnel to learn the procedures for dealing with the farmer emergencies, and in turn work with farmers in their districts to make their operations safer. For six local physicians to learn more about the Agromedicine program and form an advisory committee to help agents deal with agro-medical issues.
5. Farmer and farm workers and families will increase their knowledge of the proper use and handling of pesticides to prevent injury and illness.
6. Citizens will benefit from educational efforts resulting from collaboration between Extension agents and various agency professional to promote injury and disease prevention.
7. To network with the ECU School of Medicine in order to implement an agricultural health educational program.
8. To assist in the development of a computerized database of agro-health cases and their causes. These factors would be unique to Pitt County.
9. To develop a listing of farmers wives who may assist with the implementation of the Agro-medicine Program and to conduct a county-wide program on agricultural health promotion.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	16,300
2.	total number of volunteer days	8,678
3.	value of federal government funding	\$323,920
4.	value of state government funding	\$ 14,328
5.	value of local government funding	\$ 28,656
6.	value of private funding	\$ 15,000

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of exhibits, screening, and health fairs targeting youth health and safety needs of youth. 906
2. Number of youth participating in Health & Safety Programs. 822
3. Number of participants who increased adoption of practices that protect the food supply (appropriate use of drugs and chemicals in agricultural, safe food processing, IPM practices, pesticide applicators certification exam). 48
4. Number of participants increasing knowledge of risks and benefits of specific food components, processing techniques or food production chemicals. 1161
5. Number of requests for agricultural safety and health educational materials from agents, volunteers and health professionals. 1080
6. Number of volunteers recruited and trained in agricultural health and safety measures. 1210
7. Number of agricultural and landscape managers that adopted two or more power equipment safety measures. 380
8. Number of agricultural and landscape managers that adopted two or more safe pesticide handling practices. 703
9. Number of medical professional increased knowledge in agricultural safety and health. 495
10. Families, adults and youth that gained knowledge of personal environmental health and safety practices. 3264
11. The number community leaders and community members members who have participated in workshops, seminars or other educational opportunities on health and health related issues. 331

D. OTHER INDICATORS AND ACCOMPLISHMENTS

A major effort was initiated by a county to provide information on "Handling Pesticide Contaminated Clothing" by families and workers which was attended by 80 people.

A Health and Safety Resource notebook was developed for use in all 100 counties. This notebook contains information on health and safety issues affecting the agricultural population.

A county conducted a traffic safety workshops for elementary youth and their families addressing operating farm equipment on rural roads.

Two educational module on "Improving the Health and Safety of Swine Facility Workers" and "Improving the Health and Safety of Poultry Workers" were developed for use by cooperative extension agents in all 100 counties. The modules identify health and safety concerns affecting producers, workers, as well as, the poultry and swine housed in enclosed buildings.

A county conducted health and safety training for migrant and seasonal workers involved in farming to help farmers comply with new workers protection standard acts. The effort identified many barriers that impede workers from adopting safe practices while in the workplace or on the farm. Over 150 migrant and seasonal workers were involved in three sessions that were supported by owner/operators.

E. NARRATIVE AND IMPLICATIONS

A major issue facing our farmers today is the Worker Protection Standard Act by OSHA that lists who is responsible for providing safety training for the employee and documentation. County Agents will play a major role in providing educational materials and programs to enable farmers to meet these guidelines and provide their farm workers with ongoing safety programs.

The development of educational materials and teaching aids are needed to address changing attitudes and conditions on the farm. Many people are moving into the rural areas of our state and are working with older farm equipment. Educational programs available to this population will make them aware of the dangers associated with older farm equipment and safe operation.

F. COORDINATOR: Robert L. McLymore

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NC24 - SMALL AND LIMITED RESOURCE FARMERS

A. OBJECTIVES

1. Twelve hundred small farmers will become familiar with the services provided by major USDA agencies.
2. Six hundred small farmers will improve their managerial skills by developing and adopting a farm record keeping system.
3. Fifteen hundred small farmers will become familiar with at least one alternative enterprise that could generate additional income.
4. Five hundred small farmers will develop and adopt a marketing plan for their agricultural enterprises.
5. Five hundred small farmers will identify and adopt Extension proven agricultural practices.
6. Two hundred fifty small farmers will diversify their farming operation.
7. Ten specialists, fifty extension agents and twelve extension technicians will be trained to better identify, evaluate and work with small, limited resource farmers. They will also receive training on production of alternative commodities that may improve profitability of small farms.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	98
2.	total number of volunteer-days	447
3.	value of federal government funding (grants)	\$ 150,000
4.	value of state government funding (grants)	\$ 12,400
5.	value of local funding (grants)	\$ 0
6.	value of private funding (grants)	\$ 120,400

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

One hundred forty-one small farmers became aware of USDA services for the first time resulting in \$349,766 in benefits.

Seventy-one small farmers improved their managerial skills by developing and adopting a farm record keeping system.

Eight hundred nine small farmers became familiar with at least one alternative enterprise that could generate additional income.

One hundred eighteen small farmers diversified their income stream by adding new enterprises that resulted in \$531,276 in additional income.

One hundred thirty-five small farmers adopted an improved marketing plan for their agricultural enterprises resulting in an additional @282,950 in realized income.

One hundred fifty-eight minority farmers who own 29,763 acres became familiar with ways of retaining their farm land.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Two specialists, and 32 extension agents and technicians were trained to better identify, evaluate and work with small, limited resource farmers, and to help small farmers develop a marketing plan for alternative commodities.

Twenty-five agents and technicians teamed with 25 small farmers to develop demonstrations under the Ways to Grow Small Farms Institute program.

E. NARRATIVE AND IMPLICATIONS

The small farms program of NCCES is conducted through efforts of specialists, agents and technicians from both NCSU and NC A&T SU. Many activities of extension in North Carolina impact small farmers since over 80% of the farms in the state classify as small (gross farm income <\$50,000). Although most programs include small farmers, the indicators of success listed above indicate results of county and state level programs specifically targeted at the small farm audience.

Specially targeted programs administered by NC A&T SU include Small Farms Week which included programs on alternative commodities for small farmers and minority land loss prevention. Organized small farm tours were also conducted that include tours of small farms that have used alternative enterprises to diversify and improve profitability.

The Ways to Grow Small Farms Institute, funded in part by a grant from the Kellogg Foundation, involves on-farm demonstrations of alternative commodities. Twenty-five small farmers, each teamed with an extension agent or technician, are chosen for the program each year, and receive training on producing and marketing alternatives before entering production.

The first year of the program was well received and there was great interest among extension personnel and small farmers involved in the second year of the program. This year chosen alternatives included meat goats, sheep, organic vegetables and ornamentals.

Demonstrations from the first two years are to be included in future Small Farms Tours. This program is fostering a better working relationship among specialists from NC A&T SU who administer the program and provide technical information, specialists from NCSU who provide additional technical support and help with training sessions, and the agents, technicians and small farmers who participate in the program.

Projects have also been funded through NCSU to support applied research/demonstration projects concerning small and limited resource farmers. Projects funded for 1993 included the development of a publication on sustainable and organic vegetable production for small farmers, using no-till farming practices to improve soil properties on small farms, and educational programs for meat goat production and marketing.

F. COORDINATOR: Mike Linker

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NC25 - RENEWABLE RESOURCE EXTENSION ACT

A. OBJECTIVES

1. Renewable resource producing enterprises will enhance their economic viability.
2. Renewable resource products will be more efficiently utilized.
3. Landowners/decision makers will be better able to act to protect and improve the environment on renewable resource lands through better information about the consequences of their actions.
4. Extension will provide continuing education to renewable resource professionals.
5. Public (including youth) will improve their understanding of renewable resource issues.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	625
2.	total number of volunteer days	6,900
3.	value of federal government funding	\$ 100,000
4.	value of state government funding	70,000
5.	value of local government funding	\$ 4,500
6.	value of private funding	\$ 74,425

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Renewable Resources Extension Act

- 1a. Money saved or earned as a direct result of Extension FORESTLAND programs to enhance economic viability \$3,719,700
- 1b. Money saved or earned as a direct result of Extension FISH & WILDLIFE programs to enhance economic viability \$102,600
- 1c. Money saved or earned as a direct result of Extension ENVIRONMENT & PUBLIC POLICY programs to enhance economic viability. \$2,000
- 2a. Money saved or earned as a direct result of Extension FORESTLAND programs to utilize resources & products more efficiently \$845,000

- 2b. Money saved or earned as a direct result of Extension FISH & WILDLIFE programs to utilize resource products more efficiently \$446,000
- 2c. Money saved or earned as a direct result of Extension OUTDOOR RECREATION programs to utilize resource products more efficiently \$153,000
- 2d. Money saved or earned as a direct result of Extension ENVIRONMENT & PUBLIC POLICY programs to utilize resource products more efficiently \$5,000
- 3a. Number of acres protected and enhanced as a direct result of public policy educational programs concerning FORESTLAND 635,000
- 3b. Number of acres protected and enhanced as a direct result of public policy educational programs concerning FISH & WILDLIFE 65,967
- 3c. Number of acres protected and enhanced as a direct result of public policy educational programs concerning OUTDOOR RECREATION 2,000
- 3d. Number of acres protected and enhanced as a direct result of public policy educational programs concerning ENVIRONMENTAL & PUBLIC POLICY 100,000
- 4a. Number of contact hours of FORESTLAND training provided 1,750
- 4b. Number of contact hours of FISH & WILDLIFE training provided 500
- 4c. Number of contact hours of OUTDOOR RECREATION training provided 125
- 4d. Number of contact hours of ENVIRONMENT & PUBLIC POLICY training provided 1,400
- 5a. Number of people adopting environmentally appropriate practices after participating in Extension FORESTLAND programs 54,650
- 5b. Number of people adopting environmentally appropriate practices after participating in Extension FISH & WILDLIFE programs 9,265
- 5c. Number of people adopting environmentally appropriate practices after participating in Extension OUTDOOR RECREATION programs 900
- 5d. Number of people adopting environmentally appropriate practices after participating in Extension ENVIRONMENT & PUBLIC POLICY programs 11,346

D. OTHER INDICATORS AND ACCOMPLISHMENTS

A major statewide initiative on Longleaf pine ecosystem restoration involving industry, associations and other agencies was initiated. Two workshops attracting over 500 individuals were held with a plan of action developed for future efforts.

Workshops attracting approximately 480 people were held on marketing, taxation and general management.

A major initiative in cooperation with industry and the Hodges Productivity Center (NCSU_CFR) has been launched in value added manufacturing for both softwood and hardwood producers. Two workshops and a demonstration project have been conducted. The formation of a value added consortium between the University and Industry is now in the process of being organized.

North Carolina was one of the three pilot states that received grants for the development of a logger education program. This grant has been used to develop silvicultural and forest management education programs for loggers. Ten workshops and the development of a PRO Logger educational program have been accomplished to date. Over 900 loggers have participated in the initial workshops.

F. COORDINATOR AND TEAM MEMBERS: Larry G. Jahn, Chair
Earl L. Deal
Edwin J. Jones

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NC26 - Youth Program Management and Community Group Systems Development

A. OBJECTIVES

Youth, volunteers, donors, and 4-H program professionals and paraprofessionals work together to establish and maintain the following needed elements:

1. 4-H clubs/units responsive to the needs of youth, families and communities.
2. 4-H Advisory Groups which seek to identify needs and implement focused local programs.
3. 4-H Foundations seeking resources in support of necessary marketing, staff development and curriculum/program needs.
4. Volunteer support systems responsive to the needs of the six categories of active 4-H volunteers.

B. NON-EXTENSION RESOURCES

1. Volunteers:	13,642
2. Volunteer Days:	25,108
3. Federal Funding:	\$281,103
4. State Funding:	\$288,652
5. Local Government Funding:	\$ 41,660
6. Private Funding:	\$182,054
Total Funding	\$793,469

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

- | | | |
|----|--------------------------|--------|
| 1. | Club members retained: | 21,030 |
| 2. | New 4-H clubs organized: | 349 |
| 3. | Funding Received | |

<u>Type</u>	<u>Amount</u>
Grants	\$864,029
Contracts	\$ 38,050
Fee-for-Service	\$260,807
Gifts/Donations	\$206,885
United Way	\$249,462
Special Fundraisers	\$ 70,513
County 4-H Foundation	\$ 58,884
Government Support	\$ 34,104
Other Sources	\$ 64,821
Total	\$1,847,515

4. Do you have a 4-H Development Fund/Foundation?

Yes - 58	No - 13
If Yes, was it developed this Year?	

Yes - 7	No - 32
---------	---------

5. Number of new 4-H specialized committees.

87

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

The data found in this accomplishment report confirms that youth, volunteers, donors and 4-H program professionals and paraprofessionals are working together very successfully to establish and maintain the following elements critical to youth program management and community group systems development.

1. 4-H clubs/units responsive to the needs of youth, families, and community are being established at significant levels. Three hundred forty nine new 4-H clubs were organized. Club members in established units are also being retained at significant levels. This is the single best indicator of the quality of the 4-H club/unit maintenance effort. Of 34,582 4-H club members reported 21,030 or 61% were retained. This figure is the single best indicator of 4-H club/unit program excellence.
2. 4-H Advisory Groups which seek to identify needs and implement focused local programs are renewed. Eighty seven new 4-H specialized committees were reported by the 73 counties. This is a strong indication of expanding collaboration with the educational, economic, and governmental units valuable to community group systems development, maintenance and renewal.
3. 4-H Foundations are seeking and securing resources at significant levels in support of necessary and expanding marketing, staff development and curriculum/program needs. Fifty eight or 79% of the seventy three reporting counties have active 4-H Foundations. Seven of those Foundations/Development Funds were established this year. A total of \$793,469 non-Extension Resources were reported from federal, state, and local funding sources. A very impressive total of \$1,847,515 funding received was reported. (See item C.3.) Although the dollars reported in County 4-H Foundations is comparably low at \$58,844, their management function for monitoring and auditing other sources of funds is very impressive.
4. Volunteer support systems are in place at significant levels responsive to the needs of the six categories of active 4-H volunteers. Thirty two thousand nine hundred twenty (32,920) volunteers were actively involved in local 4-H programs. This is significant work force committed to accomplishing the 4-H mission. (For additional, specific indicators of the strength and significance of volunteer support systems see Accomplishment Report Control #27.)

F. COORDINATOR AND TEAM MEMBERS: McKinney, T.
Davis, M.
Groff, J.
Lilley, S.
Fanning, M.

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NC27 - 4-H LEADERSHIP AND VOLUNTEER DEVELOPMENT

A. OBJECTIVES

1. For 600 master volunteers representing 50 new counties to develop specialized expertise and teaching skills.
2. For 80% of master volunteers to utilize their team building expertise to satisfactorily involve 4-H Agents in planning and implementing contracts.
3. For 50 new counties to experience positive results involving teens in peer helping and teen volunteer roles.
4. For 35 new counties to organize county volunteer leader associations with help of the state association network.
5. For agents and master volunteers to develop skills needed to help leaders fulfill expectations of various job descriptions.
6. To develop a management system to respond to agency and institutional networking opportunities; ie. the National Community Service Act and Community Voices, NC A&T

B. NON-EXTENSION RESOURCES

Financial resources from the following have helped strengthen and expand the 4-H Volunteer Leadership Development Program. Annual state and county financial resources totaled over \$100,000.

1. Over the past three years the North Carolina State Grange has given \$50,000 to support the Master Volunteer Program.
2. The first installment of the North Carolina Farm Bureau pledge of \$37,000 over five years came in to support development of leader training materials. A new national curriculum to help counties develop a volunteer management system is being supported by Farm Bureau.
3. Philip Morris, Inc. gives N.C. 4-H an annual gift of \$6,500 in support of the volunteer leader association.

4. The N.C. 4-H Development Fund support the 4-H Youth Ambassador program and the Leader Ladder with \$2,500 annually.
5. The N.C. Community College System has been helpful by allowing use of their facilities free of charge for Master Volunteer Training.
6. J.C. Penney Co. provides annual support for the Southern Region 4-H Leader forum for travel scholarships totalling \$869.
7. Over \$75,000 in grants from federal, state, local and private sources were reported being secured by counties.
8. Volunteers numbering 6,581 who worked 14,145 man days were reported by counties

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. 275 4-H Master Volunteers were trained during either a regional conference or the State Master Volunteer Conference. A cumulative total of 600 volunteers have received Master Volunteer Training in one or more tracks over the past 5 years. Data is incomplete on six month follow-up reports from Master Volunteers regarding their contracts. However, verbal reports from agents and master volunteers indicate that Master Volunteers are following-through on goals they set during training.
2. Thirty-eight counties had participants in the Master Volunteer Conference in 1993. Four new counties had participants at the state conference. Another 25 had participants at the one day regional training meetings. A total of 86 counties are participating the master volunteer program.
3. Fifty-two counties reported having either a TRY program or peer helper program involving 1,782 teens. The total outreach of these youth volunteers was 17,978 younger youths averaging 10 per peer helper.
4. Two counties organized volunteer leader associations. Six additional counties have begun meeting regularly with leaders.
5. With 52 counties reporting, 2,862 volunteers received training. New leaders accounted for 2,032 of the leaders trained. Master volunteers taught 675 adult volunteers and 1,930 youth.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

The 4-H Master Volunteer program is growing exponentially and becoming stronger each year. Master Volunteer leadership is assuming the leadership role for planning and implementing both the state and regional conferences. In the future, three regional training conferences will be held in addition to the state weekend conference. The state conference has outgrown the 4-H camp facility for housing, so other sites around the state will be explored.

As the regional steering committees become empowered to conduct training, the need for qualified volunteer trainers becomes more crucial. A track to train regional volunteer trainers has been offered and master volunteers recruited to attend and become certified to teach other master volunteers.

Another area of concern is development of a competency model to help master volunteers strive to achieve beyond a current competency level.

Reporting impacts to the N.C. Grange, Philip Morris, Inc., and the N.C. Farm Bureau is another priority as sustained funding is important to the lasting benefits of all the volunteer program efforts. A study of impacts to Master Volunteers and from Master Volunteer to the county program will be conducted to generate empirical data to justify the Master Volunteer program's existence. Results of this study will be published and sent to donors.

The Teens Reaching Youth program needs another stimulant and will get one through the Peers Empowering Peers Program. The current grant will be marketing TRY as the model peer program to achieve the results intended in the grant. More counties should become involved with TRY as a result of this thrust.

F. COORDINATOR AND TEAM MEMBERS: Groff, J. Total 4-H Faculty

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NC28 - KNOWLEDGE (SCIENTIFIC LITERACY) NEEDS OF YOUTH

A. OBJECTIVES

1. For 70,000 youth to increase their knowledge of biological, physical, and social sciences, as well as language arts skills through integrated, age appropriate curriculum.
2. For 24,000 youth to increase their knowledge and understanding of economic, agricultural, environmental, career, home economic, and cultural issues through hands-on learning.
3. For 6,000 youth to understand science related issues and develop effective and efficient decision-making skills.
4. For 5,000 teachers and volunteers to learn techniques for teaching and otherwise supporting experiential science related curricula.

B. NON-EXTENSION RESOURCES

Number of volunteers	5,968
Total number of volunteer-days	17,642
Value of federal government funding (grants)	0
Value of state government funding (grants)	\$40,300
Value of local government funding (grants)	\$ 200
Value of private funding (grants)	\$67,497

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Number of youth 94,647 and leaders 3,632 participating in the following science programs: embryology, blue sky, agricultural field days, environmental field days, river's edge, animal science, energy, horticulture, s.e.r.i.e.s., fire safety, science day camps, castoff capers, model rocketry, economics in action, food & nutrition, entomology, aerospace, forestry, wildlife, biotechnology, small animals, and veterinary science.

Number of teachers reporting students in school enrichment have improved their perception of science 2,069

Number of science club units 193

Number of youth participating in science clubs 6,178

Indicate any behavior changes, knowledge gained, or other impacts measured by surveys or other research you have conducted in response to grants, coursework, etc.:

In Alexander county, 68% of teachers stated that science based school enrichment increased their students perception of science. Fifty-four percent of the teachers felt that both their competence and confidence was increased by teacher training. In addition the science coordinator stated that 4-H school enrichment curricula helps her teachers handle difficult concepts through hands-on learning.

Anson county 4-H school enrichment has opened many doors for collaboration with other agencies, which has enhanced the Extension image in the county.

Ninety-eight percent of participating Beaufort county youth and adults stated that their experiences with Blue Sky Below My Feet, Career Smarts and S.E.R.I.E.S. had increased their sense of global awareness and social sciences.

In Burke county, youth in twenty S.E.R.I.E.S. TRY teams indicated that they had developed teaching skills and more thoroughly understood the scientific process.

All of the Davie county teachers participating in 4-H embryology stated that they used the curriculum because it met both student and teacher needs. In addition, 81% of youth attending summer science day camp stated they were having a great time and 68% expressed a desire to learn more about what was covered during the camp.

Youth participating in a Guilford county horticulture program credited the program for their increased pride in the way the school grounds looked. They also demonstrated that the program demonstrated an increase in knowledge regarding environmental issues. In the embryology program 95% of the teachers reported that they observed a positive change in the way the students perceived science.

Teachers in Macon county reported that science was a tough subject to teach, but that 4-H school enrichment materials made it easier since the materials were user friendly.

As a result of a successful school enrichment program, several Richmond county teachers have asked about the possibility of starting science clubs.

In Wayne county science clubs are making a difference. Youth are completing their school work so that parents will allow them to participate. Teachers are finding that students who have not shown a great deal of interest in science really shine in a science club. One teacher reported having a learning disability child who through a science club learned to operate a triple beam balance and then demonstrated to their class how to operate the instrument.

As illustrated below, the 4-year goals for this state major program have already been surpassed.

Progress Toward Four Year Objectives

Objective	Goal	1992	1993
1	70,000	33,000	59,337
2	24,000	20,350	25,126
3	6,000	1,783	6,178
4	5,000	926	5,968

1993 numbers used reflect only those categories counted in 1992

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

- F. COORDINATOR AND TEAM MEMBERS:** Maxa, E.
 Davis, G.
 Mowrey, R.
 Jones, E.
 Ray McKinnie

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NC29 - HUMAN DEVELOPMENT NEEDS OF YOUTH

A. OBJECTIVES

With the challenges facing North Carolina's young people today, the Cooperative Extension Service at both NCSU and NCA&T State University will work closely to provide for human development training to accomplish the following:

1. 10,000 adult volunteers will demonstrate a knowledge of the developmental stages of 6-19 year olds and will organize and operate units and learning experiences based upon age- and stage-appropriateness.
2. 20,000 youth who participate in 4-H clubs, special interest groups and camps will develop competency skills through the use of existing 4-H programs (When I'm In Charge, I've Gotta Be Me, Family Strengths, Babysitting) that support human development needs.
3. 5,000 youth will develop coping and contributory skills through a pilot human development curricula.
4. 7,320 4-H youth and their family members will improve their self-image by participating in I've Gotta Be Me, Discovery, When I'm in Charge and other appropriate self-confidence activities.
5. 3,265 youth and volunteers will gain knowledge of government after participating in local, state and national citizenship activities and for 15% of those participating to become active in local governmental issues.
6. 1,575 youth who participate in child development and parenting education programs will demonstrate the principles of child development, child care, mother-father roles and relationships, and problems associated with parenting.
7. 12,220 youth who complete human development programs will demonstrate increased social skills, communications skills, financial management, decision management and/or goal setting abilities.
8. 500 master or certified volunteers will train 5,000 other volunteers to utilize specific record-keeping, presentation, career, citizenship, parenting, money manager and other human development curricula.

9. 2,500 4-H volunteers will demonstrate a knowledge of how to utilize Extension sponsored issue-oriented programs such as alcohol, drugs, teen parenting, and sexuality.
10. 6,745 youth will demonstrate improved group communications and public speaking skills through participation in presentations, through special interest workshops, the Performing Arts Troupe, peer friends and peer performers programs.
11. 6,615 youth will adopt increased job preparation skills after participating in Career Development Programs.
12. 20,000 youth will improve record-keeping skills by completing 4-H projects and cumulative records.

Objectives represent goals for the second year.

B. NON-EXTENSION RESOURCES

Career Task Forces, Police Departments, Chambers of Commerce, Health Departments, Mental Health Departments, School Systems, Civic Organizations, Business and Industry, Local Governments, Community Colleges, Local Scholarship Programs, Colleges and Universities in Participating Counties

Community Based Alternatives Grants:	\$40,000 + \$13,000
Sampson Business Funds (SCOPE):	\$3100
Ashe County Christmas Project:	\$17,000
Local Business Grants:	\$2,390 + \$330 + \$1,000 + \$2,000

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

6,865 youth participated in county/state government programs

2,535 young people participated in child care of babysitting programs

1,100 children were babysat by those 4-H members participating in the babysitting programs (47% of counties reporting)

2,290 young people gained public speaking skills (competitive presentations, public speeches, etc)

295 newsletters or news articles were written on an aspect of human development

22,255 persons participated in one or more workshops on human development

2,515 youth gained public speaking skills in non-competitive methods; these presenting youth taught 8,150 additional persons

1,385 volunteers provided services in the area of human development for a total of 2,785 volunteer days

D. OTHER INDICATORS AND ACCOMPLISHMENTS

The Human Development Needs of Youth Core Program was supported by in-service training on Child Development for all 4-H agents. The 22 hour training was taught by three Child Development Professors from the UNC system. This training provided field faculty with the knowledge base to train volunteers on growth and development of young people 5 to 19. Agents reported that 22,255 volunteers participated in at least one training session that related to human development. Two hundred ninety-five newsletters or news articles addressed human development subject matter.

Master Volunteer Conferences have introduced 104 volunteers to the concept of developmental appropriateness.

ES-237 data showed that 1650 club units had a membership of 33,961 young people. Of those reported, 17,230 youth participated in personal development, child care, and family life learning experiences. In one county where 455 projects were completed, a 96% project efficiency was measured through skill competencies.

Although all 4-H projects are designed to improve self-esteem among the participating young people, 27 of the 62 counties targeted self-image with special programming. Community club programs, special interest programs, programs designed for home schoolers, and camping were among the delivery systems used to enhance self-image. One county reported a 46% increase in feeling of self-worth among participants in "I've Gotta Be Me" programs. Another county reported that 375 youth enhanced self-worth by learning and applying life skills.

Fourteen counties reported a planned program designed to address cultural diversity, citizenship education, international education, and/or the judicial process. A total of 50,608 young people participated across the state.

Nine counties reported a Parenting Program designed for older teens or for parents of 4-H members.

To address issues such as alcohol, drugs, and sexual activity, counties designed such programs as Prom Promise, the Grim Reaper, Halloween Alternatives, Recreation Plus, and Project Graduation to provide healthy environments during particularly

venerable times. One county 4-H program networked with the school system and provided total leadership for Grim Reaper Day, where young people were "taken away" by the grim reaper as symbolism for death by vehicle as a result of drinking and driving. 79% of the high school population indicated increased awareness and 42% demonstrated behavioral change by pledging not to drink and drive.

Verbal communications skills were enhanced among 4-H members through presentation programs, public speaking events, 4-H entertains, and arts programs. Several counties involved Toastmasters groups as training facilitators and coaches for these learning experiences. In addition to learning subject matter through participation in presentations, the young people were also able to teach others through the presentation method. One county reported that 48 youth taught 1300 additional persons while in another county, 78 youth taught 2500 others.

Written communications skills are the foundation of the 4-H project. Counties are beginning to utilize the project as a valuable learning experience in all delivery systems. In addition, 579 cumulative records were turned in for district and state competition. North Carolina had 13 national 4-H scholarship winners through this competitive program.

Several counties cited growth in their human development programs because of the use of Master Volunteers. During the reporting period, three regional and one state Master Volunteer Conferences were held. Human Development areas included Presentations; Cumulative Records; and Project Records with a total of 168 individuals receiving training. Nine counties reported that 100% of their masters had conducted training for other volunteers and youth; two others reported training by 98% of their volunteers.

Summary Human Development Data:

Club Members:	33,961
Participants in Human Development:	10,082
Participants in Citizenship, International and Cultural Diversity Programs:	50,608
Participants in Child Development:	2,646
Participants in Consumer Education and Decision-Making:	4,229
Participants Gaining Oral Communications (Public Speaking and Presentations) Skills:	5,053
Participants Gaining Written Communications/Recordkeeping Skills:	185,610
Participants Gaining Communications Skills Through Arts Programs:	14,633

E. NARRATIVE AND IMPLICATIONS

As is evidenced by the reporting counties, there continues to be a need for Human Development Curricula that will help young people develop life skills. Volunteers and agents must continue to participate in training to insure that they are on the cutting edge of the academic information. In addition, there is a need to network local and state agencies that can address the related issues.

- F. COORDINATOR AND TEAM MEMBERS:**
- Rowland, S.
 - Willoughby, C.
 - Turner, L.
 - Ellzey, K.
 - Johnson, C.

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NC30 - SAFETY AND HEALTH NEEDS OF YOUTH

A. OBJECTIVES

1. 40,000 youth will develop positive health habits through an issued-based health project designed around age appropriateness, positive life-long practices and positive self-esteem.
2. Two hundred youth and fifty supporting adults will participate in the CHAPS training and become active advocates in their communities.
3. 30,000 4-H'ers, volunteers, and youth will improve their safety practices that promote accident prevention.
4. 500 youth and volunteers will develop skills and demonstrate the success of delivering substance abuse curriculum.

B. NON-EXTENSION RESOURCES

Volunteers - 1098

Volunteers Hours - 2751

Local Government Funding - \$890

Private Funding - \$5770

North Carolina Coalition on Adolescent Pregnancy, Local businesses, School Systems, Forest Service, Soil Conservation, Health Departments, Fire Departments, Emergency Management Department, Library Personal, Social Workers, School Counselors, Peer Counselors, SADD Chapters, Police Departments, Highway Patrol, Community Based Alternative, Ministerial Association, County Commissioners, Mental Health, Region Maternal Health Care Program, Hospitals, Options (Shelter for abused women and children), Media-newspaper, radio, TV, Court Judges, Housing Authority, County Fair Associations, School of Nursing, Community Volunteers

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Twenty-two 4-H Peer Teams completed 212 contracts reaching 2,576 teen clients with information about drug abuse and .
2. Eight TRY-ACT Teams (Teen Reaching Youth About Cancer Topics) completed their contracts involving 525 young children in programs designed to educate children about how to protect themselves against skin cancer.

3. 4-H exhibits, screening and health fairs which targeted youth health and safety needs reached 18,326 people.
4. Eighteen different target areas provided an opportunity for youth to explore specific subject matter related to health and safety. Examples are as follows: Bike Safety- 411, Fire Safety-548, Nutrition- 1444, When I'm In Charge- 604, Healthy Life Styles-900.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

The safety and health needs of youth is a daily concern. Young people are in constant contact with potentially hazardous situations. Many efforts have been directed to better prepare young people to make sound decisions and cope positively with circumstances that they encounter.

Risk behavior received attention relative to Teen Pregnancy, Substance Abuse and Sex Education. Counties have addressed the problem through teams of teens progressing through training that equips them to work directly with their peers as well as younger youth. Perhaps of equal value is the learned factual information and appreciation that is inherent in the training process for the teaching youth. Peer advocates have become an important delivery vehicle to reach hard to reach audiences.

One county reported 60% of all 4-H'ers conducted a project that touched on their health and safety needs. Leader training prepared and encouraged programs and activities dealing with health and safety. Through the coverage of these activities in the local media, 4-H became recognized as a vital resource of beneficial curriculum and their expertise requested by non-extension groups to prepare volunteers for the involvement their youth audience in valuable health and safety experiences.

Exhibits and fairs were use in many counties to reach both extension and non-extension audiences. They usually are excellent means to share information and reach large numbers of people. Lenior county reached over 8,000 people through ten such events. Personal safety, home safety and farm safety were the targets of the exhibits. Identification methods for young children, how to be safe at home alone dealing with fire in the home, burglar deterrents, safe operation of farming equipment and how to deal with electricity are few of the topics that exhibits addressed. Some of the exhibits were interactive in that 4-H'ers and volunteers were present to talk and share with the viewers.

Lenior county also has a strong tradition of fire safety education. Delivered by volunteer fire departments in rural and city firemen in the city, all 5th graders were targeted. The culminating activity is a countywide 4-H Fire Quiz Bowl. Competition and recognition stimulated the young people to take notice and learn how to be safe around potential fire situations and how to respond should they be faced with a hazard.

State Curriculum participation:	
Health Projects/Learning Experiences	13,481
Physical Fitness	10,532
Home Nursing/First Aid	3,918
Safety Projects/Learning Experiences	19,245
Foods & Nutrition Projects/Learning Experiences	23,010
Food Preservation	1,692
EFNEP	6,051

E. NARRATIVE AND IMPLICATIONS

There continues to exist the need for educational programming to meet the needs of youth in the entire area of health and safety-human sexuality, substance abuse, self esteem, communications, home safety, accident and hazard prevention, first aide, etc. It appears to be important for 4-H to utilize those community resources with expertise in the area. 4-H should continue to provide opportunities for youth to develop and clarify values which will affect all avenues of their lives through the decision-making process.

- F. COORDINATOR AND TEAM MEMBERS:** Ann Y. Frazier
 Robert McLymore
 Carolyn Dunn
 Thearon McKinney

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NC31 - DEVELOPMENTALLY APPROPRIATE CARE AND EDUCATION OF SCHOOL AGE CHILDREN

A. OBJECTIVES

1. 5,000 children will gain knowledge in age appropriate subject matter.
2. 1,500 youth will participate in developmentally appropriate programs offered through 4-H day camps and after school programs.
3. 500 child care directors, providers and leaders will provide developmentally appropriate care and education for children.
4. 20 agents and staff will demonstrate resource development skills, marketing strategies, curriculum design skills and other management skills necessary to provide developmentally appropriate care and education in day camps and before/after school 4-H programs.
5. Establish 30 new 4-H after school units in participating counties.

B. NON-EXTENSION RESOURCES

Total counties reporting: 40

1.	Number of volunteers	3055
2.	Volunteer days	20333
3.	value of federal government funding (grants)	\$ 61,407
4.	value of state government funding (grants)	\$112,508
5.	value of local government funding (grants)	\$ 6,519
6.	value of private funding (grants)	<u>\$ 31,432</u>
		\$211,866
7.	State level funding received (grants)	\$510,330

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of children served by child care programs established with extension involvement 4403 (N=22)
2. Number of children served by child care programs using extension curriculum 22188 (N=39)
3. Number of existing provider staff receiving training from extension 1813 (N=39)
4. Number of provider staff utilizing extension curriculum 1401 (N=39)
5. Number of child care/after school units in your program clubs 310 and special interest 185 (N=34)
6. Number of children participating in 4-H day camps 7838 (N=30)
7. Number of child care facilities that have improved the quality of their program as a result of extension child care training and support 324 (N=36)

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. 450 participants (teachers, child care providers, 4-H agents) attended the N.C. School Age Child Care Conference sponsored by N.C. 4-H Youth Development Department.
2. 29 counties have System Manager programs. Nineteen (19) are funded by Block Grant or Dependent Care Grants and 10 are funded by other sources.
3. Needs assessment for child care was conducted for Burke, Cleveland, Henderson, Johnston and Wayne counties. As a result of the assessments, community groups or agencies in all 5 counties have efforts under way to increase the school-age child care opportunities. In Henderson and Burke, special efforts are being made to increase the availability of child care for middle school children.
4. All 4-H Agents received three (3) days of in-service training on various aspects of child development.
5. 27 System managers attended child care training focusing on improving the quality of child care in the county. New curriculum was available for the system managers.
6. A marketing piece, "Invest in School-Age Child Care... An investment in our future", was developed by the North Carolina Cooperative Extension Service, the North Carolina Department of Human Resources, Division of Child Development, and the North Carolina of Public Instruction. This material was designed to teach the public the need for school-age child care in this state. Sixty thousand (60,000) brochures were produced as well as posters, a research report and an executive summary.

E. NARRATIVE AND IMPLICATIONS

The quality and quantity of school age child care continues to be a concern through out the state. As a result of that concern, the 4-H Youth Development Faculty (state and county) are developing programs to help meet local needs. In 92-93, 39 counties reported serving 22,188 children in child care programs using Extension curriculum while an additional 4,403 children were served in child care programs established with Extension involvement. Four-H received \$510,330 in Federal Block Grant money and Dependent Care money to assist counties in improving school-age child care. (See Youth-at-Risk report for more detail) The Child Care System Manager program has expanded over the last three years to include 27 counties. System Managers work with child care providers to improve the quality of child care in that county. The school-age child care marketing material and the needs assessments were designed to help counties increase the quantity and quality of school-age child care. In addition to the counties with System Managers, approximately 20 other counties provide support to child care providers either in terms of 4-H curriculum or training for providers. Quality training for child care providers and volunteer leaders in all aspects of school age child care is an emphasis in 4-H. In 39 counties, agents reported training over 1800 provider staff. Thirty-six agents reported that 324 facilities improved their child care services as a result of their involvement with Cooperative Extension Service.

The improvement of child care has not been limited to child care providers. All 4-H agents received intense in-service training in developmental appropriate ways to work with children and design programs to meet their needs. Follow up evaluation of that training needs to be done to determine if they have improved their county programs as a result of the training. Also 120 summer camp staff members were trained in various aspects of child development as it pertained to their summer jobs.

- F. COORDINATOR AND TEAM MEMBERS:** Goode, C.
Locklear, E.
Johnson, C.
Scott, H.

ANNUAL REPORT 1993

NC32 - SPECIAL NEEDS POPULATIONS 4-H PROGRAMMING

A. OBJECTIVES

1. For 12,274 youth from special need populations to increase their self-esteem, family communication skills, parenting skills, nutrition skills, decision-making skills, and other life skills through involvement in educational experiential activities and support groups.
2. Fifteen coalitions (15) will be established with organizations, agencies, and groups to increase the opportunities of 4-H for special needs population.
3. For 12,274 special needs youth to participate in innovative programs as a result of funds obtained through special grants to enhance their leadership and life skills.
4. For 192 current 4-H units to increase their awareness, understanding, and knowledge of youth with special needs through increased involvement in 4-H experiential activities.

B. NON-EXTENSION RESOURCES

Mental Health, Social Services, Board Of Education, Libraries, Day cares and Headstart, County Commissioners, American Heart Association, Red Cross, JTPA, North Carolina A & T School Of Nursing, Delta Sigma Theta, Housing Authorities, Southern Bell, Community Based Alternative Program, Operation Restart, WIC, Salvation Army, Boys and Girls Club, Lenoir Community College, Project Focus, Juvenile Justice Council, Bowman Gray School of Medicine, Sheriff Department, Appalachian State University, Adopt-A-Highway, Parks and Recreation Programs, Council on Aging, N.C. Special Olympics

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Eight thousand three hundred seventy seven (8377) youth from special need populations increased their self-esteem, family communications skills, parenting skills, nutrition skills, decision-making skills, and other life skills through involvement in educational experiential activities and support groups. Two hundred eighty four (284) Teen parents gained knowledge on child growth and development and care, stress management, parenting skills, effective parenting techniques, and self-esteem.

2. The Expanded Foods and Nutrition Youth Program (EFNEP) is designed to provide children from limited resource families with educational programs concerning proper nutrition and healthy lifestyle choices. This year over 5,000 young people representing 18 counties were reached by this unique program. The 1,334 volunteers for this program gave over 11,683 volunteer hours to help these youth improve their diet and nutrition skills through special interest programs, after school programs and summer mini-day camps.
3. Six hundred eight (608) Impaired youth increased knowledge, self-esteem, socialization skills, communication skills, and demonstrated changes in behavior as a result of participation in retreats, a special olympics program, camps, and programs conducted at school. A small group of fifteen (15) multi-impaired youth were mainstreamed in their community environment while learning new skills and experiencing a variety of 4-H project activities.
4. Nine hundred forty five (945) Adjudicated youth increased their knowledge, self-esteem, social skills, increased school performances, involvement in extra-curricular activities and a decrease in discipline problems through participation in wilderness camps and other specially designed county programs. Additionally, fourteen percent (14%) of adjudicated youth gained knowledge of work patterns, training requirements, certification, future careers outlook, and increased their employment opportunities, while sixteen percent (16%) reduced their involvement in the judicial system.
5. Three thousand four hundred forty eight (3448) youth residing in Diverse (public) housing gained better decision making skills, exhibited an increase in positive behavior, developed a positive attitude toward themselves, improved skills in nutrition, modified health practices, improved their ability to work together/respect for others/and recognized their personal strengths, improved eye care, increased gardening and landscaping, participated in career experiential programs, practiced household and outdoor safety, toured and learned about city government and county operations, participated in livestock and small animal programs, and gained life skills and knowledge.
6. Ten (10) counties reported receiving grants totalling \$134,045 to provide targeted programs for special needs populations. Two thousand seven hundred ninety two (2792) special needs youth participated in the innovative programs made possible by the grants.
7. Approximately ninety (90) current 4-H units involving one thousand three hundred sixty four (1364) youth have increased their awareness, understanding, and knowledge of youth with special needs through involvement in 4-H experiential activities.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Designing programs for special needs populations has been a successful experience and plans include continued programming and program expansion. County programming has illustrated that special needs youth can be served successfully by traditional 4-H activities. Programs and learning experiences are providing positive reactions among special needs youth and their families as they realize schools, communities, and 4-H cared about them. Volunteers are presently being recruited and trained to conduct educational programs that are suited for youth with special needs, this trend needs to continue.

- F. COORDINATOR AND TEAM MEMBERS:**
- Rouse, Shirley
 - Dixon, Stan
 - Frazier, Ann
 - Hearne, Dorothy
 - Sutton, Sheila

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NC33 - ENVIRONMENTAL STEWARDSHIP

A. OBJECTIVES

1. 440 agents and volunteer leaders will acquire the information necessary to train other teachers and volunteers in the delivery of environmental education curriculums.
2. 150 teachers will demonstrate the skills to design environmental curriculum for integration with their existing academic program.
3. 25,000 youth will increase their awareness and understanding of environmental issues through participation in the school enrichment environmental education program programs at Penn, Sertoma and Millstone.
4. Provide support to subject matter specialists and agency personnel in providing and evaluating relevant learning experiences.
5. 100 teachers and agents will learn how to design and support after school environmental science clubs.
6. 13,500 youth will exhibit increased understanding of designated environmental concepts through participation in environmental and electric education classes at summer camp.
7. Develop networks for collaborative programming between private and public agencies, environmentally concerned businesses and industries and local and state 4-H programming efforts.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	2,203
2.	total number of volunteer days	5,315
3.	value of federal government funding (grants)	\$ 2,290
4.	value of state government funding (grants)	\$263,795
5.	value of local government funding (grants)	\$ 2,000
6.	value of private funding (grants)	\$ 56,625

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of participants and volunteers involved in the following programs (figures from reports of 30 counties submitting data in this area):

	Participants	Volunteers	Counties Reporting
River's Edge	2,334*	148	19
Cast Off Capers/Waste Mgt.	5,152	124	15
Project Learning Tree/Wild	3,429	126	11
Energy Conservation	9,643	157	13
Community Action Projects	707	85	7
Others (over 250 participants)			
Environmental Field Days	1,546	63	3
Catch	754	73	5
Earth Angel	582	30	1
County Fair Exhibit Program	500	30	1
Arbor Day Celebration	350	25	1
National EPA Program for Native Americans	420	20	1
Environmental recycling /stewardship	455	23	1
County Environmental Program	1,450	45	1
4-H Discovery/ Environmental Ethics	322	207	

Other environmental programs listed included: Solar Science, Natural Resources retreat, poster contest, environmental day camp, agriculture day tour, Adopt A Highway (4 counties), Consumerism, Stream Watch, Big Sweep (3 counties), Water Quality, Composting Fair, Composting Training, Gardening, Livestock/Horse (2 counties), Forestry, Soil Mgt., Entomology, Ripples, birdhouses, seafood project, gyotaku, Earth Day celebration Recycling Art Project and SERIES.

Participation in these additional programs totalled 2,772 with 339 volunteers.

Grand Total: 30,416 young people and 1,555 volunteers participated environmental stewardship programs organized in 30 counties.

*6,200 youth were reported as involved in the River's Edge curriculum under the Science and Technology core program (reflecting involvement from additional counties.

2. Indicate any behavior changes, knowledge gained or other impacts measured by surveys or other research you have conducted as response to grants, coursework, etc.

Two counties reported that 4-H youth representatives were added to the county's Solid Waste, Environment and Energy Panel or county recycling commission providing an opportunity to actively contribute to the county's future solid waste planning.

The Eastern Band of Cherokees gained knowledge on waste management and recycling and have put this knowledge to work on the reservation. They will be closing the land fill this October and also have gained an understanding of recycling programs.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. Training Sessions for Agents and Master Volunteers - 40
 - a. Training was conducted for agents in training volunteers to use River's Edge (one day session - 15 agents).
 - b. Master Volunteer Training for Wildlife Science and Management was attended by 10 volunteers.
 - c. One Master Volunteer attended the Regional Forum on Environmental Stewardship (in Georgia).
 - d. Training for use of the CATCH curriculum in 4-H summer camps was carried out involving 12 instructors.
 - e. Training was provided for one county team (2 individuals) in designing training for environmental curriculum for after school day care staff.

2. Teachers demonstrating the skills to design environmental curriculum - 14
 - a. River's Edge Training was conducted for 14 teachers as preparation for integration into their classrooms.
3. Participation in School Enrichment Environmental Education Programs at Penn, Sertoma and Millstone 4-H Centers - 4,596 students and 351 teachers, administrators and parents.
 - a. Residential environmental education programs were offered for 28 weeks of the year. The program involved 1,690 students and 151 adults in residential programs and 2,906 students and 200 adults in day programs. A total of 70 schools from 22 counties participated in the program. The programs involved 27 collaborators from other agencies. 80% of groups participating in the 91-92 environmental education programs at Penn, Sertoma and Millstone booked dates in 92-93. Programs are currently operating with only Betsy-Jeff Penn as a base facility and that facility is operating at capacity. Teachers indicate a high level of satisfaction, with an average rating of classes of 4.5 on a 5 point scale.
 - b. Planning for program and facility design was undertaken for the proposed Northeastern Environmental Education Center with a focus on marine and estuarine environments. Forty agents and volunteers were involved in the planning process. Support totalling \$50,000 was raised to cover the cost of site development and architectural plans.
4. Providing support to subject matter specialists and agency personnel
 - a. 4-H Specialist served on the curriculum planning committee along with three subject matter specialists and four collaborating agencies to plan Fur, Fish and Game Rendezvous. A 4-H Specialist worked with 4 collaborating agencies to develop the curriculum and provide classes for Marine Science and Sailing camp. 4-H Specialists worked with Subject Matter Specialists from Ag Engineering and collaborators from Power companies and businesses representing high technology to provide Electric and New Technology camp. Specialty camps focussing on the environment were carried out in the following areas: Marine Science and Sailing (156 participants), Fur, Fish and Game Rendezvous (101 participants) and Electric and New Technology Camp (89 participants) or a total of 346 individuals.
 - b. Training was conducted for extension professional from 2 other states on designing residential environmental education programs (17 participants)
5. Teachers and agents learning to design and support after school environment clubs.
 - a. 193 after-school 4-H Science clubs have been formed. Environmental science is included in the activities of most of the clubs. No progress was made on the establishment separate after-school environment clubs.

6. Participation in electric and environmental science classes at summer camp - 2,510 participants.
 - a. Programs for all county junior camps were designed to include a minimum of 6 hours of environmental education and involved 2,510 participants
7. Developing networks for collaborative programming
 - a. 4-H Specialists serve on the Board for North Carolina Big Sweep and 2 specialists serve on the educational committee and assisted in an interagency statewide training session on environmental concepts and curriculums offered through distance learning technology. This program reached 125 teachers.
 - b. Three CATCH (fishing and aquatics) clinics were held at Penn in collaboration with the Wildlife Commission reaching 245 youth and 30 adults. Three counties reported operating CATCH clinics involving 504 youth and 72 adults.
 - c. Contacts were made to establish a collaboration between 4-H and area Federal Wildlife Refuge personnel, state park personnel, Fish and Wildlife Agency, Save Our Sounds Project, Sea Grant, Nature Conservancy, and the Department of Environmental Resources to develop the educational curriculum to be delivered through the planned Northeastern 4-H Environmental Center.
 - d. Beaufort County reports that youth attending their county 4-H day camp received hands on experiences with habitats, wetlands, birdfeeders, wildlife, seining, Project Wild, Aquatic Wild, CATCH, canoeing, nature hikes, chinese fish printing, touring a landfill, and playing recycling games. The program is a collaborative effort between 8 agencies that have developed into a network for environmental education in the county. Members of the network have independently written grants to support 1993-94 plans to provide teacher training. In addition, this coalition has written a localized environmental curriculum which will be printed by the Department of State Parks and Recreation. Demand for teacher training in the 4-H and multi-agency curriculums on the environment is so high that teachers are willing to attend training on their own time in order to access the curriculum.

E. NARRATIVE AND IMPLICATIONS

Indicators and examples of additional participation in learning about environmental stewardship include:

- a. 120,369 learning experiences were reported under the category of Ecology and Natural Resources on the ES-237 report for 92-93. This reflects a 22% increase from last year. More specifically, learning experiences were reported in the following areas: Ecology and the environment - 31,900; Geology - 1041; Entomology - 8,900; Conservation of Natural

Resources - 15,151; Soil and Water - 12,723; Forestry - 18,037; Wildlife - 20,177; and Marine, Aquaculture and Fishing - 4,382.

- b. Participation in district level presentation in the environmental areas included: 17 in entomology; 21 in environmental quality; 15 in forestry; 32 in marine awareness; and 39 in wildlife for a total of 124 presentations (2% increase over 91-92).
- c. Buncombe county has developed a series of curriculum centered around the Earth Angel character using dramatic arts to help youth and adults learn about recycling and environmental shopping. As an outgrowth of the program a family retreat was carried out involving 19 families (54 people). In addition, trainer to trainer workshops have been held and teaching material kits have been provided for teachers and after school day care as an outcome of the workshop.

The following implications can be drawn from this year's data:

- a. The Environmental Stewardship program continues to be in very high demand in North Carolina, with all of the curriculums that are available statewide being utilized across the state. Continued effort is needed to maintain print dollars for the distribution of the current curriculum. Perhaps most significant is that the area reporting the highest level of participation, energy conservation, is the area in which there is no statewide curriculum support. Efforts should be made to identify the educational materials being used in the counties and the best approach to supporting those approaches through a statewide curriculum. Funds are currently being sought to underwrite that effort.
- b. Collaborative efforts in environmental education have born excellent results in a number of counties. Such efforts should continue to be encouraged and supported.
- c. County reports still lack much evidence of environmental community action. Training and programs to increase youth involvement in environmental issues in their communities is needed.
- d. The Environmental Education Program at Penn is operating at full capacity with demand beyond its capabilities. Expansion of the program opportunities through additional staff may need to be considered to meet the growing demand.
- e. Very little follow-up or other data is being generated to indicate the outcomes of the educational programs provided by counties. Formats for gathering follow-up data need to be developed.

- F. COORDINATOR AND TEAM MEMBERS:**
- Hannon, C.
 - Maxa, E.
 - Hancock, L.
 - Warner, M.
 - Harkins, L.
 - Jones, E.
 - Naderman, G.
 - Zaslow, S.

The following information can be drawn from the year's data:

1. The Environmental Stewardship program continues to be in very high demand in North Carolina, with all of the communities that are available statewide being utilized across the year. Continued effort is needed to maintain high demand for the distribution of the current curriculum. Perhaps most significant is that the state regarding the highest level of participation, energy commitment, in the area in which there is no statewide curriculum support. Efforts should be made to identify the educational materials being used in the counties and the best approach to supporting these approaches through a statewide curriculum. Funds are currently being sought to undertake this effort.
2. Collaborative efforts in environmental education have been excellent in a number of counties. Such efforts should continue to be encouraged and supported.
3. County reports will not show evidence of environmental stewardship action. Funding and programs to increase youth involvement in environmental issues in their communities is needed.
4. The Environmental Education Program as it is operating in full capacity will continue to be a challenge. Expansion of the program opportunities through additional staff may need to be considered to meet the growing demand.
5. Very little follow-up or other data is being gathered to indicate the success of the educational programs provided by counties. Further data gathering follow-up data need to be developed.

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NC34 - FAMILY DEVELOPMENT

A. OBJECTIVES

The problems facing families in North Carolina are interconnected and complex, and require innovative, multi-disciplinary solutions. The staffs at N. C. State University and N. C. A&T State University focused their efforts on providing information to help families develop their capacity to enhance the growth and development of children and to strengthen families. Target programming included child care, parent education, family strengths, aging, and family legal issues. The objectives to reach these goals were:

- Volunteers, paraprofessionals and professionals will be trained to deliver programs in family development (i.e. Master Parents, Volunteer Information Provider)
- Participants will gain knowledge and skills related to the well-being of children inclusive of personal safety, self-care and survival skills, self confidence, personal growth and development and the prevention of child and substance abuse
- Parents and youth will acquire the knowledge and skills associated with effective parenting
- Parents and youth will understand and use effective family coping strategies
- Parents, youth and child care staff will gain knowledge and skills in child growth and development, age-appropriate activities, family-community-school relations, parenting and the selection of quality care
- Child care workers will adopt recommended practices for classroom management, scheduling, and curriculum development in order to increase their overall professional competency
- Family members will increase their knowledge and adopt recommended practices to improve stress management, conflict management, interpersonal relationships, self-esteem, decision making, communication and supportive skills
- Adults and youth will increase knowledge and skills in marriage preparation and enrichment

- Family members will gain information on the process of aging and skills needed to deal with the changes and problems associated with dependency, elder care and multi-generational households
- Parents and adults will acquire information about their legal responsibilities to and for their children, spouses and other family members

Objectives for 1890 staff were:

- limited resource parents will increase their knowledge and skills in effective parenting, child growth and development and building family strengths
- limited resource senior citizens will gain knowledge needed to strengthen their independence and share that knowledge through volunteer activities

B. NON-EXTENSION RESOURCES

Specialists and agents received \$106,708 to support programs in family development. Volunteers contributed greatly to the success of programs. Volunteer and financial contributions were as follows:

1. Number of Volunteers - 3,171
2. Total number of volunteer days - 4,478
3. Value of federal government funding (grants) - \$450
4. Value of state government funding (grants) - \$15,200
5. Value of local government funding (grants) - \$5,100
6. Value of private funding (grants) - \$85,958

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

The accomplishments and indicators of success for the family development core program are reported as follows:

1. 75% of 12,395 parents and youth acquired knowledge and skills associated with effective parenting
2. 3,164 individuals in parent-youth programs reported improved relations

3. 8,914 parents and youth used effective family coping strategies
4. 2,791 volunteers assisted with delivering family development programs
5. 5,242 child care providers adopted recommended practices for classroom management, scheduling, and curriculum development in order to increase their overall professional competency; 3,252 child care workers were certified in the American Red Cross Child Care Course, Sesame Street Preschool Education Program and other certifiable child care programs
6. 8,608 family members increased their knowledge and adopted recommended practices to improve communication skills, stress management, family and work conflicts, interpersonal relationships, decision making and other supportive skills
7. 1,962 acquired information on the process of aging and skills needed to deal with the changes and problems associated with dependency, elder care and multi-generational households
8. 1,134 parents and adults acquired information about their legal responsibilities to and for their children, spouses, and other family members
9. 3,983 limited resource parents increased their knowledge and skills in effective parenting, child growth and development and building family strengths
10. 25 limited resource senior citizens developed skills and utilized resources needed to remain self-sufficient in their retirement years

D. OTHER INDICATORS AND ACCOMPLISHMENTS

- 347 master volunteers and volunteers were trained to deliver family development programs
- 3,063 families and individuals benefitted from volunteer programs, such as Master Parents, Volunteer Adult Sitters Program and Volunteer Information Provider Program
- 1,592 youth gained knowledge and skills in personal growth and development, self-esteem, self-care, child care and drug and child abuse
- 200 adults and youth increased knowledge and skills in marriage preparation and marriage enrichment
- 71 babysitters were certified

- 140 4-H projects were completed in child care and family strengths
- 492 baby packets given to new parents
- random surveys indicated that about 90% of child care providers and parents had adopted recommended childrearing practices
- 859 individuals completed home study courses, at-home projects and participated in support groups
- 12 family support groups, 7 teen mothers support groups, and 2 family child care homes were established while 44 additional coalitions/networks were formed among governmental agencies, civic and religious groups; 37 teen mothers graduated from high school
- 687 individuals requested additional programs, follow-ups, referrals and consultations
- 3,813 Extension publications and 46,735 newsletters on children and family related topics were distributed while thousands gained information through the media (tv programs, radio spots, and newspaper articles)
- total number of individuals participating in family development programs were 51,627

E. NARRATIVE AND IMPLICATIONS

Trends from this year's report indicated an increase in court ordered parent education and financial counseling, more collaboration with agencies and family related groups, enhanced use of volunteers, increased resource development, more diverse participants, and more entrepreneur programs for individuals interested in starting home-based businesses. Agents are also teaching more classes for JOBS participants, foster parents and other social services clients. Extension agents are being recognized as experts with research-based information to meet the need of parents and families.

Parents are still struggling to rear their children and to provide a comfortable environment for their family. Much work is still needed to deal with some social ills, such as teen pregnancy, child abuse and neglect, child care and family instability. Recurring themes and emerging program needs identified were: intergenerational needs of families, self-esteem for both youth and adults, interpersonal relationships, and strategies to strengthening families. Agents reported a need for programs and resources to help families cope with the lack of jobs, low wages, poverty, stress, parenting, and work-related issues.

Agents and specialists increased resource development to support child and family programs. Financial support ranged from starting aging coalitions to establishing local model parent education and family education programs.

Interagency collaborations and volunteers helped to deliver coordinated and diverse programs to individuals families. Innovative ways to reach more and diverse customers are current challenges for Extension.

F. COORDINATOR AND TEAM MEMBERS: Cynthia E. Johnson
Jean Baldwin
Carolyn Dunn
Harriet Jennings
Jan Lloyd
Wayne Matthews
Sharon Rowland
Carol Schwab

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NC35 - FAMILY ECONOMICS - Core Program Report for 1992-93

A. OBJECTIVES

Individuals of all ages and families of all types will improve their understanding of personal finance, including money management, credit control and financial planning practices, to improve their financial situation throughout the life cycle.

Parents and youth will set and achieve financial goals.

Individuals and families will gain knowledge for making informed decisions about options for producing and extending income.

Individuals of all ages and families of all types will gain knowledge necessary to become effective decision makers and resource managers, and will adopt practices which extend purchasing power and increase consumer satisfaction (with special emphasis on health care/insurance, transportation, the environment, and consumer fraud.)

Elderly, limited-resource and young families will gain knowledge of housing options, alternatives and lending programs for affordable housing.

Individuals and families will adopt practices to improve housing by repairing, remodeling, or upgrading to meet the family's needs throughout the life cycle.

Interagency network members will cooperate with CES in program planning and delivery to help older adults and families.

Individuals and families will gain awareness of and begin planning for the probability of becoming family caregivers and the possibility of personal dependency.

Family caregivers will improve their use of community resources and other measures to reduce stress.

Individuals and families will acquire information about legal, financial and other considerations for their current and prospective personal and business situations, including the importance of selecting and using appropriate professional services and other resources.

B. NON-EXTENSION RESOURCES

Based on reports from 86 counties

1.	Number of volunteers	5,870
2.	Total number of volunteer-days	9,267
3.	Value of federal government funding (grants)	\$ 5,400
4.	Value of state government funding (grants)	\$ 15,820
5.	Value of local government funding (grants)	\$ 420
6.	Value of private funding (grants)	\$ 23,480
	plus funding at state level	62,100
		\$ 85,581

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of youth, adults and families who gain knowledge of money management, credit control and record keeping practices - 28,681
2. Number of adults and families who will acquire information about the need for coordinating legal, financial and health care decision making for possibility of personal dependency - 31,140
3. Number of individuals and families who will acquire information about estate planning and retirement planning - 11,181
4. Number of individuals and families who will adopt practices to improve their housing by repairing, remodeling, or upgrading so that the house meets family needs throughout the lifecycle - 36,914
5. Number of youth, adults and families who will gain understanding of their marketplace rights and responsibilities in the selection, use and care of consumer goods and services - 35,834
6. Number of individuals and families who will develop and use skills to increase or extend income - 26,279
7. Number of current and potential entrepreneurs who will acquire information on the successful operation of a small business - 1,848
8. Number of members of local aging networks who are cooperating more effectively in providing information for older adults and their families as a result of Extension Agent leadership in elder care programs - 1,028

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. **Financial Management**

6 counties - Home Economics and 4-H agents worked with teachers to pilot High School Financial Planning Program and involved 234 junior-senior students

6 counties - Home Economic Agents organized a coalition to offer Women's Financial Information Program

29 counties cited money management, consumer education and other life skills educational activities for clientele &/or professionals with JOBS and other low income/low reading level programs, e.g., Housing Authority (especially Hertford), Head Start, Habitat for Humanity

6 counties cited special programs on advanced financial management issues, such as retirement planning - especially Gaston

2 counties cited special trained volunteer programs on personal/family tax concerns
2. **Affordable Housing**

8 counties conducted special multi-session home buying workshops: Alamance, Carteret, Edgecombe, Guilford, Moore, Randolph, Rowan, Wake
3. **Resource Management**

5 counties highlighted programming with the new Personal and Family Record Keeping publications
4. **Income Production**

15 counties cited various small business program activities to help people increase income, including 67-county workshop in Cabarrus that reached 100+ current or potential entrepreneurs

10 counties cited skills development activities for adults to empower clientele to increase and/or extend income through sewing, crafts, renovations, remodeling and producing household cleaning products.

7 counties (combined) reported receipt of \$97,952 from home-based business
5. **Elder Care**

14 counties in Northeastern North Carolina created local and regional aging services directories and launched the first year of a 3-year funded project to train Volunteer Information Providers to locate family caregivers of the dependent

elderly and provide them with information about local aging services. As of July 1993, 150 trained volunteers had reached over 1,000 senior citizens and caregivers and approximately 500 copies of the local directories had been distributed to volunteers, agencies and businesses.

34 counties reported delivery of the Volunteer Information Provider Program since its inception in 1989, with outreach to more than 5,900 caregivers of the dependent elderly.

11 additional counties organized and conducted Training Family Caregivers workshop/home study programs, making a total of 26 counties to date involving 822 caregivers. 15 counties have organized caregiver support groups.

23 counties serve as coordinators of the SHIIP program, and all counties cooperate in recruiting volunteers for this community resource sponsored by the N.C. Department of Insurance.

6. Consumer Education/Protection

4 counties cited special programs addressing the issue of health care costs

10 counties cited special consumer education/protection programs, with the Roanoke Valley Aging Conference reaching 104 people in a special workshop on Avoiding Fraud and Flim-Flam

E. NARRATIVE AND IMPLICATIONS

Agents in 86 counties reached 172,905 clientele

FINANCIAL MANAGEMENT - Basic Money Management & Financial Planning
28,681 adults and youth gained knowledge of recommended money management, credit control and record keeping practices during 1992-93, 72% of the 4-year projection of 40,000. There was a marked increase in financial management programming for basic money management/credit control. A number of programs were designed for special audiences: the Women's Financial Information Program reached hundreds of women new to Extension; youth programs included the High School Financial Planning Program pilot; and families of all ages took part in Personal and Family Record Keeping programs.

At the May 1993 training of 51 agents on New Resources for Family Economics Programs (in financial management and affordable housing), specialists were urged to increase the program resource materials and agent training for working with limited income/reading level audiences. Additional state staff time must be secured through

organizational allocation and/or external funding to strengthen agent programming on this fundamental component of Family Economics and numerous other Extension programs (e.g., Farm Management, Affordable Housing, Elder Care, Health & Human Safety, Families in Crisis, Economic Development for Women, Master Parenting). An integral part of new program materials must be an efficient process and accurate tools for measuring actual behavioral change as a result of NCCES Financial Management programming.

ELDER CARE - Financial/Legal/Health Care Planning

31,140 adults and families gained knowledge during 1992-93 about elder care decision making, 62% of the 4-year projection of 50,000 -- reflecting the self-sustaining, ongoing expansion of elder care programming by Extension Agents and members of their local aging networks. North Carolina is far ahead of most states in addressing the information needs of aging and older adults and caregivers -- but new program resources to prepare families to deal with emotional and physical stress should be secured or developed and made available to agents.

In January-February 1993, agents from 32 counties received the final team training from externally funded elder care grants. [Between 1989-93, agents in 96 counties received externally-funded training in one or more of the special programs to help family caregivers of the dependent elderly. Kate B. Reynolds' "Planning Ahead for Elder Care" grant ended in 1992 and The Glaxo Foundation's "Training Family Caregivers" grant ended in June 1993.] All elder care programs are expected to continue and to expand through local county interagency committee activity and locally secured funding as needed.

739 Volunteer Information Providers have to date provided outreach to 5,900 caregivers, a number that is rising markedly because of the Kate B. Reynolds 3-year grant to agents in the North-eastern region of North Carolina.

112 Volunteer Adult Sitters in 10 counties received information in Extension-sponsored programs to help them decide whether to offer unpaid companion-level respite care. Most Extension Agents prefer for respite companion training to be sponsored by other organizations, but help deliver the training.

822 caregivers to date have taken part in the Training Family Caregivers group-workshop/home study program. By 1995, an estimated 2,184 caregivers will have participated in this program. All of the elder care programs are expected to continue on their own, with local funds secured as needed.

Networking among agencies to organize and conduct elder care programs has of course benefitted family caregivers, who reported significant reduction of stress as a result of the information and emotional support they received. But the requirement of interagency program sponsorship has also given more visibility to Extension and improved

cooperation among the local aging service providers. They now understand each other's programs better and in many counties meet regularly to maintain better coordination among agencies. Agents in 1993 reported working with 1,028 members of their local aging networks. Extension involvement in interagency aging activities has been of value in many counties as they struggle to make the transition to the new way to fund county aging services through the Home and Community Care Block Grant.

Training for 64 agents was provided in June 1993 through a grant from the Health Care Financing Administration to the N.C. Dept. of Insurance - Seniors' Health Insurance Information Program. Agents received extensive up-to-date materials on the complex, confusing topics of Medicare, Medicaid and private insurance (individual Medicare Supplement and long-term care policies), and discussed the appropriate relationship between SHIIP and Extension. (Agents in 23 counties now serve as Volunteer Coordinators to assure the availability of this valuable resource to their communities.) If their continuation grant proposal is funded, mini-lessons on key issues will be prepared for agent use, and will be presented to agents in September 1994 training.

Training on Maintaining Independence was delivered to 43 agents in November 1992 by a team of home ec specialists. 80 or so agents took part in March 1993 interagency workshops on "Nutrition, Aging and Health." Both training opportunities reflect increasing emphasis on Health Promotion, and address concerns of several core programs and state initiatives.

Family Economics issues are fundamental in the goals of the Decisions for Health national initiative. Both consumer and citizen decision making are part of the NCCES response to the challenge to conduct Health Care Reform Issues Education (in cooperation with the Health and Human Safety Initiative).

Efforts by state staff are necessary to improve coordination in the planning and reporting of aging, elder care, health promotion and maintaining independence programs. Agent activity in these areas makes a significant contribution to individuals and communities, but is often not captured due to lack of coordination in the planning and reporting systems.

ESTATE PLANNING and RETIREMENT PLANNING

11,181 individuals and families acquired information about estate planning and retirement planning, 22% of the 4-year projection of 50,000. The slowly expanding Women's Financial Information Program is producing a number of new Extension clientele with strong commitment to personal responsibility for obtaining the information needed for future financial security. (WFIP training will be offered again in November 1993.) Cooperation with PREPARE, the state Office of Personnel's pre-retirement program has made additional resource materials available to agents in two agent training sessions

during 1992-93: Retirement Planning in November 1992 (offered with Ag/Resource Economics) and New Resources in Family Economics in May 1993. [Specialized training on Retirement Planning for Employers and Employees will be offered through the MCNC network in December 1993 and further MCNC training will be offered during Winter 1994 on Disability and Dependent Care Planning for Employers.]

IMPROVED HOUSING/AFFORDABLE HOUSING

36,914 individuals and families adopted practices to improve housing through repairing, remodeling or upgrading to meet family needs through the lifecycle -- 105% of the 35,000 projection for the entire four years. Clearly, the interest in this area is very high, as is its significance in family economic well-being as the most expensive component of household expenses. Introductory agent training on Affordable Housing was presented to 51 agents in May 1993, and training is scheduled for May 1994 to provide information on: barriers to affordable housing; housing options; agencies/organizations which fund/provide housing; legal issues; resource materials; programming ideas for various audiences; and networking opportunities.

INCOME PRODUCTION

26,279 individuals and families developed and used skills to increase or extend income, more than three times the estimated 8,300 of the 4-year projection. Complete numbers of volunteers involved are not available. 1,848 current and potential entrepreneurs received information on the legal and business management aspects of running a small business -- one component of the 4-year programming assistance projected for 18,500 entrepreneurs.

The need for supplemental income continues to be very great for large numbers of North Carolina families, but this year marked the loss of 2 FTEs at the state or area level to support small business management and marketing programs. Several agents have turned to the Increasing Family Income video/print program (produced with Ag Foundation funds as part of a Rural Revitalization effort) and are trying to strengthen the network of agencies and organizations that can help clientele get reliable information about different ways to increase household income through jobs, job training, small business and farm management.

The recent report of the CALS/CRD Task Force highlighted the need for further research and extension programs to help rural citizens in particular meet their needs for increased income. The report specifically asked for reallocation of funds to restore and add state or area positions to address this need.

CONSUMER EDUCATION/EXPENSE REDUCTION and CONSUMER PROTECTION
35,834 adult and young consumers gained knowledge of their marketplace rights and responsibilities in the selection, use and care of consumer goods and services -- a major increase over the 25,000 4-year projection. Most of these programs were generated by agents, with assistance from state specialists devoted primarily to health care, transportation, and consumer fraud updates.

Health Care Consumer-Citizen programming will be a major program emphasis for at least two years. (See comments under ELDER CARE.) BUYING YOUR FIRST CAR will be in January 1994 training and will be submitted as 9th grade School Enrichment curriculum. CONSUMER FRAUD is the theme of the 1993 National Consumers Week for which agents have received new materials.

F. COORDINATOR AND TEAM MEMBERS:

Janice Holm Lloyd
Glenda M. Herman
Carol A. Schwab
Jacquelyn McClelland
Judith E. Mock
Michael L. Walden

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NC36 - HUMAN ENVIRONMENT AND HEALTH

A. OBJECTIVES

1. Consumers and communities will make environmentally-sensitive decisions related to residential waste management.
2. Households will protect, improve and conserve the residential water supply.
3. Households and housing providers will improve indoor air quality in homes to promote a healthier living environment.
4. Households and housing providers will increase energy efficiency and conservation in residences and communities.
5. Families, individuals and housing/service providers will improve living environments to promote independent living.
6. Families and individuals will protect or improve their health status.

B. NON-EXTENSION RESOURCES

Civic groups, health departments, private industry, Chambers of Commerce, radio/TV stations, NC Dept. of Health, Environment and Natural Resources-Office of Waste Reduction, FHA, recycling centers, lending institutions, building industry professionals (realtors, inspectors, builders, building suppliers), local task forces, and boards, church groups, local governments.

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

88,819 families, adults and youth adopted one or more recommended waste management practice for the home or community.

30,993 households who adopted one or more recommended residential water conservation or water quality measures.

31,478 households and housing providers adopted one or more recommended practices to conserve energy or improve energy efficiency in their homes and communities.

4,857 families, individuals and housing providers gained knowledge about independent living strategies, including lifestyle housing design and adaptation.

46,276 families, adults and youth gained knowledge of personal environmental health and safety practices.

WASTE MANAGEMENT

More than 88,000 North Carolinians gained knowledge, developed skills and made changes in waste management practices to recycle, reduce and reuse. Fourteen counties participated in Master Waste Manager programs, using 150 trained volunteers to conduct more than 4,000 hours of community education and outreach in North Carolina. Master Waste Managers have conducted attitudinal surveys for local governments, served at recycling collection sites, assisted in reducing contamination of recyclable materials, conducted programs in schools, and worked with schools to establish on-site recycling and composting facilities. One county has adapted a second phase of the program as "Waste Manager Kid-ets" using youth volunteers.

In another county, the Extension staff has been requested by the county commissioners to implement a comprehensive environmental education plan for the county as a result of a successful Master Waste Manager program. Volunteers in this county have also prepared a slide program on local waste issues, assisted with an Earth Wise Day Camp for youth, and worked to reduce contamination of recyclable materials.

In other waste programs across the state, twenty environmental days, camps or fairs focused on waste management issues. One county sponsored an "Earth Angel" Family Environmental Retreat. Nineteen families who participated received practical information on environmentally-responsible shopping, recycling and composting activities they could conduct together as family activities.

Another county has coordinated a Household Hazardous Waste Task Force, secured external funding and trained volunteers to assist with activities and educational programs. Extension has played a key role in providing more than 30,000 county residents with information about household hazardous waste through the local media and with exhibits at special events. A youth character, Hazardous Harry, has been developed and is being displayed throughout the county. The local civic group has underwritten the cost for an Extension educational brochure to accompany the display.

WATER QUALITY

Drinking water education and testing programs were implemented in at least 50 counties. One county was selected to be a national pilot site for a "Blue Thumb" community water quality program. As part of the program, trained community volunteers screened drinking water samples of about 400 households to test lead levels. In another county, National Drinking Water Week activities were used in 14 schools in the county. A conservation field day co-sponsored by Extension introduced youth and community members to drinking water supplies and water quality issues. Blue Thumb activities conducted in schools and the community reached over 1,000 individuals.

ENERGY

Homeowners, builders, businesses and educators have participated in Extension energy education. In one county, twenty-two teachers have been trained in the use of an energy, technology and society curriculum as a cooperative venture between Extension, the NC Solar Center and the NC Alternative Energy Corporation. An Extension-sponsored solar communities program has conducted solar tours, home builder workshops and special programs to promote adoption of solar technologies for more than 300 residents in a multi-county region. Twelve small businesses have been introduced to energy-efficient lighting and weatherization technologies.

Project Connect, a funded energy program in five Western North Carolina counties, has helped nearly 20,000 North Carolinians make home energy audits, weatherize their homes, and learn how to build new homes that are energy efficient. Nearly 50 percent of participants surveyed at intervals following Project Connect energy programs had made one or more energy improvements to their home or business since the program.

Bi-weekly news articles on energy conservation, energy use and energy efficiency for homes were distributed statewide through Extension's electronic newsgroup. News articles were also distributed to 18 regional newspapers.

Fifteen community development clubs received on-site energy audits for retrofitting their buildings to conserve energy. Eighty county residents in the five-county region have participated in neighborhood energy workshops where they have practiced measures to reduce air infiltration in their homes. Eleven homes and businesses in one county were tested with a blower door to determine areas of air leakage. Two solar homes were built in the county following Extension programs and co-sponsored solar workshops. Home builder workshops in the county have introduced clients to new technologies, including radon-resistant construction and airtight drywall assembly (ADA).

INDEPENDENT LIVING

Thirty-three counties conducted programs on independent living. More than 300 senior citizens participated in seminars on adapting housing and developing skills to maintain independence. In one county, twenty-five visually impaired senior citizens learned about user-friendly lighting. In another county, Extension assisted a wheelchair-bound individual in remodeling kitchen and living areas to improve accessibility.

ENVIRONMENTAL HEALTH

Extension continues to be funded by the US EPA and the State Radiation Protection Division to conduct the state's radon education program. More than 36,000 North Carolina households learned about radon health risks, tested their homes for radon, and adopted measures to reduce radon levels in their homes. Extension assisted public school

officials in five counties with testing for radon in the schools. Extension worked with 8 local government units to test homes for radon using monitors donated by the local government and the State Radiation Protection Division.

A state-wide radon newsletter was sent quarterly to nearly 1,000 local government officials, public health professionals, and Extension agents. Two workshops were conducted for more than 60 building professionals on how to construct and retrofit homes to reduce or mitigate radon. Thirty Extension agents, health professionals and builders were trained to develop "teamed" radon education programs at the local level. Twelve workshops and programs involved 450 youth in assessing radon and health issues.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Special wastes are an emerging problem in North Carolina's waste stream. Extension education can be effective in reducing and disposing of special waste safely. Environmental regulations continue to have an impact on local governments and citizens. Education of consumers is still a cost-effective solution for reducing volume and type of waste going into landfills. Extension can also provide leadership for citizen education to reduce contamination of recyclable materials. Educated volunteers continue to provide leadership for educational efforts in the community, as well as public policy education. Collaborative efforts with other local agencies continues to be an effective outreach strategy. Waste reduction, including enviro-shopping and source reduction, is an emerging area where CES can be a leader. Environmental equity continues to emerge as a community waste issue.

Water quality is still ranked as the number one environmental priority in North Carolina. Additionally, many parts of the state are still in drought conditions, so water conservation is still a critical need. Education will play a key role in helping North Carolinians preserve and conserve our water resources.

The senior citizen population in North Carolina is at an all time high and is expected to increase. For these citizens, the ability to function independently will be even more critical in the 90's. Education which focuses on careful planning and design can make independent living more possible for this group.

Environmental health issues are of growing interest to North Carolinians. Lead in homes and in drinking water is a potentially serious health threat to children. Indoor air quality continues to be a concern for North Carolinians. More North Carolinians are experiencing multiple chemical sensitivity, environmental illness and sensitivity to common indoor pollutants like bioaerosols. Radon is a serious indoor air pollutant and continues to pose a health risk for North Carolinians. It is especially important to focus radon education and testing in the higher risk areas of the state.

Energy conservation and energy efficiency are still important to North Carolina households. North Carolinians want accurate information about best management practices to reduce air leakage while maintaining a healthy home environment. New energy technologies, such as airtight drywall assembly and duct-sealing, need to be made available to consumers across the state. As utilities focus on demand-side management, consumer education in energy use and conservation is more critical.

F. COORDINATOR AND TEAM MEMBERS: Sanrda A. Zaslow
Wilma S. Hammett
Glenda M. Herman
Barbara Garland
Janice Holm Lloyd
Judy Mock

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NC37 - NUTRITION, FOOD SAFETY AND HEALTH CORE PROGRAM FOR NORTH CAROLINIANS**

A. OBJECTIVES

1. Adults participating in nutrition, diet and health programs will improve their knowledge, skills, attitudes, and behavior for nutritionally sound diets and healthy lifestyles.
2. Adults participating in diet and weight control programs will improve their knowledge, skills, attitudes and behavior for safely managing their weight.
3. Participants in maternal and child health programs will improve their knowledge, skills, attitudes, and behavior for proper nutrition and health for children and women of childbearing age.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	4,927
2.	total number of volunteers-days	7,181
3.	value of federal government funding (grants)	\$ -0-
4.	value of state government funding (grants)	\$ 7,998.75
5.	value of local government funding (grants)	\$ -0-
6.	value of private funding (grants)	\$16,400
	plus funding at state level	\$35,150 \$51,550

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of citizens participating in nutrition, diet and health programs who increased their knowledge of how to promote health and reduce the risk of chronic diseases by selecting, preparing and consuming foods according to the National Dietary Guidelines. 106,955
2. Number of individuals with dietary risk factors will make a positive change to reduce and manage their risk. 27,897

3. Number of families that gain knowledge to help them provide a healthier diet for their children and teach their children health diet and lifestyle habits. 30,064
4. Number of participants in maternal nutrition programs who gained knowledge and skills that will lead to good food habits associated with a healthy pregnancy. 5,382
5. Number who gained knowledge of safe food handling practices and other practices that protect the safety of the food supply. 30,591

D. OTHER INDICATORS AND ACCOMPLISHMENTS

1. Nutrition, Diet and Health Promotion/Disease Prevention Programs

A variety of programs and workshops on nutrition and health topics was offered throughout the year in all counties. Subjects included diet and cardiovascular diseases, hypertension, diabetes, obesity, osteoporosis, atherosclerosis and cancers. Health promotion activities included health fairs and screenings, grocery store tours for teaching label reading, low-fat and low-sodium cooking demonstrations, class-style presentations, and hands-on activities. Other informal educational opportunities included American Heart Association Food Festival ("Heart Fest"), Commodity Foods Distribution Programs, Heart at Work workshops, Give Your Heart a New Beat series, worksite employee health days and Culinary Hearts Kitchen course. All of these activities involved networking with health departments and health agencies, area aging agencies, WIC, local industries, school systems, churches and other agencies and groups. Participants learned basic recommended nutrition/diet strategies such as shown in the USDA Food Guide Pyramid and the Dietary Guidelines for Americans. They also learned how to select and safely prepare foods for better health.

Examples of programs include the following:

*Breast cancer is on the rise and may be reaching epidemic proportions but it can be treated successfully if detected early. More low income women die from breast cancer than those in the higher socioeconomic strata due to a lack of early detection. As a result of collaboration between CES, health departments and the NC Extension Homemakers Association 41 high risk women received free mammograms.

*A "Diabetes-Your Health and Nutrition" workshop was presented to the general public, diabetics, and high school health occupations students. Informational sessions and screenings were attended by 80 people.

During the screenings, one student and two adults were found to have elevated blood sugar levels and were referred to personal physicians for follow-up.

During the Diabetic Foot Care session, one diabetic adult was discovered to have an ulcerated foot problem and was in danger of losing a toe. She was referred for treatment which started immediately to save the toe.

One family of a five year old, who had been diagnosed as a juvenile diabetic the previous week, attended to learn all they could about diabetes. They reported a sense of relief from meeting with other families in similar situations.

As a result of the workshop, a Diabetes Support Group was formed with Extension giving leadership to the formation. The group meets on a monthly basis for educational programs and for sharing of experiences and feelings.

* Minorities suffer from a disproportionately higher rate of cardiovascular diseases. Networking efforts with 8 churches, the American Heart Association, and dietitians resulted in the organization of a health fair with screenings, "Pathways to Better Health", targeting minorities.

As a result 160 minority family members attended and were screened for blood pressure, tetanus, glaucoma, blood cholesterol levels, and physical fitness.

Eight people had high blood cholesterol levels and were counseled.

Follow-up indicates that 51 have adapted eating habits to help prevent cardiovascular diseases.

*45 county employees have participated in Wellness programs sponsored by the county and Inter-county Wellness committees. Goal is to reduce cardiovascular risk factors among county employees. As a result:

A non-smoking policy has been initiated in all county building.

A county sponsored CPR class has been held.

A Wellness Library has been established for employees.

Annual health screenings to follow employee health status have been planned.

Six "Lighten Up" weight management program participants lost 52 pounds over a 10 week period.

*Two of 19 participants in a low-fat cooking class worked in food preparation at a local convalescent center. They were so impressed with the ease of preparation and nutritional value of the low-fat dishes that they talked their supervisor into including them in the convalescent center's menus.

*Fifty individuals completed a worksite program including weight-loss series.

75% lost their desired weight.

80% reported walking 3 times/week for 30 minutes each.

One individual had high blood sugar levels and reduced them to a safe level after two weeks on the program.

*The Walking Club met two days a week January through April in the Allegheny High School. This exercise opportunity provides citizens with a fun, safe and climate-controlled setting during cold months. Participants logged over 667 miles.

*Noonliting programming was very successful in all the counties. Examples of results include:

4 participants in Noonliting were able to discontinue their diabetes medication due to their improvement.

12 in one Noonliting program lost 153 pounds.

55 decreased their elevated blood pressures.

5 in one Noonliting program lost 135 pounds.

73 lost an average of 16 pounds each in 15 weeks.

7 lowered their elevated blood cholesterol levels.

3 diabetics lost weight and got their blood sugar under control. Two of them were severe diabetics and this was a major accomplishment for them.

Out of 81 graduates, 35 reached their goals of losing 10+ pounds, 43 lowered their blood cholesterol levels, 40 decreased their blood pressures to normal levels, and 46 lost at least 6 pounds.

One county reported that 750 pounds were lost by participants in weight control and exercise classes.

2. Overall Nutrition and Wellness

A. For the Elderly

North Carolina is experiencing an increase in its elderly population that is more than twice the national average. Because this group runs a disproportionate risk for

malnutrition, drug and dietary supplement misuse, as well as poor overall health, the challenge for CES is great. Agents have responded to the needs of this group by working with them at congregate meal sites, senior centers, through the Extension Homemaker Association, through general public meetings and at homes and convalescent centers. Offerings have included numerous health screenings, educational programs and individual consultations. Many agents, in response to the National Nutrition Screening Initiative, have formed local coalitions to screen and monitor the nutritional status of seniors. As a result many seniors have been evaluated and activities have been set in motion to improve their health.

Examples of programs include:

*40 senior adults have participated in a series of wellness and health promotion programs conducted at the local senior center. As a result of one program which emphasized diet and disease prevention, a participant asked for assistance in seeking medical advice concerning existing disease symptoms. It was discovered that she had breast cancer and required immediate surgery.

*As a result of forming a county coalition and conducting the Level 1 Screen of the National Nutrition Screening Initiative, one county agent found two cases of elder abuse which were reported to and taken care of by the Department of Social Services. She also identified numerous cases of elderly participants who were at high nutrition risk. They are currently working on correcting the problems.

*8 home health class participants received intensive training in basic nutrition, especially as it relates to patient care and older adults. Upon completion of this course, class members will be eligible for employment as health care workers.

*As a result of the collaboration with the American Association of Retired Persons (AARP) during the 1993 Spring Workshops, "Nutrition, Health and the Elderly", CES has been given 52 American Heart Association/AARP Modules entitled "Eating For Healthy Tomorrows". These modules/programs target older minority audiences.

*Six (5-10 minute segments) were taped for a local cable TV show, "Senior Seminars" on the Dietary Guidelines. 15,500 families with 3.2 viewers each have cable.

B. For youth and their families

Agents presented many programs to youth and their families dealing with healthy eating and lifestyle habits. Special emphasis has been placed on diet and athletic performance, following the Food Guide Pyramid and low fat diets. Much of the ground work is being done in training day care workers, teachers and teacher assistants with the expectation of their teaching youth about food, nutrition and food safety.

C. For young mothers and infants

In response to the high rates of teen pregnancy and infant mortality, agents presented nutrition programs to teens and developed coalitions to promote healthy pregnancies and healthy babies.

Examples of the activities included:

*One agent networked with her local Teen Life Council to conduct bi-monthly programs for pregnant or teen moms from March to May at Plymouth High School. Attendance averaged 16. Each participant received a copy of the booklet and audiotape "Eating Right For You and Your Baby"

**"Eating Right For You and Your Baby" tapes and booklets were placed in public libraries as well as junior and senior high school libraries and at alternative school libraries.

*A coalition of CES, volunteers, ministers, elected officials, and others have been working together to design programs to reduce infant mortality and to train local youth leaders to become peer helps for others with less knowledge about pregnancy prevention and maternal care.

*The Onslow Infant Mortality Task Force Committee met 12 times with the aid of a paid worker (secured with grant funds for 2 years). Many activities and organizations have taken place to make Onslow citizens aware of the problem and ways to combat it.

3. Training Other Professionals

Agents are being recognized for their knowledge, skills and abilities by other nutrition, diet and health professionals. As a result, agents are being asked by other agencies to conduct inservice educational programs with their staff. The participants include day care workers, school teachers and their assistants, food handlers, school lunchroom supervisors and nutrition/food professionals. Agents are also being asked to serve on local as well as regional task forces and committees.

Examples of the activities include:

*30 child care workers and 8 supervisors received certification for successful completion of a Food Handler, Food Safety Certification Course. After completion of piloting the program, Onslow County has offered the program every 6 months.

*Extension Home Economics has an agreement with the County Childcare Coordinator to provide educational training to child caregivers on a quarterly basis. They receive credit for attending.

*"Invitation to Wellness" was shared with teachers who participated. They should be conducting this series with teachers at their schools next year.

*One county agent conducted 3 programs with 12 classes on Culinary Hearts Kitchen course for 75 school lunchroom supervisors and staff.

*130 teacher assistants participated in a 4-hour training for nutrition for pre-schoolers and K - 3rd graders.

*Johnston County Day Care Association of owners and staff of 28 received information and certification for 20 hours of classwork. Sessions were conducted after working hours and included hands on food preparation techniques.

*Extension Home Economics has provided the curriculum to a volunteer who taught children nutrition at a special children's summer program at Brevard College.

*Worksite consultations were held at three day care centers in order to improve the healthy status (Headstart Program) of over 500 pre-schoolers. The Home Economist serves as a consultant to Community Action's Head Start Program with emphasis on review of menus quarterly, training staff food preparers and conducting parent education classes.

*One agent serves on a 3-county, regional Diabetic Control Project Advisory Committee, another on a 5-county Interagency Wellness Committee, another serves on the American Heart Association Heart Fest state level task force.

*One agent won an award for her wellness program for 500 employees.

*The Health Department received a grant from the Governor's Council Healthy Starts Foundation, which they used to purchase a laptop personal computer, printer and the Food Processor II computer diet analysis program for the county agent to use.

4. Targeting Worksites

Agents have used worksites very successfully as a way to reach large numbers of people who might not otherwise have the time or energy to attend programs. Activities include health and wellness fairs and screenings, educational programs, and weightloss programs.

5. Reaching Different Audiences

Networking with other agencies and groups has aided CES in reaching out to new and diverse audiences.

Examples of these efforts include:

*10 JOBS Programs participants participated in a hands-on foods and nutrition workshop.

*17 family members from a local reduced income housing project participated in a Heart Health Awareness exhibit and blood pressure screening.

*20 hours of instruction on nutritious food preparation was conducted for low-income youth in cooperation with area chefs.

*15 Hospice employees participated in a foods and nutrition workshop.

*Through interaction with the Rutherford County In-Home Council (comprised of all service and health organization, both public and private sectors) and networking with school officials, an opportunity to teach basic nutrition to teen mothers, mothers of Headstart students and low socio-economic housing project mothers has evolved. Two sessions on the 5 food groups using the food guide pyramid have been taught to 6 Headstart mothers, 3 food preparation workshops have been conducted with 11 teen moms, 9 housing project mothers have developed knowledge of the 5 food groups and requested and received training on low fat foods.

*CES and WIC networked to develop consumer information sheets on vegetable and fruit selection, storage and preparation. These sheets are available to WIC homemakers at each farmer's stall at the Farmer's Market.

*One agent has developed the "Recipe Doctor" column for the News and Observer. Readers from around the state send in their recipes for a "health check" with the Recipe Doctor. Recipes are modified to reflect Dietary Guidelines for Americans. Each recipe is tested. The column helps consumers learn to adapt their favorite foods into healthy, appealing and safe food choices.

E. NARRATIVE AND IMPLICATIONS

North Carolina's age-adjusted death rate is higher than the nation's and more than half (56%) of the deaths of North Carolinians can be related to diet and nutritional status. In fact, North Carolina is distinguished amongst the states as being one of the highest in cardiovascular disease (CVD) mortality rates (in the top 10), one of the states composing the "Stroke Belt", and ranking eleventh nationally in both estimated incidence of cancers (26,000 new cases per year) and mortality from cancers (13,108 deaths per year).

Deaths from heart disease, cancers, cerebrovascular disease and diabetes mellitus have been shown to be prevented or significantly delayed by changes in diet and lifestyles. However, in the last available statewide statistics (1991 age-adjusted data) over 58,827 North Carolinians died from these diseases in one year. Because of these overwhelming

statistics and the relationship to diet and lifestyle, people are increasingly interested in wellness and nutrition. The demand for food, nutrition and health-related programs in North Carolina is growing daily; this is especially true of programs that educate consumers about heart disease prevention, diabetes management, weight control and cancer prevention. Dietary habits are improving albeit slowly and the rising trend of deaths attributable to these chronic diseases is flattening somewhat in response to these dietary changes. However, many consumers are confused by their own lack of information and the ever changing marketplace. There is a need for continued efforts in food and health lifestyle management.

While proper nutrition is critical to the good health of all Americans, older adults are at disproportionate risk for a number of reasons: difficulties in eating or swallowing, low income, adverse drug-nutrient interactions, alcohol abuse, depression, reduced appetite, functional disabilities, impaired taste and smell and many others. In fact, over 85% of older adults suffer from chronic diseases that could benefit from dietary intervention. Because of this and the fact that North Carolina's population of age 65 and older adults is increasing at such a high rate, the 1993 Spring Inservice Training was focused on the diet and health of the elderly. This effort was in collaboration with the NC Departments of Environment, Health and Natural Resources (Divisions of Adult Health Promotion and Dental Health), NC Department of Human Resources (Division of Aging) and the American Association of Retired Persons (AARP). Over 350 professionals (including CES Home Economists) attended and networked during this workshop. One of the foci of the program was implementing the National Nutrition Screening Initiative. It has been documented that nutrition screening saves time, money, and lives. Since that training counties have set up local coalitions to initiate this effort. Results of the first screening of over 10,000 elderly across North Carolina indicates that 69% are at moderate or high nutritional risk. Follow-up work is in progress as we address this problem. Programming in the areas of diet and chronic disease, drug-nutrient interactions, healthy lifestyles, and cost-wise selection of foods are making a positive impact on the lives of the elderly and their families.

A good indicator of maternal and child health in North Carolina is the number of babies who die before their first birthday or the infant mortality rate. North Carolina's infant mortality rate has improved in the past few years but is still every high with 9.9 babies per 1000 live births dying in the first year of life. The strongest risk factor for infant mortality is low birth weight or weight below 5.5 lbs. North Carolina's percentage of babies born low birth weight has not greatly improved over the last 15 years and is currently 8.4%. As we reach the limits of technology to save even smaller and smaller infants, the need for proper nutrition and prenatal care to further decrease the infant mortality rate becomes paramount. Maternal and child programs are designed to address the risk factors of infant mortality. Agents are involved in programming in the areas of prenatal care, teenage pregnancy, infant feeding and parent education.

**Refer to the 1993 Accomplishment Reports of EFNEP, NCCES State Initiative in Health and Human Safety on the national initiative, Food Safety and Quality in North Carolina programming for the specific effort in each area.

- F. COORDINATOR AND TEAM MEMBERS:**
- J. McClelland
 - P.C. Dunn
 - A. Frazier
 - B. Garland
 - C. Lackey
 - S. Usry
 - N. Van Eck
 - W. Wade

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NC38 - VOLUNTEER DEVELOPMENT AND MANAGEMENT

A. OBJECTIVES

Two thousand (2,000) volunteers will be certified as graduates of Master Volunteer Programs (Master Food Preserver, Master Parenting, Master Money Manager, Master Yarn Skills, Master Recycler).

Five thousand (5,000) volunteers will demonstrate support of home economics programs through resource development valued at one and one-half million dollars (\$1,500,000).

Two thousand (2,000) persons will join a Family Community Leadership Association to foster and promote public policy education in North Carolina.

Nineteen thousand (19,000) North Carolina Extension Homemakers will change basic philosophy of programs of work traditional areas to areas that are issue oriented.

Home Economics volunteers in each of the one hundred counties (100) will implement partnerships, networks and/or alliances with a minimum of 10 other agencies, groups, organizations, associations, etc.

B. NON-EXTENSION RESOURCES:

- Private Industry
- Public and Government Agencies
- Local and County Governments
- Grants and Scholarships
- Volunteers and Volunteer Networks
- Religious, Civic and Professional Groups
- Mass Media
- Hospitals and Health Care Services
- Libraries and Literacy Councils
- Public and Private Educational Institutions
- Individual and Community Leaders
- Commodity Associations
- Retired Groups

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

3,562 Graduates in Master and Other Volunteer Programs

\$638,000.00 Resource Development Funds Received

32,685 Membership in Home Economics Volunteer Programs

22,483 NCEHA Membership Participating in Issue Oriented Programs

601 Partnerships, Network and/or Alliances with Other Agencies, Groups, Organizations, Associations, Etc.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Volunteers continue to be essential to the community and the Extension Service. This program offers volunteers an opportunity to improve their leadership skills and their ability to analyze issues and understand political processes in order to achieve desired goals.

Volunteers networking with other agencies and groups must continue to maximize efforts in these times of hard economics and high demand. Volunteers are continually being trained to leadership roles in organizations as well as for specific tasks. More emphasis is being given the role that needs to be played in the public arena in regards to public policy.

F. COORDINATOR AND TEAM MEMBERS:

Linda McCutcheon

Cynthia Johnson

Judy Mock

ANNUAL REPORT 1993

NC40 - ENVIRONMENTAL EDUCATION

A. OBJECTIVES

The North Carolina Cooperative Extension Service will conduct environmental education programs designed to create environmental awareness and enhance the development of an environmental ethic in adults and youth.

The North Carolina Cooperative Extension Service will serve as a catalyst to develop and deliver research-based environmental educational programs targeted to help private citizens solve environmental problems.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	28,585
2.	total number of volunteer days	18,151
3.	value of federal government funding (grants)	\$1,005,690
4.	value of state government funding (grants)	\$ 328,075
5.	value of local government funding (grants)	\$ 195,900
6.	value of private funding (grants)	\$ 254,775

C. TEMPLATED INDICATORS

1. Indicate whether strategic plan is developed. No
2. Programs conducted included integrated crop management, nutrient management, animal waste management, sediment control, BMP's for agriculture and forestry, solid waste management, on-site wastewater treatment, environmental education for youth, household hazardous waste management, public issues education.
3. Number of persons with increased awareness of public policy issues related to environmental education. 71,099
4. Number of persons with increased participation in public policy issues. 19,321
5. Number adopting practices. 482,464
6. Number of practices adopted. N/A

D. OTHER INDICATORS AND ACCOMPLISHMENTS

See reports NC 02, 08, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 33, and 36.

E. NARRATIVE AND IMPLICATIONS

F. COORDINATOR: Michael Levi

NC40, PAGE 1

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NC41 - LIMITED RESOURCE/LOW INCOME INDIVIDUALS AND FAMILIES

A. OBJECTIVES

1. NC A & T State University Cooperative Extension Program will train 100 staff and 300 volunteers to effect behavioral change with limited resource adults and youth through coordinated programs involving two or more subject areas.
2. NC A & T State Cooperative Extension Program will establish, maintain and enhance linkages with 20 agencies and others in support of CES programs for limited-resource adults and youth.
3. 18,000 limited-resource participants in Extension programs will improve basic life skills.

B. NON-EXTENSION RESOURCES

Housing and Urban Development
Family Life Council
Social Services
Girl Scouts
Parks and Recreation
Red Cross
Mental Health
Farmers Home Administration
Rural Development Center
Coalition of Rural and Farm Families
Juvenile Justice Council
Salvation Army
Boys and Girls Clubs
Tennessee Valley Authority
Council on Aging

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Number of CES staff trained was 48.

Number of CES staff implementing programs was 54.

Number of Volunteers trained was 549.

Number of Volunteers implementing program was 399.

Number of limited resource participants in Extension programs was 6572.

Number of participants in sample was 620.

Percent of participants who adopted practices to manage resources, choose nutritious foods and/or strengthen families was 63%.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Reaching and teaching the limited-resource audiences presents challenges that are different from those encountered with traditional Extension audiences. Forty-eight (48) professionals and paraprofessionals were trained on programming strategies for effectively working with limited-resource individuals and families. At least on third of the participants receiving training indicated using the strategies in reaching and teaching limited-resource clientele. Community Voices, a participatory shared leadership development program for rural individuals and families, reaching over 200 community leaders who completed fourteen learning modules enabling them to experience a feeling of self achievement, improve their decision-making skills with their own families as well as communities, participate actively in the politics of their community, and observe change as a result of their involvement in solving community problems. Emerging from this group are trainers equipped to assist others with group processes necessary to address various issues in their community and beyond. Five hundred forty-nine (549) volunteers were trained in specific subject matter content areas and utilized the knowledge and skills required to work with high risk youth and limited-resource families.

Since problems associated with poverty are complex and often difficult for any one organization to address, county staffs were encouraged to develop linkages with other agencies and organizations, foster a congenial helping relationship, and create a non-threatening atmosphere. Forty-five (45) coalitions were established and more than 1000 interagency programs were conducted for limited-resource audiences. Coalitions formed involved an average of three other agencies and organizations with Extension staff providing the leadership.

Lack of certain basic life skills reduced the potential of limited-resource individuals and families to become contributing members of society. Nine thousand two hundred twenty-three (9223) limited-resource individuals improved life skills by participating in Extension sponsored programs. One thousand nine hundred twenty-three (1923) limited-resource parents increased knowledge of child growth and development and six hundred forty-one

(641) parents adopted effective parenting skills. Five hundred forty-six (546) of the 1638 participants in parent and youth programs reported improved communication which resulted in improved relations. Four thousand (4000) limited-resource adults reported improved problem solving skills and practiced for selected personal and community problems. Three thousand four hundred forty-eight (3448) youth residing in limited-resource communities (Public and Section VIII Housing) gained better decision-making skills, exhibited an increase in positive behavior, modified health practices, improved family communication skills and explored career choices. Approximately three hundred (300) small and limited-resource farmers improved their managerial skills by adopting a farm planning and recordkeeping system. One hundred fourteen (114) small and limited-resource farmers increased their awareness of at least one alternative enterprise that could generate additional income. Ninety-eight (98) small and limited-resource farmers improved their marketing plans that resulted in an additional \$125,000 in income. Twenty-four (24) "new", small, and part-time farmers in "Ways To Grow", a comprehensive, experiential, educational program on alternative agricultural enterprises, increased knowledge and skills on marketing, the decision-making process, financing and production technologies associated with production of alternative enterprises.

E. NARRATIVE AND IMPLICATIONS

Limited-resource individuals and families in North Carolina continue to struggle with the many issues associated with poverty. Efforts to increase the overall awareness and sensitivity level of people relative to poverty issues must remain as an integral part of our organization agenda. We must continue to focus on training others to work effectively with this audience, as well as open communication channels with other agencies serving the same audience and continue to provide educational opportunities to help improve their overall quality of life.

F. COORDINATOR AND TEAM MEMBERS: Thelma Feaster
Sheilda Sutton
Daniel Lyons

ANNUAL REPORT 1993

NC42 - CONSERVATION AND FORESTRY TITLES OF THE 1990 FARM BILL

A. OBJECTIVES

Landowners and managers will understand the Conservation Titles of the 1985 and 1990 Farm Bills.

Farm owners/operators will successfully implement conservation plans and practices.

Landowners and managers will understand the Forestry Title of the 1990 Farm Bill.

Landowners/managers will successfully implement forestry practices.

B. NON-EXTENSION RESOURCES

1.	number of volunteers	19
2.	total number of volunteer-days	32
3.	value of federal government funding (grants)	\$150
4.	value of state government funding	0
5.	value of local government funding	0
6.	value of private funding	0

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

1. Number of persons knowledgeable about Conservation Title of Bill 3755.

2. Number of conservation practices installed 1896.

3. Describe practices:

Waterways, strip cropping, transplanting, field borders, subsurface irrigation with water structures, conservation tillage, sequential and continuous no-till, diversions, terraces, sediment ponds, cross-slope farming, fencing, critical area treatment, spring development, filter strips, ponds,

4. Describe case studies of conservation title of bill.

Five farmer cooperators have made continuous no-till demonstration fields available for bulk density sampling.

Generally consists of a rotation on gently sloping land; i.e., row crop followed by small grain/fescue. More sloping land may require diversions, terraces or strip-cropping. Grassed waterways are used for erosion control and row drainage.

5. Number of persons knowledgeable about Forestry Title of bill 1000.
6. Number of practices installed 176.
7. Describe practices:
Timber management, thinning; stream-side filter strips
8. Describe case studies:

D. OTHER INDICATORS AND ACCOMPLISHMENTS

North Carolina was a pilot state for the wetlands reserve program. A total of 4,712 acres was bid into the program. One tract of 4,632 acres was rejected, but is under appeal. Three tracts, totaling 80 acres are under review. To date, no money has been spent on the wetlands reserve program for easements, reimbursements or cost-share practices.

In the Stewardship Forest Program, 141 new Forest Stewards were certified. This year, \$37,404 has been spent on the Stewardship Incentives Program. An additional \$120,164 has been approved and another \$69,497 is in the approval process. Fifteen fact sheets have been developed that assist landowners with wildlife management and SIP practices.

In Urban Forestry, workshops and meetings were held to train master gardeners, arborists and other professionals. Over 500 people were reached. Assistance was provided to 25 communities or organizations about hazard trees, tree ordinances, planning and renovation.

E. NARRATIVE AND IMPLICATIONS

The components of the Conservation and Forestry Titles of the Farm Bill continue to be an aspect of Extension programming. Many of the provisions are included in a variety of specific program areas, such as Stewardship, forest management, farm management, waste management and water quality. Those areas where CES personnel can have an impact and cooperatively work with other state and federal agencies will be emphasized.

The wetlands reserve program has not been as favorably received as first anticipated. The low number of eligible bids indicates that it may not be an effective means of restoring and conserving wetlands in North Carolina.

F. COORDINATOR AND TEAM MEMBERS:

Edwin J. Jones
Peter T. Bromley
Claire-Marie Hannon
Charles Hammond
Tom Hoban
J. Paul Lilley
Robert Williamson
Sandra Zaslow

ANNUAL REPORT 1993

NC43 - PARENTING AND FAMILY YOUTH PROGRAMS

A. OBJECTIVES

Strengthening the role of parents is necessary in order to combat family problems in order to North Carolina. Many families are having difficulties in their parenting role. Adults and youth lack a clear understanding of what it means to be a mother or father. In addition, schools and day care centers are assuming parenting responsibilities once reserved for families and churches.

Increasing numbers of dysfunctional families are seen in the increase in substance abuse, child abuse and neglect, family violence, childhood and adolescent depression, runaways, early teen sexual acting out, and civil disobedience. Homeless families and abandoned children are increasing. Drug addicted babies and HIV positive affected babies are becoming the fastest growing segment of border babies in the state.

Working parents often have difficulty finding quality, affordable and accessible child care.

In 1990 one in five North Carolinians live in poverty. Besides the plight of children and the elderly, North Carolina is experiencing a feminization of poverty with 58 percent of poor households headed by women. A disturbing trend in NC is the growth in the number of people who work full-time and still live in poverty, some 200,000. The disparity between the rich and poor populations in NC is the greatest since 1950. There is also a widening economic gap between urban and rural counties with rural counties having a greater percentage of their citizens in poverty.

The problems facing families in North Carolina are complex and interrelated. Extension is focusing its resources on assisting families to develop their capacity to enhance the growth and development of children and to strengthen families. Target program include parent education, family strengths and support, financial management and parent-youth relations.

B. NON-EXTENSION RESOURCES

Outside Funding

Contributions from Kiwanis International, Department of Human Resources, Health Department, Alcoholic and Drug Prevention Coalition, Extension Homemakers, local chapters of Kiwanis, and local businesses.

Outside Organizations/Resource People/Volunteers

The following groups contributed resources to parenting and family-youth programs: Department of Social Services, Mental Health, Health Department, Community/Technical Colleges, PTA/PTO, Extension Homemakers Association, local businesses, churches, AARP, NC Child Advocacy, banks, HUD, recreation centers, hospitals, Register of Deeds, United Way, Family Council of North Carolina, American Red Cross, Project LINK, local youth agencies, Drug Action Committees, Headstart, American Home Economics Association, local Boards of Education, Children's Television Workshop, local libraries, Girls, Inc., Association of Couples for Marriage Enrichment, Guardian Ad Litem, Lumbee Regional Development Association, League of Women Voters, RSVP, and local media.

Others

The following groups assisted with delivering program or serving as resource persons: nurses, ministers, home economics teachers, master volunteers, EH club members, foster grandparents, ARC volunteers, guidance counselors, AARP volunteers, psychologists, attorneys and certified parent educators.

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Number of parents participating in parenting programs was 12395.

Percentage of parents reporting increased intended use was 75%.

Percentage of parents reporting increased actual use was 69%.

Number of parents participating in parent-youth programs was 3164.

Percentage of parents reporting improved parent-youth relations was 78%.

Number of youth participating in parent-youth programs was 2000.

Percentage of youth reporting improved parent-youth programs was 84%.

Number of parents participating in family coping programs was 8914.

Number of youth participating in family coping programs was 2000.

Percentage of youth reporting increased use of effective family coping strategies was 85%.

Number of parents participating in financial management programs was 8968.

Percentage of parents reporting improved financial management practices was 79%.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Trends from this year's report indicated an increase in court ordered parent education and financial counseling, more collaboration with agencies and family related groups, enhanced use of volunteers, increased resource development, more diverse participants, and more entrepreneur programs for individuals interested in starting home-based businesses. Agents are also teaching more classes for JOBS participants, foster parents and other social services clients. Extension agents are being recognized as experts with research-based information to meet the needs of parents and families.

Parents are still struggling to rear their children and to provide a comfortable environment for their family. Much work is still needed to deal with some social ills, such as teen pregnancy, child abuse and neglect, child care and family instability. Recurring themes and emerging program needs identified were: intergenerational needs of families, budgeting, self-esteem for both youth and adults, interpersonal relationships, and strategies to strengthen families. Agents reported a need for programs and resources to help families cope with the lack of jobs, low wages, poverty, stress, parenting, and work-related issues.

Agents and specialists increased resource development to support child and family programs (\$106,708). Financial support ranged from starting aging coalitions to establishing local model parent education and family education programs.

Interagency collaborations and volunteers helped to deliver coordinated and diverse programs to individuals and families. Innovative ways to reach more and diverse customers are current challenges for Extension.

F. COORDINATOR AND TEAM MEMBERS: Cynthia Johnson
Sharon Rowland
Jan Lloyd

ANNUAL REPORT 1993

NC 44 - MULTI-CULTURAL DIVERSITY

A. OBJECTIVES

1. Extension will achieve multi-cultural diversity within the organization and with its clientele.
2. Extension will sustain multi-cultural diversity training within the organization and with its clients.

B. NON-EXTENSION RESOURCES

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

During FY93, the North Carolina Cooperative Extension Service began a full implementation of its diversity plan. A team of eight people attended the National "Train the Trainer" Workshop. This group will provide the long term direction/support for diversity. The FY93 Conference utilized the theme of "Strength in Diversity." During the Conference, all state and county staff received diversity training. A team of consultants was employed to assist the Extension diversity team.

Future plans are to train a diversity team for each of the eight Extension districts. The district teams would train both county workers and Extension cooperators. The National Coalition model will probably be used in this training.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

The training on diversity has been well received by the large majority of our staff. We have had requests for additional training and considerable feedback suggesting that the concept of diversity is an excellent means of furthering the appreciation of human differences.

F. COORDINATOR AND TEAM MEMBERS: Vance Hamilton

ANNUAL REPORT 1993

NC45 - VOLUNTEER DEVELOPMENT AND MANAGEMENT

A. OBJECTIVES

1. **Volunteerism:** Volunteers, resource persons, and officers and chairpersons of Extension-related programs and organizations gain skill for performing middle management functions in the Extension organization or program they serve.
2. **Leadership:** Volunteers, resource persons, and officers and chairpersons of Extension-related programs and organizations gain specific leadership competencies.

B. NON-EXTENSION RESOURCES

- A. **Outside Funding:**
 - NC State Grange
 - NC Farm Bureau
 - Phillip Morris, Inc.
 - The NC Community College System
- B. **Outside Organizations/Resource People/Volunteers:**
 - NC Microelectronics Center System
 - NC Community College System
 - Northern Telecom
 - Private industry
 - Public and county agencies
 - Local and county governments
 - Grants and scholarships
 - Volunteers and volunteer networks
 - Religious, civic and professional groups
 - Mass media
 - Hospitals and health care services
 - Libraries and literacy councils
 - Public and private educational institutions
 - Individuals and community leaders
 - Commodity associations
 - Retired persons

C. TEMPLATED INDICATORS AND ACCOMPLISHMENTS

Over 1,500 volunteers received training to be a County Master or State Master Volunteer in 1993.

With 73 volunteers reporting, the known outreach of the program to volunteer leaders and 4-H'ers was 2,715 people.

Thirty counties have teens involved in peer helper programs cooperatively with schools.

There were 3,562 graduates of Home Economics Master and other Volunteer Programs.

Resource Development funds received were \$638,000.

The membership of Home Economics volunteer programs was 32,685.

There were 22,483 NCEHA members participating in issue oriented programs.

601 partnerships, network and/or alliances with other agencies, groups, organizations, associations, etc. were established.

Number of volunteers who organized programs, events or activities was 221.

Number of chairpersons who organized programs, events or activities was 168.

Number of volunteers who trained other volunteers or resource persons was 243.

Number of resource persons who trained other volunteers or resource persons was 62.

Number of officers who trained other volunteers or resource persons was 131.

Number of volunteers who supervised other volunteers, resource persons, etc. was 321.

Number of officers who supervised other volunteers, resource persons, etc. was 112.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

Volunteers continue to be a vital link in the NCCES network for delivering family programs to improve and enhance the quality of life for North Carolina citizens. Leadership, organizational management, public policy skills and experiences are essential for achieving shared goals. Volunteer support, empowerment and networking is essential

to maximize efforts. The public arena has potentially limitless opportunities for volunteers in support of family. In a high technological society, volunteers add the humanistic component to the behavioral change process. The parameters are without boundaries!

E. NARRATIVE AND IMPLICATIONS

Involving volunteers in teaching and peer helping roles make them more valuable citizens in their communities, place of work, and to Extension. Utilization of leadership skills empowers volunteers well beyond the scope of the program they first got involved in. As one 4-H Master Volunteer put it, "Master Volunteer training must be the best thing that has ever happened to 4-H leaders. This training not only provides a leader with a broad base of knowledge and skills but also enhances leadership, builds self-esteem, provides mentors, and builds a network of support among leaders across the state. I really believe there is not better way of improving the quality of the 4-H program for our youth than through the Master Volunteer Program."

Volunteers are essential to the community and the Extension Service. This program offers volunteers and opportunity to improve their leadership skills and their ability to analyze issues and understand political processes in order to achieve goals. Volunteers networking with other agencies and groups must continue to maximize effort in these times of hard economics and high demand. Volunteers are continually being trained to leadership roles in organizations as well as for specific tasks. More emphasis is being given the role that needs to be played in the public arena in regards to public policy.

F. COORDINATOR AND TEAM MEMBERS: Linda McCutcheon
Judy Groff

ANNUAL REPORT 1993

NC46 - EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM (EFNEP)

A. OBJECTIVES

3750 EFNEP families will acquire the knowledge, skills, attitudes and changed behavior for nutritionally sound diets and to contribute to their personal development.

10,000 4-H EFNEP youth will acquire the knowledge, skills, attitudes and changed behavior necessary for nutritionally sound diets and to contribute to their personal development.

The EFNEP state program will increase interagency cooperation.

Pregnant and parenting teenagers will increase knowledge of maternal/infant nutrition, resulting in improved maternal and infant health.

To increase numbers of WIC mothers establishing lactation (beyond two weeks post-partum: baseline-75%) and duration of breastfeeding past two month post-partum: baseline-17%).

B. NON-EXTENSION RESOURCES

Total of \$25,769 in contributions, including \$19,804 received from North Carolina WIC (Women, Infants & Childrens Program) for salary and benefits of an additional Nutrition Program Assistant to provide breastfeeding support to WIC mothers.

Non-Extension agencies providing training, support and/or referrals: T.V.A. provided (total) \$1,000 for gardening supplies to 28 EFNEP participants in eight mountain counties. Local Agencies (Health, Social Service, WIC program, AFDC, DSS/JOBS programs, Schools, Technical Community Colleges, Division of Child Nutrition, Head Start) NC Food Bank, Habitat for Humanity; Private sector (banks, agribusiness local business, medical community), Advisory Council/Committees, Law Enforcement, Churches, Civic groups, United Way, Mass media, homeless shelters, sheltered workshops, Housing Authorities; graduated program participants.

Volunteers who assist in teaching the ERIB-2 curriculum.

C. **TEMPLATED INDICATORS AND ACCOMPLISHMENTS**

Nutrition Program Assistants worked with 6669 adults and 5399 youth, assisted by 1821 volunteers.

Of 4125 homemakers who graduated from EFNEP, 3456 (87%) improved their diets to include at least one serving of foods from each food group (37% increase). 1621 (41%) achieved recommended food servings in all food groups (36% increase from program entry).

4618 (89%) increased their knowledge of nutrition and 3832 (78%) increased their ability to manage food budgets and related resources (Food Stamps & WIC food packages).

Of 5399 4-H EFNEP youth who participated in programs to eat a variety of foods, 3952 (70%) reported increased knowledge of the essentials of human nutrition. 3631 (64%) improved their food selection and practices in food preparation and safety.

EFNEP cooperated with WIC (Women, Infants and Children program) and Food Stamp agencies in all 37 EFNEP counties. 4164 (62%) enrolled homemakers are WIC recipients, an increase of 281 from FY92. Food Stamp enrollment increased also; 3789 families (57%) received food stamps, an increase of 419 from FY92. 3854 participants (58%) were taught in group settings in FY93.

Across the state, EFNEP has entered into 58 formal agreements and/or coalitions with public or private organizations providing assistance to limited resource audiences.

1821 volunteers gave over 13,000 volunteer hours for the adult EFNEP and over 12,000 with the youth program.

Pregnant and parenting teenagers, a specially targeted audience, totaled 691, and 473 (70%) graduated from EFNEP. 267 (39%) were taught in group settings.

Special WIC/EFNEP Breastfeeding Project, Wake Co.: For a second year, an EFNEP paraprofessional was funded by WIC (19,804) to support breastfeeding with WIC mothers.

Baseline data in Wake Co. (1990) had indicated that 200 WIC clients had breastfed their infants in a twelve-month period. Numbers who had established lactation (breastfed for more than two weeks post-partum) were 150 (75%); breastfeeding duration (two months or more post-partum) numbers were 34 (17%).

After 27 months of the project, 1156 WIC mothers had received breastfeeding support from EFNEP. During FY93, total numbers served, numbers establishing lactation and duration results compared closely with results from FY92.

Total BF enrollment: 528 (517 in FY92)
Number & percent BF beyond 2 weeks pp: 423 (84%) (417 (81%) in FY 92)
Number & percent BF at 2 months pp: 297 (56%) (236 (46%) in FY92)

In a special study, where comparison data were collected for one year at a control site, preliminary analysis of the breastfeeding duration data for all subjects resulted in the following:

Experimental (n=327)	average number of weeks breastfed: 14.2	(p < .01)
Control (n=120)	5.5	(p < .01)

Experimental (n=327)	number & percent who breastfed beyond 2 months: 122	(47.2%)
Control (n=120)	17	(14.3%)

First-time breastfeeding mothers needed greater support from the EFNEP staff (more calls and visits to the home) than did mothers with previous breastfeeding experience.

Preliminary analysis of data related to establishment of lactation with sub-group (first-time BF mothers only) resulted in the following:

Experimental (n=198)	number & % who stopped BF by 2 weeks: 34	(17.2%)
Control (n=93)	35	(37.6%)

Analysis of BF duration data for sub-group resulted in the following:

Experimental (n=198)	average number of weeks breastfed: 12.2	(p < .01)
Control (n=93)	5.1	(p < .01)

The results of this study will be reported during FY94 and will include considerations of age and race of mother.

By September, 1993, sufficient numbers of WIC clients in Wake Co. had benefited from the WIC/EFNEP project that spontaneous volunteer support was emerging in housing developments in Raleigh. Such women were encouraging their pregnant neighbors to consider breastfeeding their infants, and were offering support and assistance to them on hospital discharge.

The breastfeeding project in Wake Co. is funded to continue in FY94. The breastfeeding support model will be tested in four additional counties in North Carolina as part of CES/WIC Nutrition Education Initiative.

D. OTHER INDICATORS AND ACCOMPLISHMENTS

E. NARRATIVE AND IMPLICATIONS

Volunteers continue to be a vital link in the NCCES network for delivering family programs to improve and enhance the quality of life for North Carolina citizens. Leadership, organizational management, public policy skills and experiences are essential for achieving shared goals. Volunteer support, empowerment and networking is essential to maximize efforts. The public arena has potentially limitless opportunities for volunteers in support of family. In a high technological society, volunteers add the humanistic component to the behavioral change process. The parameters are without boundaries!

F. COORDINATOR AND TEAM MEMBERS: Linda McCutcheon
Judy Groff

ANNUAL REPORT 1993

CR01 - CIVIL RIGHTS TRAINING

A. OBJECTIVES

Overall:

All employees of the North Carolina Cooperative Extension Service be aware of and comply with Civil Rights legislation.

All employees of the North Carolina Cooperative Extension Service understand the human aspect of Civil Rights.

Specific:

1. All employees to be knowledgeable of the principles and laws of our nation regarding Affirmative Action.
2. All employees to be knowledgeable of Affirmative Action policies and sensitive to equity issues.
3. All employees to assess the quantity and quality of educational programs delivered to minority individuals by comparing benefits delivered to non-minority individuals.

B. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

Fiscal Year 1993 was a banner year regarding Civil Rights training for the North Carolina Cooperative Extension Service. After considerable preparation, all county staff received Civil Rights training.

The training was initiated at the November Conference where all staff received training in Cultural Diversity. This training was conducted by a consulting team of 8 individuals. Also, during the Conference all unit managers (Specialists-in-Charge and County Extension Directors) received Civil Rights training geared to their leadership position.

During February and March, all professional and paraprofessional county staff received Civil Rights training. Teams composed of District Extension Directors, Staff Development Specialists, other selected individuals, and the Affirmative Action Officer conducted the training. During May and June, all secretaries received Civil Rights training conducted by the same teams. The training utilized the new Affirmative Action Guidelines and support materials.

The training was well-received and the improvements in this year's reports indicate that it was successful. We are particularly pleased that we have requests for and continuing interest in more diversity training.

C. IMPLICATIONS

As a whole, our staff members have a very positive attitude toward Civil Rights requirements. They understand both the legal and moral obligations they have in this regard. They see the advantage of diversity of staff and program outreach and are committed to continued progress.

New agents will be provided training to help them understand Civil Rights and Affirmative Action requirements. Our training will continue to emphasize doing what is right rather than meeting minimum legal expectations.

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CR02 - PUBLIC NOTIFICATION

A. OBJECTIVES

Overall:

That all people who can benefit from Extension educational programs be aware of their availability.

Specific:

1. Every county be accountable for a public notification plan.
2. Make organizations which request Extension assistance aware of Extension position on non-discrimination.
3. Adopt and utilize on all printed material a common non-discrimination statement.

B. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

Every county in North Carolina has submitted a public notification accomplishment Report based on their 1992-95 Plan of Work. According to these reports, all counties now display "And Justice for All" posters and all use the non-discrimination statement on external materials.

(Note: All state level materials use a standard statement also.) Counties are also required to include a statement that all programs are open to people with disabilities on all public notification information.

A large number of counties are using direct contact with key minority leaders to disseminate notification information. Networking is also being used for this purpose. Other means of public notification include:

Indicators of Success	No. of Counties
Mass media	41
Special minority recruitment activities	31
Agency networking	18
Non-discriminatory statements on newsletters and enclosures	100
Alternative delivery sites	19
Recruit through public housing authorities	7

C. IMPLICATIONS

Because of our reporting requirements, county personnel understand the role of public notification in Affirmative Action. It appears counties are going beyond the suggested (required) public notification procedures. Training conducted during FY93 should further improve public notification.

ANNUAL REPORT 1993

CR03 - ON-SITE CIVIL RIGHTS COMPLIANCE REVIEW

A. OBJECTIVES

Overall:

Achieve parity of participation for all clientele served by County Extension Offices.

Specific:

1. All counties to determine their present level of participation of various groups and set numerical goals for reaching underserved/underrepresented groups.
2. All counties not in compliance to show progress toward compliance within the 4-year period.

B. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

During 1993, program reviews were conducted in one-half (50) of the counties in North Carolina. A major segment of the review involves Civil Rights Compliance. In these reviews, District Directors examine the county's Civil Rights file and data are collected on parity of participation in program planning and program outreach. When there is a lack of parity, discussions are held as to how these can be corrected. Counties must provide proof that they follow-up these suggestions. While some problems were addressed, no county was found to be significantly out-of-compliance based on the total program.

During the year, we have revised our Civil Rights Compliance Review to make it a more comprehensive process. Compliance reviews (monitoring) will be built into all aspects of our management process (i.e., plan of work, agents appraisals, etc.) and will culminate with the County Program Review. A standard follow-up procedure will be a part of this process. The district directors will be the lead persons in monitoring the Civil Rights Review process.

C. IMPLICATIONS

The revised Civil Rights Compliance Review is detailed in our new Civil Rights Guidelines. The expanded review process provides opportunities for feedback throughout the year on Affirmative Action matters. The eight District Directors conduct the reviews with guidance from the Civil Rights Officer. District Directors are becoming more sensitive to Affirmative Action requirements.

ANNUAL REPORT 1993

CR04 - EQUAL EMPLOYMENT OPPORTUNITY

A. OBJECTIVES

1. Increase the number of minorities and females in agriculture and administrative positions.
2. Continue to ensure salaries are unaffected by race/sex.
3. Increase the cultural diversity of employees.

B. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

There are objectives listed below designed to help us realize our goals. The objectives and related activity during the past year are as follows:

1. ENLIST THE HELP OF ALL CURRENT EMPLOYEES TO LOCATE AND RECRUIT MINORITIES.

Agents were extended the opportunity to go on recruiting trips to certain recruiting locations. We also revised and reprinted the placement notebooks used in college placement offices.

2. CONTINUE INTERN PROGRAMS WHICH ARE AIMED AT CREATING AN INTEREST IN EMPLOYMENT WITH EXTENSION.

The "Workforce 2000" internship program included three interns this year and was considered to be a success. A full report of the intern program is made by the District Director team under separate cover.

3. AGGRESSIVELY RECRUIT AT TRADITIONALLY BLACK AND FEMALE INSTITUTIONS IN THE SOUTHERN REGION.

In the fall of 1992 and the spring of 1993 we recruited at the following predominately female or minority institutions: Meredith College, University of North Carolina at Greensboro, Hampton University, Ft. Valley State College, A & T State University, Tennessee State University, and Virginia State University.

4. TRAIN WITHIN FOR PROGRESSION TO LEADERSHIP (ADMINISTRATIVE) POSITIONS.

The NCCES had 6 County Director vacancies filled during this federal fiscal year. Recommendations were: 2 black males, 1 black female, 2 white males, and 1 white female. The county government disagreed with the one white female candidate and chose a white male instead.

5. MONITOR EMPLOYMENT PROCEDURES TO ENSURE THAT QUALIFIED MINORITIES ARE GIVEN EQUAL OPPORTUNITY TO AVAILABLE POSITIONS THROUGHOUT THE ORGANIZATION.

No change in existing procedures.

The following table shows the employee profile comparison for both EPA (faculty) and SPA (staff).

EPA EMPLOYEES

Race by Gender

	Sept. 30, 1992			Sept. 30, 1993			Change		
	M	F	Total	M	F	Total	M	F	Total
Black	28	103	131	26	108	134	-2	+5	+3
White	255	248	503	248	249	497	-7	+1	-6
Other	1	7	8	1	7	8	0	0	0

Gender Only

Males	284		275		-9
Females	358		364		+6

SPA EMPLOYEES

Race by Gender

	Sept. 30, 1992			Sept. 30, 1993			Change		
	M	F	Total	M	F	Total	M	F	Total
Black	0	39	39	0	39	39	0	0	0
White	0	182	182	0	183	183	0	+1	+1
Other	0	0	0	0	0	0	0	0	0

Gender Only

Males	0		0		0
Females	221		222		+1

C. IMPLICATIONS

The overall EPA employee population decreased slightly again this year; however, a greater proportion of vacancies were filled with minority and female candidates. The SPA population had no significant changes.

		2007		2006		Change	
	F	Total	F	Total	F	Total	
Overall							
Black	103	431	98	424	5	7	+7
White	245	321	248	401	-3	-80	-1
Other	7	5	2	0	5	5	0
Gender							
Male							
Black	304	324	325	325	-1	0	-1
White	281	321	284	401	-3	-80	-1
Other	5	5	2	0	3	5	0
Female							
Black	73	103	66	98	7	5	+7
White	164	245	164	197	0	-32	-1
Other	2	7	0	0	2	5	0
Age							
18-24							
Black	36	36	39	39	-3	0	0
White	121	121	121	121	0	0	+1
Other	0	0	0	0	0	0	0
25-34							
Black	0	0	0	0	0	0	0
White	0	0	0	0	0	0	+1
Other	0	0	0	0	0	0	0
35-44							
Black	0	0	0	0	0	0	0
White	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
45-54							
Black	0	0	0	0	0	0	0
White	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
55-64							
Black	0	0	0	0	0	0	0
White	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
65+							
Black	0	0	0	0	0	0	0
White	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

ANNUAL REPORT 1993

CR05 - PROGRAM DELIVERY

A. OBJECTIVES

- (1) Provide the same level of educational service to all people of the state without regard to race, age, sex, handicap, color, national origin, or religion.
- (2) Advisory system members reflect all groups in the state with regard to race, age, sex, handicap, color, national origin, or religion.

B. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

As part of the 1992-95 Plan of Work, all counties were required to develop a 4-year program delivery plan. Likewise, all counties were required to submit accomplishment reports based on these plans. The county reports verify that counties are more sensitive to the need to reach diverse audiences and ample proof exists that most made program delivery adjustments to reach minorities. Some of these adjustments include:

Indicators of Success	No. of Counties
Establishing networks with minority groups	20
Delivering programs in cooperation with black churches	4
Taking programs to minority neighborhoods	8
Increasing minority participation in program planning	11
Offering programs at various times during the day	2
Recruiting through housing authority, industry, etc.	21
Individual contact with minorities	17
Migrant educational programs	4

C. IMPLICATIONS

Counties are making progress in adjusting the delivery of programs to reach minority and new audiences. There is still room for improvements in this area and the training conducted during FY93 is expected to help county staff to see additional potentials.



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