

VISIONS *for the* FUTURE

ANNUAL REPORT 1992



**North Carolina
Cooperative Extension Service**
NORTH CAROLINA STATE UNIVERSITY
COLLEGE OF AGRICULTURE & LIFE SCIENCES

NORTH CAROLINA COOPERATIVE EXTENSION SERVICE

1992 ANNUAL REPORT

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NORTH CAROLINA COOPERATIVE EXTENSION SERVICE

ANNUAL REPORT 1992

PROGRAM OVERVIEW

The North Carolina Cooperative Extension System Annual Report for 1992 is based on accomplishments during the first year of the 1992 - 95 Visions for the Future program. Information was compiled from reports of 45 state program task forces and reports from all 100 counties and the Cherokee Indian Reservation.

The North Carolina Cooperative Extension System, composed of the two land-grant universities, North Carolina State University and North Carolina A&T State University, has implemented its strategic plan, Positioning Extension for the 1990's, which when coupled with the four-year plan, Visions for the Future, becomes the basis for educational programs to meet the self-identified needs of the citizens of North Carolina.

HIGHLIGHTS OF NATIONAL INITIATIVES

RURAL REVITALIZATION

Five counties have completed their strategic plans and are beginning to implement them. More than 1,650 citizens/leaders demonstrated improved leadership and problem solving knowledge. Over 950 potential and current entrepreneurs received specific training on small businesses and management. 2,775 adults and youth developed production and marketing skills for extending or increasing income, while 2,799 individuals sold products or services yielding \$1,584,957 income.

SUSTAINABLE AGRICULTURE

A total of 64 agents representing 52% of the 100 counties received training on the implications of sustainable agriculture and IPM on farm policies and practices. A program statement on sustainable agriculture was developed and distributed to all counties. A grant of \$50,000 was received from the Z. Smith Reynolds Foundation to support sustainable agriculture practices.

A diverse Advisory Council was formed to augment and provide advice for the task force on sustainable agriculture. The NC Cooperative Extension Service is working jointly with TVA in 15 counties with the AGRI 21 program which is a sustainable agriculture program focused on whole farm demonstrations.

WATER QUALITY AND WASTE MANAGEMENT

North Carolina's Water Quality and Waste Management initiative activities continue to grow. Five action teams were formulated to lead this initiative: Waste Management and Utilization, Nonpoint Source Management, Residential Water Quality and Waste Management, Landscaping to Protect Water Quality, and Policies and Public Policy Issues.

Accomplishments include:

- * 45,902 families, adults, and youth gained knowledge about source reduction, recycling, and reuse.
- * 21,212 families, adults, and youth adopted one or more recommended waste management practices such as household waste audits, separation of recyclable materials, reduced use of hazardous household products and proper disposal, and backyard composting.
- * 21,366 families, adults, and youth gained knowledge of residential water conservation and water quality strategies.
- * 521 households tested their home water system for contaminants.
- * 1,937 households adopted one or more recommended residential water conservation or water quality measures such as testing home supplies for contaminants, installing water-conserving devices, mitigating, removing contaminants, and purchasing/installing more efficient appliances/equipment.
- * 15 counties participated in multi-agency county task forces to address environmental issues such as diversion of materials from landfills, collection program for special recyclable material, in-house waste reduction and school recycling projects.
- * 35 counties have conducted programs on reducing hazards from hazardous household products.
- * over 1,250 individuals in 8 counties gained knowledge on functioning, care and maintenance of home septic systems.
- * 32 counties have conducted programs on water conservation and water quality.

Examples of Pollution Prevention in the Food Processing Program include:

- one multiproduct dairy plant now recovers more than 175,000 pounds of lost product and by-products per month, saving more than \$500,000 annually through lost product recovery, improved plant efficiency, and reduced water and sewer costs.
- a poultry breeding plant totally eliminated the plant's 240,000 pound monthly landfill disposal waste load from breeding and batter and reduced the monthly wastewater waste load by 160,000 pounds (BOD₅). The recovered total of more than 5,000,000 pounds of by-products per year is recycled into animal feed, saving the processor more than \$250,000 annually, through lowered operating costs, reduced water and water treatment costs, landfill fees, and fewer sewer surcharges and fines.

Other major activities include: education programs for agent in-service training; regional meetings for county and municipal managers on composting yard waste; animal manure spreader calibration workshops; demonstrations on utilization of poultry by-products as fertilizer, utilization of animal waste as fertilizer; utilization of poultry by-products as a nutrient source for cotton; a wetland demonstration system; and composted poultry mortality demonstrations.

FOOD SAFETY AND QUALITY

Seventy-five percent of 2,552 program participants adopted recommended food handling practices such as use of cooling and storage methods that minimize risk; use of proper hygiene practices; use of recommended cooking times and temperatures; use of holding methods that minimize risk; and use of careful food selection techniques. Ninety-five percent of 1,673 participants adopted practices that protect the food supply. Ninety-five percent of 87 program participants increased their knowledge of food safety public policy issues. Ninety-five percent of 257 program participants increased their knowledge of the risks and benefits of specific food components, processing technologies or food protection chemicals.

YOUTH AT RISK

An estimated 1,610 child care providers and 24,610 youth were supported through school-age child care programs. Accomplishments include organizing after school and youth at risk clubs, offering 4-H activities to improve the quality of school-age child care, organizing 4-H clubs in after-school programs, and organizing and

conducting peer tutoring in after-school programs. Counties have established coalitions with many local groups and agencies to provide programs for youth at risk.

HIGHLIGHTS OF STATE INITIATIVES

ALTERNATIVE INCOME OPPORTUNITIES

Seven hundred and fifty-three individuals gained knowledge of and/or learned about income diversification, enterprises, and marketing strategies, and how to properly analyze, evaluate, and integrate alternative income opportunities into their current farming operation.

Eighty-seven individuals adopted a new alternative enterprise or an alternative cultural practice. Thirty-three of these individuals established new enterprises such as meat goats, catfish, plastic culture strawberries, cantaloupes and lettuce, greenhouse tomatoes, sweet onions, and pruning for hire. Producers reported an increased income of \$400 - \$500 from their enterprises.

ENVIRONMENT AND CONSERVATION OF NATURAL RESOURCES

One hundred twenty-nine plans representing 26,836 acres have been written in the Forest Stewardship program. One hundred twenty-one landowners have adopted compatible forestry and wildlife management practices. Over 2,147 youth participated in programs on air quality in which they learned about the importance of clean air inside the home and in the environment and means to improve the quality of air in homes and the environment. Nine hundred ninety-four adult volunteers were trained in the 4-H Project Learning Tree program which taught them the values and uses of our forests so they can be responsible in understanding and managing resources.

FAMILIES IN CRISIS

Of 26 counties reporting results for this program, 5 counties cited the formation of human service and/or interagency coalitions to assist family members experiencing crises in parenting, financial management and employment.

Five counties reported 270 adults gained knowledge and skills in money management and legal concerns. Four counties reported that 380 limited resource and working poor families developed skills to better utilize resources to provide the basic necessities of life. Five counties reported 276 family care givers gained knowledge in providing care for the elderly and knowledge of available resources.

Four counties stated that 290 adults gained knowledge and skills in how to better communicate with family members. Five counties reported that 720 adults gained knowledge of available family literacy programs.

HEALTH AND HUMAN SAFETY

More than 1,164,00 adults and youth became more knowledgeable about how to improve health status and prevent disease and injury through community advocacy programs and agricultural health promotion efforts. These projects included community screenings for diabetes, breast cancer, and hypertension; community meetings on aids; teen pocket service directory on teen pregnancy prevention; and training on maternal and child health and prevention and detection of cancer.

Fifty-seven agents collaborated with others to initiate or expand networks and coalitions to increase and strengthen community health promotion and disease prevention programs. More than 3,295 individuals employed in agriculture learned how to prevent ground water pesticide contamination.

HIGHLIGHTS OF STATE PROGRAMS

FARM BUSINESS MANAGEMENT

2,284 farmers and other agribusinessmen participated in extension programs to enhance their abilities to use various farm management decision making tools. Four hundred eight-four farmers developed and demonstrated their ability to develop and analyze financial statements.

One hundred seventy-nine leaders gained an appreciation for the integrated financial and business record system. This record system helps the farmer with reconciling cash flow, preparing accrual income statements, completing fair market value balance sheets, ability to repay loans, etc. 1,383 farmers are more aware of the absolute necessity of keeping completed business records. 1,464 farm employees and other agribusiness firms better understand the rules and regulations regarding agricultural workers.

LIVESTOCK PRODUCTION, PROCESSING AND MARKETING

A program on integrated resource management, (IRM), was initiated for 20 beef producers. As a result, field testing and ration balancing were incorporated into their management plans. Five hundred beef producers have improved forage production through intensive grazing, improved soil fertility and hay storage methods. Marketing programs in beef cattle which emphasized preconditioning,

direct marketing, retained ownership, and special graded sales yielded advantages of \$20 - \$70 per head over weekly auction prices.

300 beef producers improved herd genetics through selection of bulls, replacement females, and use of BCIP, (Beef Cattle Improvement Program), practices. Fifty swine producers improved housing facilities by better ventilation and waste management practices. These practices promoted healthier animals which would do better in the existing facilities. Over 1,500 horse owners improved management skills in pasture management, herd health, nutrition and general care. Three hundred twenty-five small, part-time and limited resource farmers became aware of the economic potential of livestock production.

NC POULTRY PRODUCTION, PROCESSING AND MARKETING

Hatchery personnel from eight broiler companies and three turkey hatcheries learned factors affecting fertility and hatchability. 45 broiler breeder producers and 8 broiler producers adopted energy efficient lighting realizing savings of at least \$43,000 annually.

185 poultry production managers, flock supervisors and growers increased their awareness of biosecurity practices to prevent the spread of viral organisms and pathogenic diseases on and off the farm. One hundred sixty farmers and six custom litter applicators adopted best management practices in applying poultry litter based on the nutrient needs of specific crops.

FIELD CROP PRODUCTION, PROCESSING AND MARKETING

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. Costs of nutrients have decreased up to 80% for some farmers. In 1992, 143,159 soil samples were taken - an increase of 20 percent.

State and county programs directed to tobacco farmers emphasized the need to produce a high quality crop. Significant progress was made in the production of mature and mellow grades of flue-cured tobacco and increased production of burley tobacco. Transplant production in greenhouses increased about 10% in both flue-cured and burley in 1992. Maleic hydrazide residues on flue-cured tobacco were down about 20% in 1992. Conservation tillage has increased slightly in both tobacco areas, but primarily in the burley area.

NC AQUACULTURE AND COMMERCIAL FISHERIES PRODUCTION, PROCESSING, AND MARKETING

Currently 200 acres of crawfish ponds are actively farmed in North Carolina, producing at average levels (500-700 lbs/acre). Three years ago, North Carolina's crawfish industry was limited by lack of identified markets; now, demand exceeds supply. Several catfish and crawfish growers have begun targeting specific alternative markets that will pay 13 - 50% more for their products.

Producers are better understanding water quality principles, leading to improved management of their ponds; catfish losses due to low oxygen declined 92% this year, from 60,000 lbs last year to 5,000 lbs this year. Reports of disease incidents dropped over 60%, from 18 to 7. Producers are also more effectively using efficient aeration techniques. Crawfish producers are beginning to use paddlewheel aerators, and are designing ponds for use of recirculating pumps and aerators. Catfish producers are using aerators more efficiently; 3 producers were able to reduce aeration time 50-75% with more efficient techniques.

North Carolina trout growers continue to improve their waste management. Six producers have adopted new waste management practices; 18 farmers are now aware of cost-share funding, land-use application procedures, and alternative use options; one producer is incorporating a waste management system in construction of a new facility, which can be used as a demonstration site.

Management of trout disease incidents is improving. Frequency of disease outbreaks is reduced; 21 growers are aware of available diagnostic services; 12 producers are aware of disease certification services; 15 growers understand the most suitable fish health and disease management practices; a Manual of Calculation and Treatment Rates for Trout has been developed, and 11 growers have been trained in its use. Efforts to improve record keeping by growers, which is the foundation of sound management and efficiency, have been successful; 18 growers comprehend the benefits of record keeping, and 6 producers have adopted sufficient record keeping practices to enhance their management.

HORTICULTURAL CROPS PRODUCTION, PROCESSING AND MARKETING

Ornamental (floricultural and nursery crops) production experienced the largest growth of any sector of agriculture. A revitalization of the strawberry industry occurred as the "plasticulture" technology gained acceptance and acreage under this production system increased significantly. Acreage of vegetables produced using plastic mulch, drip irrigation, and fumigation continued to expand. New methods for vegetable transplant production using primed seed resulted in more uniform plants. Intensive vegetable production systems have been adopted with increased profit for growers, but these systems require more

management. Seedless and ice box watermelon production increased as a result of on farm demonstrations.

URBAN HORTICULTURE, FORESTRY AND PEST MANAGEMENT

County agents in 49 counties provided information on the urban horticulture issues of water quality, waste disposal, and pesticide use in the landscape. The number of registered landscape contractors increased by 15. A major program on backyard composting was begun in 1992.

The National Pesticide Information Retrieval System was used to acquire current information on pesticide products so that information could be quickly disseminated to producers. The improved use of IPM concepts in commercial turf management has been a significant accomplishment by enhancing the ability to monitor and predict insect outbreaks based on local weather information.

Presently, 33 of the state's 100 counties are using Master Gardener volunteers to assist in delivery of home horticulture information to an expanding urban audience. The 669 Master Gardener volunteers have allowed extension horticultural agents to make an additional 121,131 contacts with homeowners. These volunteers have given 29,607 hours of service to the Extension Service.

FOREST RESOURCES AND WILDLIFE PRODUCTION, PROCESSING AND MARKETING

Over 3,600 landowners representing 505,000 acres of timberland improved their forest management decision making and there were increased earnings of \$1,035,000 and tax savings of \$278,000. Fifty-three forestry management plans were adopted and 88 landowners reforested 3,400 acres of timberland.

With respect to wood products, 15 mills have adopted new manufacturing techniques; \$335,000 was saved through improved utilization practices, and 1,100 individuals increased their marketing skills, knowledge of wood products, and its proper utilization.

Twenty-five percent of Christmas tree growers performed soil and plant tissue testing. Aerial application of fertilizer on 4,500 acres reduced fertilizer cost by \$90,000.

COMMUNITY AND RURAL DEVELOPMENT

Sixty-five communities planned and completed development projects enhancing the quality of life. 1,827 individuals in 150 communities, schools or other organized groups undertook beautification projects. One regional tourism plan is being developed and 10 counties are implementing tourism plans. 1,850 individuals increased their knowledge of appropriate septic system

installation and maintenance. 45 rural counties are planning comprehensive solid waste management programs. Recycling programs have been implemented in 35 rural communities.

CONSERVATION OF NC'S NATURAL RESOURCES

More than 11,000 professional, citizens, and youth increased their knowledge about the environment including learning the importance and use of natural resources economically and environmentally; learning about the renewability of natural resources; how resources are interconnected and multiplicative in effect; learning how to participate in management of natural resources; and the multiple uses of forest resources, timber and wildlife. More than 3000 citizens and professionals increased their knowledge of wetlands regulations through landowners learning wetlands regulations and how those regulations impact the management of their property and learning about the wetlands reserve program. Fifty-eight forest/wildlife management plans were adopted. Thirty-eight Forest Stewardship plans were adopted. One hundred thirty-five additional landowners were made aware of the Forest Stewardship program. Ninety-three pond owners adopted appropriate pond and weed management practices.

NUTRITION, FOOD SAFETY, AND HEALTH

66,518 citizens increased their knowledge of how to promote health and reduce risk of disease. 16,390 with dietary risk factors made positive changes to reduce and manage their risk such as eating less salt and salty foods and more chicken, fish, and fruits and vegetables. 9,807 participants became aware of diet and fitness in regard to health and wellness. 1,825 participants in weight control programs averaged weight loss of 1/2 - 2 pounds per week, which is the recommended safe weight loss rate and is critical to reducing the risk for CVD, cancer, diabetes, arthritis, and hypertension.

15,919 youth participated in programs dealing with healthy eating and lifestyle habits. 9,459 families gained knowledge concerning providing a wide variety of foods for optimal growth and development of children. 1,767 individuals gained knowledge concerning proper weight gain and nutrition for optimal fetal development that led to a more healthy pregnancy outcome for both mothers and infants.

15,069 individuals adopted recommended food handling practices such as proper heating and cooling of foods, proper food storage and proper food handling hygiene. 10,324 individuals increased knowledge of risks and benefits of specific food components, food production, chemicals, and processing technologies.

FAMILY ECONOMICS

6,064 youth, adults, families gained knowledge of basic money management such as budgeting, credit control and record keeping practices. 3,492 individuals/families improved financial management practices.

14,247 individuals/families developed and used skills to extend or increase income, primarily through home-based business enterprises. 11,859 individuals/adults/families gained knowledge of market place rights/responsibilities, especially involving consumer protection laws dealing with consumer credit and home buying.

8,095 individuals/families gained knowledge of housing options including house selection, financing options, and budgeting for home ownership. 10,846 adults/families acquired information about the need for coordinating legal, financial, and health care decision making for the possibility of personal dependency.

FAMILY DEVELOPMENT

Four hundred forty master volunteers were trained to deliver family development programs. Over 6,500 families benefited from volunteer programs such as Project Home Safe, Sandwich Generation and the American Red Cross program on child safety. Family members learned strategies and skills on how to prepare children to be at home alone, infant-child first aid, preventing childhood injuries, and preventing infectious diseases. 2,298 individuals completed home study courses on parenting, health, safety and nutrition.

4,537 individuals gained awareness of communication skills and stress reduction techniques. 327 babysitters were certified. 50 coalitions/networks were established with interagency, non-profit groups to form support groups for divorced/separated individuals. 75% of 8,447 program participants gained knowledge and skills related to well-being of children. 75% of 14,674 parents and youth acquired knowledge and skills of effective parenting. 6,092 parents/youth used effective family coping strategies. 75% of 10,292 family members increased knowledge and adopted practices to improve stress management, conflict management and other skills.

4,872 family members gained information on the process of aging.

VOLUNTEER/LEADERSHIP DEVELOPMENT

Accomplishments include 3,444 graduates of master and other volunteer programs, \$127,955 resource development funds received, and 28,685 members involved in home economic volunteer programs.

18,444 NCEHA (North Carolina Extension Homemakers Association) members are involved in issues programs such as illiteracy and environmental management. 578 partnership/networks/alliances with other agencies, groups, etc. were established.

HUMAN ENVIRONMENT AND HEALTH

45,900 families, adults and youth gained knowledge about source reduction, recycling, and reuse. 21,212 families, adults and youth adopted waste management practices such as household waste audit separation of recyclable materials, reduced use of hazardous household products and proper disposal, and backyard composting. 67,000+ citizens gained knowledge, developed skills, or made changes in waste management practices to recycle, reduce and reuse.

21,366 families, adults and youth gained knowledge of residential water conservation. 1,937 households adopted one or more recommended residential water conservation practices such as testing house supplies for contaminants, installing water conserving devices, mitigating/removing contaminants, and purchasing/installing more efficient appliances and equipment.

5,000 households tested homes for indoor pollutants such as radon, formaldehyde and carbon monoxide.

25,050 households gained knowledge of measures to improve energy efficiency and conservation. 5,100 households adopted practices to improve energy efficiency and to conserve energy.

30,000+ citizens gained knowledge or adopted measures to improve home energy use.

YOUTH PROGRAM MANAGEMENT AND COMMUNITY SYSTEMS DEVELOPMENT

Results from county accomplishment reports reflect viable and productive "Youth Program Management and Community Group Support Systems." The majority of the county systems have highly integrated programs resulting in successful group formation/development, resource development, marketing, advisory groups, networks, coalitions, recruitment, and strategic planning. Results of this integrated programming indicate expanded numbers of clubs and individuals, schools involved, and grants and endowed funds.

4-H LEADERSHIP AND VOLUNTEER DEVELOPMENT

A total of 305 volunteers trained at state master volunteer conference in 1992. Reports indicated that 5,334 youth and 4,158 adult volunteers received leadership training in their counties.

KNOWLEDGE (SCIENTIFIC LITERACY) NEEDS OF YOUTH

55,909 youth and 926 volunteers were involved in this program. 33,000 young people were reached in programs to increase their knowledge of biological, physical, and social sciences. 20,350 youth were reached in programs to increase their knowledge and understanding of economic, agricultural, environmental, career, home economic and cultural issues. 1,783 young people were involved in programing which was long-term and science based. 926 volunteers were involved with this program

HUMAN DEVELOPMENT NEEDS OF YOUTH

ES-237 data showed that 1,758 club units had a membership of 34,318 young people. 7,555 youth participated in personal development, child care, and family life learning experiences.

Eleven counties reported a planned program designed to address cultural diversity, citizenship education, international education, and the judicial process.

A total of 105,576 projects were reported on written communication skills. Participants gaining communications skills through arts programs numbered 18,617. Participants gaining oral communications skills were 1,132. Participants gaining written communications skills numbered 105,576. Communication skills were learned through youth presentation programs, public speaking events, 4-H entertainment programs, and art programs.

SAFETY AND HEALTH NEEDS OF YOUTH

The number of youth participating in project and learning experiences related to health and safety included:

Health projects	10,959
Physical fitness	6,031
Home nursing/first aid	4,065
Safety projects	19,434
Food and nutrition projects	19,116
Food preservation	929
EFNEP	7,241

DEVELOPMENTALLY APPROPRIATE CARE AND EDUCATION OF SCHOOL-AGE CHILDREN

During 1991-92, over 9,844 children in 27 counties were involved in 4-H before/after school age child care programs, 15,781 in camping programs, and 97,000 in school enrichment programs. The 4-H School Age Child Care program provided training for approximately 627 child care providers in 27 counties. This program centers around child care as one way to improve the quality of child care opportunities in North Carolina.

SPECIAL NEEDS POPULATIONS 4-H PROGRAMMING

5,931 youth from special needs populations increased their self-esteem, family communication skills, parenting skills, and other life skills. 406 teen parents gained knowledge on child growth and development and care. 207 impaired youth increase knowledge, self-esteem, and demonstrated behavior changes through program participation. 481 adjudicated youth experienced increases in knowledge, self-esteem, social skills, involvement in extra-curricular activities and a decrease in discipline problems through participation in wilderness camps. 1,655 EFNEP youth improved diet and nutrition skills. Youth gained knowledge in reducing the intake of fatty foods, increased self-esteem and gained knowledge in safety and citizenship.

ENVIRONMENTAL STEWARDSHIP

205 teachers learned skills to design environmental curricula. 4,927 students and 352 teachers, administrators, and parents participated in the school enrichment environmental education program. 4,254 youth participated in electric and environmental science classes at camp.

101,268 learning experiences were reported in the category of ecology and natural resources. 13,961 learning experiences were reported under camping and outdoor education.

HIGHLIGHTS OF 3(d) AND SPECIAL FEDERAL FUNDED PROGRAMS

FARM SAFETY

Training for extension agents and health professionals across the state has been conducted on safety and health issues affecting agricultural workers. Safety notebooks have been developed and distributed to the field staff. A grant of \$150,000 was obtained from NIOSH. Teaching modules on farm machinery safety and handling of large animals have been developed for use in the classroom. A number of fact sheets on various safety issues have been developed and distributed to all counties.

IPM FOR ROW CROPS, HORTICULTURAL CROPS, AND LIVESTOCK

Over 4,000 producers were trained on the principles and practices of IPM and 400 scouts were trained to monitor crops. IPM program prevented excessive insecticide applications with low levels of cotton bollworms with an estimated saving of \$1,000,000 and 6 1/2 tons active ingredient of insecticide.

The IPM sustainable agriculture treatments, which combined chicken litter for fertilizer and judicious pesticide use, were competitive with returns of \$675/acre compared to a standard of \$699/acre.

One project with fresh market tomatoes resulted in 38% less insecticide being required. A stateside survey of tomato growers was conducted and found that 80 percent of the growers are aware of IPM and interested in learning more management techniques to improve their crops. A majority (87 percent) learned about IPM practices from the Extension Service.

NC'S PESTICIDE APPLICATOR'S TRAINING

1,248 private applicators were certified and 9,228 were recertified. Eighty-three dealers, 420 applicators, and 490 public operators were certified as commercial applicators. 2,213 commercial applicators were recertified.

PESTICIDE IMPACT ASSESSMENT

The program provided information on the benefits and uses of methyl bromide on tobacco, broccoli, cauliflower, apples, eggplants, melons, peppers, strawberries, tomatoes, forest tree transplants, ornamentals, stored tobacco and peanuts, and field corn. The uses and benefits of 11 herbicides, 21 insecticides, 7 nematocides, 10 fungicides, and nonchemical alternative on sweetpotatoes and Irish potatoes were assessed to provide information to USDA NAPIAP which can be shared with producers throughout the nation.

REEA

Increased earning of \$1,404,000 resulted through better applications of timber marketing techniques and increased hunting, and fishing leases as a direct result of extension programs. Improved utilization techniques resulted in savings of \$365,500. Public policy educational programs enhanced 275,000 acres of timberland. Approximately 2,500 contact hours of continuing education for renewable resource professionals were provided. Approximately 68,000 people increased their understanding of environmentally appropriate practices after using extension material or after participating in extension programs.

EXPANDED FOOD NUTRITION EDUCATION PROGRAM

106 Nutrition Program Assistants worked with 6,179 adults and 6,295 youth, assisted by 2,016 volunteers.

Of 3,457 homemakers who graduated from EFNEP, 3,054 (88%) improved their diets to include at least one serving of foods from each food group (35% increase). Twelve hundred and eight-two (37%) achieved recommended food servings in all food groups (35% increase from program entry).

Of 6,179 homemakers enrolled, 5,314 (86%) increased their knowledge of nutrition and 3,893 (63%) increased their ability to manage food budgets and related resources (Food Stamps & WIC food packages).

Of 6,295 4-H EFNEP youth who participated in programs to eat a variety of foods, 5,477 (87%) reported increased knowledge of the essentials of human nutrition. Of 4,155 youth, 3,615 (87%) 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 35 EFNEP counties. Three thousand eight hundred and eighty-three (3,883) enrolled homemakers (63%) are WIC recipients, an increase of 692 from FY91. Food Stamp enrollment increased also; 3,370 families (55%) received food stamps, an increase of 730 from FY91. EFNEP units reported teaching 168 pre-formed groups, (those identified and supported by other agencies).

Across the state, EFNEP has entered in 21 formal agreements and/or coalitions with public or private organizations providing assistance to limited resource audiences.

Monetary contributions and grants which supplement federal EFNEP allocations totaled \$33,542.

2,016 volunteers gave over 13,000 volunteer hours for the adult EFNEP and over 15,000 with the youth program. Ten units reported an average 37% of volunteer time supported the teaching effort.

Pregnant and parenting teenagers, a specially targeted audience, totaled 848, and 653 (77%) graduated from EFNEP. Five hundred and forty-seven (65%) were taught in group settings. One unit reported that all 47 pregnant teenagers enrolled in EFNEP delivered healthy babies (birth weights above 5 lb. 8 oz.).

SMALL FARMS

One hundred forty-nine small farmers became familiar with services of major USDA agencies. 48 small farmers improved their managerial skills by developing and adopting farm record keeping systems. 2,208 small farmers became familiar with at least one alternative enterprise that could generate additional income.

Fifty-seven small farmers adopted marketing plans; 427 small farmers identified and adopted Extension proven agricultural practices; 83 small farmers diversified farming operations; and 225 minority farmers became familiar with ways of retaining their farm land.

CONSERVATION AND FORESTRY TITLES OF THE 1990 FARM BILL

Extension has continued to provide leadership in educational activities regarding the implementation of provisions of the 1990 Farm Bill. In partnership with SCS, four regional training sessions for SCS field staff and two regional in-service training sessions for agents were held. A fact sheet on conservation compliance has been prepared. North Carolina has 65,000 plans, and the most recent status reviews indicated 3.3% were not implementing the plan. Extension held several joint meetings about the wetland reserve program. Sixty landowners submitted requests to bid 50,000 acres into the wetland reserve. Extension continues to assist landowners with implementing all titles of the farm bill.

PARENTING AND FAMILY-YOUTH

14,674 parents and youth acquired knowledge and skills of effective parenting. 88 master parents were trained to deliver programs on parenting.

5,664 parents and youth improved parent-youth relations. 6,092 parents and youth gained knowledge about and used effective family coping strategies.

3,492 individuals and families improved financial management practices.

ENVIRONMENTAL EDUCATION

More than 140,000 individuals have increased awareness of public policy issues related to environmental action. At least 36,258 individuals have participated in public policy issues related to public policy education on clean air, forest management and waste management. Approximately 1,500 volunteers have been trained in youth programs on environmental education. Nearly 5,000 students and 350 adults have participated in school enrichment environmental education programs.

More than 27,588 individuals have adopted at least 52,500 environmentally appropriate practices such as recycling, composting and proper disposal of hazardous wastes. One hundred twenty-nine plans have been prepared for the Forest Stewardship program.

More than 5,000 North Carolina households tested their homes for one or more indoor air pollutants and at least 1,200 households adopted one or more recommended indoor pollution control measures.

VOLUNTEER DEVELOPMENT AND MANAGEMENT

Over 700 volunteers received training to be a County Master or State Master in 1991. With 67 volunteers reporting, the known outreach of the program to volunteer leaders and 4-H'ers was 2,416 people. Thirty counties have teens involved in peer helper programs cooperatively with schools.

Over 600 coalitions, networks, and partnerships with other agencies, groups, and institutions were involved in the last year.

MULTI-CULTURAL DIVERSITY

The North Carolina Cooperative Extension Service has plans to provide diversity training to all members of NCCES. A task force of trainers has received national training, and training of field staff began at the Annual Conference of November, 1992. Multi-district training will be held for all employees in the Spring of 1993.

LIMITED RESOURCE INDIVIDUAL AND FAMILIES

38 professionals were trained on programming strategies for effectively working with targeted audiences. 500 community leaders were trained through which they experienced a feeling of self-achievement, improved decision making skills and participated politically in their communities. 115 volunteers were trained to work with high risk youth.

3,992 individuals improved life skills.

339 parents increased knowledge of parenting.

694 adults practiced problem-solving skills for personal and community problems. 255 farmers participated in farm tours to increase their awareness of alternatives. 2,559 youth gained better decision making skills, had an increase in positive behavior, modified health behavior, and improved communication skills.

CIVIL RIGHTS

In-depth civil rights training was planned during most of 1992. Civil rights training was launched at the November, 1992, State Extension Conference. All County Extension Directors and Specialists-In-Charge participated in the training. The major resource for the training, which was an extension of diversity training, was a Comprehensive Affirmative Action Plan. District-level training will be conducted for all county professionals, paraprofessionals and secretaries in 1993.

Every county in North Carolina submitted public notification accomplishment reports and displayed "And Justice for All" posters in 1992. A large number of counties are using direct contact with key minority leaders to disseminate information. A number of counties are using the following as means of public notification: mass media, special minority recruitment activities, agency networking, non-discriminatory statements on newsletters and enclosures, and alternative delivery sites.

During 1992, program reviews were conducted in one-half, (50), of the counties in North Carolina. A major segment of the review involved Civil Rights Compliance which was revised to make the review a more comprehensive process. Compliance reviews are being built into all aspects of the management process -- plan of work, agent appraisals, etc.

All North Carolina counties submitted accomplishment reports on program delivery adjustments to reach minorities. Major adjustments included: establishing networks with minority groups; delivering programs in cooperation with black churches; taking programs to minority neighborhoods; increasing minority participation in program planning; offering programs at various times during the day; and recruiting minority participants through housing authorities, industry and other groups.

132 parents increased knowledge of parenting.

694 adults practiced problem-solving skills for personal and community problems. 283 learners participated in a four hour to increase their awareness of discrimination. 2,282 youth gained better decision making skills and an increase in positive behavior, modified health behavior, and improved communication skills.

CIVIL RIGHTS

In-depth civil rights training was planned during most of 1992. Civil rights training was provided at the November 1992 State Extension Conference. All county Extension Directors and specialists in-charge participated in the training. The major resource for the training, which was an expansion of diversity training, was a comprehensive 24-page Action Plan. District level training will be conducted for all county professionals and specialists in 1993.

ANNUAL REPORT 1992

NC01 ALTERNATIVE INCOME OPPORTUNITIES

COORDINATOR AND TEAM MEMBERS:

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Ferguson, Janet
Green, James
Hart, Archie
Mickey, Scott
Roper, Larry
Simpson, Frank

KEYWORDS:

Alternative Enterprises
Off-Farm Employment
Home-Based Business
Diversif. Pract/Products
On-Farm Processing
Non-Farm Suppl. Enterpr.

I. 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.

II. NON-EXTENSION RESOURCES:

Southside Virginia Produce Cooperative
Farm Bureau
Farm and Garden Centers
Volunteers
Soil and Water Conservation
Commodity Groups
USDA-Office of Small-Scale Agriculture
NC Department of Agriculture
Church Councils/Groups
Ag Chemical Companies
Farmers Home Administration
W. K. Kellogg Foundation (Ways To Grow)
Lenoir Community College

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Seven hundred and fifty-three (753) individuals, representing 18 counties, gained knowledge of and/or learned 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. An additional 2,000 contacts were generated by one county alone during its Farm-City Day. Eighty-seven (87) individuals adopted a new alternative enterprise or an alternative cultural practice. Thirty-three (33) of these individuals chose to establish new enterprises, such areas as meat goats, catfish, plastic culture strawberries, cantaloupes and lettuce, greenhouse tomatoes, bokchoy, farmers markets, pruning for hire, sweet onions and tomatoes. Four tours and three meetings/workshops, were conducted during the past year, exposing 192 individuals to the economic opportunities offered by alternative enterprises.

Thirty-five (35) individuals generated income from one or more alternative income enterprises. Four producers reported an increased income of \$400-\$500 from their enterprises.

Twenty-five small/part-time farmers, representing 23 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 25 on-farm demonstrations on various alternatives.

IV. 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.

ANNUAL REPORT 1992

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

COORDINATOR AND TEAM MEMBERS:

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Alison Arnold
Peter T. Bromley
Claire-Marie Hannon
Charles Hammond
Dana Hoag
Tom Hoban
J. Paul Lilley
Robert Williamson
Sandy Zaslow

KEYWORDS:

Biodiversity
Endangered Species
Environmental Education
Forest Stewardship
Land Stewardship
Outdoor Air Quality
Public Policy Education
Wetland Management
Wildlife Management
Soil Conservation

I. OBJECTIVES:

1. Government officials and other decision-makers will be more knowledgeable about natural resources and familiar with available resources and professionals knowledgeable in these areas.
2. 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.
3. Landowners will increase their knowledge of stewardship of the land and enroll in the Forest Stewardship Program.
4. 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.
5. 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.
6. Farmers will meet with the conservation compliance provisions of the 1985 Farm Bill.
7. Landowners will become aware of and begin to comply with the provisions of legislation regulating wetland usage and management.

8. Wetland regulatory agency personnel will be able to utilize quantitative evaluation procedures to improve the reliability of wetland determinations.
9. Citizens will be more aware of wetland types, values and functions.
10. County governments, businesses, and citizens will meet new air quality standards in counties where new clean air restrictions are imposed.

II. NON-EXTENSION RESOURCES:

Volunteers, NC Division of Forest Resources, NC Wildlife Resources Commission, ASCS, SCS, USFS, USDA, NCDA, Department of Army, US Fish and Wildlife Service, NC Forestry Association, Quail Unlimited, NC The Wildlife Society, Forest Stewardship Committees, Quality Natural Resources Commission, teachers, forestry consultants, forest industry personnel, NC Division of Parks and Recreation, Forest Farmers Association, Farm Bureau, Division of Environmental Management

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

1. 129 plans representing 26,836 acres have been written in the Forest Stewardship Program.
2. 121 landowners have adopted compatible forestry and wildlife management practices.
3. Three seminars covering current environmental issues were held with over 900 people attending. These seminars discussed current legislation and the implications for private landowners and citizens. Information was also provided on how to be involved in the public policy process.
4. 2147 youth have participated in programs on air quality; 422 youth participated in environmental education programs; 765 natural resource professionals participated in programs or training on wetlands, best management practices, bottomland hardwood management, endangered species, and Stewardship; 215 gained knowledge about longleaf pine management and ecosystem conservation; 2374 citizens gained knowledge on natural resources management, issues, and conservation.
5. Nine hundred ninety-four adult volunteers were trained in Project Learning Tree which taught them the values and uses of our forests so they can be responsible in understanding and managing resources.
6. Gaston County was in compliance of the Clean Air Act from January - March 1992.

7. 217 natural resource professionals provided assistance to landowners in the counties.
8. 90 elected county officials have been informed about clean air provisions and management of forests and other natural resources.
9. Elected officials were educated about forestry and waste utilization and forest stewardship in three southeastern North Carolina counties.

IV. IMPLICATIONS:

Landowners participating in the Forest Stewardship Program are more aware of and are practicing multiple resource management. Landowners and citizens in general are still concerned about the environment. Landowners are concerned about the impacts of the Clean Water Act, Wetlands Reserve Program, Endangered Species Act and other federal and state legislation and regulations regarding management on their lands. Most landowners wish to comply with the laws and regulations, but are confused of what provisions apply to them. Clean air continues to be a problem in several North Carolina counties. Efforts in Gaston County may provide a model for others to follow in reducing emissions. Elected and public officials are unaware of the impacts of some of the regulations promulgated, and are appreciative of opportunities to learn more about natural resources conservation and management. Efforts to educate and inform must continue. Educational programs in the environmental arena cause concern among the various interest groups and must be conducted in terms of providing the best available information in spite of the potential conflicts that may arise.

ANNUAL REPORT 1992

NC03 FAMILIES IN CRISIS

COORDINATOR AND TEAM MEMBERS:

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Lucille Carter

KEYWORDS:

Home Care
Child Day Care
Elderly Day Care
Young Families
Single Parent Families
Intergenerational Family
Caregivers
Working Poor
Aging
Blended Families
Management of Resources

I. OBJECTIVES:

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.

II. NON-EXTENSION RESOURCES:

Social Services, Council on the Status of Women, Reynolds Health Center, Youth Opportunity Homes, Family Services, Children's Home, Health Departments, Network Administration Services, Housing Authority, Mental Health, Bowman Gray School of Medicine, Catholic Social Services, Mayor's Office, Salvation Army, United Way, Legal Aid, Big Brother/Big Sisters, Workforce Development, NW Piedmont Council on Government, Upward Bound, Juvenile Justice, Urban League, Host Homes, Crisis Control, LIFT, Step One, Neighborhood Justice Center, Wake Forest University, Churches, Habitat for Humanity, Northwest North Carolina Development Association, Durham cablevision, Day Care Council, County Schools, City Schools, Community Education, Coordination Council for Senior Citizens, Parks and Recreation, Chapter 13 Bankruptcy, Herald-Sun Papers, Carolina Times Newspaper, Northgate Mall, Parent's Without Partners, Duke Child and Family Services, County Libraries, Food Stamp Offices, AARP, FHA, Council of Aging, Employment Security, County Commissioners, Hospice, Community Colleges, Roanoke Valley Adult Day Care Center, Littleton Adult Day Center, Guardian Care of Roanoke Rapids, Halifax Memorial Hospital, Department of Social Services JOBS program, District Attorney's Office, Guardian Ad Litem, Pasquotank County Home Remedies, Albemarle Evaluation and Treatment Center, Albemarle Academy, American Red Cross, Association of Couples for Marriage Enrichment, Headstart, YWCA, NC Equity, Wilson Daily Times, Wilson County Coalition of Adolescent Pregnancy, Wilson Memorial Hospital, Hunt High School Counselor, Aging Task Force, Senior Adult Association, Extension Homemakers Associations, Businesses, Industries, Surry Coalition on Aging, NW Piedmont Council of Governments, Mayberry Mall merchants, WPAQ Radio staff, Credit Bureau, Bankers, Realtors, Housing Inspectors, Kiwanis, Pharmacist, Physicians, Project Task Force, Teen Pregnancy Council, Ministers, Rural Economic Development Center, Small Business Administration, Chamber of Commerce, WIC, Neighbor Centers, Charlotte-Mecklenburg School Chapter I staff, public libraries, JAARS, U.S. Fire Administration, Fire Chief, Duke Power Company, The Charlotte Observer, Charlotte Area Fund, Police Departments, City Police Departments (Charlotte & Shelby), Local television commentators, television stations (WNBT, WNCT, WCTI), Neuse River Council of Governments, Foster Grandparent program, Project Link, Youth Services Corp/Isothermal Planning and Development, Day Care Associations, Building Suppliers, plumbers, N.C. Department of Insurance Personnel, Volunteer Center Director and media.

* OUTSIDE FUNDING

Raleigh Federal Bank, Low Income Housing Development Corporation, Sanford Community Housing Resources Board, Wachovia Bank and Trust, Quality of Life Coalition, County Extension Homemakers Organizations, United Fund of Lee County, Project Turning Point, Halifax Family Caregivers, Pamlico County Senior Services, Z. Smith Reynolds Foundation, Kate B. Reynolds Poor & Needy Trust,

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

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

Five counties cited the formation of human service and/or interagency coalitions (with eight or more agencies networking together) to assist family members experiencing crises in parenting, financial management, and employment: one coalition was specifically targeted to youth concerns; another coalition formalized a Family Council; and one was audience specific to address the needs of the elderly. Nine counties reported the formation of 18 different audience specific support groups. These support groups included adult caregivers, single parents, singles' groups (50 people), seniors living alone, survivors-of-suicide, teen mothers (50 mothers), and families with Alzheimer's loved ones (15 families). As a result of these coalitions and support groups, three counties have developed county resource manuals of all existing agencies, organizations and volunteer groups that assist families; one county has set up a Families In Crises County Committee; one county has hired a full-time employee with Hospice to work with survivors of suicide victims; and 27 single parents stated that they extended their family incomes as a result of participating in their support groups.

Five counties reported 270 adults (including families, teen mothers, and G.E.D. students) gained knowledge and skills in money management and legal concerns. One county reported that 593 Chapter 13 Bankruptcy clients and 14 public housing residents gained knowledge in budgeting and 18 persons received financial counseling. Four counties reported that 380 limited resource and working poor families developed skills to better utilize resources to provide the basic necessities of life for their family members. Three counties stated that 617 individuals gained knowledge on legal concerns affecting their families and 18 individuals learned about legal rights as they relate to child custody and living wills. Two counties reported that 28 single parents, 18 young mothers and 68 JOBS clients gained knowledge in decision making and coping skills. One county reported that teen mothers gained knowledge and practiced time management skills. One county cited that as a result of holding financial management programs targeted at families in crises 15 families utilized their personal resources to supplement their family incomes and 2 families purchased houses after implementing a workable budget.

Two counties stated that 69 teens mothers developed knowledge and skills in parenting and child development. One county reported that 25 teen mothers graduated from a four session series of parenting classes and 13 parents who had lost custody of their children gained knowledge and skills in parenting as a result of completing a 4 week series of parenting classes. One county

reported that 20 parents without partners gained knowledge and skills in parenting and 42 parents of Headstart children gained parenting information. One county cited as a result of the parenting classes, 19 individuals were trained as Master Parent Volunteers who in turn worked with 63 parents, assisted 27 group meetings on parenting and gave 45 hours of volunteer service on parenting related topics. Three counties reported 236 child care providers gained knowledge and adopted one or more child care management skills. Three counties stated that 243 parents and child care providers gained knowledge in parenting and child care. One county stated as a result of the child care provider classes that 9 child care providers had completed the 6 hour training for re-certification.

Five counties reported 276 family care givers of elderly, Extension Homemakers Association and individuals gained knowledge in providing care for the elderly and knowledge of available resources. One county reported that 87 individuals participated in an Elder Care Fair gained knowledge about health care resources. One county stated that 10 persons gained knowledge and adopted one or more practices learned by participating in the elder care programs. Five counties stated that 655 older adults gained knowledge in self-protection, legal concerns and responsibilities, health care and self-esteem. One county stated that 8 volunteers developed skills to retrofit housings for senior citizens and the handicap. One county reported that as a result of an elder care programming, one manufacturing employer requested a series of elder care programs for his employees; 124 persons attending the series of 6 session classes gained knowledge about caregiving for elder care and about the available resources.

Four counties stated that 290 adults, including Chore & Home Health workers, teen mothers, parents and JOBS clients gained knowledge and skills in how to better communicate with family members. Two counties stated that 1673 individuals gained knowledge by participating in educational programs addressing some aspect of Families In Crises issues. Three counties reported homeless families gained knowledge and skills in financial management, parenting, nutrition, housing and consumer buying. Two counties reported that 110 limited resource families adopted self reliance skills. One county reported that 200 individuals in rural communities and churches gained knowledge about Aids and its affect on young people.

Five counties reported that 720 adults gained knowledge of available family literacy programs. One county reported fourth graders in 73 elementary schools were given a locally produced play to promoting reading as a life skill. One county reported that 55 EFNEP graduates gained life skill knowledge by participating in a "Living to Learn" seminar. One county stated that 131 adults gained knowledge about available literacy programs and as a result now are acting as volunteers in literacy programs.

Two counties reported that 1233 individuals gained knowledge by attending educational programs held at work-site locations. One county pilot tested a series of waiting room work-site videos (Health Department and Social Services) targeted at limited resource mothers with pre-school children. Nine counties reported that 320 limited resource women participated in the Economic Development For Women Project; the women gained knowledge and skills in personal development and marketing strategies to get a job.

IV. IMPLICATIONS:

The well-being of the family is essential to the social and economic vitality of North Carolina. Many families are hurting and in a state of crises: increasing numbers of family disruptions and dislocations, minimum wage incomes & low tech jobs, rising family violence (crimes against family members, child & elder abuses and spouse abuse), high rate of teen pregnancy, high rates of school dropouts and adult illiteracy. There is a swell of families who can be classified as limited resource or working poor. Because many of the problems confronting these families are multi-facet problems, coalition building among agencies and organizations, educational institutions, businesses and industries appear to be the best way to reach these audiences and to deliver programs that meet the felt needs of these audiences. Networking and coalition building takes times but reaps benefits for the targeted audiences. Strong educational programs, with supporting person and non-person resources, delivered in non-traditional ways will be needed to help families cope with stresses experienced from these crises. There is also a need to develop training, particularly sensitivity training, for professionals and volunteers in how to work with diverse clientele.

ANNUAL REPORT 1992

NC04

FOOD SAFETY & QUALITY IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Foodborne Illness
Hygiene Practices
IPM Practices
Temperature Control/Storage
Food Processing Methods
Food Safety Regulations
Risk Management
Pesticides Residues
Food/Feed Additives

I. 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.

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

None

B. Outside Organizations/Resource People/Volunteers:

Health Departments
North Carolina Department of Agriculture: Food Protection Division
Animal Health Companies
Agribusiness
Radio and TV media
Department of Social Services
Product Testing Laboratories
Canning Products Companies
North Carolina Department of Natural and Economic Resources
Regional Technical Colleges
Business and Professional Groups
Commodity Group Associations
Farmers' Markets
Women, Infant and Children Program (WIC)
Day Care Directors
County Environmental Association
Public Libraries

Hardware Stores
Civic Clubs
Volunteers

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

1. Seventy-five percent of 2,552 program participants increased their adoption of recommended food handling practices such as use of cooking and storage methods that minimize risk; use of proper hygiene practices; use of recommended cooking times and temperatures; use of holding times that minimize risk, and use of careful food selection techniques.
2. Ninety-five percent of 1,673 participants increased their adoption of practices that protect the food supply.
3. Ninety-five percent of 87 program participants increased their knowledge of food safety public policy issues.
4. Ninety-five percent of 257 program participants increased their knowledge of the risks and benefits of specific food components, processing technologies or food protection chemicals.

Programs on food safety and quality were offered on a variety of topics for the general population. These included proper handling and storage of foods and hygiene practices. Information on food handling practices was also transmitted through news, TV and radio mediums.

Publications generated at the county and state level included food safety information appropriate to the topic and audience being addressed.

Food production practices; use of pesticides, food/feed additives, and food safety regulations were addressed in programs for both producers and general consumers.

Food Service Managers, Day Care Providers and pesticide applicators were targeted audiences for food handler/manager and pesticide application certification courses. These were often offered with the assistance of the county health department food sanitation personnel. Other programs were offered to paraprofessionals and professionals who used the information in performance of their jobs, for example; home chore providers, hospice volunteers, elderly feeding site employees, and food service employees. Other programs focused on individuals who are involved infrequently in the planning and preparation of group meals.

Home Food preservation and safety of home prepared food required frequent telephone and personal contact with consumers.

IV. IMPLICATIONS:

There is continued need to explain the complexities of maintaining a safe food supply to the multiple individuals involved in the entire food chain. Each person must know about the measures taken at each stage to ensure safety and know their own responsibility in maintaining safety and quality.

New food products and technological developments will generate additional consumer questions and concerns about food safety and quality. Changing dietary habits and changing family roles create new audiences who in the past were not engaged in food procurement and preparation. Programs designed to help consumers understand the food supply and how food safety is ensured will address consumers educational needs. At risk individuals (elderly, pregnant, chronically ill, infants, etc.) will be targeted with special programs.

Materials and strategies developed through the USDA Competitive Grants programs from all states will provide a valuable programming resource for the remainder of the four year plan. Extension is being viewed as a local resource to train paraprofessionals and professionals from other agencies who need food safety information to effectively interact with their clientele. This includes day care continued education credits, food service manager food sanitation certification and teacher continuing education credits.

ANNUAL REPORT 1992

NC05 HEALTH AND HUMAN SAFETY

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Chronic Diseases
Child Health
Teenage Pregnancy
Household Safety
Infant Mortality
Care of Elderly
Substance Abuse
Vehicle Safety
Health Risk Appraisal
Community Safety
Occupational Safety
Physical Environment
Agricultural Safety
Agri-Chemicals

I. OBJECTIVES:

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

II. SELECTED NON-EXTENSION RESOURCES:

Kate B. Reynolds Trust
National Institute of Occupational Safety and Health
Charlotte-Mecklenburg School System
Davie County Public School System
ECU School of Medicine
Nash County School System
Vance-Granville Community College

Channel 9 - WNCT
Winston Salem Journal
WNNC Radio Station
Council on Aging
Headstart
American Cancer Society
American Heart Association
American Red Cross
NC Department of Environment, Health and Natural Resources:
 Adult Health
 Injury Control
 Maternal/Child Health
 County Health Departments
National American Home Economic Association
NC Department of Insurance
AARP
Alternative Energy Corporation
Coca-Cola Bottling Company
Duke Power Company
Sara Lee Company

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

- 1,164,006 adults and youth became more knowledgeable about how to improve health status and prevent disease and injury. This represents all individuals reached in all categories of reported health and safety activities including health fairs, receipt of written material, and mass media efforts.
- 27,415 community leaders and members participated in workshops, seminars or other specific health and safety educational programs.
- 57 Extension Agents in 18 counties collaborated with interagency and other colleagues to initiate or expand networks and coalitions to increase and strengthen community health promotion and disease prevention programs.
- 18 counties and 12 local communities organized and maintained two or more on-going health promotion and disease and injury prevention programs.
- 3,295 individuals employed in agriculture learned how to prevent ground water pesticide contamination and the correct use of pesticide protective clothing.

IV. IMPLICATIONS:

Although these indicators only report the health and safety activities of the twenty counties (19 without Columbus) selecting Health and Human Safety as an initiative, it is clear that health and safety concerns cut across Extension programs as surely as they affect all individuals, families and communities. There are fourteen 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.

The 1994 fiscal year is expected to be the first year of substantial ES-USDA funding for support of these efforts. Based on this report, it is anticipated that there will then be extensive development of health and safety programming within Extension. NCCES Health and Safety efforts have been considerably amplified by the non-extension resources involved in this programming particularly monies from external funding sources.

County Health
National American Home Economics Association
NC Department of Insurance
AARP
Alternative Energy Corporation
Coca-Cola Bottling Company
Duke Power Company
Sata Lee Company

- III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:
1,144,000 adults and youth became more knowledgeable about how to improve health status and prevent disease and injury. This represents all individuals reached in all categories of reported health and safety activities including health fairs, topic of written material, and mass media efforts.
- 17,415 community leaders and members participated in workshops, seminars or other specific health and safety educational programs.
- 57 Extension agents in 18 counties collaborated with interagency and other colleagues to initiate or expand networks and coalitions to increase and strengthen community health promotion and disease prevention programs.
- 18 counties and 18 local communities organized and maintained two or more ongoing health promotion and disease and injury prevention programs.
- 1,755 individuals employed in agriculture learned how to prevent ground water pesticide contamination and the correct use of pesticide protective clothing.

IV. EVALUATION:
Although these indicators only report the health and safety activities of the county agents (as without Extension) reporting health and human safety as an indicator, it is clear that health and safety concerns are a major focus of the Extension program. There are effect all individuals, families and communities. There are fourteen identifiable health and safety areas (responsibilities for the

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NC06

NORTH CAROLINA RURAL REVITALIZATION INITIATIVE

COORDINATOR AND TEAM MEMBERS:

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

KEYWORDS:

Economic Development
Entrepreneurial Education
Small Business Assistance
Leadership Development

I. 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.

II. NON-EXTENSION RESOURCES:

A. Outside Funding

Kellogg funds for developing Community Voices

B. Outside Organizations/Resource People/Volunteers

Chambers of Commerce	Farm Organizations
Other universities	News media
N W. Development Assoc.	Business Entrepreneurs
Financial Institutions	Bankers
Lawyers, Tax consultants, CPA's	Small Business
Community College/Small Business Centers	Administration
SCORE volunteers	Recreation/tourism Reps.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

- A. Five counties have completed their strategic plans and are beginning to implement them. One county is at the task force stage of analyzing identified issues, while two other are in the initial stage of organizing.
- B. 1650 citizens/leaders demonstrated improved leadership and problem solving knowledge, while 593 gained knowledge of public participatory processes, and 1032 young adults and emerging leaders increased economic awareness.
- C. 957 potential and current entrepreneurs received specific training on small business and management. 2775 adults and youth developed production and marketing skills for use in extending or increasing income, while 2799 individuals sold products or services yielding \$1,584,957 income.

IV. IMPLICATIONS:

Many rural communities continue to be buffeted by the social and economic changes taking place both nationally and internationally. The transition many communities are facing require a concerted effort to address both their economic opportunities and limitations. Successes achieved through strategic planning demonstrate a viable method for directing future change. However, it is a slow process and more Extension personnel must become involved. Strategic planning and leadership development go hand in hand. Especially, if total community involvement is to be accomplished.

The accomplishments to date in helping small business entrepreneurs succeed indicate the North Carolina Cooperative Extension Service can be effective in entrepreneurial education. The greatest successes appear to occur when we continue to be available to new entrepreneurs over a period of time. Too many businesses fail within three to five years because of inadequate skills and information. As society continues to change, and the unemployment rates, especially in rural areas remain high, the need for entrepreneurial education will continue to increase.

ANNUAL REPORT 1992

NC07

SUSTAINABLE AGRICULTURE

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KEYWORDS:

Whole farm systems
Sustainable farming
Resource conservation
Alternative enterprises
Profitability
Social acceptability

I. OBJECTIVES:

- A. Extension improves the use of an integrated, interdisciplinary systems approach to the development of sustainable agriculture programs by Extension staff members and its clientele.
- B. Public and private research and extension organizations cooperate and coordinate efforts to develop sustainable agriculture systems in the U.S.

II. NON-EXTENSION RESOURCES:

Z. Smith Reynolds Foundation Grant
Sustainable Agriculture Task Force Advisory Council
Carolina Farm Stewardship Association
Soil Conservation Service
Tennessee Valley Authority

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

There are many concrete indicators of progress in the sustainable agriculture program during the first program year. 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:

- A. Fifty-four agents trained in the implications of sustainable agriculture and IPM on farm policies and farming practices.
- B. A summary of county reports for the current year indicated that 22 counties had active sustainable agriculture programs.

- C. A program statement on sustainable agriculture was developed by the Sustainable Agriculture Task Force, published by the NCCES and distributed to all county offices so as to serve as a guide for county programs.
- D. A grant of \$50,000.00 was received from the Z. Smith Reynolds Foundation to support sustainable agriculture activities in North Carolina. The grant was used to award mini-grants for research and demonstrations on sustainable agriculture topics and to fund a forum (to be held 4 December 1992) on sustainable agriculture.
- E. A proposal was submitted to the Kellogg Foundation in response to the Foundations call for proposals dealing with integrated farming systems. This proposal was a joint effort between N. C. State University, N.C.A.&T. State University and Carolina Farm Stewardship Association.
- F. An Advisory Council was formed to augment and provide advise to the Sustainable Agriculture Task Force. This Council consists of farmers and representatives from a broad cross section of agricultural interest groups including commodity groups, other ag. agencies, environmental organizations, organic and alternative farming representatives.
- G. NCCES is working jointly with TVA in 15 western North Carolina counties with the AGRI 21 program. AGRI 21 is a sustainable agriculture program focused on whole farm demonstrations. Two demonstration farms will be selected each year for the next five years by the AGRI 21 state committee. The length of each demonstration will be five years.

IV. IMPLICATIONS:

It seems clear that more effort will be needed in building links between various and groups and agencies that have a stake in the future direction of agriculture. Conflict and animosity can be avoided if an effort is made to bring groups together in a consensus-building process. This process will need to involve rural community leaders, environmentalists and other groups not traditionally involved in agricultural policy-making. This process should allow for significant impact on the setting of agricultural priorities and ultimately influence national farm policy. There is urgent need for the development of a pertinent research base and for continued agent training in the area for sustainable agriculture.

ANNUAL REPORT 1992

N008

NORTH CAROLINA WATER QUALITY AND WASTE MANAGEMENT INITIATIVE PROGRAMMING

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Animal waste
Municipal waste
Industrial waste
Land application
Nutrient management
Pesticide management
Nonpoint source control
Mortality management
BMP's
Waste management
Waste utilization
Water quality
Composting
Policy
Land use planning
Landfills
Septic systems
Well testing
Wellhead protection
Ground water
Water supply
Nitrate testing
Pesticide testing
Residential water treatment
Watershed control
Landscaping
Residential water quality

INTRODUCTION

Activities under the North Carolina Water Quality and Waste Management Initiative continue to grow. The activity area on policies and public policy issues has been made into a formal Action Team. Another new Action Team on Landscaping to Protect Water Quality has been added to the three original Action Teams: Waste Management and Utilization, Nonpoint Source Management, and Residential Water Quality and Waste Management. The spring and fall Advisory Committee meetings were held with about 20 attenders from cooperative agencies.

The Landscaping to Protect Water Quality Action Team which, in part, arose from the Advisory Committee recommendations has already developed an exhibit on landscaping to protect water quality that will be used at the State Fair and county functions. Work has begun on a landscaping notebook which will provide recommendations for pesticide and fertilizer applications to minimize water quality impacts, leaving grass clippings as a nutrient source to reduce fertilizer use and yard waste, landscaping for efficient water use and proper plant selection and location to reduce maintenance and chemical use.

THE RESIDENTIAL WATER QUALITY AND WASTE MANAGEMENT ACTION TEAM

I. OBJECTIVES:

The Residential Water Quality and Waste Management Team's fair exhibit continues to enjoy high use by the counties. Fact sheets have been developed on sewage disposal, residential composting, wellhead protection, septic systems and household hazardous waste. Training has been conducted for people involved in meeting legislative requirements for water supply watershed protection.

Objectives Reporting Against:

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

II. NON-EXTENSION RESOURCES:

Civic groups, health departments, private industry, Chambers of Commerce, radio/tv stations, NC Department 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, Soil Conservation Service, NC Museum of Life and Sciences, social services, private foundations, and Health First magazine.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

45,902 families, adults and youth gained knowledge about source reduction, recycling and reuse (26,320) and household hazardous waste (19,582)

21,212 families, adults and youth adopted one or more recommended waste management practices for the home or community including household waste audits, separation of recyclable materials, reduced use of hazardous household products and proper disposal and backyard composting.

21,366 families, adults and youth gained knowledge of residential water conservation and water quality strategies

521 households tested their home water systems for potential contaminants

1,937 households adopted one or more recommended residential water conservation or water quality measures such as testing home supplies for contaminants, installing water-conserving devices, mitigating, removing contaminants and purchasing/installing more efficient appliances/equipment

More than 67,000 North Carolinians gained knowledge, developed skills or made changes in waste management practices to recycle, reduce and re-use. 45,902 (68.5 percent) of families, adults and youth gained knowledge, while 21,212 (31.5 percent) of families, adults and youth adopted waste management practices.

15 counties participated in multi-agency county task forces or advisory groups on waste management/environmental issues. Twelve counties assisted with: quantifying waste stream reduction via diversion of materials from the landfill, collection programs for special recyclable materials, in-house waste reduction programs and school recycling projects.

35 counties have conducted programs on reducing the hazards from hazardous household products. These programs have emphasized proper use, storage and disposal as well as safe substitutes. Exhibits at Health and Environmental fairs or Field Days in 8 counties reached 4,777 people.

32 counties have conducted programs on water conservation and water quality. Over 21,300 individuals have gained knowledge regarding good management practices that not only conserve water but ensure that it will not become contaminated through careless and thoughtless disposal practices

Over 1,250 individuals in 8 counties gained knowledge on the functioning, care and maintenance of home septic systems. After a workshop for 46 realtors and builders, respondents indicated they had increased their knowledge. They also indicated they had shared their knowledge with an average of 8 other people, thus reaching an additional 368 people. In one county 30 out of 50 people indicated they had adopted at least one recommended measure to care for home septic systems.

IV. IMPLICATIONS:

Environmental regulations are still having 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. Collaborative efforts with other local agencies will continue to be an effective outreach strategy. Volunteers will continue to be needed to support educational efforts in the community, as well as public policy education. Waste reduction is an area where Cooperative Extension Service can be a leader in waste management education. Environmental equity will gain new prominence as a community waste issue.

Water conservation and water quality concerns are an issue in most counties of the state. Education will continue to be important in helping people learn to be good stewards of the environment.

THE WASTE MANAGEMENT AND UTILIZATION ACTION TEAM

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

6 educational programs for agent in-service training for 1991-92. Training sessions were composting, environmental management of nutrients, understanding availability coefficients of different waste materials, waste management and waste institute - updates, waste management - county implementation

4 regional meetings were offered for county and municipal managers and officials on composting yard waste and other municipal solid waste materials

Three county-based animal manure spreader calibration workshops were implemented in 1991-1992. Approximately 75 producers from several major poultry integrators attended.

Several members of the Action Team were actively involved in reviewing the revised N.C. Animal Waste Management Regulations. The Team developed a formal written response that was submitted during the public hearing/response period on behalf of NCSU-CES.

Other legislation that Team members were involved in included HB 156 which is a water supply/watershed protection bill and the Agricultural Residuals Bill which is exploring a less expensive and extensive permit process for non-toxic and non-hazardous agricultural residuals.

Several county level producer educational meetings were presented in 1991-1992. Topics covered included backyard composting, utilization of animal waste as a nutrient source, handling and treatment of animal waste, land application of municipal and industrial wastes, utilization of by-products as horticultural substrates, composting poultry mortality, composting and utilization of municipal solid waste compost, swine industry characterization, land application of waste materials, and feeding of by-products to cattle.

Demonstrations implemented in 1991-92 by members of the Waste Management and Utilization Action Team included:

- utilization of poultry by-products as a fertilizer for wheat
- utilization of animal waste as a fertilizer for corn
- utilization of poultry by-products as a nutrient source for cotton
- management and evaluation of swine waste as a nutrient source for bermudagrass intensively grazed by cattle
- a constructed wetland demonstration system was built to evaluate treatment of swine lagoon effluent and a second constructed wetland demonstration was developed to evaluate the utilization of aquacultural fish pond wastewater for growing wetland nursery species
- composted mortality demonstrations were conducted in several counties and one composting demonstration for swine mortality and afterbirth was initiated.

THE NONPOINT SOURCE ACTION TEAM

The Nonpoint Source Action Team fair exhibit on "Total Watershed Management - Everyone's Responsibility" continues to be used throughout the state. This Action Team has assisted local governments in implementing programs to monitor and reduce nonpoint source pollution and conducted surveys of client attitudes related to environmental and nonpoint source pollution. Such surveys help direct effective educational efforts on proper handling and use of agrichemicals, effective nutrient management, and effective management of irrigation and drainage to protect water quality and reducing soil erosion.

II. NON-EXTENSION RESOURCES:

Gaston County provided \$200,000 over a two-year period. A team of 50 local volunteer citizens participated in gathering and interpreting information.

Surry and Stanly Counties provided \$6,000 each to conduct assessments and public opinion surveys. Each county has a team of 12-15 local volunteers to assist in gathering and interpreting information.

Pesticide Containment Facilities were built using funds from the NC Agriculture Foundation (\$5,000) and from a private golf course (\$3,000). Assistance was available from landowners and SCS engineers.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Gaston County Project

Assessed nonpoint source impacts on surface and groundwater using monitoring and computer modeling

Developed proposal for EPA National Monitoring Program Project for the Long Creek Watershed based on monitoring and modeling results

Identified water quality problems, critical areas for treatment and potential participants in land treatment.

Surry and Stanly Counties

Assessed environmental quality based on existing reports of water quality monitoring and potential contamination sources

Conducted public opinion surveys to determine level of understanding and priorities for addressing environmental issues

Pesticide Containment Facility

Designed and built demonstration facilities in Sampson County on a crop farm and Forsyth County on a golf course

Assisted SCS in designing and evaluating a facility on an apple orchard in Henderson County

Assisted aerial applicators in designing facilities in Hyde County and Edgecombe County

IV. IMPLICATIONS:

Gaston County project will continue to make use of local citizen input in implementing educational programs and EPA long-term monitoring project. More emphasis will be placed on training local agencies to do modeling, data management and educational programming.

Surry and Stanly County projects will continue to use environmental assessment information in educational programs. Outside funding will be used to develop materials and comprehensive policy programs.

Pesticide Containment Facilities will be evaluated. Modified designs will be recommended for others interested in building facilities. SCS and others will be developing standards for design and construction.

POLICIES AND PUBLIC POLICY ISSUES ACTION TEAM

II. NON-EXTENSION RESOURCES:

Kellogg Groundwater Policy Education Project

The three-year project funded by the Kellogg Foundation is completed but activities developing out of the effort continue.

Activities and Products:

- a. Organization of a state-level conference, "Groundwater and associated Environmental Concerns: State and Local Responses," March 17-18, 1992 in Raleigh. Approximately 165 state and local officials and citizens attended.
- b. Printing and distribution of five publications from a set of 17 leaflets produced by the Kellogg Project.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Today, controversial public policy issues are everywhere. Thus, it is essential that Extension, citizens and policymakers understand the principles of public policy education if effective programs on topics such as water quality and waste management are to be developed and if officials are to resolve issues that arise. The success of public policy methods in dealing with controversial issues in N.C. has led to their incorporation into an increasing number of subject areas and an expanded audience. In the future, the public policy program will continue to evolve and expand. Additional policy issues will be addressed, and new concepts, such as mediation and working with the media, are being included in greater depth. Activities of the Policies and Public Issues Action Team include the following:

Education and Policy Development - Gaston County Project

In January 1990, Gaston County funded NCCES to do an assessment of the quality of its air, ground and surface water resources. This is a multi-disciplinary project involving collection of data, resource evaluations and development of a geographic information system. Detailed planning was completed for educational and policy analysis programs for each of the resources. The current phase, Phase III (1992-93), continues the development of educational and policy alternatives programs with heavy involvement of county citizens and leaders.

Swine Waste Management

Multi-disciplinary teams from NCSU have given programs in 15 counties where swine waste management from intensive feeder operations has become a highly volatile public policy issue. Educational programs and the public policy process were program components.

Leadership Programs

Extension Leadership Development Institutes, including public policy training, for specialists and agents are held in alternative years. Attenders also come from Virginia and South Carolina. Another three-year leadership development program for agribusiness leaders, farmers and spouses in the five southern states growing flue-cured tobacco has been funded by Philip Morris, Inc. These are focused on environmental and public policy training and are designed to increase involvement in public affairs and to improve the ability to serve in leadership positions.

1990 Farm Bill

The 1990 Farm Bill included provision for cost-sharing of reconstructing prior-converted wetlands that are currently being used as farmland. North Carolina was selected as one of nine states in the nation funded to begin the program in 1992. An educational program was developed for farmers to help them decide whether they wanted to participate in the program and what their offer "bid" should be. Activities and products included:

- a. Fact Sheet describing the program and the bid process
- b. Development and distribution of a computer software package designed to help in the bid-determination process

IV. IMPLICATIONS:

Wellhead Protection

The project to evaluate the scientific methodology for wellhead protection, and to evaluate the economic and political feasibility of developing wellhead protection in North Carolina is continuing using Gaston County as study area. The development of a geographic information system is included. A new project to develop training programs and a guidebook for wellhead protection has begun.

Institutional Water Quality Analysis (Southern Rural Development Center)

This is a one-year project with ag economists at Oklahoma State and Florida to compare situations and outcomes for water quality policy-making in the three states. Comparisons are conducted to provide information about approaches and successes for use in southeastern states.

ANNUAL REPORT 1992

NC09 YOUTH AT RISK

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Coalitions
Peer Support
Child Care Issues
Caregiver Training
Credentialing
Age Appropriate Curric.
Pre-school Care
Before & After Sch. Care
Resource & Referral
Child Care Providers

I. OBJECTIVES:

North Carolina Cooperative Extension Service (NCSU) and (N.C. A&TSU) 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:

1. Training of school-age child care providers.
2. Encouraging community resources to support school-age child care programs.
3. Building networks, coalitions, and support groups to assist with school-age child care programs.

II. NON-EXTENSION RESOURCES:

Following is a list of non-extension resources used by Extension professionals to address the Youth-At-Risk Initiative:

- Social Services Dept.
- Mental Health Dept.
- City/County Schools
- Employment Security Commission
- Area Churches
- Family Abuse Shelter
- Housing Authority
- Day Care Centers & Associations
- Grants
- Interagency Council
- Extension Homemakers
- Public Giving Foundation
- YMCA
- Local farmers
- Soil Conservation Service
- Public Libraries
- United Way
- Salvation Army
- AT&T Personnel
- Resource & Referral Agency
- Civic Groups & Organizations
- Health Dept.
- County Boards of Education
- Government Agencies
- Parents
- Community Businesses/Leaders
- Community Schools Executive directors & Site directors
- School personnel/ agency reps
- NC Forest & Wildlife Services
- American Red Cross
- Mass Media

- Grocery Stores
- Chamber of Commerce
- Emergency Services
- Fire Marshall
- Kiwanis
- Girl Scouts
- NAACP
- State Dept./ Public Instruction
- Youth Correctional Centers
- Cattlemen's Association
- R.E.A.C.H.
- Harbor INC.
- Eastern Star
- DARE
- National Gardening Ass.
- Juvenile Services
- Rotary Club
- Agribusiness
- Humane Society
- Planned Parenthood

- Juvenile Court System
- Senior Citizens
- Law Enforcement Agencies
- Campbell University
- Child Advocacy Institute
- SAFE Organization
- Governor's Office
- Child & Youth Planning Council
- March of Dimes
- Guidance Counselors
- Lion's Club
- Masons
- Dept. Human Resources
- Community Colleges
- Boy's & Girl's Club
- Holstein Club
- Nazareth Children's Home
- Raleigh Little Theater
- YWCA

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

An estimated 1,610 child care providers and 24,610 youth were supported through school-age child care programs.

There was also training provided in the following areas:

- How to Care for Pre-School Age Children
- Developing Leadership Skills
- Parenting, Literacy, and Child Safety
- American Red Cross Child Care Short Course
- Nutrition, Discipline, and Self-Care Skills
- How to Improve Family Relationships

Other accomplishments included organizing after-school and youth at risk clubs, offering 4-H activities to improve the quality of school-age child care, organizing 4-H clubs in after-school programs, and organizing and conducting peer tutoring in after-school programs.

Counties have established coalitions with many local groups and agencies to provide programs for youth at risk. In most cases, these coalitions are long-term to address complex issues. Counties continue to seek partnerships with appropriate groups at the county level.

IV. IMPLICATIONS:

There continues to be a need for leadership training for youth at risk audiences. A number of counties have requested support in designing effective training programs. Therefore, youth at risk programs need to be developed at the state and national levels to continue supporting county programs. Furthermore, training programs designed to build support systems, improve self-esteem, develop citizenship skills, and help youths to contribute to the improvement of their social environment should be provided to youth at risk audiences. Trained volunteers are essential for the Youth-at-Risk program to succeed.

There is a need to locate funding sources to benefit low-income families and more attention should be given to youths who live in public housing areas. Continued networking with other agencies is needed and additional networks need to be established.

Child care provider training is essential to expanding and improving child care programs.

ANNUAL REPORT 1992

NC10 FARM BUSINESS MANAGEMENT

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KEYWORDS:

Labor
Record Systems
Agricultural Policy
Legal
Farm Planning
Investment, Taxes, Estate
Planning
International Trade
Business Management

I. OBJECTIVES:

- a. 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 businesses, and other aspects of the business.
- b. 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.
- c. 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.
- d. Participation in the Farm Business Management System (FBMS) program will increase, and an increased number of participants will annually have complete farm analyses.
- e. 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.
- f. 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.

II. NON-EXTENSION RESOURCES:

Commodity Groups
Banks
Farm Credit System
Farmers Home Administration
Agricultural Stabilization & Conservation Service (ASCS)
Soil Conservation Service (SCS)
Tennessee Valley Authority
U. S. Department of Labor
Internal Revenue Service
Occupational Safety & Health Administration (OSHA)
N. C. Department of Labor
N. C. Department of Revenue
N. C. Insurance Commission
Employment Security Commission
Local Government Officials
Income Tax Preparers
Local Mass Media (newspapers, radio, TV)
R. J. Reynolds
N. C. Farm Bureau
Local Farm Supply Businesses
Commercial Computer Firms

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS

- a. 2,284 farmers and other agribusinessmen participated in workshops, seminars, and one-on-one consultations enhancing their abilities to use various farm management decision making tools in the management of their businesses.
- b. 484 farmers developed and demonstrated the ability to develop and analyze financial statements.
- c. 179 lenders gained an appreciation for the integrated financial and business record system, Farm Business Management System (FBMS) which helps the farmer with reconciling cash flow, preparing accrual income statements, completing fair market value balance sheets, etc.
- d. 1,383 farmers are more aware of the absolute necessity of keeping a complete business record in order to wisely manage their farm businesses.
- e. Participation in the FBMS program added 31 new cooperators, raising the total participation to 206 farmers. Of those participants, 125 received a complete business analysis.
- f. 1,464 farm employers and other agribusiness firms better understand the rules and regulations regarding agricultural workers. They are aware of existing and new rules regarding hiring of seasonal and full-time workers.

- g. 3,005 farmers and income tax preparers were made aware of new tax laws as well as how to more accurately report tax liabilities under existing rules and regulations. Those participating in numerous workshops are also more skilled in the management of their businesses for income tax and estate tax purposes. The interaction between tax laws and retirement planning were stressed.
- h. 2,403 persons are more knowledgeable and have a better understanding of domestic food and agricultural policies, international trade policies (GATT and NAFTA), and environmental policies.

IV. IMPLICATIONS:

While much has been accomplished, the dynamic nature of the economic and political environment necessitates continuing education regarding managing one's business.

As environmental policies are instituted, as international trade agreements are negotiated, and as domestic food and agricultural policies change, the need for continuing education to aid farmers, other agribusinessmen, and agency personnel in understanding the numerous provisions of these policies is essential.

The first year of this four-year plan has been very successful in establishing clientele contacts and in networking with other non-extension agencies and resource personnel. Lenders and farmers have gained a high level of respect for the FBMS program as a management tool and see it as a means of improving business decisions. Much effort is still needed. Inadequate agricultural labor supply and the numerous rules and regulations governing their employment continue to be a very pressing issue. Income tax and estate tax rules continually change and require attention with respect to the consequences on retirement planning and intergenerational transferring of farm assets. Added emphasis is needed in this regard.

As farm numbers continue to shrink and the competition among farmers increases, the need for continued emphasis on improving one's ability to budget, analyze, and plan in the management of the business increases. Lender education as well as farmer education is needed as new financial standards are adopted by the industry and as financial management continues to be recognized as the key to a successful business.

ANNUAL REPORT 1992

NC11 LIVESTOCK PRODUCTION, PROCESSING AND MARKETING CORE PROGRAM

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Beef
Dairy
Swine
Horses
Sheep
Production systems
Breeding & reproduction
Nutrition
Waste management
Marketing strategies
Disease management
Processing
Water quality
Facility construction
Management

I. 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 4.
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.

II. NON-EXTENSION RESOURCES:

Farm Bureau
 Farm and Garden Centers
 Volunteers
 Commodity Groups
 USDA-Office of Small-Scale Agriculture
 Ag Chemical Companies
 W.K. Kellogg Foundation (Ways to Grow)

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Objective

Number

1. Program on integrated resource management (IRM) was initiated for beef producers - over 1,000 calendar record books were distributed and about 20 IRM cooperators have been identified in various counties.

2. Herd health and IPM programs for beef, dairy, swine, and horse producers have been emphasized in various programs and newsletters. Over 500 producers have improved health programs.
3. Feed testing and ration balancing has increased for all livestock commodities. By-product and commodity feeds have been emphasized for beef and dairy producers. Special programs on feeding cotton waste have large economic potential as a feed and in reducing landfill use (Vance, Warren, Harnett Cos.).
4. 500 beef producers have improved forage production through intensive grazing, improved soil fertility, and hay storage methods.
5. Marketing programs in beef cattle have emphasized preconditioning, direct marketing, retained ownership, and special graded sales. Reported advantages of \$20 to \$70 per head over weekly auction prices.
6. Handling facilities have been built or renovated on 200 beef farms.
7. 300 beef producers have improved herd genetics through selection of bulls, replacement females, and use of BCIP program; 210 swine producers have reported improved herd genetics, 500 dairy herds participate in DHIA program and most use artificial insemination (AI) for genetic improvement.
8. 325 beef producers have improved breeding management though breeding soundness examinations of bulls, AI, and controlled breeding; 125 dairy producers reduced age at first calving, days to first breeding, and/or days open; 15 swine producers started using AI and many producers have increased pigs per sow per year.
9. 50 swine producers improved housing facilities and an on-farm research project in Sampson County reduced organic gas production on two swine facilities which reduced odor, water use, and cut pig medications in half.
10. Over 1500 horse owners improved management skills in pasture management, herd health, nutrition, and general care.
11. Quality assurance programs in beef, dairy, and swine were initiated with several educational programs across the state. Over 300 dairy producers and veterinarians attended training.
12. Mastitis control improvement and lower somatic cell counts were reported for 50 dairy farms. This has been emphasized in many meetings as regulations tighten next year.

13. Several meetings were conducted to improve calf health and survival on dairy farms.
14. Labor management programs have been conducted for dairy and swine producers in two counties.
15. Manure and water management improvements and/or training were reported for about 200 swine, 100 dairy, and 400 beef producers.
16. Financial management was improved on about 35 swine farms and 20 dairy herds.
17. Dairy marketing and government policy training was provided for over 300 dairy producers in various meetings.
18. Three hundred and twenty-five (325) 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. Twelve (12) meetings, involving specialists and agents, were carried out which centered around various production, management and marketing topics. One hundred and two (102) specialists, agents, farmers, and interested individuals attended a statewide conference on the production and marketing of goats for meat. Two hundred and seventy-two (272), 117 and 62 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 ninety-three (93) Sow Herd or Commercial Rabbit Production Management Calendars and Wheels, a simplified production management and recordkeeping system developed for use with small scale swine and rabbit producers.

19. Miscellaneous

Livestock producers, agents, and specialists have been very active in educating youth about livestock production including 4-H work and various efforts in classrooms. For example, over 3,000 youth in Wake County were provided information about animals.

About 30 new entrants into livestock enterprises (beef, swine, dairy) have been reported. Swine production continues to grow rapidly while beef numbers are slowly but steadily increasing.

Waste management of swine and poultry operations are providing opportunities for expansion of beef cattle in many counties. Integrated resource management (IRM) will continue to expand.

Horse numbers continue to increase, particularly in counties near urban populations.

Marketing programs in beef cattle are quite active and hold great financial potential. Western N.C. preconditioning program is an excellent example.

Dairy farm numbers are slowly declining but value of production is steady to slightly increasing.

IV. IMPLICATIONS:

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.

ANNUAL REPORT 1992

NC12 NORTH CAROLINA POULTRY PRODUCTION, PROCESSING, AND MARKETING

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Production Systems
Reproduction
Nutrition
Waste Management
Disease Management
Water Quality
Facility Construction and Management
Processing
Turkeys
Eggs
Ducks
Game Birds
Miscellaneous Fowl

I. OBJECTIVES:

Persons considering contract poultry production will understand the concept and economic return of contract production.

A majority of the contract growers of poultry will know how to keep enterprise records.

Poultry producers and agricultural professionals will know how to find outlook information, how to interpret it, and how to use it in planning.

Poultry producers and hatchery personnel will learn factors affecting the fertility and hatchability of broiler and turkey hatching eggs.

Poultry company personnel and 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.

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

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

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

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.

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.

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

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

North Carolina poultry growers will construct mortality composting units.

Poultry industry will learn the potential of fermentation preservation of mortality as a precursor to extrusion or rendering.

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

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.

Poultry companies will learn Salmonella control procedures and two integrated companies will adopt Salmonella control program.

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

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

North Carolina Poultry Federation, North Carolina Agricultural Foundation, USDA, North Carolina Alternative Energy Corporation

B. Outside Organizations/Resource People/Volunteers:
Cooperating growers, cooperating integrated poultry firms, NCDA, agribusiness, SCS, ASCS

C. Other:
Radio, TV (WPTF, WNCA, WKXR, WRAL)

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Hatchery personnel from eight broiler companies and three turkey hatcheries learned factors affecting fertility and hatchability.

Forty-five broiler breeder producers and eight broiler producers adopted energy efficient lighting realizing an estimated annual savings of at least \$43,000 annually.

Two hundred seventy-five poultry growers learned the proper monitoring/control practices for ectoparasites.

North Carolina poultry and egg processors were made aware of impending nutrition labeling regulations through an overview publication and workshops. Planning is underway to provide processors with information on final regulations when they are released.

Five hundred thirty poultry growers and industry personnel became aware of environmentally sound and approved mortality pit construction, mortality composting, and rendering alternatives.

Two hundred forty permits have been issued statewide for mortality composting units with over 200 of the units already constructed.

One hundred eighty-five poultry production managers, flock supervisors and growers increased their awareness of the importance of biosecurity to prevent the spread of viral organisms and pathogenic diseases on and off the farm.

One hundred sixty farmers and six custom litter applicators adopted best management practices (BMP) in applying poultry litter to nutrient needs of the crop. Seven hundred ten farmers have gained knowledge of BMP of spreader calibration and waste handling as well as current changes in water quality regulations.

Field trials have demonstrated production benefits when thermostats were at 10° F lower and brooding energy savings were realized for fiberglass insulated houses when compared to reflective insulated houses.

IV. IMPLICATIONS:

Considerable awareness and technology adoption has occurred within the poultry industry in the environmental arena. With impending regulations, even more educational efforts will be necessary to encourage adoption of BMP to protect water quality.

Continued adoption of energy saving lighting by growers has had a direct positive impact on the farmer's cost of production.

Financial Management
Troy
Cynthia
Callie
Hybrid Striped Bass
Intensive Systems
Waste Management
Pond Management
Disease Management
Water Quality
Marketing and Contracting
Harvesting and Processing
Management
Facility Construction and
Agriculture

James Rice
Thomas Lonsdale
James Stanley
Donn Ward
Sturland Kay
Skip Thompson

1. 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 seminars/workshops for aquaculture producers/potential producers, farmers 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 reduce the industry's understanding and application of advanced techniques for water quality and application of advanced techniques for water quality in recreational and commercial fisheries. Address the changes in water quality and economic values associated with expanding fisheries for freshwater sport fish (particulary largemouth bass).

11. NON-EXTENSION RESOURCES:
a. Outside Funding
National Coastal Resource Institute
NEC and Grand Program
NC Division of Emergency Management
NC Division of Marine Fisheries
South Atlantic Fishery Management Council

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NC13

NORTH CAROLINA AQUACULTURE AND COMMERCIAL FISHERIES PRODUCTION, PROCESSING AND MARKETING

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Aquaculture
Facility Construction and
Management
Harvesting and Processing
Marketing and Contracting
Water Quality
Disease Management
Predator Management
Waste Management
Intensive Systems
Hybrid Striped Bass
Catfish
Crayfish
Trout
Financial Management

I. 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 sport fish (particularly largemouth bass).

II. NON-EXTENSION RESOURCES:

a. Outside Funding

National Coastal Resources Institute
UNC Sea Grant Program
NC Division of Emergency Management
NC Division of Marine Fisheries
South Atlantic Fishery Management Council

Center for Marine Conservation
National Marine Fisheries Service,
Branch Banking and Trust
Outer Continental Shelf Office
Office of Marine Affairs
NCSU Fisheries and Wildlife Program
NC Dept of Economic and Community Development
Gen-Al, Inc.
NC Rural Economic Development Center
National Council for Agricultural Education
UNC Sea Grant
NC Crawfish Growers Association
NC Dept. of Commerce
Guidelines Development
NC Biotechnology Center
USDA Southern Regional Aquaculture Center
NC Department of Economic and Community Development
National Coastal Resources Research and Development Institute

b. Outside Organizations/Resource People/Volunteers:

In addition to the funding agencies listed above: NCDA Division of Seafood Marketing; NCDA Veterinary Diagnostic Laboratories; NCSU Veterinary College; Soil Conservation Service; Louisiana State University; Mississippi State University; Clemson University; Texas A&M University; East Carolina University; NC Crawfish Producers Association; NC Trout Growers Association; Army Corps of Engineers; NC Div. of Environmental Management; NC Wildlife Resources Commission; U.S. Fish & Wildlife Service.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Warmwater Aquaculture:

North Carolina's warmwater aquaculture industry is holding up well during the current recessionary period. While NC catfish production doubled from 1988 to 1990 and again from 1990 to 1992, production has held steady over the last year at our current level of 1500 acres in production, due to the recession and a national oversupply of catfish. However, no large farm failures occurred in NC during this reporting period, and several aquaculture-related businesses were established. One new feed mill opened in NC, and two new catfish processors came on-line, doubling the outlets for our farmers. Five other businesses are producing products such as seine nets, live haul trucks and aerators.

North Carolina's hybrid striped bass industry continues to grow. Production increased from 400,000 lbs in 1990 to 600,000 in 1991 (15% of national total), with a pond-bank value of \$2 million. Production is expected to increase to 800,000 lbs in 1992. Two new growers will sell their first crop in 1992, and two others have increased their acreage under production; total NC acreage in hybrid striped bass production is now about 200 acres.

In spring 1992, the life cycle of striped bass was closed for the first time in the country on a commercial hybrid striped bass farm in NC. Domesticated female striped bass raised by a private grower were successfully used to produce fingerling hybrid striped bass, with egg fertility and fingerling survival equal to or better than those from wild broodstock. Domestication of broodstock will greatly enhance the industry. The producer is now marketing hybrid fingerlings to growers in NC and other states for the first time.

The NCSU Recirculating Aquaculture Production Technology Demonstration (Fish Barn project) continues to provide numerous opportunities for NC residents to investigate the feasibility of growing fish in-doors in water-limited areas. Over the last year, 217 individuals have toured the Fish Barn, and 157 individuals have participated in 5 technology transfer workshops. Two NC residents are planning to develop production facilities based on Fish Barn project results.

Currently 200 acres of crawfish ponds are actively farmed in NC, producing at average levels (500-700 lbs/acre). Three years ago, NC's crawfish industry was limited by lack of identified markets; now, demand exceeds supply. Several catfish and crawfish growers have begun targeting specific alternative markets that will pay 13-50% more for their products. Acreage is expected to increase after the recession.

Producers are better understanding water quality principles, leading to improved management of their ponds; catfish losses due to low oxygen declined 92% this year, from 60,000 lbs last year to 5,000 lbs this year. Reports of disease incidents dropped over 60%, from 18 to 7. Producers are also more effectively using efficient aeration techniques. Crawfish producers are beginning to use paddlewheel aerators, and are designing ponds for use of recirculating pumps and aerators. Catfish producers are using aerators more efficiently; 3 producers were able to reduce aeration time 50-75% with more efficient techniques.

Educational workshops, visits, and county programs continue to be effective; over 700 individuals have received aquaculture information through such programs, and minimum audience size has increased from 5 to 20. Over 150 lenders, farm managers and appraisers have received training in investment, production costs, and marketing of major aquaculture species.

Numerous publications make the latest information available to a wide audience. Recently completed publications include 4 Southern Regional Aquaculture Center (SRAC) publications on hybrid striped bass production, 1 NCSU catfish fact sheet, and five aquaculture scientific publications. A SRAC video on hybrid striped bass production was produced, and an additional 43 SRAC publications and 12 SRAC videos on a full range of aquaculture topics have been made available to county staff. Complete sets of all aquaculture

publications are now available in all 65 counties not served by aquaculture area agents.

Coldwater Aquaculture:

North Carolina's trout aquaculture industry continues to do well, with production increasing 10-15% over last year's somewhat depressed level. Extension efforts have emphasized better waste and water quality management, record keeping, and regulatory compliance. Extension personnel have helped to establish effective communications between regulatory agencies, trout growers, and the NC Trout Growers Association. No violations have been reported in the last year, and previous violations have been mitigated. Regulatory agencies have a better understanding of trout farm operations, alleviating misunderstandings when new regulations or policies are proposed. Educational efforts by Extension personnel helped lead to the establishment of a "General Permit" for waste water discharge from trout facilities, rather than the much more complicated NPDES permit previously required.

NC trout growers continue to improve their waste management. Six producers have adopted new waste management practices; 18 farmers are now aware of cost-share funding, land-use application procedures, and alternative use options; 1 producer is incorporating a waste management system in construction of a new facility, which can be used as a demonstration site.

Management of trout disease incidents is improving. Frequency of disease outbreaks is reduced; 21 growers are aware of available diagnostic services; 12 producers are aware of disease certification services; 15 growers understand the most suitable fish health and disease management practices; a Manual of Calculation and Treatment Rates for Trout has been developed, and 11 growers have been trained in its use. Efforts to improve record keeping by growers, which is the foundation of sound management and efficiency, have been successful; 18 growers comprehend the benefits of record keeping, and 6 producers have adopted sufficient record keeping practices to enhance their management.

Over 200 trout farmers and agency personnel received advanced training in special workshops on a variety of topics including: status of waste management on trout farms; residual flow in streams diverted for trout production; hatchery management; fish respiration and aeration; composting trout wastes; hydroponics in aquaculture; small-scale trout production techniques, and status of trout aquaculture development in NC. More than 200 individuals have also been receiving timely information on a variety of topics in the bimonthly Aquaculture Newsletter. A guide to Trout Fee-Fishing in North Carolina was also published, and a Trout Production video was completed.

Several demonstration and field evaluation projects are providing growers with new information. Field evaluations are underway for Donaldson strain trout, Atlantic salmon culture, and waste management techniques (solids settling, removal and application to ornamental crops). A field test of intensive inventory management vs. traditional methods suggests a 12% reduction in feed costs with intensive inventory management.

Seafood Processing

Our Food Science personnel are playing the lead role nationally in developing and implementing the Hazard Analysis Critical Control Point (HACCP) seafood inspection system. This system has major implications for both our commercial fishing and aquaculture industries, and the food processing and marketing systems they support. Extension personnel have developed a training manual, slide set, case studies and other materials for training seafood processors in HACCP principles. Training programs include: by invitation of the Food and Drug Administration, trained seafood processors participating in the FDA's HACCP pilot program; conducted a national workshop for Extension agents, specialists, and Sea Grant personnel from 22 states and Puerto Rico, so they can train processors to implement the HACCP inspection system; conducted a national workshop for aquaculture producers on HACCP and implications for aquaculture production. In addition, 10 publications on seafood quality and safety have been completed.

Work is also underway to develop processing techniques for intermediate blue crab products which will allow processors to inventory partially processed crabs during periods of abundance and complete processing during later periods of low crab availability. A pilot project testing processing aides (lactic acid/sodium lactate) in handpicked crab meat has been successfully completed, and as a result, commercial-scale testing has been initiated.

Commercial and Recreational Fisheries

Both commercial and recreational fishing are major economic forces in coastal North Carolina. NCSU specialists are working actively with county agents, commercial fishermen, Sea Grant, state and federal agency personnel, and recreational angling groups to help address conflicts and policy issues such as harvest allocation between commercial and recreational fishing, water quality effects on valuation of fisheries, finfish bycatch in the shrimp fishery, etc. Over 690 commercial and recreational fishermen, fishery managers, environmental advocates, social scientists, state agency personnel, legislators and policy makers received training in numerous workshops and presentations on economics of: managing wild fishery stocks, managing recreational and commercial fisheries, shrimp by-catch reduction, and natural resource damage assessment. Also 19 recent publications on commercial and recreational fisheries harvest allocation, economic valuation, and other issues are now available.

Freshwater recreational fisheries in the Albemarle-Pamlico Sound area are an important, but largely unrecognized, resource. NC Div. of Marine Fisheries data show that the fishery for largemouth bass is at least 3.5 times greater than the fishery for striped bass, which receives much management attention, and that catch per vessel-day in the largemouth bass fishery had declined more than 50% in the last 10 years. The draft management plan for Albemarle-Pamlico Sound made no reference to freshwater fisheries, but due to efforts by Extension personnel, the A/P study group now plans to develop a separate plan for freshwater fisheries, which could have a significant effect on both fishing quality and fishing-related expenditures in the area.

Extension efforts have also played a major role in getting the Council on Ocean Affairs to focus on fisheries and alternative wastewater treatment as two key issues it will address in the upcoming year. Economics of regional wastewater treatment and strategies for rebuilding depressed stocks of fish will be explored and potential legislative action proposed.

IV. IMPLICATIONS:

The NC aquaculture industry continues to mature and is becoming an increasingly important contributor to the state's economy. Newer components of the industry (catfish, hybrid bass, crawfish) continue to grow and diversify and supporting industries are becoming established. Overall, the industry is coping well with the effects of the current recession. As economic conditions improve, aquaculture production should continue to expand.

Industry needs will continue to shift from introductory educational material to more emphasis on improved management techniques, better record keeping, disease prevention, diagnosis and treatment, and advanced production information. Extension has a major role to play in dissemination of this information, and in increasing communication within the aquaculture industry. Continued improvement in management and incorporation of new technologies and innovations will increase yields and profitability. Lack of approved chemicals for disease treatments, is a serious problem, especially for hybrid striped bass.

HACCP training by NC personnel is having nation-wide impact. HACCP-based inspections will require much more industry participation than current inspection procedures. The HACCP project is essential to prepare seafood processors for HACCP-based inspections.

Work underway on intermediate processing techniques for blue crabs has major implications for the crab processing industry. These techniques, which use a combination of minimal cooking, processing aides, and cryogenic freezing, have the potential to allow processors to stabilize production, and thus not be as sensitive

to the "feast or famine" cycles of the industry caused by variation in crab availability.

Commercial and recreational fisheries will continue to be major contributors to the economy of North Carolina. Demands on fish stocks by both commercial and recreational fishermen, as well as conflicting demands on marine and freshwater environments from coastal development, wastewater discharge and other pressures, will continue to increase. Therefore, it will be increasingly important for Extension to provide information and education on economic valuation of fisheries and natural resources to decision makers addressing these conflicting demands.

Extension efforts have also played a major role in setting the Council on Ocean Affairs as focus on fisheries and alternative wastewater treatment as two key issues it will address in the upcoming year. Economics of regional wastewater treatment and strategies for rebuilding depressed stocks of fish will be explored and potential legislative action proposed.

IV. MULLETTION

The NC aquaculture industry continues to mature and is becoming an increasingly important contributor to the state's economy. New components of the industry (catfish, hybrid bass, crawfish) continue to grow and diversify and supporting industries are becoming established. Overall, the industry is coping well with the effects of the current recession. As economic conditions improve, aquaculture production should continue to expand.

Industry needs will continue to shift from introductory educational material to more emphasis on improved management techniques, better record keeping, disease prevention, diagnosis and treatment, and advanced production information. Extension has a major role to play in dissemination of this information, and in increasing communication within the aquaculture industry. Continued improvement in management and incorporation of new technologies and innovations will increase yields and profitability. Lack of approved chemicals for disease treatment, is a serious problem, especially for hybrid striped bass.

NAACP training by NC personnel is having nation-wide impact. NAACP-based Extension will continue to have a major role in participation with current legislative proposals. The NAACP project is essential to prepare a solid program for NAACP-based Extension.

Work underway on intermediate processing techniques for blue crabs has major implications for the crab processing industry. These techniques, which use a combination of physical cooking, processing, and chemical treatment, have the potential to allow processors to stabilize production and thus not be as sensitive

ANNUAL REPORT 1992

NC14 FIELD CROP PRODUCTION, PROCESSING AND MARKETING IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Production systems
Nutrient management
Water management
Harvest, handling & storage
Corn
Soybeans
Tobacco
Turfgrass
Peanuts
Pest management
Soil management
Marketing strategies
Product quality
Small grains
Cotton
Forages
Sorghum
Other field crops

I. OBJECTIVES:

1. 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.
2. Producers adopt a comprehensive approach to soil management, including the use of best management practices and crop/site selection.
3. Producers adopt an integrated approach to pest management to minimize production costs and negative environmental impacts.
4. Producers take a more comprehensive approach to developing and implementing marketing plans and adopting economically sound production practices.
5. Growers will adopt practices to produce high quality produce and to safeguard quality during harvesting and post-harvest processing.

II. 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. 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.

III. INDICATORS OF SUCCESS 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 Caldwell Co., for example, 100% of corn growers are using these tests to minimize costs and environmental impact. 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. For the three year period 1989-91 an average of 127,936 soil tests were taken 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, 143,159 samples were taken, representing 0.037 samples per acre (an increase of ca. 20%). Agents estimate that phosphorus application rates declined in 1992 (indicator 3). Final data for 1992 are not yet available, but base-line data have been established for 1990 and 1991: corn - 56 lb/A; peanuts - 45 lb/A; soybeans - 37 lb/A; tobacco - 61 lb/A. 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.

State-wide data on adoption of soil management practices (indicator 5) were not collected in 1992. However, individual counties have reported increased adoption of such practices, including four counties reporting 333 growers using two or more BMP's. Other signs of success include increased use of no-till or reduced tillage systems for cotton in Halifax Co. (est. 35% of total acreage), a 300% increase in no-till corn in Iredell Co., and 5% of growers in Anson Co. installing new water control structures.

Integrated pest management systems have been adopted by the majority of North Carolina field crop producers. A statewide survey of growers adopting three or more elements of IPM systems (indicator 6) was not conducted in 1992. However, four counties conducting local surveys reported 410 (Lenoir Co. -soybean growers), 175 (Craven Co. - cotton growers), 135 (Randolph Co.) and 60 (Lee Co.) farmers using three or more recommended practices. Other evidence of success includes wide use of scouting and thresholds in cotton (95-100% of acreage in six reporting counties), in peanuts (100% of acreage in Bertie Co.), in tobacco (61% of acreage in Alamance Co.) and in soybeans and small grains (60% of acreage in Carteret Co.). The use of peanut leaf-spot advisory systems saved 2-3 fungicide sprays annually (\$200,000 total savings estimated in Bertie Co.)

Increasing numbers of farmers took a more comprehensive approach to marketing their field crops in 1992. In Lenoir Co., 66% of soybeans were marketed using a strategy other than farm storage and direct sale (indicator 7) as were 35% in Lee Co. Extension efforts to assist tobacco farmers to effectively utilize labor saving techniques in seedling production (clipping, undercutting, greenhouse production) led to increased adoption in all areas of the state. Harnett Co. estimates a total savings of \$63,000 in labor costs in 1992.

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, preliminary data indicate that ca. 67% of the crop will be so graded. Data for MH residues (indicator 9) are being collected but are not yet available for 1992. (For the period 1989-91, 32.5% of residues exceeded 150 ppm and 13.7% exceeded 250 ppm.) Estimates from individual counties, however, indicate a reduction in excessive MH use for the year.

IV. IMPLICATIONS:

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 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 (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 limited data available in 1992 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 the majority of 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 (through Sept. 4, 1992) for ripe tobacco average six to ten cents per pound higher than those for unripe grades. Thus a five percentage point increase in tobacco graded as ripe represents \$2-3.5 million increase in crop value for the state.

ANNUAL REPORT 1992

NC15 HORTICULTURAL CROPS PRODUCTION, PROCESSING AND MARKETING IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Insect Management
Disease Management
Nutrient Management
Weed Management
Soil Management
Water Management
Marketing Strategies
Production Systems
Vegetable Crops
Fruit Crops
Nursery Crops
Floral Crops
Intensive Production
Systems
Processing
Post Harvest Handling
Specialty Crops
Niche Marketing

I. OBJECTIVES:

- A. For vegetable, fruit and ornamental growers to become more competitive by adopting more efficient production practices and new technologies.
- B. For growers to adopt more efficient high intensity production systems.
- C. For growers to become more efficient by improving pest control by using BMP to reduce pesticide use and protect water quality.
- D. For growers to develop and implement a marketing strategy.

II. NON-EXTENSION RESOURCES:

Research colleagues and results
Media - radio, TV, newspaper, etc.
Agribusinesses
Commodity groups and leaders
NCDA
Volunteers

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENT:

Ornamental (floricultural and nursery crops) production experienced the largest growth of any sector of agriculture. A revitalization of the strawberry industry occurred as the "plasticulture" technology gained acceptance and acreage under this production system increased significantly. Acreage of vegetables produced using plastic mulch, drip irrigation, and fumigation continued to expand. New methods for vegetable transplant production using primed seed resulted in more uniform plants. Intensive vegetable production systems have been adopted with increased profit for growers, but these systems require more management. Seedless and ice box watermelon production increased as a result of on farm demonstrations.

IV. IMPLICATIONS:

Extension must move quickly and effectively to take advantage of grower interest in horticultural crops. As growers move from traditional row crops to more intensively managed horticultural crops, they will need much assistance. Since horticultural crop production systems tend to be rather individualized or unique, assistance by Extension personnel is often one on one and very time consuming. As growers increase acreage, adopt new technologies, plant new species or cultivars, etc., it is imperative that growers develop marketing strategies well in advance of harvest. It will also be very important to educate growers planting new crops on the important pest problems and on the importance of designing and assisting with the implementation of BMP.

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NC16 URBAN HORTICULTURE, FORESTRY, AND PEST MANAGEMENT

COORDINATOR AND TEAM MEMBERS:

M. A. Powell
C. S. Apperson
Larry Bass
R. L. McGraw

KEYWORDS:

Composting
Cultural Practices
Master Gardener

I. OBJECTIVES:

1. For home gardeners to become more knowledgeable about landscaping, insect, 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.

II. NON-EXTENSION RESOURCES:

North Carolina Landscape Contractors Association
North Carolina Association of Nurserymen
North Carolina Office of Waste Reduction
Master Gardener volunteers

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

The demand for urban horticulture information continues to grow. In 1992 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 1992. Programs in landscaping, home vegetable gardening and care of fruit trees continues to be the most well attended programs.

The number of registered landscape contractors increased by 15. The exam review was conducted by Extension specialists in December 1991 and the exam was given in January 1992 at the Annual Conference. Registrations are expected to continue to increase as the need for "professionalism" in the industry increases.

A major program began in 1992 on Backyard Composting. 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. If funding continues an additional 10 counties will develop demonstrations. A survey will be conducted in the spring of 1992 to measure the impact of this project.

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 13, 1992.

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.

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.

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.

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 tree/appearance boards, arborists, foresters, nurserymen and landscapers, in both 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.

IV. 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.

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NC17 NORTH CAROLINA FOREST RESOURCES AND WILDLIFE PRODUCTION, PROCESSING AND MARKETING

COORDINATOR AND TEAM MEMBERS:

Larry G. Jahn
Peter T. Bromley
William T. Huxster
Edwin J. Jones
Charles D. Safley
Robert D. Williamson

KEYWORDS:

Animal damage control
Christmas trees
Disease management
Fee fishing
Fee hunting
Financial
Hardwoods
Harvesting
Handling
Storage
Insect management
Marketing strategies
Nutrition management
Pine straw
Processing
Production systems
Shiitake
Mushrooms
Softwoods
Soil management
Species management utilization
Water management
Weed management
Wood for energy
Wood products

I. OBJECTIVES:

Forestry

The objectives of this program are: (1) 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; (2) to improve compatible multiple use management of forest resources with continuing emphasis on income opportunities from wildlife, recreation, firewood, pine straw, mushrooms and timber; and (3) to increase income to landowners through improved business management of timberland and marketing of forest products.

Wood Products

The objectives of this program are: (1) 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; (2) to increase markets for North Carolina forest products by attracting new or expanding existing industries, improving marketing skills of managers, and increasing exports; and (3) to educate the public about new wood products entering the market place, their proper application, and maintenance.

Christmas Trees

The objectives of this program are: (1) to improve the quality and reduce the time it takes to produce marketable trees by adopting cost effective technology in site prep, nutrition, weed, insect and disease control, shaping and post-harvest handling; (2) to develop better merchandising methods to increase market share; and (3) to increase the understanding of growers and the public on the environmental impact of pesticide use in Christmas tree production.

Wildlife

The objectives of this program are: (1) to increase landowner income by the use of wildlife through fee hunting and fee fishing; (2) to provide extension agents with annual training opportunities in wildlife damage control; and (3) 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.

II. NON-EXTENSION RESOURCES:

Forestry

Volunteers, NCDA, NC Division of Forest Resources, ASCS, SCS, Forest Stewardship Committees, forest industry personnel, NC Wildlife Resources Commission, USFS, USDA, NC Farm Bureau, forestry consultants, landowners, chemical companies, associations, media.

Special funds: Mecklenburg Forestry Association; Crowder Logging; Union Camp; NC Division of Forest Resources.

Wood Products

Volunteers, NCDA, NC Division of Forest Resources, forest industry personnel, USFS, USDA, associations, landowners, loggers, economic development offices, consultants, media.

Special funds: USFS; NC Division of Forest Resources; Southern Forest Products Association.

Christmas Trees

Volunteers, NCDA, chemical companies, associations, landowners, consultants, Christmas tree grading services, chamber of commerce, ASCS, SCS, media, Christmas tree industry personnel, TVA.

Special funds: Mountain Farm Credit; Christmas Tree in July Festival Committee; TVA MAP; UAP-Mike, Inc.; Smith Richardson Foundation; Ripshin Tree Farm; Dow Chemical.

Wildlife

Volunteers, NC Wildlife Resources Commission, Trappers Association, landowners, NC Division of Forest Resources, ASCS, SCS, USDA, NC Farm Bureau, wildlife consultants, NC Fisheries, media.

Special funds: North Carolina General Assembly.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Forestry

Indicators include (1) 3,600 landowners representing 505,000 acres of timberland improved their forest management decision making, (2) increased earnings of \$1,035,000 and tax savings of \$278,000 were generated by improved forest management and better application of marketing techniques, (3) 53 forestry management plans were adopted and (4) 88 landowners reforested 3,400 acres of timberland.

Wood Products

Indicators include (1) 15 mills have adopted new manufacturing techniques including quality control programs, thin kerf manufacturing, and computerized networks, (2) \$335,000 was saved through improved utilization techniques, (3) 1,200 videotapes were distributed and viewed by approximately 12,000 individuals and (4) 1,100 individuals increased their marketing skills, knowledge of wood products, and its proper utilization.

Christmas Trees

Indicators include (1) 25 percent of growers (625 people) performed soil and plant tissue testing, (2) aerial application of fertilizer on 4,500 acres of trees has reduced fertilizer costs by \$90,000, (3) NC growers have been able to maintain their prices due to a high quality tree while prices of competing species (Noble fir, Scotch pine, Douglas fir) have decreased 10 to 30 percent and (4) 1,400 growers have increased their knowledge of marketing, pest management, pesticide application, and storage.

Wildlife

Indicators include (1) increased earnings of \$31,500 were generated by landowner wildlife activities (fee hunting and fishing), (2) 10,000 acres were leased for wildlife activities, (3) the number of telephone calls concerning wildlife damage control from private citizens decreased 10 percent and (4) 1,300 individuals increased their knowledge of wildlife practices, pond management, and beaver damage control.

IV. IMPLICATIONS:

Forestry

No major changes in forestry program direction are anticipated in the next year. Long term demand for forest products remains good. Forest landowners must continue good forest management practices to meet this future demand. Educational programs will continue to emphasize aggressive woodland management and improved marketing.

Wood Products

No major changes in wood products program direction are anticipated in the next year. Utilization programs will continue to stress increased efficiency with international markets continuing to play a vital role in the market diversification of North Carolina industry. There is also an ever increasing demand for correct and accurate information on wood products relating to their utilization and maintenance.

Christmas Trees

No major changes in Christmas tree program direction are anticipated in the next year. Growers are competing in a national market of depressed prices. Maintaining production costs, improved quality, and better marketing strategies are essential. Growers will need to employ cultural practices that will be economically competitive and environmentally sound.

Wildlife

No major changes in wildlife program direction are anticipated in the next year. Wildlife has only rarely been considered for its economic value. The leasing of land for hunting privileges, fee fishing or the issuance of day permits will continue to be emphasized. A survey of private landowners to determine their leasing of hunting and fishing rights will be conducted in the coming year.

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NC18 NORTH CAROLINA COMMUNITY AND RURAL DEVELOPMENT

COORDINATOR AND TEAM MEMBERS:

Simon Garber
Janice Lloyd
Mitchell Renkow
Patricia Peele
Judy Groff
Shirley Callaway
Marilyn Gray
Bob Usry
Stephen Lilley

KEYWORDS:

Community Development
Infrastructure Development
Community & Rural Develop.
Solid Waste Management
Beautification
Environmental Protection
Recreation Development
Tourism

I. OBJECTIVES:

- A. Rural communities will increase their community development efforts.
- B. Rural communities and existing/emerging entrepreneurs will undertake recreational and tourism development.
- C. Homeowners, lending institutions and realtors will understand and undertake, where appropriate, proper maintenance of on-site waste water treatment and disposal facilities.
- D. 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.
- E. 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.

II. NON-EXTENSION RESOURCES:

A. Outside Funding

Funds were provided by local groups and organizations for beautification projects.

B. Outside Organizations/Resource People/Volunteers

Chambers of Commerce, county solid waste planning units, health departments and Social Service Departments, United Way, Electric Cooperatives, Keep North Carolina Clean and Beautiful, county schools, Community colleges, and individual volunteers

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

- A. 65 communities planned and completed development projects enhancing the quality of life. These projects ranged from senior citizens and child care programs to farmers', markets, summer camps and two county-wide water systems.
- B. 1827 individuals in 150 communities, schools, or other organized groups undertook beautification projects using \$34,500 donated for their projects, while 3360 individuals participated in 280 clean-up campaigns along streets and highways.
- C. One regional tourism plan is being developed; 10 counties are beginning to implement tourism plans; 17 communities held festivals, attracting 85,000 persons and \$255,000 in revenue. One regional outdoor drama is being revitalized and will start in 1993.
- D. 1850 individuals increased their knowledge of appropriate septic system installation and maintenance, including alternative systems for areas with high water tables.
- E. 45 rural counties are actively planning comprehensive solid waste management programs. Recycling programs have been implemented in 35 rural communities. 15 permanent yard waste sites have been established and 33,000 individuals have increased their knowledge of composting, while 1768 individuals have taken part in 4 hazardous waste collection programs.
- F. 9,500 persons have become more informed about regulations governing how we must protect our soil and water environment, while 2500 farmers have become more familiar with best management practices needed to protect soil and surface waters.
- G. Eight counties completed their first land use plan, while 6 counties now have their first subdivision and/or mobile home ordinances.

IV. IMPLICATIONS:

While North Carolina's rural communities are affected by the national and international economy, rural residents continue to live in a local economy. Economic performance, infrastructure, and community amenities vary widely. While many projects, such as planning for economic development, solid waste management, and water system development are best addressed at the county or regional level to gain efficiencies of scale, there remain many concerns that affect the quality of life that can be addressed at the community level. Extension needs to continue to encourage and support such efforts.

Rural counties and communities have become increasingly aware of their environmental surroundings and the new regulations governing the protection of soil and water resources and the management of wastes. In part the many clean-up and beautification efforts attest to this. Response to state solid waste reduction and recycling bills has been encouraging, but much more needs to be done. More people need to be informed of regulations governing use of septic tank systems, non-point source management of stream pollution and the use and disposal of chemicals.

Endangered Species
 Environmental Education
 Forest Stewardship
 Land Stewardship
 Outdoor Air Quality
 Public Policy Education
 Wetland Management
 Wildlife Management
 Soil Conservation
 Food Management
 Land Use Planning
 Fisheries Habitat Management

Kevin J. ...
 Allison ...
 Peter T. ...
 Claire-Marie ...
 Charles ...
 Dana ...
 Tom ...
 J. Paul ...
 Robert ...
 Sandy ...

1. Landowners with more than 10 acres of timberland will know about the Forest Stewardship Program.
2. Landowners with wetlands will learn about state and federal regulations regarding their conversion and the environmental value of wetlands.
3. Landowners with ponds will adopt management practices to improve production in their ponds.
4. Landowners and sportsmen interested in wildlife will learn about appropriate forest and wildlife management practices to improve habitat and populations of protected wildlife species.
5. Landowners with endangered species will know the provisions of the Endangered Species Act and how to comply with the act.
6. Youth and adults will become more aware of the importance of natural resources and appropriate management practices.
7. Elected and appointed officials in counties without land use plans will become knowledgeable land use planning policies and practices.

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NC19

CONSERVATION OF NORTH CAROLINA'S NATURAL RESOURCES

COORDINATOR AND TEAM MEMBERS:

Edwin J. Jones
Alison Arnold
Peter T. Bromley
Claire-Marie Hannon
Charles Hammond
Dana Hoag
Tom Hoban
J. Paul Lilley
Robert Williamson
Sandy Zaslow

KEYWORDS:

Biodiversity
Endangered Species
Environmental Education
Forest Stewardship
Land Stewardship
Outdoor Air Quality
Public Policy Education
Wetland Management
Wildlife Management
Soil Conservation
Pond Management
Land Use Planning
Fisheries Habitat Management

I. OBJECTIVES:

1. Landowners with more than 10 acres of timberland will know about the Forest Stewardship Program.
2. Landowners with wetlands will learn about and state and federal regulations regarding their conversion and the environmental value of wetlands.
3. Landowners with ponds will adopt management practices to improve production in their ponds.
4. Landowners and sportsmen interested in wildlife will learn about appropriate forest and wildlife management practices to improve habitat and populations of preferred wildlife species.
5. Landowners with endangered species will know the provisions of the Endangered Species Act and how to comply with the Act.
6. Youth and adults will become more aware of the importance of natural resources and appropriate management practices.
7. Elected and appointed officials in counties without land use plans will implement **comprehensive land use planning policies** and practices.

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

II. NON-EXTENSION RESOURCES:

Volunteers, NC Division of Forest Resources, NC Wildlife Resources Commission, ASCS, SCS, USFS, USDA, NCDA, Department of Army, US Fish and Wildlife Service, NC Forestry Association, Quail Unlimited, NC The Wildlife Society, Forest Stewardship Committees, Quality Natural Resources Commission, teachers, forestry consultants, forest industry personnel, NC Division of Parks and Recreation, Forest Farmers Association, Farm Bureau, Division of Environmental Management, Wake County Wildlife Club, Soil and Water Conservation Districts, NCDA, Agri-business, NC Pine Needles Producers Association, media

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

1. 6,302 citizens and professionals and 5,316 youth increased their knowledge about the environment including learning the importance and use of natural resources economically and environmentally, learning about the renewability of natural resources, and the interdependence of natural resources.
2. 3,075 citizens and professionals increased their knowledge about wetlands regulations and how these regulations impact the management of their property.
3. 58 forest/wildlife management plans were adopted.
4. 40 people attended a workshop on land use planning.
5. 38 Forest Stewardship plans have been adopted or are in process.
6. 135 additional landowners were made aware of the Forest Stewardship Program.
7. Three forestry demonstration areas were established.
8. 93 pond owners adopted appropriate pond and weed management practices.
9. Ten cities of 12 in one county have adopted tree protection and planting regulations.
10. 526 landowners are aware of compatible forestry and wildlife practices.

IV. IMPLICATIONS:

Landowners participating in the Forest Stewardship Program are more aware of and are practicing multiple resource management. Landowners and citizens in general are still concerned about the environment. Landowners are concerned about the impacts of the Clean Water Act, Wetlands Reserve Program, Endangered Species Act and other federal and state legislation and regulations regarding management on their lands. Most landowners wish to comply with the laws and regulations, but are confused of what provisions apply to them. Elected and public officials are unaware of the impacts of some of the regulations promulgated, and are appreciative of opportunities to learn more about natural resources conservation and management. Land use planning continues to be an issue, and efforts to educate and assist public officials will continue.

- III. INDICATORS OF SUCCESS AND ACHIEVEMENTS:
1. 2,102 citizens and professionals and 2,116 youth increased their knowledge about the environment including learning the importance and use of natural resources economically and environmentally, learning about the renewability of natural resources, and the interdependence of natural resources.
 2. 1,072 citizens and professionals increased their knowledge about wetlands regulations and how these regulations impact the management of their property.
 3. 28 forest/wildlife management plans were adopted.
 4. 48 people attended a workshop on land use planning.
 5. 18 Forest Stewardship plans have been adopted or are in process.
 6. 112 additional landowners were made aware of the Forest Stewardship Program.
 7. Three forestry demonstration areas were established.
 8. 22 pond owners adopted appropriate pond and weed management practices.
 9. Ten cities of 12 in one county have adopted tree protection and planting regulations.
 10. 224 landowners are aware of cooperative forestry and wildlife practices.

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NC20 NORTH CAROLINA'S PESTICIDE APPLICATOR'S TRAINING

COORDINATOR AND TEAM MEMBERS:

Wilson, J. H.
Apperson, C. S.
McLymore, R. L.
Duncan, H. E.
Waldvogel, M. G.
Lucas, L. T.
Southern, P. S.
Kay, S. H.
Arends, J. J.

KEYWORDS:

Pesticide Training
Safe Use of Pesticides
Application of Pesticides
Certification
Recertification
Environmental Quality
Water Quality
IPM Practices

I. OBJECTIVES:

1. To certify and recertify by training/testing all commercial pesticide applicators, public operators, consultants, dealers and private pesticide applicators as needed. Through this program, it is planned to raise the level of awareness of the public as to the need for pesticides (man-made as well as naturally occurring) and the importance of using them safely, conservatively and responsibly. Farmers, dealers, and applicators will be educated about the importance of the proper use of pesticides and pesticide container disposal in order to produce safe crops and maintain a clean environment. Indirectly, this program will inform the general public about these important issues.
2. To convince pesticide applicators to use safe, environmentally sound pesticide practices. This will include, but not be limited to, emphasis on integrated pest management, proper pesticide container disposal, water quality, and proper pesticide disposal.

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

Environmental Protection Agency

B. Outside Organizations/Resource People/Volunteers:

Pesticide Association of North Carolina, Inc.
East Carolina University, School of Medicine
(Agromedicine Program)
North Carolina Department of Agriculture
(Pesticide Division)
North Carolina Department of Public Instruction
North Carolina Department of Transportation
Volunteers at the county level

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Indicators of success in the pesticide applicator training program is the number of private and commercial applicators certified and recertified, evidence that the targeted audience has a feel for the correct and responsible use of pesticides as well as an appreciation for the role of pesticides in crop production. Number of trainees in specific categories was as follows:

Private Applicators:

Certified - 1,248

Recertified - 9,228

Commercial Applicators:

Certified -

dealers - 83

applicators - 420

public operators - 490

Recertified-

All categories - 2,213 (partial credit for another 3,200)

In addition to the above, the plastic pesticide container recycling program is active and expanding. For example, the North Carolina Department of Transportation has made the commitment that none of the pesticide containers that they empty will be placed in a sanitary landfill. This is the first effort to collect containers on a statewide basis in North Carolina. The program is active in ten of our 100 counties.

IV. IMPLICATIONS:

Certified applicators are receiving the latest information on pesticides and with few exceptions are using them safely and properly. Injuries and deaths from pesticides according to N. C. Department of Human Resources are declining in North Carolina. Pesticide deaths except for suicides and homicides are approaching zero. The Duke Poison Control Center in Durham reports more inquiries in recent years about suspected illnesses from pesticides. However, these inquiries are rarely directly related to illness from a pesticide. The regulatory agency (N. C. Department of Agriculture) has stepped-up regulatory functions and more and more persons are being prosecuted and/or fined for violations of pesticide misuse. Extension specialists, county agents and other agricultural workers are spending more time helping pesticide applicators in selecting and using pesticides safely and properly. Emphasis in recent years in the pesticide training program has been on protecting ground and surface water, endangered species, worker protection standards, disposal of pesticides and containers, pre-harvest intervals, re-entry standards and other environmental issues, in addition to the proper and safe use of pesticides.

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NC21

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

COORDINATOR AND TEAM MEMBERS:

H. M. Linker
J. R. Anderson, Jr.
J. S. Bachelier
J. J. Arends
D. L. Hoag
D. F. Ritchie

KEYWORDS:

Production systems
Threshold evaluations
Model development
Pesticide evaluations
Environmental impact

I. OBJECTIVES:

- a. 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.
- b. Growers will adopt pest control methods which reduce negative impacts on wildlife and water quality.
- c. Private crop consultants will gain knowledge of integrated pest management practices.
- d. Agrichemical dealers knowledge of integrated pest management principles and practices will be increased.
- e. Urban audiences will gain a knowledge of appropriate pest management approaches.
- f. Pest control operators will have instruction on integrated pest management techniques which can be used in structural and horticultural systems
- g. Crop scouts will be trained in pest sampling, beneficial insect identification, economic thresholds and minimizing pesticide use.
- h. Poultry industry fieldmen will be instructed in insect and rodent pest management, monitoring procedures, and beneficial insect identification.

II. NON-EXTENSION RESOURCES:

NCSU IPM Center, NC Biotechnology Center, Z. Smith Reynolds Foundation, grower volunteers, commodity organizations, Carolina Farm Stewardship Association, NC Department of Agriculture, NC Department of Natural Resources, NC Wildlife Federation

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Extension pest management demonstrations were conducted for apples, Christmas trees, corn, cotton, I. potatoes, peanuts, small grains, soybean, tomato, urban, as well as swine and poultry. Over 4,000 producers were trained on the principles and practices of IPM and almost 400 scouts were trained to monitor crops. Cotton acreage increases in the last 2 years challenged the IPM program to train new scouts, consultants, and new growers to prevent excessive insecticide use and/or insect damage. IPM program prevented excessive insecticide applications this year when bollworm levels were at very low levels saving growers an estimated \$1,000,000 and 6 1/2 tons active ingredient of insecticide. Over 1,000 growers viewed a project to demonstrate how IPM and sustainable agriculture practices in cotton can be used to insure efficient fertilizer and pesticide use. The IPM/SA treatments, which combined chicken litter for fertilizer and judicious pesticide use, were economically competitive with a standard approach returning \$675/acre compared to the standard of \$699/acre. Christmas tree IPM programs continue to expand to new growers with 80 growers in demonstration programs and another 469 receiving IPM information. This project has resulted in significant improvements in scouting procedures and refinement of economic thresholds. A project to demonstrate the value of IPM in fresh market tomatoes resulted in 38% less insecticide being required. While there was no net reduction in fungicides, disease prediction and control was improved. Barrier crops to reduce Colorado potato beetle infestations Irish potato were demonstrated resulting in reductions of insecticides. A continuing urban IPM program included 400 homeowners. The objective of this project was to determine the kinds of pest problems encountered by homeowners and their response. The most common problem was poor plant selection or site location. Pest problems were secondary to the initial problem of poor site/plant selection. Homeowners often had a poor understanding of pests, pesticides, fertilizers and plant care. This demonstration project will be used to plan future IPM efforts in the urban area. Over 150 wildlife professionals attended a meeting on sustainable agriculture/IPM and wildlife. Presentations and in-field demonstrations of IPM stressed how practices can reduce pesticide use and provide means to use pesticides when wildlife are less vulnerable. A test of biological control for darkling beetle in poultry houses demonstrated promise for non-pesticidal control of this serious pest. A state wide survey of tomato growers was conducted to determine their understanding, attitude, and application of IPM. Most (80%) are aware of IPM and interested in learning more. A majority (87%) reported that they learned about IPM primarily from the Extension Service and a much

lower number used other farmers (25%) or chemical dealers (25%). Tomato growers in the western part of the state are more aware of IPM than those in the east. This result underscores the value of Extension IPM demonstration as, to date, tomato IPM demonstrations have been conducted only in the western part of the state. Results also showed that tomato growers prefer farm visits, on-farm demonstrations, and workshops over all other forms of communication to receive IPM information.

IV. IMPLICATIONS:

Growers become aware of IPM through the efforts of the Extension Service. They learn how to implement IPM practices by participating in Extension IPM demonstrations. Additional specifics of IPM are learned by attending workshops and field days. When participating in IPM programs, growers become more aware of environmental concerns and adjust their actions. IPM provides an atmosphere in the agricultural community that encourages growers to be more accepting of sustainable agriculture.

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NC22 PESTICIDE IMPACT ASSESSMENT IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

Toth, S. J., Jr.
Bailey, J. E.
Brandenburg, R. L.
Skroch, W. A.
York, A. C.

KEYWORDS:

Pesticides

I. OBJECTIVES:

1. To provide USDA Pesticide Assessment Teams with accurate and timely data on the uses and benefits of pesticides in North Carolina.
2. For extension personnel to be informed of regulatory actions affecting pesticide use in order to assist the clientele with necessary changes in pest control.

II. NON-EXTENSION RESOURCES:

None

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

1. Provided information to USDA NAPIAP on the benefits and uses of methyl bromide on tobacco (plant beds), broccoli, cauliflower, apples, eggplant, melons, peppers, strawberries, tomatoes (plant beds and fields), forest tree transplants, ornamentals, stored tobacco and peanuts, and field corn. Extension specialists participated in the NAPIAP five-state benefits assessment of methyl bromide on ornamental and nursery crops, forest tree transplants, melons, peppers, strawberries, tomatoes, tobacco and stored peanuts. Data on the uses and benefits of pesticides for sweetpotato and Irish potato production in North Carolina were submitted to USDA Extension Service NAPIAP. The uses and benefits of 11 herbicides, 21 insecticides, 7 nematocides, 10 fungicides, and nonchemical alternatives on sweetpotatoes and Irish potatoes were assessed.
2. Conducted a mail survey of 940 sweetpotato growers in 17 North Carolina counties to determine pesticide use patterns on the 1991 sweetpotato crop.

3. 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 33 NPIRS searches were performed.
4. 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. An Entomology Department fact sheet describing pesticide-related extension and research programs in North Carolina (including Pesticide Impact Assessment, IR-4, Pesticide Applicator Certification and Training, Integrated Pest Management, and Water Quality) was distributed to 100 county extension agents. The fact sheet was also distributed to extension specialists and researchers, personnel of the North Carolina Department of Agriculture, commodity associations, and other interested persons.
5. Developed, in cooperation with the USDA Extension Service and other USDA agencies, a National Pesticide Impact Assessment Workshop to train state NAPIAP personnel on the NAPIAP benefits assessment process and discuss the respective roles of federal and state NAPIAP personnel in the process. A total of 110 persons from 45 states, Guam, Puerto Rico and the District of Columbia received training at the workshop held on February 26-27, 1992 in Raleigh, North Carolina. Proceedings of the workshop were published and distributed to workshop participants, state and federal NAPIAP personnel, and other interested persons.
6. Evaluated the Pesticide Benefits Assessment (PBA,) computer model for its potential use in NAPIAP pesticide benefits assessments. Pesticide benefit/use data for apples, cucumbers and peanuts were used to evaluate the model.

IV. IMPLICATIONS:

1. 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 upon request. Statewide pesticide use surveys are a means to supply more complete and accurate data to USDA and should be conducted on additional crops in the state.

2. As a result of pesticide reregistration, 20-25,000 out of the 45,000 registered products have been cancelled and additional products will be cancelled in the future. Extension specialists and agents need to be continually informed of the regulatory status of pesticide products registered for use on agricultural crops and other sites through computerized data bases such as the NPIRS in order to provide their clientele with accurate and timely information on pest management.

3. Programs must be established to meet the 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.

Developed, in cooperation with the USDA Extension Service and other USDA agencies, a National Pesticide Impact Assessment Workshop to train state NARIAP personnel on the NARIAP benefits assessment process and discuss the respective roles of federal and state NARIAP personnel in the process. A total of 110 persons from 45 states, Guam, Puerto Rico and the District of Columbia received training at the workshop held on February 26-27, 1992 in Raleigh, North Carolina. Proceedings of the workshop were published and distributed to workshop participants, state and federal NARIAP personnel, and other interested persons.

IV. The judicious use of pesticides is necessary for cooperative and sustainable agriculture in North Carolina. Beneficial data for pesticides undergoing special review and reregistration by the U. S. Environmental Protection Agency must be provided by state extension specialists and researchers to USDA in a timely manner upon request. Pesticide use surveys are a means to supply state complete and accurate data to USDA and should be conducted on additional crops in the state.

3. Evaluated the Pesticide Benefits Assessment (PBA) computer model for its potential use in NARIAP pesticide benefits assessments. Pesticide benefits data for apple, cucumber and peanuts were used to evaluate the model.

ANNUAL REPORT 1992

NC23

FARM SAFETY

COORDINATOR AND TEAM MEMBERS:

Robert McLymore
Barbara Garland
Mary Beth St. Clair
Fred Yelverton

KEYWORDS:

Physical Environment
Rescue
Agrochemical Impacts
Emergency
Injury Prevention
Agricultural Health Promotion
Farm Safety
Health
Mechanical Hazards
Safety
Pesticide Clothing

I. OBJECTIVES:

- A. Agricultural workers and their families increase farm safety awareness and adoption of safe farming practices.
- B. To reduce the number of farm injuries, fatalities, and occupational illnesses resulting from agriculture.
- C. To provide training for farm workers, rescue and medical personnel that will increase their knowledge of appropriate injury prevention and accident responses.

II. NON-EXTENSION RESOURCES:

- Obtained a grant from the Center for Disease Control and National Institute for Occupational Safety and Health to develop materials on health and safety for agricultural workers.
- Twenty four(24) Farm Bureau Insurance Agents
- Emergency Medical Training Officers(20)
- Health Professionals and Rescue Personnel(40)

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

County Extension Agents and Health Professional from across the state participated in district training workshops on safety and health issues affecting agricultural workers. A safety notebook was developed and presented to these participants to use as a guide for developing and maintaining an information system for addressing health and safety programming in each county. One hundred and fifty notebooks were compiled for agents to use in their counties

for planning health and safety programs. At the training, there were 60 agents and twenty health professionals involved who provided input on agricultural health and safety. We have addressed increasing requests for farm safety materials in the form of videos and fact sheets. Fifteen workshops on farm machinery victim extrication were conducted across the state involving 3500 participants. We completed a modules dealing with large animal handling and machinery hazards for use by county agents, health professionals, and the College of Agricultural and Life Sciences. Materials have been piloted in the counties dealing with large animal handling curriculum which will be sent to the counties to be inserted into their safety notebooks. A series of fact sheets have been developed for use in the counties addressing the following topics: safe use of rotary cutters, safe operation of combines, and the safe handling of grounds equipment. Two displays have been developed on "Cultivating Agricultural Safety and Health" and "How A Tractor Rolls Over".

IV. IMPLICATIONS:

There has been a very strong interest in requesting materials developed for use with the agricultural community in the area of safety and health. Agents have received the information with open arms and have used this information to plan programs for their clientele. Over 4,000 people have been involved in workshops dealing with safe removal of entrapped victims. Requests from counties for newsletters, brochures, video tapes, and displays have increased. Training for agents and other health professionals is affecting the agricultural community at large in a positive way. This is evidenced by news articles that have been forwarded to our office addressing hazardous situations found on the farms and techniques to improve safety. Due to the requests for materials and workshops on ag. health and safety, continuation of these objectives are necessary on these topics. Materials are being developed that will address pesticide operation and large animal handling techniques that will benefit our agents and health professionals involved in agricultural safety and health.

ANNUAL REPORT 1992

NC24 SMALL FARMS

COORDINATOR AND TEAM MEMBERS:

Matthew H. Poore
Dan Lyons
James Green
Jeanine Davis

KEYWORDS:

Small farms
Part-time farms
Minority farmers
Alternative income opportunities
Limited resource farmers
Profitability

I. OBJECTIVES:

- a. Twelve hundred small farmers will become familiar with the services provided by major USDA agencies.
- b. Six hundred small farmers will improve their managerial skills by developing and adopting a farm record keeping system.
- c. Fifteen hundred small farmers will become familiar with at least one alternative enterprise that could generate additional income.
- d. Five hundred small farmers will develop and adopt a marketing plan for their agricultural enterprises.
- e. Five hundred small farmers will identify and adopt Extension proven agricultural practices.
- f. Two hundred fifty small farmers will diversify their farming operation.
- g. Two hundred minority farmers will become familiar with ways of retaining their farm land.
- h. 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.

II. INDICATORS OF SUCCESS:

- a. 149 small farmers became familiar with the services provided by major USDA agencies.
- b. 48 small farmers improved their managerial skills by developing and adopting a farm record keeping system.

- c. 2208 small farmers became familiar with at least one alternative enterprise that could generate additional income.
- d. 57 small farmers adopted a marketing plan for their agricultural enterprises.
- e. 427 small farmers identified and adopted Extension proven agricultural practices.
- f. 83 small farmers diversified their farming operation.
- g. 225 minority farmers became familiar with ways of retaining their farm land.
- h. 4 specialists, 34 extension agents and 10 extension technicians were trained to better identify, evaluate and work with small, limited resource farmers, including training on production of alternative commodities that may improve the profitability of small farms.

The small farms program of NCCES is conducted through efforts of specialists, agents and technicians from both NCSU and NCA&TSU. 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 agricultural 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 NCA&TSU include Small Farms Week which included programs on alternative commodities for small farmers (meat goats and shiitake mushrooms) and minority land loss prevention. Organized Small Farm Tours are 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, were chosen for the first year of the program. They received training on production and marketing before entering demonstrations of their chosen alternatives (including meat goats, vegetables, intensive grazing of beef cattle, rabbit production and aquaculture). The first year of the program was well received and the demonstrations initiated will be included in future Small Farms Tours. This program allows for a working relationship and for better communication among specialists from NCA&TSU 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 1992 primarily concern horticultural crops such as strawberries, ginseng, perennial ornamentals, herbs, cut flowers, bedding plants and vegetables.

RESEARCH
 Production
 Public Administration
 Quality of Environment
 Utilization
 LARRY G. JAHN
 Robert D. Williamson

I. OBJECTIVES:
 The objectives for NRES include (1) renewable resource producing enterprises will enhance their economic viability, (2) renewable resource products will be more efficiently utilized, (3) landowners/decisionmakers will be better able 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, and (5) the public (including youth) will improve their understanding of renewable resource issues.

II. NON-EXTENSION RESOURCES:
 Foresters, NCSU, NC Division of Forest Resources, NRES, RSE, Forestry Stewardship Committee, Forest Industry Personnel, NC Wildlife Resources Commission, USFS, USGS, NC Farm Bureau, consultants, landowners, chemical companies, associations, media, loggers, economic development offices, Christmas tree grading services, chapters of commerce, Christmas tree industry personnel, TVA, Trappers Association, NC Fisheries Department of Wildlife and Wildlife Services, Small Wildlife, NC Tax Wildlife Society, teachers, NC Division of Parks and Recreation, Forest Farmers Association, Division of Environmental Management, community colleges, Wake County Wildlife Club, Soil and Water Conservation districts.

Special Funds: Stewardship, NCSU, NC Division of Forest Resources; Christmas Loggers' Union Fund; NC Division of Forest Resources; USFS; Southern Forest Products Association; Mountain Farm Credit; Christmas tree in July Festival Committee; TVA; NRE-Mike; North State Richardson Foundation; Riparian Tree Farm; Box Chemical; North Carolina General Assembly.

III. METHODS OF SUCCESS AND SUCCESSFULNESS:
 Extension
 Increased earnings of \$1,404,000 resulted through better application of timber products marketing techniques and improved pricing and timing lessons as a direct result of extension programs.

ANNUAL REPORT 1992

NC25

NORTH CAROLINA RREA PROGRAMS

COORDINATOR AND TEAM MEMBERS:

Larry G. Jahn
Robert D. Williamson

KEYWORDS:

Production
Public understanding
Quality of environment
Utilization

I. OBJECTIVES:

The objectives for RREA include (1) renewable resource producing enterprises will enhance their economic viability, (2) renewable resource products will be more efficiently utilized, (3) landowners/decisionmakers will be better able 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, and (5) the public (including youth) will improve their understanding of renewable resource issues.

II. NON-EXTENSION RESOURCES:

Volunteers, NCDA, NC Division of Forest Resources, ASCS, SCS, Forest Stewardship Committees, forest industry personnel, NC Wildlife Resources Commission, USFS, USDA, NC Farm Bureau, consultants, landowners, chemical companies, associations, media, loggers, economic development offices, Christmas tree grading services, chambers of commerce, Christmas tree industry personnel, TVA, Trappers Association, NC Fisheries, Department of Army, US Fish and Wildlife Service, Quail Unlimited, NC The Wildlife Society, teachers, NC Division of Parks and Recreation, Forest Farmers Association, Division of Environmental Management, community colleges, Wake County Wildlife Club, Soil and Water Conservation Districts.

Special funds: Stewardship; Mecklenburg Forestry Association; Crowder Logging; Union Camp; NC Division of Forest Resources; USFS; Southern Forest Products Association; Mountain Farm Credit; Christmas Tree in July Festival Committee; TVA MAP; UAP-Mike, Inc.; Smith Richardson Foundation; Ripshin Tree Farm; Dow Chemical; North Carolina General Assembly.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Production

Increased earnings of \$1,404,000 resulted through better applications of timber products marketing techniques and increased hunting and fishing leases as a direct result of extension programs.

Utilization

Improved utilization techniques resulted in savings of \$365,500 as a direct result of extension programs.

Environmental Quality

Public policy educational programs enhanced 275,000 acres of timberland.

Continuing Education

Approximately 2,500 contact hours of continuing education for renewable resource professionals were provided.

Environmental Education

Approximately 68,000 people increased their understanding of environmentally appropriate practices after using extension materials or after participating in extension programs.

IV. IMPLICATIONS:

No major changes in North Carolina RREA programs are anticipated in the next year. Traditional efforts will continue in the areas of production, utilization, and continuing education. Innovative projects that address environmental or public policy aspects of forestry, wood products utilization, wildlife, fisheries or natural resources will continue to be encouraged.

ANNUAL REPORT 1992

NC26

YOUTH PROGRAM MANAGEMENT AND COMMUNITY GROUP SYSTEMS DEVELOPMENT

COORDINATOR AND TEAM MEMBERS:

McKinney, T.
Davis, M.
Groff, J.
Lilley, S.
Fanning, M.

KEYWORDS:

Group Form./Development
Resource Development
Marketing
Advisory Groups
Networking
Coalitions
Recruitment
Strategic Planning

I. OBJECTIVES:

1. Orient and train salaried and para-professional staff in the following core management skills: Resource Development and Budgeting, Marketing the 4-H Program, Program/Curriculum Development, Volunteer Staff Involvement, Program Affirmation and Evaluation.
2. Maintain and refine a peer review system for curriculum development/program design responsive to the needs of youth, volunteers, and donors.
3. Package tools to promote success with 4-H Clubs: Master Volunteer Guide Club Marketing Package, Club Resource Package, Evaluating Club Program.
4. Maintain and refine state-level organizational structures: 4-H Council, Volunteer Association, Curriculum Development Council, Program Advisory Committee, 4-H Alumni Association, 4-H Development Fund, 4-H Performing Arts Troupe, 4-H IFYE, 4-H Advocacy.
5. Maintain and refine marketing/coalition formation functions.
6. Support 4-H Agents and master volunteers to improve basic networking.
7. Develop twenty five (25) county 4-H foundations.
8. Support county staff as they orient/train para-professional/volunteer staff in core management skill areas.

II. NON-EXTENSION RESOURCES:

Fifty seven (57) counties filed accomplishment reports identifying Non-Extension Resources serving with 4-H. Fifty six (56) counties listed "social service" agencies including health, parks, and recreation, YMCA's, Farm Bureaus, Housing Authorities, City and County Departments of Social Services, and Community Based Alternatives. All fifty seven (57) identify school systems and extended care givers while thirty seven (37) listed specific "school" network programs.

Businesses/corporations and local United Way Funding were identified by thirty three (33) of the fifty seven (57) reporting counties. Seventeen (17) counties reported three hundred twenty five thousand five hundred and forty four dollars (\$325,544.00) in "endowment." Twenty one (21) counties listed one hundred nineteen thousand six hundred and sixty seven dollars (\$119,667.00) in "grants."

Twenty seven (27) counties listed newspapers while twenty five (25) listed radio stations in support of marketing efforts.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

OBJECTIVES: Orient/train staff, package tools, maintain state level structures, support master volunteers/agents, develop foundations and support county staff.

Drawing from the fifty seven (57) reports submitted, most counties are reaching and exceeding their identified objectives. Nine (9) counties reported a total of two hundred and twelve (212) clubs. One hundred and forty four (144) new clubs were reported by twenty seven (27) counties. Six (6) reporting counties identified three hundred and twenty four (324) new volunteers, while twenty four (24) counties listed a total of four thousand seven hundred and thirty three (4733) volunteers.

A total of twenty five thousand one hundred and eighty two (25,182) youth were reported from the twenty (20) reporting counties. Although only seven (7) counties reported school enrichment youth, the total was a very healthy eight thousand eight hundred and eight (8,808). Ten (10) counties reported working with one hundred and forty five (145) different schools through school enrichment.

A total of one hundred nineteen thousand six hundred and sixty seven dollars (\$119,667.00) in targeted grants were listed in reports from twenty one (21) counties. Seventeen (17) counties reported three hundred twenty five thousand nine hundred and forty four dollars (\$325,944.00) in endowed funds.

IV. IMPLICATIONS:

The county accomplishment reports indicate in a vast majority of counties were healthy and productive "Youth Program Management and Community Group Support Systems." Most of the county systems have highly integrated programs resulting in successful group formation/development, resource development, marketing, and advisory groups, networking, coalitions, recruitment, and strategic planning.

There is nothing in the individual reports or this compiled report to indicate any need to shift or refocus at this time or in the near future.

ANNUAL REPORT 1992

NC27

4-H LEADERSHIP AND VOLUNTEER DEVELOPMENT

COORDINATOR AND TEAM MEMBERS:

Groff, J.

Master Volunteers
Teen Volunteers

KEYWORDS:

I. 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 teambuilding 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

II. NON-EXTENSION RESOURCES:

Financial resources from the following have helped strengthen and expand the 4-H Volunteer Leadership Development Program:

North Carolina State Grange
North Carolina Farm Bureau
Philip Morris, Inc.
N.C. 4-H Development Fund
N.C. Community College System

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

1. Registrations at two regional one day master volunteer training totaled 125. Registration at the state Master Volunteer Conference was 120. Another 60 volunteers participated in Horse and Livestock Master Volunteer Training in the spring of 1992. This makes a total of 305 volunteer training in 1992 at state master volunteer conferences. Data is incomplete on six month follow-up reports from Master Volunteers regarding their contracts.

2. Forty counties had participants in the Master Volunteer Conference in 1992. Another 25 had participants at the one day regional training meetings.
3. Seven counties have reported doing a TRY program but at least 30 others are doing peer helper programs under different names.
4. Fifteen counties report having county leader associations, however, another survey conducted by the N.C. Volunteer 4-H Leaders Association reported 27 having associations with some 15 having plans to organize one in the near future.
5. Reports indicated that 5,334 youth and 4,158 adult volunteers received leadership training in their county.

IV. IMPLICATIONS:

The 4-H Master Volunteer program is gaining strength with each new regional training conference added. In the Spring of 1993, the last regional will be done using agent and volunteer steering committees to plan and implement each conference. As the regional steering committees become empowered to conduct training, the need for qualified volunteer trainers becomes more crucial. That is the area we will be focusing much effort during the next year.

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.

ANNUAL REPORT 1992

NC28 KNOWLEDGE (SCIENTIFIC LITERACY) NEEDS OF YOUTH

COORDINATOR AND TEAM MEMBERS:

Maxa, E. L.
Davis, G. S.
Mowrey, R. A.
Jones, E. J.
Usry, R.

KEYWORDS:

Language Arts Skills
Agriculture and Life Science
Biological Sciences
Physical Sciences
Global Awareness
Human and Environmental Sciences
Social Sciences

I. OBJECTIVES:

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

For 24,000 youth to increase their knowledge and understanding of economic, agricultural environmental, career, home economic and cultural issues through hands on learning

For 6,000 youth to understand science related issues and develop effective and efficient decision-making skills

For 5,000 teachers and volunteers to learn techniques for teaching and otherwise supporting experiential science related curricula

II. NON-EXTENSION RESOURCES:

The list was extensive and included:

Schools
Media
American Legion
Power companies
Industry
Youth organizations
Library
Master gardeners
Mechanics
Farm Bureau

Fire associations
Emergency mgmt.
Social Services
Juvenile court
Gov't agencies
Law enforcement
Community college
National Assn's
Camp Lejeune
Counselors

Civic clubs
Ag. business
Mental Health
Arts Council
Senior citizens
United Way
Fair association
County gov't
Museums

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

55,909 youth and 926 volunteers were involved with this core program.

Objective 1 - 33,000 young people were reached through the efforts of the Embryology, Blue Sky Below My Feet, River's Edge, Castoff Capers, Fire Safety, First Aid, Summer reading, and Energy Awareness.

Objective 2 - 20,350 youth were reached through curricula such as Ag Awareness and Environmental Field Days, Economics in Action, Livestock and Horse activities, Cancer Education, Health, Horticulture, Career and Cultural programming.

Objective 3 - 1,783 young people were involved in programming which was long term and science based. This programming mainly involved science clubs and specialty camps which have a science focus.

Objective 4 - 926 volunteers were involved with the core program this past year. They were utilized in all delivery modes and at various levels of expertise. The majority of these volunteers came from project clubs, teachers, and scientists from industry and governmental agencies.

IV. IMPLICATIONS:

From all reports, it would appear that all objectives will be met or exceeded by the end of the four year plan. Counties have had a great deal of success and recognition for their work in school enrichment. In addition there seems to be adequate volunteer support for project and after school clubs especially in the areas of horse, livestock, science, and the environment.

ANNUAL REPORT 1992

NC29 HUMAN DEVELOPMENT NEEDS OF YOUTH

COORDINATOR AND TEAM MEMBERS:

Sharon Runion Rowland
Cheryl Willoughby
Lynn Turner
Ken Ellzey
Cynthia Johnson
Bill Grant

KEYWORDS:

Peer Pressures
Citizenship
Career Development
Work Ethics
Communication Skills
Values Clarification
Coping Skills
Constructive Leisure
Contributing Skills
Record-Keeping Skills
Cultural Sensitivity

I. 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.

II. 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
 Sampson Business Funds (SCOPE)
 Ashe County Christmas Project
 Local Business Grants

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

To support the Human Development Needs of Youth Core Program, several state and regional training opportunities have been provided for agents and volunteers. During Extension Conference, 1991, an overview of the core program introduced the program and a round-robin format allowed 35 participants to explore new curricula available in the Human Development Field. One component of the Making Learning Fun training introduced Human Development curricula and the Soaring Through Spaces Residential 4-H Program. Master Volunteer Conferences have introduced 74 volunteers to the concept of developmental appropriateness.

Seven counties offered leader training on age and stage appropriateness with one of the seven conducting nine different sessions. One county conducted a Conference on Youth Issues that specifically targeted 540 youth and 240 adults to address developmental needs workshops.

ES-237 data showed that 1758 club units had a membership of 34,318 young people. Of those reported, 7555 youth participated in personal development, child care, and family life learning experiences. One county designed and implemented a migrant education program to teach 134 Spanish-speaking students coping skills and experienced a 107% increase in the participants' self-esteem. In one county where 455 projects were completed, a 9% project efficiency was measured through skill competencies.

Although all 4-H projects are designed to improve self-esteem among the participating young people, 15 of the 62 counties targeted self-image with special programming. After school programs, special interest programs, programs designed for home schoolers, and teen clubs were among the delivery systems used to enhance self-image. A Ropes Challenge Program questionnaire found a positive shift among participants perceived self-esteem after participation and teachers of the young persons reported that they evidenced improved communication and team building skills among classmates who completed the Ropes Program. A self-esteem program for 505 home-schoolers resulted in increased self-esteem and decision-making skills.

Eleven counties reported a planned program designed to address cultural diversity, citizenship education, international education, and/or the judicial process. During a one month program, 36 Costa Ricans visited in the homes of a county 4-H program. The 4-H'ers reported an increased awareness of global issues as a result of the program.

Of the five counties reporting a Parenting Program designed for older teens or for parents of 4-H members, an exemplary program combined adolescents and parents in "Let's Talk about Parenting" sessions.

Financial management, communications, decision-making and goal setting skills were targeted in 14 different counties. In addition to the traditional record-keeping programs used to enhance these skills, one program reached 200 Youth-At-Risk through a "For Life" educational series. The program was designed to help young people acquire the life skills necessary to cope as adults. 71% of the participants showed an increased knowledge in the targeted skill development areas.

To address issues such as alcohol, drugs, and sexual activity, counties designed such programs as Halloween Alternatives, Constructive Leisure, and Project Graduation to provide healthy environments during particularly venerable times. One county offered a workshop on AIDS/STDs and had 200 participants.

Career Smarts and Focus on Your Future were used in nine reporting counties to enhance knowledge about careers. Several counties organized CareerSmarts Task Forces to guide the programs. One program utilized a multi-faceted approach, involving 250 young people in the CareerSmarts project, another 150 in a Career Day and 30 in a Career Day Camp during the summer. A pre-post test showed an increase in career planning knowledge among all reporting groups. Another county that conducted the program for at-risk youth found that the dropout rate decreased from 42 to 15 during the program's existence.

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. One county measured 88% competency in those students who participated while another experienced a 100% increase in speaking skills among participants.

Written communications skills are the foundation of the 4-H project. A total of 105,576 projects were reported on ES-237 during the current year, including projects completed in school enrichment and special interest programs. Counties are beginning to utilize the project as a valuable learning experience in all delivery systems. In addition, 583 cumulative records were turned in for district and state competition.

Several counties cited growth in their human development programs because of the use of Master Volunteers. During the reporting period, two regional and one state Master Volunteer Conferences were held. Human Development areas included Presentations; Cumulative Records; and Project Records with a total of 127 individuals receiving training. Seven counties reported that 100% of their masters had conducted training for other volunteers and youth.

Summary Human Development Data:

Club Members:	34,318
Participants in Human Development:	7,962
Participants in Citizenship, International and Cultural Diversity Programs:	11,230
Participants in Child Development:	1,950
Participants in Consumer Education and Decision-Making:	3,073
Participants Gaining Oral Communications Skills (Competition):	1,132
Participants Gaining Written Communications/Recordkeeping Skills:	105,576
Participants Gaining Communications Skills Through Arts Programs:	18,617

IV. 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. In addition, there is a need to network local and state agencies that can address the related issues.

With the pending changes in National Record Programs, there is an opportunity to evaluate the Cumulative Record Program in North Carolina. A task force should be appointed to address record changes, incentives, program changes, etc.

ANNUAL REPORT 1992

NC30

SAFETY AND HEALTH NEEDS OF YOUTH

COORDINATOR AND TEAM MEMBERS:

Ann Y. Frazier
Robert McLymore
Carolyn Dunn
Thearon McKinney

KEYWORDS:

Accident Prevention
Teenage Sexuality
Nutrition
Wellness
Self Confidence
Stress Management
Substance Abuse

I. 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.

II. NON-EXTENSION RESOURCES:

Coalition on Adolescent Pregnancy- Wilson County
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

III. INDICATORS OF SUCCESS 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.

Student support groups were formed at two Junior High Schools and one Senior High through the SADD program. Eight programs focusing on the safe use of vehicles were presented to 150 membership. A drop of 29% in traffic accidents involving youth drivers during the 1991-1992 school year was recorded. Over 1200 youth were involved in programs and activities that prepared them to both avoid and respond to accidents and handle situations that could arise when home alone.

Another county program surveyed 85% of all high school seniors on alternatives to drug and alcohol use on graduation night. Of those surveyed, 165 or 80% signed contracts to attend a project graduation party. The community raised \$8,000 in support of Project Graduation and 143 young people actually attended. A portion of the money raised for the event was used for cash prizes.

Through exhibits at the county fair, tent cards in high school and junior high lunch rooms, and distribution on non-alcoholic beverage recipes, another 5,000 youth were reached with information focusing on the dangers of drinking and driving.

"Peers Empowering Peers" currently has 34 teams with 259 members. These teams are working to accomplish their PEP mission by establishing and managing productive, renewing and collaborative peer based prevention programs targeting high risk youth. The teams goal is to support youth as they struggle to deal with issues related to alcohol and other drugs in communities and school. Two hundred nine educators involved with school, agency, and organizational networks are associated with the project. Five teams are targeting elementary school, four are targeting middle school, eight teams are working in high schools and 17 teams have a comprehensive program that targets several school situations.

A special effort to raise awareness and inform youth ages 6-12 about cancer also strengthen the knowledge and methods of prevention for older teens. With emphasis on skin cancer and general health habits the eleven TRY-ACT teams were trained to teach both in subject matter and effective methodology. Their teaching experiences reached 1,123 youth through after-school programs, youth organizations, special interest and clubs.

Addressing the present and anticipated need to help youth deal with human sexuality, several counties have initiated the formation of coalitions, focus groups, task forces and development groups. Planning and implementing opportunities, experiences, and activities for youth to deal positively with their own self, changes encountered during their development, responsible behaviors and disease prevention has been the first step. These "groups" of both youth and adult are organized to tackle the concern on a long term basis as opposed to a short term effort.

Safety workshops were conducted by the Extension Agricultural Engineering Specialist on the farm. Three hundred youth plus their parents were involved in learning about safe operation of farm machinery as well as safety on the farm.

In addition, young people were involved in experiences that addressed stress management, nutrition concerns and behaviors and self esteem. 4-H'ers participated in the following project and learning experiences related to health and safety:

Health Projects/Learning Experiences	- 10959
Physical Fitness	- 6031
Home Nursing/First Aid	- 4065
Safety Projects/Learning Experiences	- 19434
Foods & Nutrition Projects/Learning Experiences	- 19115
Food Preservation	- 929
EFNEP	- 7241

This represents an increase of participation in foods and nutrition, only since 1991. 20 counties reported success presenting youth health and safety topics to the general public through exhibits and programs.

IV. 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.

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NC31 DEVELOPMENTALLY APPROPRIATE CARE AND EDUCATION OF SCHOOL-AGE CHILDREN

COORDINATOR AND TEAM MEMBERS:

Goode, C.
Locklear, E.
Morgan, W.
Johnson, C.
Scott, H.

KEYWORDS:

Care provider training
Curriculum delivery
Before/after school care
Day Camps
Daycare
Resource and Referral
Parental Support

I. 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.

II. NON-EXTENSION RESOURCES:

Chamber of Commerce, Forest Service, Soil Conservation Service, CBA, County and City School Systems, Department of Social Services, Child Day Section -State Government, Department of Public Instruction, Red Cross, Community Colleges, Local fire and police departments, day care agencies Dependent Child Care Grant

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

During 1991-92 over 9,844 children in 27 counties were involved in 4-H before/after school age child care programs, 15,781 in camping programs and 97,000 in school enrichment programs. The 4-H School Age Child Care program provided training for approximately 657 child care providers in 27 counties. Sixty-seven (67) teens received training in child care management techniques. Twenty (20)

counties currently support System Managers. Fifteen county programs reported organizing 98 after school 4-H programs during the year involving 4,603 children. In addition to providing programs that center around child care, 4-H is committed to the training of child care providers as one way to improve the quality of child care opportunities in North Carolina. Fifty (50) agents participated in a train-the-trainer session that provided 10 research based teaching outlines and packaged support materials they can use to design, implement and manage a training program for school-age child care providers. Forty-three (43) agents participated in a training session designed to provide agents with resources and training material to help local communities organize and implement child care programs. In cooperation with the American Red Cross and the Child Day Care Section, child care development training was provided to ninety-six (96) agents. Agents also received training in "Making 4-H Learning Fun" that will assist agents in providing age appropriate activities for youth.

The Cooperative Extension Service sponsored the Third Annual School-Age Child Care Conference. Funding was secured for 1991-92 child care programs through a Dependent Care Development Grant. A Child Care Block Grant has also been received to support child care programs. Agents and specialists are continuing to strengthen and establish networks with the American Red Cross, the Children's Television Workshop, Community School programs, day care providers and public school systems.

IV. IMPLICATIONS:

The System Manager Program will continue in 1992-93 with 6 additional sites. A Quality Assessment Tool will be used in the future to help determine whether the quality of child care in centers has improved as a result of the Extension training the providers have received. The Cooperative Extension Service will sponsor the Fourth Annual School-Age Child Care Conference in 1993. Using material obtained at various training classes, agents will continue to offer training to child care providers.

In addition to working with child care providers, 4-H agents will continue to integrate age appropriate activities into their day camp programs, after school programs and other 4-H programs.

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NC32

SPECIAL NEEDS POPULATIONS 4-H PROGRAMMING

COORDINATOR AND TEAM MEMBERS:

Rouse, Shirley
Dixon, Stan
Frazier, Ann
Hearne, Dorothy
Sutton, Sheila

KEYWORDS:

EFNEP
Partners In Learning
Adjudicated
Teen Parents
Public Housing
Disabled

I. 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.

II. NON-EXTENSION RESOURCES:

- * Mental Health
- * Social Services
- * Board Of Education
- * Libraries
- * Daycare 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 and Parks Program
- * Council on Aging
- * N.C. Special Olympics
- * Parks and Recreation

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Five thousand nine hundred thirty one (5931) youth from special need populations to increase 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. Four hundred six (406) teen parents gained knowledge on child growth and development and care, stress management, parenting skills, effective parenting techniques, and self-esteem. Pre and post tests were given to 138 graduating teen parents which showed an increase of 15 points in knowledge in nutrition skills.

Two hundred seventy (270) 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.

Four hundred eighty one (481) adjudicated youth increased their knowledge, self-esteem, social skills, involvement in extra-curricular activities and a decrease in discipline through participation in wilderness camps and other specially designed county programs.

One thousand six hundred fifty-five (1655) EFNEP youth improved their diet and nutrition skills through special interest programs, after school programs and summer mini-day camps. Six hundred sixty (660) Partners In Learning youth ages 6-8 explored their environmental education, gained knowledge in reducing the intake of fatty foods, increased their self esteem, gained knowledge in safety and citizenship.

Two thousand five hundred fifty nine (2559) youth residing in diverse (public) housing gained better decision making skills, exhibited an increase in positive behavior, increased self-esteem, improved skills in nutrition, modified health practices, became aware of proper telephone usage and manners, improved family interactions, improved eye care, increased horticultural production skills, participated in career experiential programs, practiced household and outdoor safety, and gained life skills and knowledge. Families of 53 youth residing in diverse housing demonstrated improved family support systems.

Over fifty percent of the counties (14) designing learning experiences for Special Needs youth found the need to establish coalitions in order to provide more relevant and meaningful programs youth. Coalitions formed involved an average of three other organizations with staff from the Cooperative Extension providing some leadership. Such agencies as social services, council on aging, special olympics, community colleges and universities, housing authorities, and public libraries were involved in collaborating and serving on various special committees to design programs for special needs populations. Examples of coalitions include: State of the Child in Carteret County Committee and the Robersonville 4-H Advisory Board for Special Needs Populations.

Nearly one third (8) of the counties reporting programming for special needs populations received grants and other special funding. Five thousand nine hundred thirty one (5931) special needs youth participated in innovative programs as a result of \$93,720.50 obtained through special grants to enhance their leadership and life skills.

IV. 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. More than 70 special needs youth were mainstreamed into the county 4-H program. They successfully participated in 4-H projects, presentations, contests, exhibits, trips, and other educational activities. Additional resources, funding, and programs are needed.

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NC33

ENVIRONMENTAL STEWARDSHIP CORE PROGRAM

COORDINATOR AND TEAM MEMBERS:

Hannon, C. E.
Harkins, L.
Maxa, E.
McLymore, R.
Zaslow, S.

KEYWORDS:

Water Quality
Resource Conservation
Safety
Forestry
Independent Living
Health Promotion
Resident Waste Mgt.
Resid. & Comm. Recycling
Air Quality
Wildlife

I. 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 at Penn, Sertoma or 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.

II. NON-EXTENSION RESOURCES:

Wildlife Resources Commission
Duke Power
Carolina Power and Light
Soil and Water Conservation Service
Gaston County Quality of Natural Resources Commission \$277,848
North Carolina Forest Service
John Umstead Hospital
Department of Public Instruction
County School Systems
Public Library
American Red Cross
Volunteer Fire Departments
Public Works Department
Forestry and Zoology Dept at NCSU
NCSU Humanities Extension
United Ways
Pamlico Tar River Foundation (Funding)
F. Ray Moor Oil Company (Funding)
Lowe's of Washington (supplies and money)
State Parks
Aqua Veggie Research Farm of Bath
Newspapers, radio stations, TV stations
Rutherford County Vocational Workshop
Rutherford County Landfill
Quality Forward Education Committee
Alternative Energy Corporation
UNC Sea Grant
State Aquariums
North Carolina Wildlife Federation
Keep North Carolina Clean and Beautiful
Greensboro Jaycees
Wake Soil and Water Conservation District
UNC Chapel Hill Environmental Resource Program
Keep America Beautiful Programs
Environmental Educators of North Carolina
NCSU Departments of Parks Recreation and Tourism, and Sociology
Belmont Abbey College
Buncomb Haywood Air Authority
EPA Region IV
Firestone Fibers and Textiles, Inc.
Forsyth County Environmental Affairs Dept.
Mecklenburg Environmental Protection
Stowe Pharr Mills, Inc.
FMC Lithium

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENT:

1. Training Sessions for Agents and Master Volunteers - 234
 - A. Training was conducted for agents in the following curriculums:
River's Edge (one day session - 12 agents) and Mystery of the Cast
Off Capers (4-one day sessions - 75 agents and volunteers in 50 counties).
 - B. 45 agents were trained during three one-day sessions on holistic approaches to Environmental Education (Leading the Way to Environmental Stewardship for Youth")
 - C. The first Master Volunteer Training for Environmental Stewardship was attended by 12 volunteers.
 - D. A team of three volunteers and one specialist attended the National Volunteer Leader's Forum on Environmental Stewardship and are planning a state volunteer forum to train additional Master Volunteers.
 - E. 90 agents participated in a one day training program for this year's summer camping program.
2. Teachers demonstrating the skills to design environmental curriculum
 - A. 205 teachers from 6 counties were trained in Project Learning Tree and River's Edge.
3. Participation in the school enrichment environmental education programs at Penn, Sertoma, and Millstone - 4,927 students and 352 teachers, administrators and parents
 - A. Residential environmental education programs were offered in the Fall at Betsy-Jeff Penn with day programs being offered at Sertoma and Millstone. The program involved 390 students and 28 adults in residential programs and 1,528 students and 109 adults in day programs.
 - B. A new residential Environmental Education Program was added to Sertoma in the Spring of 1992 and residential programs were continued at Betsy-Jeff Penn with one-day programs offered at Millstone. All of the spring programs together involved 1,945 students and 139 adults in residential programs and 1,064 students and 76 adults in day programming.

- C. Planning was initiated for the construction and development of a 4-H residential environmental education center focusing on marine and estuarine environments in the northeast section of the state.
4. Providing support to subject matter specialists and agency personnel
- A. 4-H Specialist served on the "Big Sweep" Committee resulting in the design of the collaborative curriculum Splish Splash. This curriculum was printed and distributed state wide.
- B. 4-H Specialist served on the curriculum planning committees along with three specialists and collaborating agencies to plan Fur, Fish and Game Rendezvous.
5. Teachers and agents learning to design and support after school environmental science clubs
- A. Initial design of after school environmental science clubs has been initiated. Pilot schools are in the process of being identified with piloting scheduled for the 1993-94 school year.
6. Participation in eclectic and environmental science classes at summer camp - 4,254
- A. Specialty Camps focussing on the environment were carried out in the following areas: Marine Science (23 participants), Fur, Fish and Game Rendezvous (110 participants), Adventure Camp (60 participants), Cloverbud Nature Stop (96 participants) and Electric and New Technologies Camp (64 participants).
- B. Programs for all county junior camps were designed to include a minimum of 6 hours of environmentally related training.
7. Developing networks for collaborative programming
- A. 4-H Specialist serves on the board for the Environmental Educators of North Carolina - an association of agencies and individuals interested in expansion of Environmental Education opportunities.
- B. Interagency efforts were utilized for Marine Science, Fur, Fish and Game Rendezvous, and Electric and New Technologies Camp.

- C. An Advanced Project Wild workshop was carried out collaboratively between 4-H, the Wildlife Resources Commission and UNC Sea Grant.
- D. A collaboration is in the process of being formed for the development of the Northeastern Environmental Education Center in conjunction with the Save Our Sounds Project which will involve:
 - Fish and Wildlife Agency (Pecosin Lake Wildlife Refuge);
 - Conservation Fund, Nature Conservancy, and the Department of Environmental Resources
- E. Two CATCH (fishing and aquatics) clinics were held at Penn in cooperation with the Wildlife Resources Commission reaching 215 youth and 24 adults. Counties reported operating 3 CATCH clinics for 173 youth.
- F. 150 youth and 40 teachers were involved in the annual soil judging contest through a collaboration between: Extension, Soil Conservation Service, Duke Power, Carolina Power and Light, Department of Public Instruction, North Carolina Department of Agriculture, and local schools.

8. Summary of other participation

- A. 101,268 learning experiences were reported under the category of Ecology and Natural Resources by counties on the ES-237 report for this year. This reflects a 7% growth in the program since last year. More specifically, learning experiences were reported in the following areas: Ecology and the Environment - 24,317; Geology - 776; Entomology - 6,317; Conservation of Natural Resources - 14,192; Soil and Water - 13,800; Forestry - 10,204; Wildlife - 9,908; Marine, Aquaculture and Fishing - 3,868; and Self Determined and other - 17,876.
- B. 13,961 learning experiences were reported under Camping and Outdoor Education. In addition 650 camp sessions were carried out involving 15,784 learning experiences.
- C. Participation in district level presentation in environmental areas included: 27 in entomology, 19 in environmental quality, 18 in forestry, 26 in marine awareness, and 31 in wildlife.
- D. 1,000 4-H youth and adults participated in the annual statewide "Big Sweep" trash clean up event.

- E. 10 counties reported Waste Management classes for 1,802 youth. 26 adults and 5 teens were trained to provide these programs.
- F. 6 counties reported field days in environmental awareness reaching 986 youth. 47 adults assisted with the field days.
- G. 5 counties provided energy programs for 4,530 youth.
- H. 1,400 youth were listed by 5 counties for involvement in recycling programs.
- I. Counties listed a variety of service and action oriented projects including: High School students (12 youth) provided environmental tips over the school intercom; Development of stream watch, Adopt A Highway and Adopt a Park groups; school composting; Writing letters (30 youth) requesting land owners to clean up their stream banks; 4-Hers distributed 2,800 tree seedlings to 18 schools and after school day care sites in support of Arbor Day; and agents made 7 site visits to school and public grounds to assist in the development of environmental education trails.
- J. Counties also indicated a high level of creativity in developing and adapting curriculum including: Government Policies in the environment workshops; Regional Family Natural Resources Conference (90 participants from 10 counties); Energy Bowls; Canoe Trips; Trips to a Mining Area (53 youth, 10 adults); Development of an animated character "Clean Cat" (appeared 40 times with 4,000 contacts and in print 25 times with 25,000 contacts); and an Environmental skit presented to 319 students and teachers.

IV. IMPLICATIONS:

Environmental Stewardship programming continues to be the second largest program area in the state based on number of learning experiences.

Environmental programs have grown 7% in the last year indicating an increasing interest and demand for programs curriculum and training.

Current curriculums have been available for at least 2 years. Most agents have received training and developed a high degree of competence in delivering training for the current curriculums. Training has occurred at the county level for club volunteers, teachers and day care workers. Interaction with agents indicate their need for training that provides them with a higher degree of

subject matter understanding. Plans will need to be considered for curriculum expansion to additional age groups.

Toward this end, networking will be increased between Subject Matter Specialists to identify the most needed and viable directions for curriculum expansion.

County reports still lack much evidence of environmental community action.

Training and programs to increase youth involvement in environmental issues in their communities should be explored.

I. Counties listed a variety of services and action oriented projects including: High School students (11 projects) provided environmental tips over the school instruction; development of stream watch, Adopt A Highway and Adopt A Park groups; school composting; Writing Lessons (10 youth) requesting land owners to clean up their stream banks; 4-Hans distributed 2,800 tree seedlings to 18 schools and after school day care sites in support of Arbor Day; and agents made 7 site visits to school and public grounds to assist in the development of environmental education trails.

2. Counties also indicated a high level of creativity in developing and adapting curriculum including: Government Policies in the environment workshops; National Family Natural Resources Conference (99 participants from 10 counties); Energy Bowls; Canoe trips; Trips to a Mining Area (23 youth, 10 adults); Development of an adopted character "Clean Cat" (appeared 48 times with 2,000 contacts and in print 28 times with 22,000 contacts); and an environmental skit presented to 119 students and teachers.

IV. IMPLEMENTATION
Environmental stewardship programs continue to be the leading largest program area in the state based on number of learning experiences.

Environmental programs have grown 7% in the last year indicating an increasing interest and demand for program coordination and training.

Current curriculum have been available for at least 1 year. Most agents have received training and developed a high degree of competence in delivering training for the current curriculum. Training was focused at the county level for this year. Interaction with agents indicates teachers and day care workers. Interaction with agents indicates their need for training that provides them with a higher degree of

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NC34 FAMILY DEVELOPMENT

COORDINATOR AND TEAM MEMBERS:

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Schwab, C. S.
Jennings, H. T.
Lloyd, J. H.
Rowland, S. R.
Baldwin, M. J.
Dunn, P. C.

KEYWORDS:

Well being of children
Child care selection and training
Parenting
Family strengths
Aging
Family legal issues
Personal safety, growth and development
Self care and survival skills
Self-confidence/self-esteem
Child abuse
Substance abuse
Stress management
Conflict management
Interpersonal relationship
Communication
Marriage (preparation and enrichment)
Multigenerational households

I. 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 assisting families to 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 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 child 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 multigenerational 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 resources senior citizens will gain knowledge needed to strengthen their independence and share that knowledge through volunteer activities

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

Contributions were given by Kiwanis International, Z. Smith Reynolds Foundation, Department of Human Resources, Health Department, Alcoholic and Drug Prevention Coalition, Extension Homemakers, local chapters of Kiwanis, and local businesses.

B. Outside Organizations/Resource People/Volunteers:

The following groups contributed resources to family development programs: Department of Social Services, Mental Health, Health Department, Community/Technical Colleges, PTA/PTOs, Extension Homemakers Association, local businesses, churches, Cherokee Bingo, TVA, AARP, N. C. Child Advocacy, NC Equity, local Chambers of Commerce, realty companies, banks, HUD, recreation centers, local

and regional aging offices, hospitals, Register of Deeds, United Way, Family Council of North Carolina, American Red Cross, fire departments, police departments, Project LINK, local youth agencies, Drug Action Committees, Headstart, American Home Economics Association, local Boards of Education, RSVP, Children's Television Workshop, Northwest Piedmont Council of Governments, local libraries, Girls, Inc., Association of Couples for Marriage Enrichment, Albemarle Home, Hospice, Guardian Ad Litem, Lumbee Regional Development Association, League of Women Voters, RSVP, Salvation Army, local department stores and local media.

C. Others:

The following groups assisted with delivering programs or serving as resource persons: nurses, ministers, home economics teachers, attorney generals, master volunteers, EH club members, teen-pregnancy task forces/councils, foster grandparents, ARC volunteers, guidance counselors, psychologists, attorneys and certified parent educators.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

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

440 master volunteers and other volunteers were trained to deliver family development related programs

6,546 families/individuals benefitted from volunteer programs in learning to prepare children to stay at home alone, infant-child first aid, and preventing injuries and diseases.

Samples indicated that from 40-95% of parents reported improved parenting skills

2,298 individuals completed home study courses, at-home projects and participated in support groups

4,537 individuals gained awareness of communication skills and stress reduction techniques

372 babysitters were certified

50 coalitions/networks were formed among governmental agencies, civic and religious groups

5 Quality of Life projects were started to improve the quality of family life in rural North Carolina

Percentage of minority participation averaged 20%

201 4-H projects were completed in child care and family strengths

9,007 Extension publications and 13,304 newsletters on family related topics were distributed

371 volunteers, paraprofessionals and professionals were trained to deliver programs in parenting, child care, aging and family strengths

75% of 8,447 program participants gained 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

75% of 14,674 parents and youth acquired knowledge and skills associated with effective parenting

6,092 parents and youth used effective family coping strategies

5,664 parents, youth and child-care staff gained knowledge and skills in child growth and development, age-appropriate activities, family-community-school relations, parenting and the selection of quality child care

4,510 child care workers adopted recommended practices for classroom management, scheduling, and curriculum development in order to increase their overall professional competency

75% of 10,292 family members increased their knowledge and adopted recommended practices to improve stress management, conflict management, family and work conflicts, interpersonal relationships, self-esteem, decision making, communication and supportive skills

378 adults and youth increased knowledge and skills in marriage preparation and enrichment

4,872 family members gained information on the process of aging and skills needed to deal with the changes and problems associated with dependency, elder care and multigenerational households

2,182 parents and adults acquired information about their legal responsibilities to and for their children, spouses and other family members

2,334 limited resource parents increased their knowledge and skills in effective parenting, child growth and development and building family strengths

98 limited resource senior citizens participated in the Senior Series program and used the information in volunteer activities

25 counties participated in the Economic Development for Women Project reaching a total of 507 limited resource women and their families

89 Extension workers granted 2,809 certificates to 1,911 child care workers and parents who passed the American Red Cross Child Care Course or unit(s) of the course

Total number of participants in family development programs was 61,316

IV. IMPLICATIONS:

Agents are using a variety of teaching methods to reach a diverse clientele including cable TV, call-in radio programs, and increased use of master volunteers. Agents have made great efforts to reach limited resource audiences and new clientele. Thirty-five counties participated in the JOBS program. Interagency networks and coalitions have helped to deliver coordinated and diverse educational programs to families.

Parents are still struggling to rear their children and to provide a comfortable environment for their family. Family difficulties including dealing with new stresses, reaching out for assistance, adopting new roles, managing intergenerational conflicts, balancing work and family and changing family values continue to provide opportunities and challenges for Extension. Much work is still needed to deal with the problems of abuse and neglect, inadequate income, teenage pregnancy, child care, family instability, poverty and other emerging family problems.

The family development core program will continue to focus on educational programs that will help individuals and families develop the competencies to become healthy, productive, emotionally secure and responsible members of society. Education is targeted to strengthening individual and family relationships, providing information about family legal issues, increasing the well-being of children, providing parent education and child care training and maximizing independence of the elderly.

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FAMILY ECONOMICS - NORTH CAROLINA CORE PROGRAM

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Financial Management
Resource Management
Housing Affordability
Income Production
Consumer Education/Protection
Elder Care
Retirement Planning
Estate Planning

I. 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, housing 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.

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

Grants at NCSU: "Planning Ahead for Elder Care" from Kate B. Reynolds Health Care Trust, "Training Family Caregivers" from The Glaxo Foundation, "Buying Your 1st Car" from 4-H Development Fund

Local grants were specifically reported by six units, with a number of other small grants probable, but not explicitly stated. Local support was from financial institutions, local merchants, transportation services, United Way, aging services organizations

B. Outside Organizations/Resource People/Volunteers:

Youth and adult individuals and family member participants and program evaluators
Advisory committee volunteers
EH volunteer leaders
Trained volunteer instructors
Local and county officials
School officials and teachers
Community and civic club leaders, member volunteers
Churches, ministers, member-volunteers
Community college administrators
College/university administrators
Professionals in financial institutions
Federal publications
National non-profit organization publications
State government agency representatives
State/local non-profit organization representatives
Local government agency representatives
Local aging and health care network representatives
Professionals from cooperating universities
Representatives of financial businesses
Representatives of death-related businesses and services
Large public and private employers and employee assistance program representatives
Small business assistance programs and representatives of selected home-based businesses
Extension newsletters & local mass media (newspapers, radio, TV)

III. INDICATORS:

6,064 youth, adults and families in 56 reporting units gained knowledge of basic money management, credit control and record keeping practices. This number included 1,385 youth in 17 reporting units, and 4,679 adults in 54 reporting units.

3,492 individuals and families (including parents and youth) in 54 reporting units improved their financial management practices. This number represents 57% of the number of the adults who reported a knowledge gain and 17% of the youth who reported a knowledge gain.

478 volunteers in 6 reporting units were trained, and provided information to 1,271 individuals and families to improve money management knowledge/skills, a volunteer outreach ratio of 2.7 persons per volunteer.

898 potential and current entrepreneurs in 31 reporting units participated in programs devoted to all aspects of planning and managing a small business, and an additional 1,455 persons received information about selected aspects of small business.

14,247 individuals and families in 49 reporting units developed and used skills to extend or increase income. 1,813 volunteers were trained, and provided information to 5,613 additional individuals and families (an outreach per volunteer of 3.1 persons) who developed and used skills to extend or increase income.

The average value of extended income from the development of skills was \$95.50 per participant. The value of extended income for the combined total of 19,980 individuals and families in the 49 reporting units who developed skills is \$1,916,490.

2,708 individuals in 14 reporting units used the skills developed to increase income by \$1,584,957. [The current reporting system does not provide figures that reflect the full value of extended and real income from Extension-sponsored skill development, which is estimated to be much greater than the amount reported.]

11,859 youth, adults and families in 45 reporting units gained knowledge of their marketplace rights and responsibilities, and in the selection of consumer goods and services.

4,283 youth, adults and families learned resource management skills in the care and maintenance of consumer goods, including 340 persons gaining skills in residential waste management.

195 youth, adults and families in 5 reporting units adopted informed consumer decision making practices and maintenance/care practices.

181 volunteers were trained, and provided information to 1,538 additional individuals and families to improve resource management practices, an outreach ratio of 8.5 persons per volunteer.

8,095 individuals and families in 41 reporting units gained knowledge of housing options and alternatives and/or lending programs for affordable housing.

697 individuals and families in 6 reporting units adopted practices to improve their housing by repairing, remodeling, or upgrading so that the house meets family needs throughout the lifecycle.

63 agents from 82 units reported participation in local/regional aging networks, providing significant leadership in 23 counties and active participation in 26 other counties to produce a local directory of aging services for older adults and family caregivers.

10,846 adults/families in 42 reporting units acquired information about the need for coordinating legal, financial and health care decision making for the possibility of personal dependency.

1,081 adults/families in 9 reporting units began developing elder care plans.

623 volunteers in 23 reporting units were trained, and provided information or respite to 4,941 family caregivers of the dependent elderly, an outreach ratio of 8 persons per volunteer.

661 family caregivers in 13 reporting units participated in caregiver training, acquiring knowledge and adopting practices that reduced stress, including support group participation.

900 individuals and families in 13 reporting units acquired information about the benefits of pre-retirement planning.

3,017 individuals and families in 27 reporting units acquired information about the benefits and options in making informed estate planning decisions.

IV. IMPLICATIONS:

Increased financial management knowledge and skill is the greatest single clientele need in the state's Family Resource Management programs, with 55 of the 78 reporting units articulating serious financial concerns and lack of knowledge about budgeting and recordkeeping of specific, targeted audiences: the working poor and other limited resource individuals and families; single heads of households; youth; newlyweds; limited income homebuyers; pre-retirement individuals and families; retirees on fixed incomes with concerns about disability and dependency. New and revised materials for use at times and in places convenient to clientele are needed if programs are to achieve greater effectiveness. The value of volunteer outreach to deliver Extension programming is

clearly effective in elder care programs, and in skill development programs that enable participants to extend or increase income. Using volunteers is the only feasible way to begin to meet the demand for financial management programs, especially for limited resource audiences, but additional resources will be required at the state level (both for staff and materials development costs) to respond to this need.

Program assistance addressing the relationship between consumer decision making/resource management skills and financial stability is the second most requested program emphasis, with 30 of the 78 reporting units asking for more program materials for consumer education/protection programs and 28 units requesting more emphasis on skills for extending/increasing income, on small business legal and management issues, and on skills in the overall management of family resources--money, time, energy, and health.

The number of counties reporting the adoption of financial management and consumer and resource management practices is lower than in previous years, reflecting organizational cancellation of the policy and guidelines that encouraged follow-up evaluation.

Given the economic realities at each level of government, effective procedures for measuring and reporting program impact should be developed and implemented as soon as possible.

The aging of the North Carolina population is occurring at a faster pace than in the nation as a whole, and is reflected in agent requests for new programs to help older adults maintain their independence, and ongoing programming to help people plan for and cope with the responsibilities of elder care. External funding over the past four years has permitted the development of materials for five separate elder care programs, despite the loss to retirement of a critical support position in Human Development. Agents in 89 units have participated in specialized elder care training, and local volunteer outreach or caregiver training programs have been conducted in 36 counties to date. Agents in 42 reporting units have already conducted programs that deal with the challenge of coordinating the financial, legal and health care decisions involved in making plans for and coping with elder responsibilities. Agents in 30 of the 78 reporting units indicate that elder care continues to be a major concern, and they plan to implement a variety of elder care programs with external support from the final-year continuation grant.

The influx of retirees into North Carolina makes even more complex the challenge to provide long-time residents with current information on the laws, regulations and practices involved in pre-retirement and estate planning. A series of updated publications is available on estate planning, and Extension was recognized by major state agencies and organizations across the state for taking the lead in providing information about recent

changes in the law regarding advance medical directives. Extension is the logical organization to provide unbiased information on the financial, legal, health care and mental health concerns of retirees, and cooperates with the Division of Aging and the Office of State Personnel in looking at the needs of older adults for effective pre-retirement planning. However, staff expertise and funding to develop additional pre-retirement planning program materials have been inadequate since the reduction in Family Resource Management staff six years ago, and will still be inadequate when the open Human Development position is filled. As a token acknowledgement of clientele need, the FRM staff is cooperating with two other organizations to provide agents with introductory materials that encourage early attention to lifecycle financial management: the "Women's Financial Information Program" from the American Association of Retired Persons and the "High School Financial Information Program" from the College of Financial Planning.

Networking by agents with representatives of other agencies and organizations has greatly enhanced Extension's visibility and reputation through elder care and small business programs. Agents need ongoing guidance to increase the effectiveness of time devoted to networking, and also need state leadership to identify appropriate network members for stronger financial management and consumer education/protection programs.

From a state staff perspective, the two greatest needs are for: (1) additional staff to develop materials for the inadequately supported financial management and consumer education/protection programs at both the basic level and the pre-retirement planning level; and (2) approved follow-up evaluation systems for agents to use to document program impact.

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HUMAN ENVIRONMENT AND HEALTH IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Indoor Air Quality
Resource Conservation
Safety
Independent Living
Health Promotion
Residential and Community
Recycling

I. 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.

II. NON-EXTENSION RESOURCES:

Civic groups, health departments, private industry, Chambers of Commerce, radio/tv stations, NC Department 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, Soil Conservation Service, NC Museum of Life and Sciences, social services, private foundations, Health First magazine.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

45,902 families, adults, and youth gained knowledge about source reduction, recycling and reuse (26,320) and household hazardous waste (19,582).

21,212 families, adults and youth adopted one or more recommended waste management practices for the home or community.

21,366 families, adults and youth gained knowledge of residential water conservation and water quality strategies.

521 households tested their home water systems for potential contaminants.

1,937 households adopted one or more recommended residential water conservation or water quality measures.

24,600 households and housing providers gained knowledge of sources of indoor pollution, potential health impacts, and control measures.

5,000 households tested their homes for one or more indoor pollutants.

1,200 households adopted one or more recommended indoor pollution control measures.

25,050 households and housing providers gained knowledge of measures to improve energy efficiency and conservation in their homes and communities.

5,100 households and housing providers adopted one or more recommended practices to conserve energy or improve energy efficiency in their homes and communities.

8,057 families, individuals, and housing providers gained knowledge about independent living strategies, including lifecycle housing design and adaptation.

1,040 families, individuals and housing providers adopted one or more recommended practices which facilitate independent living.

4,223 families, adults and youth gained knowledge of personal environmental health and safety practices.

844 families, adults and youth adopted one or more recommended health and safety practices.

More than 67,000 North Carolinians gained knowledge, developed skills or made changes in waste management practices to recycle, reduce and re-use. 45,902 (68.5 percent) of families, adults, and youth gained knowledge, while 21,212 (31.5 percent) of families, adults and youth adopted waste management practices. Fifteen counties participated in multi-agency county task forces or advisory groups on waste management/environmental issues. Twelve counties assisted with: quantifying waste stream reduction via

diversion of materials from the landfill, collection programs for special recyclable materials, in-house waste reduction programs, and school recycling projects.

Thirty-five counties have conducted programs on reducing the hazards from hazardous household products. These programs have emphasized proper use, storage and disposal as well as safe substitutes. Exhibits at Health and Environmental Fairs or Field Days in 8 counties reached 4,777 people.

Over 5,600 individuals including private and commercial pesticide applicators gained knowledge in handling and laundering of pesticide soiled clothing. In several counties this topic was part of the recertification curriculum.

Over 1,250 individuals in 8 counties gained knowledge on the functioning and care and maintenance of home septic systems. After a workshop for 46 realtors and builders, respondents indicated they had increased their knowledge. They also indicated they had shared their knowledge with an average of 8 other people thus reaching an additional 368 people. In one county 30 out of 50 people indicated they had adopted at least one recommended measure to care for home septic systems.

Thirty-two counties have conducted programs on water conservation and water quality. Over 21,300 individuals have gained knowledge regarding good management practices that not only conserve water but ensure that it will not become contaminated through careless and thoughtless disposal practices.

Nineteen counties have conducted programs on independent living. Eight counties reported independent living programs directed toward senior citizens. Independent living options and lifecycle design and adaptations have been the focus.

More than 7,800 North Carolina households gained knowledge of radon health risks, testing strategies or reduction alternatives. 860 households tested their homes for radon, and 85 households adopted measures to reduce radon levels in their homes. In one county, a radon hotline was staffed with trained volunteers during county-wide testing.

More than 30,000 North Carolinians gained knowledge or adopted measures to improve home energy use. 25,050 (83 percent) gained knowledge of measures to improve energy efficiency and conservation, while 5,100 (17 percent) adopted one or more practices to conserve energy or improve energy efficiency. Five counties participating in a special energy conservation pilot project conducted more than 65 neighborhood energy workshops for 924 residents, with more than one-third of the participants making a home energy improvement afterward.

Eighteen counties have conducted programs on health and safety practices. These have included indoor air quality, chemical safety, as well as general safety to protect from accidental injuries and poisonings. In 5 counties, 1,793 people have gained knowledge about lead poisoning, the hazards and how to reduce exposure of young children.

IV. IMPLICATIONS:

Environmental regulations are still having 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. Collaborative efforts with other local agencies will continue to be an effective outreach strategy. Volunteers will continue to be needed to support educational efforts in the community, as well as public policy education. Waste reduction is an area where Cooperative Extension Service can be a leader in waste management education. Environmental equity will gain new prominence as a community waste issue.

Water conservation and water quality concerns are an issue in most counties of the state. Education will continue to be important in helping people learn to be good stewards of the environment.

The increase in the senior citizen population in North Carolina is at an all time high. The numbers and the variations in ability to function independently will become more important in the 90's. Good planning can make a difference.

Indoor air quality continues to be a concern for North Carolinians. Radon is a serious indoor air pollutant and continues to pose health risks for North Carolinians. It is especially important to focus educational efforts and testing information in high risk areas of the state.

Energy conservation and energy efficiency are 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 more on demand-side management, consumer education in energy use and conservation will become more critical.

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NUTRITION, FOOD SAFETY & HEALTH CORE PROGRAM FOR NORTH CAROLINIANS

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Dietary Risk Factor Management
Maternal, Infant & Child
Nutrition
Food Safety and Quality
EFNEP
Nutrition, Diet and Health
Diet and Disease
Nutrition and the Elderly

I. OBJECTIVES:

General diet, nutrition and health 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.
4. Targeted audiences will increase their adoption of recommended food handling practices.
5. Targeted audiences will improve practices and processes that promote the production and protection of food supply with minimal risk.
6. Targeted audiences will improve their understanding of risks and responsible practices in relation to food and health.
7. 15,000 EFNEP families will acquire the knowledge, skills, attitudes and changed behavior necessary for nutritionally sound diets and to contribute to their personal development.
8. 40,000 4-H EFNEP families will acquire the knowledge, skills, attitudes and changed behavior necessary for nutritionally sound diets and to contribute to their person development.

9. N.C. EFNEP program will increase interagency cooperation.
10. Pregnant teenagers will acquire knowledge, skills, attitudes and changed behavior necessary for healthy outcome of the pregnancy. (EFNEP)
11. 500 WIC mothers will extend the duration of breast-feeding, in a special two-year breast-feeding support project.
12. Agents and interagency colleagues will initiate or expand networks and coalitions to increase and strengthen community health promotion and disease and injury prevention programs.
13. Counties and communities will organize or expand and maintain health promotion and disease and injury prevention programs.
14. Communities, families and individuals will become more knowledgeable about improving health and preventing disease and injury.
15. Communities, families and individuals will become aware of the availability of, and approaches for accessing health and health-related services.
16. Community leaders and members will acquire information and skills to participate in the determination of health-related public policy.

II. NON-EXTENSION RESOURCES:

A. Non-Extension Resources:

Kate B. Reynolds Trust
 North Carolina Institute of Nutrition
 Centers for Disease Control
 W. K. Kellogg Foundation
 Local industries and organizations

B. Outside Organizations/Resource People/Volunteers:

Volunteers, Donors, WIC, surplus commodity Foods, Social Services, Health Department, Parent/Child Center, Business sponsors, WAGES Headstart, town government, Department of Aging, grocery stores, Medical Center, American Heart Association, Senior Games, Senior Centers, churches, public schools, food programs, housing authorities, community action groups, American Cancer Society, newspaper/TV, Community Colleges Food Service Department, Eastern Band of Cherokee Indians, USDA, Community Development clubs and volunteers, Cherokee Boys Club, Indian Health Services and Cherokee Hospital, Restaurant Chefs, Environmental Health Division of Health Department, Appliance Dealers, Day Care Centers, Radio, County Fair Administration, Civic Groups, Child Nutrition Program, Head Start, Grocery Stores, Electric Cooperative, Hospitals, American Heart Association, Alheimers' Support

Group, Churches, Elder care personnel, School Food Service Personnel, Curb Market Vendors.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Diet, nutrition, food safety and health programs have made a positive impact on over 70,000 citizens of North Carolina this year. Intense efforts went into successful nutrition programming targeting increasingly diverse audiences including migrant workers, day care workers, local business and industry workers, senior citizen groups, WIC participants, pregnant adolescents and teenage parents, minority groups, church groups and other organizations and many others. Low literacy and low income audiences were targeted with newly developed and acquired educational materials. Diet and its effect on chronic diseases such as cardiovascular diseases, cancers, diabetes mellitus and obesity were stressed in programming throughout the state.

As a result of the diet, nutrition, food safety and health programs, the following are this year's accomplishments and indicators of success:

66,518 citizens participating in nutrition, diet and health programs 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.

16,390 individuals with dietary risk factors made a positive change to reduce and manage their risk.

9,807 participants became aware of the diet and fitness (exercise) connection to health and wellness.

1,825 participants in weight control programs averaged a weight loss of 1/2 to 2 pounds per week until they reached their goal weight.

1,356 participants in exercise/weight control programs walked at least three times a week for 30 minutes per time while they were in the program.

15,919 youth participated in programs dealing with healthy eating and lifestyle habits.

884 child/day care providers planned healthy snacks and meals and utilized techniques to teach children healthy eating habits.

9,459 families gained knowledge to help them provide a healthier diet for their children and teach their children healthy diet and lifestyle habits.

1,767 participants in maternal nutrition programs gained knowledge and skills that led to good food habits associated with a healthy pregnancy.

15,069 program participants increased their adoption of recommended food handling practices.

7,496 program participants increased their adoption of practices that protect the food supply.

540 program participants increased their knowledge of food safety public policy issues.

10,324 program participants increased their knowledge of the risks and benefits of specific food components, processing technologies or food production chemicals.

5,244 adults and youth became more knowledgeable about how to improve health status and prevent disease and injury.

552 community leaders and members participated in workshops, seminars or other specific educational opportunities.

12 Extension Agents in 11 counties collaborated with interagency colleagues to initiate or expand networks and coalitions to increase and strengthen community health promotion and disease prevention programs.

11 counties and 7 local communities organized and maintained two ongoing health promotion and disease and injury prevention programs.

25 community members accessed health and health-related services previously unknown or unavailable to them

IV. IMPLICATIONS:

Diet, nutrition and health programs have helped the citizens of North Carolina improve their selection, preparation and consumption of foods. Addressing various health problems associated with diet has allowed those attending to combat these problems. With time and perseverance certain health problems for all citizens may be reversed through appropriate diet, exercise and lifestyle management. The situation due to aging of our population, changing lifestyles and family characteristics and changing employment status continues to make nutrition, diet and health related information needed for all audiences. Extension is being viewed as the local resource to provide the materials and training for not only the citizens of North Carolina but also professionals in other public health agencies.

With national emphasis on health issues citizens will continue to seek out research-based information on health and wellness provided by the extension service in an effort to distill misinformation and to become better informed.

New food products and technological developments continue to generate consumer food safety and quality concerns. Changing dietary supply and how food safety is ensured will address consumers educational needs. Extension is being viewed as a local resource to train paraprofessionals and professionals from other agencies who need food safety information to effectively interact with their clientele.

Health concerns effect all individuals, families and communities. Most of the program results reported here are related to the Community Health Advocacy Program (CHAP) supported through the Kate B. Reynolds Trust. As of the approaching year some funding will be available to support Extension Rural Health and Safety programs. The 1994 fiscal year is expected to be the first year of substantial ES-USDA funding for support of Rural Health and Safety efforts.

Continued emphasis on nutrition education and the connection between dietary intake and exercise on health and wellness is necessary.

Noonliting and other weight control programs offer and avenue to reach overweight population. Increased emphasis should be placed on increasing physical activity.

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VOLUNTEER DEVELOPMENT AND MANAGEMENT

COORDINATOR AND TEAM MEMBERS:

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KEYWORDS:

Volunteerism
Leadership Development
Leadership Management
Home Economics Volunteers
Master Volunteers
FCL Volunteers
NC Extension Homemakers

I. 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.

II. 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

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

3,444 Graduates in Master and Other Volunteer Programs

\$127,955.00 Resource Development Funds Received

28,685 Membership in Home Economics Volunteer Programs

18,444 NCEHA Membership Participating in Issue Oriented Programs

578 Partnerships, Network and/or Alliances with Other Agencies, Groups, Organizations, Associations, Etc.

IV. IMPLICATIONS:

Volunteers are 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 to 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.

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ENVIRONMENTAL EDUCATION IN NORTH CAROLINA

COORDINATOR AND TEAM MEMBERS:

Sandra A. Zaslow
Ed Jones
Clare-Marie Hannon

KEYWORDS:

Environmental Education
Human Environment and Health
Water Quality
Waste Management
Resource Conservation
Public Policy
Youth Education

I. OBJECTIVES:

1. 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.
2. 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.

II. NON-EXTENSION RESOURCES:

A. Outside Funding:

Funding sources include: the W.W. Kellogg Foundation, Quality Natural Resources Commission, Forest Stewardship Committees, Pamlico Tar River Foundation, F. Ray Moor Oil Company, Lowes of North Carolina, Gaston County Resources Commission, the U.S. Environmental Protection Agency, NC Department of Health, Environment and Natural Resources-Office of Waste Reduction and Division of Radiation Protection, North Carolina Alternative Energy Corporation, NC Extension Homemakers Association, and NC Agricultural Foundation.

B. Outside Organizations/Resource People/Volunteers:

Environmental education programs of the North Carolina Cooperative Extension Service have been supported by various agencies, organizations, businesses and media channels. These resources include: local, state and federal government agencies and decision-makers, utilities, university extension, health agencies, beautification and anti-litter nonprofit associations, other non-profit or quasi-public organizations, industry councils, school and library systems, public policy councils, trade associations, environmental groups, wildlife and stewardship associations and councils, civic groups, private business and industry, radio,

television and newspapers, and volunteers, including participants in two Extension Master Volunteer programs in waste management and environmental stewardship.

C. Other

The North Carolina Cooperative Extension Service has developed an extensive network with other institutions, agencies, organizations and local governments to plan, implement and evaluate environmental education programs.

Collaborative programs have been conducted with various groups, including: the NC Division of Forest Resources, the Office of Waste Reduction, the Division of Environmental Management, Division of Parks and Recreation, Department of Public Instruction, the North Carolina Alternative Energy Corporation, Gaston County Quality of Natural Resources Commission, Keep America Beautiful, Environmental Educators of North Carolina, and the American Red Cross.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

An state environmental education plan is being developed, with an interagency, interdisciplinary planning group to meet in November, 1992. Three counties are developing strategic plans on environmental quality, which include environmental education components. One county has developed and published a four-year environmental quality and education plan targeting air, surface and ground water quality, with actions being implemented, educational materials disseminated, an environmental calendar printed and distributed, programs conducted, monitoring and installation of Best Management Practices to improve environmental quality. Two other counties have completed environmental surveys which will serve as a base for completing strategic plans.

More than 140,000 individuals have increased awareness of public policy issues related to environmental action. Individuals have increased awareness of local, state and federal legislation and how to be involved in public policy processes on land stewardship, wetlands, land use, wildlife habitat, clean air, waste management and utilization, water quality, and indoor air quality.

At least 36,258 individuals have participated in public policy issues geared to environmental action. Nearly 100 local decision-makers have participated in public policy education on clean air, forest management and waste management. Nearly 1,500 volunteers have been trained in youth programs on environmental education, and more than 500 volunteers have participated in Master Volunteer programs in environmental stewardship and waste management. At least 300 volunteers have been trained in water quality issues and participated in well testing programs. Two hundred fifty teachers from 6 counties have participated in environmental education training on environmental stewardship and water quality. Nearly 5,000 students and 350 adults have participated in school enrichment environmental education programs.

More than 27,588 individuals have adopted at least 52,500 environmentally appropriate practices after educational program participation. One hundred twenty nine plans have been prepared for the Forest Stewardship program, representing nearly 27,00 acres and more than 120 landowners have adopted compatible forestry and wildlife management practices. One thousand youth and adults have participated in statewide anti-litter and trash clean-up events. As a result of Extension educational programs, fifteen counties have established multi-agency task forces or advisory groups on waste management and environmental issues, and twelve counties have initiated or improved programs in quantifying waste stream reduction via diversion of materials from the landfill, collection of special wastes, in-house waste reduction programs and school recycling programs. One county has implemented air quality control measures to come into compliance with the Clean Air Act. More than 5,000 North Carolina households tested their homes for one or more indoor air pollutant and at least 1,200 households adopted one or more recommended indoor pollution control measures. Five hundred twenty one households tested their home water systems for potential contaminants.

IV. IMPLICATIONS:

Environmental regulations continue to have an impact on local governments and citizens. Public policy education is a cost-effective strategy for increasing implementation of environmental practices. Education of decision-makers is necessary for implementation of effective policies at the state and local level. Education of citizens is critical for their participation in public policy and adoption of appropriate environmental actions. Citizens who participate in environmental programs such as the Forest Stewardship Program, Master Volunteer educational programs, and public forums on water quality and waste management are more aware of environmental issues and increasingly motivated to implement environmental actions. Collaborative efforts with external groups, organizations and agencies continues to be an effective outreach strategy. Volunteers continue to be important in supporting educational efforts in communities, as well as public policy education. Policy education is critical as a means to address concerns of interest groups about environmental issues and the potential for conflict. Educational programs in the environmental area must provide the best available information and recommendations for environmental actions.

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NC41 LIMITED RESOURCE INDIVIDUALS AND FAMILIES

COORDINATOR AND TEAM MEMBERS:

Feaster, Thelma
Sutton, Sheila
Lyons, Daniel

KEYWORDS:

Staff Development
Coalitions
Life Skills

I. OBJECTIVES:

1. N.C. 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. N.C. 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.

II. 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

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Reaching and teaching the limited-resource audiences presents challenges that are different from those encountered with traditional extension audiences. Staff development opportunities were made available to field staff and volunteers during FY-92 to build their capacity to work effectively with limited-resource audiences. Thirty-eight (38) professionals and paraprofessionals have been trained on programming strategies for effectively working with limited resource individuals and families. At least one third of the participants receiving training have indicated using the

strategies in their work to more effectively reach and teach the limited resource clientele. Community Voices, a participatory shared leadership development program for rural individuals and families, reached over 500 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. One hundred fifteen (115) volunteers were trained in specific subject matter content areas and utilized the knowledge and skills acquired to work with high risk youth. Content areas included: communications, interpersonal relationships, self-esteem, counseling strategies and developmental characteristics of youth. Twelve (12) teen volunteers were recruited for a peer education program entitled P.E.A.C.E. Teens gained interpersonal/relationship skills, information and knowledge relating to community resources, and environmental and health issues during 16 hours of training. Evaluations indicated that teens were successful in assisting their peers with various problems and concerns. It enhanced their rapport with their peers and family members.

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. Approximately 3000 contacts have been made with other agencies by 1890 county staff. A state issue team of Pregnant and Parenting Adolescents was formed and recruited three agencies (Girl Scouts, Parks and Recreation, Health Department) to assist with the formulation of an effort to address teen pregnancy. Five planning meetings were held in FY-92. The commitment on the part of the other agencies representatives have been evident by their attendance and input at the planning meetings and retreats. One hundred (100) youth participated in an audience analysis designed to gain their input on programming for pregnant and parenting teens. Other special efforts related to establishing linkages occurred in one rural county with a high poverty rate. County officials recognized the need to have agencies come together to address problems facing youth in their county through an interagency council of which Extension is involved. The agent serving on the council reports that youth programs are more visible in the county and gains support more readily because of the information network created by the council. The agent also reported an increase in youth participation due to the support of programs by the different agencies.

Lack of certain basic life skills reduces the potential of limited resource individuals and families to become contributing members of society. Three thousand nine hundred ninety three (3993) limited resource individuals improved life skills by participating in Extension sponsored programs. Three hundred thirty-nine (339) limited resource parents increased knowledge of child growth and development and adopted effective parenting skills. Twenty-one (21) participated in the JOB/DDS, improved their communications skills and are actively seeking employment as a result of their involvement in the program. Six hundred ninety-four (694) limited resource adults practiced problem-solving skills for selected personal and community problems. Two hundred fifty-five (255) small farmers have participated in nine local tours designed to increase their awareness and knowledge of alternative farming enterprises. Local tours resulted from on-site training provided for 25 participants in the Ways to Grow project. Decision making, marketing, recordkeeping, finance, and production technology were program components explored during a small farm institute. Eighty (80) youth attended a special camp designed to assist youth in dealing with community conflicts. According to community leaders, youth are not getting into as much "trouble" and are making positive efforts to build better communities. Two thousand five hundred fifty-nine (2559) 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.

IV. 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.

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NC42

CONSERVATION AND FORESTRY TITLES OF THE 1990 FARM BILL

COORDINATOR AND TEAM MEMBERS:

Dana Hoag
Paul Lilly
Robert Evans
Rick Hamilton
Ed Jones
Maurice Cook
George Naderman
Bill Collins

KEYWORDS:

Farm Bill
FACT
Forestry
Soil Conservation
Wetland
Forest Stewardship
Conservation Compliance
Conservation Reserve
Pesticide Record Keeping

I. OBJECTIVES:

1. Landowners and managers will understand the Conservation Titles of the 1985 and 1990 Farm Bills.
2. Farm owners/operators will successfully implement conservation plans and practices.
3. Landowners and managers will understand the Forestry Title of the 1990 Farm Bill.
4. Landowners/managers will successfully implement forestry practices.

II. NON-EXTENSION RESOURCES:

Outside Organizations/Resource People/Volunteers:

CES cooperates with the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, the Forest Service and many others to develop technical information and provide educational programs. The state offices of these agencies cooperated in sharing information on a timely basis that was passed on through the CES educational network. Our most recent effort involved educating the public about the pilot wetlands reserve program. Joint meetings were held, media releases were distributed, and a computer program for analyzing bid amounts was developed.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Extension has continued to provide leadership in educational activities regarding the implementation of provisions of the 1990 Farm Bill. In partnership with SCS, four regional training sessions for SCS field staff and two regional in-service training sessions for agents were held. A fact sheet on conservation

compliance has been prepared. North Carolina has 65,000 plans, and the most recent status reviews indicated 3.3% were not implementing the plan. Extension held several joint meetings about the wetland reserve program. Sixty landowners submitted requests to bid 50,000 acres into the wetland reserve. Extension continues to assist landowners with implementing all titles of the farm bill.

IV. IMPLICATIONS:

The major educational need for the conservation title came when it was first announced and will become pressing again in the next two years. It is therefore important to help farmers meet their planned implementation of conservation practices this year and next so that they will achieve conservation targets and avoid large farm losses in program benefits.

Dan Jones
 Paul L. ...
 Robert ...
 Rick ...
 Ed Jones
 Maurice Cook
 George ...
 Bill Collins
 Forest ...
 Conservation Compliance
 Conservation Reserve
 Wetlands Record Keeping

- 1. Landowners and managers will understand the Conservation Title of the 1985 and 1990 Farm Bills.
- 2. Farm owners/managers will successfully implement conservation plans and practices.
- 3. Landowners and managers will understand the forestry title of the 1990 Farm Bill.
- 4. Landowners/managers will successfully implement forestry practices.

II. NON-EXTENSION RESOURCES:

Outside Organizations
 Agricultural Stabilization and Conservation Service
 Forest Service and many others to develop technical information and provide educational programs. The state offices of these agencies cooperate in sharing information on a timely basis that was passed on through the CES educational network. Our most recent effort involved educating the public about the 1990 wetlands reserve program. Joint meetings were held. Media releases were distributed, and a computer program for analyzing bid amounts was developed.

III. IMPROVEMENT OF OUTREACH AND EDUCATIONAL ACTIVITIES:

Extension has continued to provide leadership in educational activities regarding the implementation of provisions of the 1990 Farm Bill. In partnership with CES, four regional training sessions for CES field staff and two regional in-service training sessions for agency staff were held. A fact sheet on conservation

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NC43

PARENTING AND FAMILY-YOUTH PROGRAMS

COORDINATOR AND TEAM MEMBERS:

Johnson, C. E.
Rowland, S. R.
Lloyd, J. H.

KEYWORDS:

Parenting
Parent-youth relations
Financial goals

I. OBJECTIVES:

Strengthening the role of parents is necessary in order to combat family problems in 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 N. C. 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 N. C. 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 programs include parent education, family strengths and support, financial management and parent-youth relations.

The objectives of parenting and family-youth programs are:

1. Parents and youth will acquire the knowledge and skills associated with effective parenting.
2. Parents and youth will improve parent-youth relations.
3. Parents and youth will understand and use effective family coping strategies.
4. Parents and youth will set and achieve financial goals.

II. NON-EXTENSION RESOURCES:

A. 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.

B. 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, N. C. 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.

C. Others:

The following groups assisted with delivering programs 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.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

14,674 parents and youth acquired knowledge and skills associated with effective parenting. 6,546 individuals benefitted from programs provided by volunteers. 88 master parents were trained and 352 other volunteers delivered parenting programs. Five parent support groups were formed.

5,664 parents and youth improved parent-youth relations. One hundred leaders were trained to deliver programs.

6,092 parents and youth gained knowledge and used effective family coping strategies. Twenty-six support groups were established to deal with family problems. Five Quality of Life projects were started to improve family life in rural North Carolina

3,492 individuals and families (including parents and youth) in 54 reporting units improved their financial management practices. This number represents 57% of the number of the adults who reported a knowledge gain and 17% of the youth who reported a knowledge gain.

IV. IMPLICATIONS:

The number of families-at-risk and vulnerable young families will probably continue to increase. Family violence, teenage pregnancy, substance abuse, child abuse, sexually transmitted diseases, suicide and other stressful problems may increase. Parent education and financial management education can help parents acquire and develop the skills needed to foster qualities of responsibility, cooperation, courage and self-esteem in their children.

Agents are using a variety of teaching methods to reach a diverse clientele including cable TV, call-in radio programs, and increased use of master volunteers. Agents have made great efforts to reach limited resource audiences and new clientele. Thirty-five counties participated in the JOBS program. Interagency networks and coalitions have helped to deliver coordinated and diverse educational programs to families.

Parents are still struggling to rear their children and to provide a comfortable environment for their family. Family difficulties including dealing with new stresses, reaching out for assistance, adopting new roles, managing intergenerational conflicts, balancing work and family and changing family values continue to provide opportunities and challenges for Extension. Much work is still needed to deal with the problems of abuse and neglect, inadequate income, teenage pregnancy, child care, family instability, poverty and other family related problems.

The parenting and family/youth program will continue to focus on educational programs that will help individuals and families develop the competencies to become healthy, productive, emotionally secure and responsible members of society. Education is targeted to strengthening family relationships, increasing the well-being of children, providing parent education and financial management education to maximize the independence of families.

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NC44 MULTI-CULTURAL DIVERSITY

COORDINATOR AND TEAM MEMBERS:

Vance E. Hamilton

I. 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.

II. NON-EXTENSION RESOURCES:

Not Applicable at present.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

The North Carolina Cooperative Extension Service has not implemented its cultural diversity program. However, we have plans to launch the program at our Annual Conference in November, 1992. A number of staff members have been involved in the planning of the program. The theme for the Conference will include Diversity and the first day's program will be devoted to diversity.

We will utilize both internal and external resources in our diversity training. A consulting team has been employed to handle Conference training. In addition, a team of eight people will attend the National "Train the Trainer" Conference in October. These individuals will assist with the diversity training at conference and future diversity training.

Preparation for instituting diversity training has helped to sensitize some of the key leaders in Extension. The Administrative Staff, District Directors, and Staff Development have been involved in this effort. Currently, a very favorable climate exist for nurturing diversity.

IV. IMPLICATIONS:

We believe that the concepts inherent in diversity will strengthen our organization. Doing something because it is right is a positive way to achieve equal treatment in employment, the workplace, and in serving our clientele. Our experiences are too limited to draw other implications.

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NC45 VOLUNTEER DEVELOPMENT AND MANAGEMENT

COORDINATOR AND TEAM MEMBERS:

Linda Flowers McCutcheon
Judy Groff

KEYWORDS:

Master Volunteers
Leadership Skills
Volunteers
Volunteer Management
FCL Volunteer
Community Service
Peer Helpers
Volunteer Empowerment

I. 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.

II. 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

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Over 300 volunteers received training to be a County Master or State Master Volunteer in 1991.
With 67 volunteers reporting, the known outreach of the program to volunteer leaders and 4-H'ers was 2,416 people.
Thirty counties have teens involved in peer helper programs cooperatively with schools.
There were 3,444 graduates of Home Economics Master and other volunteer programs.
Resource Developments funds received were \$127,955.
The membership of Home Economics volunteer programs was 28,685.
There were 18,444 NCEHA members participating in issue oriented programs.
578 partnerships, network and/or alliances with other agencies groups, organizations, associations, etc. were established.

IV. 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 no 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 an 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 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.

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NC46 FOOD, NUTRITION AND HEALTH IN NORTH CAROLINA - EFNEP

COORDINATOR AND TEAM MEMBERS:

Van Eck, N. M.
Frazier, A. Y.
Usry, S. H.

KEYWORDS:

Food, Nutrition & Health
EFNEP Agents
Nutrition Program Assistants
EFNEP Homemakers
EFNEP Youth
Food
Nutrition

I. OBJECTIVES:

Three thousand seven hundred and fifty (3,750) EFNEP families will acquire the knowledge, skills, attitudes and changed behavior for nutritionally sound diets and to contribute to their personal development.

Ten thousand (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 months post-partum: (baseline - 17%).

II. NON-EXTENSION RESOURCES:

Non-Extension agencies providing training, support and/or referrals:

Local Agencies (Health, Social Services, WIC program, AFDC, DSS/JOBS programs, Schools, Technical Community Colleges, Division of Child Nutrition, Head Start) N.C. 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, Housing Authorities; graduated program participants.

Volunteers who assist in teaching the ERIB-2 curriculum.

III. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

106 Nutrition Program Assistants worked with 6,179 adults and 6,295 youth, assisted by 2,016 volunteers.

Of 3,457 homemakers who graduated from EFNEP, 3,054 (88%) improved their diets to include at least one serving of foods from each food group (35% increase). Twelve hundred and eighty-two (37%) achieved recommended food servings in all food groups (34% increase from program entry).

Of 6,179 homemakers enrolled, 5,314 (86%) increased their knowledge of nutrition and 3893 (63%) increased their ability to manage food budgets and related resources (Food Stamps & WIC food packages).

Of 6,295 4-H EFNEP youth who participated in programs to eat a variety of foods, 5,477 (87%) reported increased knowledge of the essentials of human nutrition. Of 4,155 youth, 3,615 (87%) 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 35 EFNEP counties. Three thousand eight hundred and eighty-three (3,883) enrolled homemakers (63% are WIC recipients, an increase of 692 from FY:91. Food Stamp enrollment increased also; 3,370 families (55%) received food stamps, an increase of 730 from FY:91. EFNEP units reported teaching 168 pre-formed groups, (those identified and supported by other agencies).

Across the state, EFNEP has entered into 21 formal agreements and/or coalitions with public or private organizations providing assistance to limited resource audiences.

Monetary contributions and grants which supplement federal EFNEP allocations totaled \$33,542.

2,016 volunteers gave over 13,000 volunteer hours for the adult EFNEP and over 15,000 with the youth program. Ten units reported on average 37% of volunteer time supported the teaching effort.

Pregnant and parenting teenagers, a specially targeted audience, totaled 848, and 653 (77%) graduated from EFNEP. Five hundred and forty-seven (65%) were taught in group settings. One unit reported that all 47 pregnant teenagers enrolled in EFNEP delivered healthy babies (birth weights above 5 lb. 8 oz.).

Special WIC/EFNEP project: an EFNEP paraprofessional was funded by WIC (\$20,000) to support breast feeding with WIC mothers.

Baseline data indicated that 200 WIC clients had breast-fed their infants in a twelve-month period. Numbers who had established lactation (breast-fed for more than two weeks post-partum) reached 150 (75%); breast-feeding duration (two months or more post-partum) reached 34 (17%).

In the first year of the project, breast-feeding mothers totaled 517, a 259% increase. Four hundred and seventeen (81%) established lactation (compared with 75%), and 236 (46%) were still breast-feeding at two months post-partum. This showed both increased numbers (+ 202) and an increase of 29% in duration above the baseline.

Estimated minimum savings (or WIC funds redirected) = \$30,000.00. This estimate is based on \$12.00 saving per month for each mother-child pair (the amount is low because of formula company rebates) plus an additional savings of \$65.00 per month for infants required special infant formulas (2% of WIC infant population in the project county).

IV. IMPLICATIONS:

Priorities for FY:93 include: (1) Increased cost-effectiveness through greater group efforts, more intensive teaching and earlier graduation; (2) Closer cooperation with agencies, including increased WIC enrollment; (3) Extend volunteer involvement in teaching; (4) Special pilot study of food behavior changes of youth; (5) Continued targeting of pregnant adolescents and teenaged parents. (6) Monitoring of breast-feeding project in Wake Co. Continued research analysis. Piloting EFNEP/WIC educational model for breast-feeding support in rural counties.

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CR01 CIVIL RIGHTS TRAINING

I. 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.

II. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

Most of 1992 has been spent planning for in-depth Civil Rights training which will be launched during the 1992 Extension Conference in November. A Comprehensive Affirmative Action Plan has been written as the major resource. Two task forces are working to develop the training program and training aides. The Civil Rights Training will be an extension of our diversity training (see Cultural Diversity).

All unit heads (i.e., County Directors, Specialists-in-Charge, etc.) will be trained as "Affirmative Action Program Managers" in three half-day sessions during Annual Conference. The individuals will assist with district level training in early 1993. The District training will be conducted in two parts: one for professionals and paraprofessionals and for secretaries. In addition, county staff will train advisory leaders and other volunteers within 6 months of the district training. All Staff members will receive Civil Rights Training.

III. IMPLICATIONS:

Indicators are very positive regarding Civil Rights expectations for the large majority of staff. Training planned for early 1993 should be well received and **reinforce desired procedures.**

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CRO2 PUBLIC NOTIFICATION

I. 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.

II. 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. The plan/report required for the first time this year, has sensitized county staff to the need for public notification in regard to Affirmative Action.

According to these reports, all counties now display "And Justice for All" posters, most counties were provided new posters. All counties now use the non-discrimination statement on external materials. (Note: All state level materials use a standard statement also.)

A large number of counties are using direct contact with key minority leaders to disseminate the information. Networking is also being used for this purpose. Other means of public notification include:

<u>Indicators of Success</u>	<u>No. of Counties</u>
Mass media	52
Special minority recruitment activities	49
Agency networking	22
Non-discriminatory statements on newsletters and enclosures	46
Alternative delivery sites	27

III. IMPLICATIONS:

This was the first year of having counties plan and report against public notification. We did not get our training out to counties before reports were due. Under these conditions, we are very pleased with our results. Shortcomings will be covered in training and successes will be used to motivate our employees.

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CR03

ON-SITE CIVIL RIGHTS COMPLIANCE REVIEW

I. 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.

II. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

During 1992 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.

III. IMPLICATIONS:

On-site Civil Rights Compliance Reviews are an established means of monitoring our clientele outreach program. Follow-up procedures will be strengthened with the revised procedure.

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CR04 EQUAL EMPLOYMENT OPPORTUNITY

I. 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.

II. INDICATORS OF SUCCESS AND ACCOMPLISHMENTS:

There are five procedures designed to help us realize our objectives. The procedures and related activity during the past year are as follows:

1. ENLIST THE HELP OF ALL CURRENT EMPLOYEES TO HELP LOCATE AND RECRUIT MINORITIES.

At the Civil Rights planning retreat, strategies were formulated to provide training for all existing employees regarding the importance of diversity and their role in assisting with recruiting efforts.

A new recruiting brochure was developed to enhance the image of the organization as a career choice. Great care was taken to ensure that a representative mix of employees is shown in the photographs in the brochure. These brochures will be sent in our application package and will be available in all county centers.

2. CONTINUE INTERN PROGRAMS WHICH ARE AIMED AT CREATING AN INTEREST IN EMPLOYMENT WITH EXTENSION.

The 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.

Budget problems continued to restrict hiring during this year. However, in the fall of 1991 and the spring of 1992, we recruited at the following predominantly female or minority institutions: Meredith College, NC Central University, and NC A&T State University. We also reviewed a publication of female and minority institutions to determine any potential locations. Efforts were made to recruit at Virginia State

University and Hampton University but students did not register so the trip was cancelled.

Plans are in place for more widespread recruiting during the 1992-93 academic year.

4. TRAIN WITHIN FOR PROGRESSION TO LEADERSHIP (ADMINISTRATIVE) POSITIONS.

Have not had a vacancy in unit.

5. MONITOR EMPLOYMENT PROCEDURES TO ENSURE THAT QUALIFIED MINORITIES ARE GIVEN EQUAL OPPORTUNITY TO AVAILABLE POSITIONS THROUGHOUT THE ORGANIZATION.

An internal posting priority procedure was implemented this year to give existing employees the opportunity for mobility and greater potential for advancement. This is designed to benefit all employees equally.

All applications are reviewed in the personnel office to ensure that only qualified individuals are referred to the appropriate hiring administrator. Confidential data sheets are removed and kept in personnel; the race, sex, and other demographic information is not used when selecting finalists for a given position.

The following table shows the employee profile comparison for both EPA (faculty) and SPA (staff).

Initial Data 1991	September 30, 1992	Change
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EPA Employees

Race by Gender

	M	F	Total	M	F	Total	M	F	Total
Black	30	104	134	28	103	131	-2	-1	-3
White	260	249	509	255	248	503	-5	-1	-6
Other	1	8	9	1	7	8	0	-1	-1

Gender Only

Males	291	284	-7
Females	361	358	-3

Initial Data 1991	September 30, 1992	Change
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SPA Employees

Race by Gender

	M	F	Total	M	F	Total	M	F	Total
Black	0	39	39	0	39	39	no change		
White	0	186	186	0	182	182	0	-4	-4
Other			0			0	no change		

Gender Only

Males	0	0	no change	
Females	225	221	-4	

III. IMPLICATIONS:

The overall employee population decreased during this period. Individuals left the organization through attrition and positions remained vacant due to budgetary reasons. No disparate impact on females or minorities is evident in the statistics.

Race by Gender		September 30, 1992		Change	
	M	F	Total	M	F
Black	20	204	224	18	203
White	260	248	508	25	245
Other	1	8	9	1	7
Total					
	281	260	541	44	255
Gender Only					
Male	281			44	
Female		260			255

Race by Gender		September 30, 1991		Change	
	M	F	Total	M	F
Black	0	20	20	no change	no change
White	0	182	182	0	182
Other	0	0	0	no change	no change
Total					
	0	202	202	0	202
Gender Only					
Male	0			no change	no change
Female		202			202

ANNUAL REPORT 1992

CR05 PROGRAM DELIVERY

I. OBJECTIVES:

Overall:

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.

II. 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:

<u>Indicators of Success</u>	<u>No. of Counties</u>
Establishing networks with minority groups	15
Delivering programs in cooperation with black churches	10
Taking programs to minority neighborhoods	32
Increasing minority participation in program planning	47
Offering programs at various times during the day	22
Recruiting through housing authority, industry, etc.	21

III. IMPLICATIONS:

This was the first year of having counties plan and report against program delivery. We did not get our training out to counties before reports were due. Under these conditions, we are very pleased with our results. Shortcomings will be covered in training and successes will be used to motivate our employees.

TABLE IV
 Pest Management Programs -- Annual Report
 FY 92
 State NC

COMMODITIES OR OTHER PROJECT DESIGNATIONS

PROGRAM COSTS (\$):	1.Row ¹	2.Hort ²	3.Animals ³	Total
1. Smith-Lever 3(d)	87,586	49,942	47,972	185,500
2. Other CES Funds	305,000	75,000	70,000	450,000
3. Grower Payments to				
a. Extension Programs	170,000	3,000	173,000	
b. Priv.Consultants	2,000,000			2,000,000
c. Grower Org./Co.	35,000			35,000
4. Others				

ACRES OR UNITS HANDLED BY:

1. Ext.Sponsored Programs	11,000	220		11,220
2. Private Consultants/Firms	195,000			195,000
3. Growers Organiz/Co-ops	6,000			6,000
4. Industry Fieldmen	5,000			5,000
5. Others Infl'd by Extension	1,900,000			1,900,000

CES STAFF-YEARS:

1. State Specialists	5.3	1.0	1.5	7.8
2. Multi-County Staff	1.0			1.0
3. County Staff	9.0			9.0

NUMBER OF SCOUTS TRAINED

	454	1	40	495
NUMBER OF PRODUCERS TRAINED	875	540	1,100	2,515

NUMBER PROVIDING IPM SERVICE:

1. Ext.Sponsored Programs	5	5	1	11
2. Private Consultants/Firms	20			20
3. Grower Organiz/Co-ops	2			2
4. Industry Fieldmen	10	280		290
5. Others Infl'd by Ext.	600			600

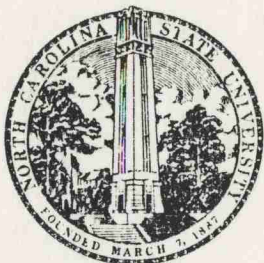
NUMBER OF CLIENTELE SERVED:

1. Ext.Sponsored Programs	2,000	540	1,800	4,340
2. Private Consultants/Firms	2,650			2,650
3. Growers Organiz/Co-ops	90			90
4. Industry Fieldmen	50	280		330
5. Others Infl'd by Ext.	10,000			10,000

STATE ADVISORY COMMITTEE:

No. People on Committee	12	12
No. Agencies and Departments Represented	8	8
No. Times Committee Met	3	3

1. Corn, cotton, soybeans, peanuts, tobacco
2. Tomatoes, cabbage, Christmas trees, turf, urban
3. Swine and poultry



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