



**P**ATHWAYS  
TO A NEW CENTURY

PLAN OF WORK 1987 — 1991

## CONTENTS LIST

### I Overview Statement

### II Major Programs

- NC01 Agriculture Policy, Pesticide and Consumer Education in NC
- NC02 Aquaculture, Wildlife and Natural Resources in NC
- NC03 Cotton Production and Marketing in NC
- NC04 Dairy Production and Marketing in NC
- NC05 Farm Business Management and Marketing in NC
- NC06 North Carolina Feed Grains and Soybean Production and Marketing
- NC07 North Carolina Forestry Production, Processing and Marketing
- NC08 Fruit Crops Production and Marketing in NC
- NC09 Livestock (Beef Cattle, Horses, Sheep) Production and Marketing in NC
- NC10 Ornamental Plant Production and Marketing in NC
- NC11 Peanut Production and Marketing in NC
- NC12 North Carolina Poultry Production and Marketing
- NC13 Small and Part-Time Farmers in NC
- NC14 North Carolina Swine Production and Marketing
- NC15 Tobacco Production and Marketing in NC
- NC16 Vegetable Production and Marketing in NC
- NC17 Animal Sciences in NC
- NC18 4-H Plant and Soil Sciences in NC
- NC19 4-H Mechanical Sciences in NC
- NC20 4-H Leadership (Youth), Citizenship, Community Development, Communications Programs in NC
- NC21 4-H Natural Resources and Environmental Education in NC
- NC22 4-H Home and Family in NC
- NC23 4-H Volunteer Leadership Development in NC
- NC24 4-H Resource Development and Marketing in NC
- NC25 Food, Nutrition and Health in NC
- NC26 Family Economic Stability and Security - NC
- NC27 Family Strengths and Social Environment - NC
- NC28 Energy and the Living Environment - NC
- NC29 Volunteerism/Leadership Development - NC
- NC30 Community Services and Facilities in NC
- NC31 Economic and Small Business Development in NC
- NC32 Food Processing Technology in NC
- NC33 Human Capital Building in NC
- NC34 Natural Resources Conservation and Development in NC
- NC35 201 Agricultural Policy, Pesticide and Consumer Education in NC
- NC36 202 Aquaculture, Wildlife & Natural Resources in NC (1890)
- NC37 205 Farm Management and Marketing in NC (1890)
- NC38 207 Forestry Production, Processing & Marketing in NC (1890)
- NC39 209 Livestock Production and Marketing in NC (1890)
- NC40 210 Ornamental Plant Production in NC (1890)
- NC41 212 Poultry Production and Marketing in NC (1890)
- NC42 213 Small and Part-Time Farmers Major Program in NC (1890)

V Statistical Information

Table I Planned Allocation of Professional/Paraprofessional Staff  
Years by Program Area

Table I (1862)

Table I (1890)

Table II Planned Distribution of Sex and Racial-Ethnic Participation--  
Status and Targets Professional and Paraprofessional Staffs

Table II ANR (1862)

Table II HE (1862)

Table II 4-H (1862)

Table II CRD (1862)

Table II ANR (1890)

Table II HE (1890)

Table II 4-H (1890)

Table II CRD (1890)

## STATEWIDE OVERVIEW STATEMENT

The theme of the North Carolina Agricultural Extension Service's four year Plan of Work, "Pathways to a New Century," is helping people put knowledge to work. Educational programs have been designed to meet the needs identified by an Advisory Leadership System. This technology will provide the emphasis to: insure that a substantial agricultural industry enters the next decade with a progressive and productive base, enhance the quality of life of our State's citizens, improve the potential productivity of young people through the development of life skills and increase the efficiency and effectiveness of community services.

The planning process has included a close coordination between the 1862 and the 1890 components to assure that the strengths of each institution were utilized in meeting the needs of the State's citizens. The administration of both components met monthly to develop and articulate a support mechanism for the planning process. The result is a coordinated plan void of duplication and drawing on the unique resources at each institution.

Among the outstanding features of this plan is the close and substantial involvement of volunteer leaders in its design and development. The State Extension Advisory Council worked very closely with county advisory unit leaders. In these settings, they endorsed the concept of a four year plan and enlisted the county advisory councils' assistance in problem identification. Problems were identified in all 100 counties by over 24,000 local leaders. These, plus national program initiatives, were reviewed and given priority ranking by State Advisory Program Committees. From these priorities, Extension Educators designed the major programs for state specialist and county input. The final plan of work was again reviewed by State Advisory Program Committees for suggestions and final approval. Their endorsement of the plan is attached.

In its planning process, the North Carolina Agricultural Extension Service has made a concerted effort to focus on the family, the key element in our society. Each staff member has been sensitized to the importance of families, the difference in family structures and requested to consider its needs in designing major programs. Programs have been developed to build family competencies, assist in economic and social stability and the development of skills and attitudes which provide positive relationships between family members.

The major programs contained in this plan are found in the four program areas which will provide leadership for their implementation. Many of these programs are complementary and multi-disciplinary in nature. Among the problems treated by two or more program areas are volunteer enlistment, leadership development, fiscal management, and environmental quality. Special task forces appointed by Extension Administration assures that resources from all relevant departments are utilized in the solution of these multi-disciplined problems.

The Agricultural Program area acknowledges that all agriculture is Extension's clientele, from the smallest limited resource farmer to the most sophisticated operator, the agricultural business industry including the suppliers of input and the processors of products. Two significant themes have received increased attention in this plan. They are the management and

marketing aspect of the agricultural business and the wise use of conservation of natural resources. The former stresses the achievement of profitability of the farm business and the prosperity of farm families through technological transfer and a renewed emphasis on economic management in production and marketing decisions. The latter recognizes the importance of natural resource use and allocation and stresses the importance of a sound environment to the welfare of both rural and urban citizens. Both concepts will continue to require redirection of staff effort in the future as Extension develops economic and computer literacy and the management strategies to operationalize the emerging system's concept of agricultural production and marketing.

The 4-H and Youth major programs recognize the increasing societal demands on young people and the unique educational role of the Land-Grant Institution. Today's society, characterized by rapid technological changes, communication development and declining resources, demands that youth have far more life skills to succeed than any other time in history. As the development of these life skills has become critical, family pressures have increased. Twenty percent of youth live in a one parent home while the percentage of families with two working parents increases each year.

Four-H, with its strong education base and experimental teaching curriculum, is in a unique and important position to help youth develop life skills. This plan calls for increased efforts in developing life skills, building positive self concepts, increasing career awareness and a strong emphasis on volunteer leadership development and utilization.

Redirection of staff effort will follow the established trend of increased organizational skill and the training and motivation of volunteer efforts. An increased knowledge of child and family development will increase the effectiveness of scarce resources.

The Home Economics major programs possess the potential of great assistance in enhancing the quality of life for North Carolina citizens. In a time of economic stress for many families, the application of research based knowledge through educational programs can provide an effective method of strengthening the family unit in society.

Key major programs include food, nutrition and health where families will find assistance through the Expanded Food and Nutrition Program, food production and preservation and a new educational thrust on eating right for life. Family economic stability and security will stress management strategies, marketplace consumer skills and the legal framework for resource protection.

Staff efforts will be redirected into management principles and strategies, computer literacy and applied research on technology affecting the home and family.

North Carolina's communities are undergoing extensive social and economic changes characterized by a declining agricultural labor market, increasing pressures on natural resources, demands for skilled labor and a rising expectation for community facilities and services. This plan places priorities on the use of technology to assist communities through improving the quality of citizen input into policy decisions on public services, enhancing the use of natural resources and a positive environment through land-use, water and soil conservation and energy measures, and the economic growth of our state through economic education and manpower development.

The planning process has included two other significant dimensions which have made it a more comprehensive and total program. During the early stages of the previous four year plan, two task forces were created to provide leadership throughout the four year period.

One, the Affirmative Action Task Force, has reviewed the organization's commitment to equality in employment and program access. They have developed and implemented a comprehensive training program for county staff members with the goal to inform and reaffirm the organization's commitments to affirmative action principles. The process involved a substantial number of Extension professionals as teachers in the training process and reached each staff member over the past four year period. Recently, an Affirmative Action Steering Committee along with six subcommittees were appointed and charged with the development of a joint Affirmative Action Plan representing the 1862 and 1890 components of the North Carolina Agricultural Extension Service. Through this plan, Extension will be able to further its commitment to Affirmative Action principles.

The second task force was charged with the development and execution of a comprehensive accountability and evaluation effort. As a result, a benchmark study has been completed to ascertain the results of a previous six year state educational program. The task force also studied and implemented revisions in the input participation reporting process. Four comprehensive impact studies will be undertaken, three by the 1862 component and one by the 1890 component.

In summary, the four year plan of work development process has been an integrating and productive experience. Educational programs have been developed to meet the priority needs as identified by an enthusiastic and dedicated advisory leadership system. The North Carolina Agricultural Extension Service welcomes the opportunity to help people put knowledge to work.

NC01 AGRICULTURE POLICY, PESTICIDE AND CONSUMER EDUCATION IN NORTH CAROLINA

\*SITUATION

The last five years have been a period of hardship for many agricultural producers. Declining exports, worldwide surpluses, and low commodity prices have resulted in falling farmland values and a record number of bankruptcy declarations. Macroeconomic policy regarding inflation, interest rates, and the foreign exchange value of the dollar have had a major influence on agriculture's situation. Farmers are also subject to an increasingly complex and changing set of regulations regarding commodity programs, conservation practices, and chemical use. The same set of macroeconomic forces influencing agricultural producers have had economic welfare effects on the broader rural and consumer sectors. Rapid economic changes have resulted in greater farmer and consumer awareness of the linkages between national policies and individual economic well-being.

\*OBJECTIVES

2,500 farmers, agribusiness operators, commodity leaders, state officials and policymakers, and lenders will understand the importance and impacts of alternative macroeconomic and farm policies on farm numbers, prices, agribusiness and farm income, and agricultural exports. These groups will understand how to take macroeconomic and agricultural policies into account in their business and financial planning. 40,000 community leaders and consumers will understand the importance and impacts of alternative macroeconomic policies on community and consumer welfare and will understand how to use these policies and economic techniques in their community and personal planning. 68,000 farmer will learn how to use pesticides in order to meet certification guidelines.

\*ACTION

Prepare publications and newsletters, prepare and broadcast television and radio programs, newspaper articles and videotapes, conduct county meetings, and offer agent in-service training programs on agricultural and macroeconomic policies, consumer economics, and chemical use. Prepare microcomputer programs to assist consumers in making economic decisions. Conduct an annual Economic Outlook and Agricultural Policy Conference for statewide participation.

\*EVALUATION

Participants in educational programs and users of microcomputer programs will be asked to provide feedback about the usefulness of the information conveyed. Requests by citizens for information will serve as an indicator of demand.

\*SCOPE Co in St 100 In Prog 100  
Agriculture and Home Economics

\*KEYWORDS

Agriculture Policy Pesticide Education Consumer Education

\*ESTIMATED RESULTS/IMPACTS

(TOTAL IN 4-YR CYCLE)

Knowledge of impacts of macroeconomic and agricultural policies increased.	2,500 agricultural leaders, lenders, and consumers
Use of economic decision-making techniques increased.	40,000 consumers
Producers and consumers trained in chemical (pesticide) use	68,000 producers and consumers

**\*ESTIMATED FTEs**

Year	Prof	Para	Vol
1988	16.5	0	1
1989	16.5	.3	.1
1990	16.5	.3	.1
1991	16.5	0	.1

**\*REPORTING SCHEDULE**

Year	Accom	Impact
1988		
1989	X	
1990		
1991	X	

**\*CONTACT**

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**\*SITUATION**

One-half million people in North Carolina hunt. Demand for wildlife increases while habitat shrinks. Most private lands (about 75% of land area) are not managed for wildlife. One-third million anglers fish in more than 100,000 farm ponds and small lakes. Demand grows, but most ponds and small lakes are not managed to full potential. Only 25% of landowners now lease access to their property. Lease rates are \$2-\$10/acre/year for deer and small game, \$5-\$20/day for doves, and up to \$200/day for waterfowl. A further consequence of urbanization and human population growth is an increase in wildlife damage complaints. North Carolina ranks second in private production of mountain trout (6.75-7.5 million pounds, \$8 million annual income), and first in number of trout farms, but landowners need more information on fish culture, water quality, marketing, and disease control. Potential exists for more production of crawfish, catfish, striped/bass hybrids, clams and oysters. Production of catfish and other warm-water species was only \$135,000 in 1985, and crawfish and hybrid bass culture is just beginning. Coastal and fisher products reached a record value of \$69.4 million in 1985 (215 million pounds landed), but the public is not well-informed about seafood products, their food value, and proper handling and use. Coastal development adversely effects fish stocks, and demand for recreational (5.12 million trips in 1985) and commercial fishing increases. Information on effects of water quality changes and allocation of harvests among competing users is needed, as are policy programs on soil erosion and water quality and the impact of growth and development on rural areas.

**\*OBJECTIVES**

2,000 landowners practice wildlife habitat management (currently 1,000). 1,000 landowners practice improved pond management and aquatic weed control. 50% increase in landowners providing access to fish and wildlife through leasing or user fees. 2,400 landowners, homeowners and agents gain knowledge of wildlife damage control and urban wildlife (currently 5,000). 1,000 persons gain knowledge of warm-water aquaculture practices, economics, and marketing. 300 individuals gain knowledge of mountain trout production, marketing and disease control. 5,000 consumers educated about better utilization of seafood products. 16 seafood processors utilize new technological developments such as thermal processing, smoking, etc. 1,000 individuals and agents informed about conservation laws, soil conservation, rural land use issues and policy alternatives. 1,200 youth educated about wildlife and natural resources.

**\*PLAN OF ACTION**

Establish demonstration areas for habitat management. Conduct agent training in habitat management, managing wildlife for income, urban wildlife management, pond management and aquatic weed control, aquaculture (methods, economics, species), soil conservation and land-use policy. Develop and maintain educational materials (publications, visuals) on managing wildlife for income, pond management, aquatic weed control, wildlife damage control, landowner liability, trout culture and disease control, warm-water aquaculture and economics, handling and use of seafood products. Develop information on extent of warm-water fish farming enterprises, demand and allocation of commercial fish stocks, and conservation and land use issues

and policies. Establish trout disease laboratory. Establish county extension clearinghouses to facilitate public access to private lands for hunting and fishing. Conduct tours, workshops, and seminars for landowners and others on above-listed subjects. Conduct youth camps on wildlife and natural resources. Work closely with public and private organizations on delivery of programs.

**\*EVALUATION**

Collect information on: number of persons attending tours, workshops, demonstrations and seminars; demonstration areas use; number of clearinghouse requests handled by county Extension Offices; number of landowners leasing hunting and fishing; number of agents trained; number of youth instructed in wildlife natural resources; number of landowners undertaking trout farming or warm-water aquaculture; number of educational materials produced and estimated number of users.

\*SCOPE Co in St 100 In Prog 79

Agriculture and Natural Resources,  
Home Economics, 4-H, Community and Rural Development

**\*ESTIMATED RESULTS/IMPACTS**

Improved Wildlife Habitat Management	2,000 landowners
Improved Pond Management & Aquatic Weed Control	1,000 landowners
Increased number of landowners providing access for fishing and hunting	75,000 (50% increase)
Knowledge of Wildlife Damage Control and Urban Wildlife	2,400 landowners and homeowners
Knowledge of Warm-water Aquaculture	1,000 persons
Knowledge of Mountain Trout Production	300 persons
Increased and better Utilization of Seafood Processing	5,000 consumers 16 processors
Improved Seafood Processing	
Knowledge of Conservation Laws, Land Issues, and Policy Alternatives	1,000 persons
Knowledge of Wildlife and Natural Resources	1,200 youth

**\*ESTIMATED FTEs**

Year	Prof	Para	Vol
1988	10.2	1.5	1.8
1989	9.0	0.9	1.9
1990	9.0	0.9	2.0
1991	8.8	0.9	2.0

**\*REPORTING SCHEDULE**

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

**\*CONTACT**

Program	Administrative
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**\*SITUATION**

Cotton was produced on approximately 84,000 acres in North Carolina in 1986. This represents a 100% increase over the low of 42,000 acres produced in 1979 and an additional \$8 million in net farm income. Early maturity, important to most areas of the cotton belt, is crucial to North Carolina producers. Early season cool temperatures retard vegetative development while late season weather hampers boll opening and timely harvest. The currently inevitable use of multiple pesticides imposes further crop development limitations. Producers must become more aware of the crop developmental consequences that result from their management decisions. New computer models are being developed to enable producers to recognize and consider the overall farm management implications of their cultural practices. Insect pests can extract heavy yield and quality (50 to 90%) losses if not managed effectively. Significant pest shifts, in part due to the Boll Weevil Eradication Program, have enhanced our ability to manage some species (bollworm), while simultaneously elevating the pest status of other insect pests (green stink bug, European corn borer). This changing pest status demands that modified scouting procedures and new economic threshold be taught to and utilized by producers. Cotton producers have a limited arsenal of herbicides. Because of the limited arsenal of effective broadleaf herbicides and the poor competitiveness of cotton, growers are having great difficulty in managing certain problem weeds. In addition, improper use of currently available herbicides can result in significant yield losses. More effective soil-applied and/or postemergence overtop broadleaf herbicides are needed as are greater utilization of currently available postemergence directed herbicides and less reliance on currently available postemergence overtop broadleaf herbicides that may reduce yield. Cotton diseases occasionally cause substantial losses in yield which, in addition to chemical costs, cause a reduction in net profit to growers. Two pests, the Columbia Lance and Reniform nematodes, are new introductions into the state and represent a potential problem for growers.

**\*OBJECTIVES**

Cotton producers will recognize the potential crop retardation resulting from inappropriate pesticide application. Producers will understand available cultural technologies designed to alleviate or compensate for chemical or environmental stress. Producers will be introduced and encouraged to implement worthwhile management tools including computer models, irrigation, and in-season crop monitoring techniques. Growers will form and adopt management systems for "new" pests, such as the European corn borer. Farmers and agents will become more familiar with the proper use and selection of the various herbicides and herbicide programs available for use in cotton. This will include greater use of fall scouting and in-season scouting, more awareness of the need to base herbicide applications upon the particular weed problems, economic need, and better application procedures (also includes proper use of spray adjuvants). Producers will understand the importance of effective disease monitoring and control techniques. \*ACTION Demonstrate through on-farm tests crop developmental response to crop management practices. Validate and implement cotton management situation model COMAX/GOSSYM in at least 10 of the major cotton production counties. Revise

(major) cotton insect scouting guide to reflect new procedures and thresholds. Conduct regional cotton insect scouting schools (6 to 8). Send cotton IPM newsletters to all producers. Replicated on-farm tests will be conducted in cotton-producing counties to evaluate management systems with emphases on difficult-to-control weeds, evaluation of new herbicides, and proper application procedures.

**\*EVALUATION**

Select fields in county as monitoring stations and appraise cooperators of actual to predicted crop development. Solicit grower and agent appraisals of COMAX/GOSSYM model in their operations following initial trials with model. Monitor grower attendance at production and scouting sessions. Survey agents and growers about adoption of available technologies. Access ASCS and USDA data to evaluate yield and fiber quality results.

\*SCOPE Co in state 100 In Prog 15

**ANR**

**\*KEYWORDS**

Agriculture Competitiveness and Profitability of  
American Agriculture Conservation and Management of Natural Resources  
Cotton Production and Marketing

**\*ESTIMATED RESULTS/IMPACTS**

Pesticide use patterns improved	500 cotton producers (\$25/acre)
Production technology improved	500 cotton producers (\$25/acre)
Cotton lint yield/acre increased	50 lbs/acre on 80,000 acres
Lint quality improved	20 ,000 acres
Nematode samples taken	100% of southern cotton counties
Scouts trained	200

**\*ESTIMATED FTEs**

Year	Prof	Para	Vol
1988	4.2	2.0	1.0
1989	4.2	2.0	1.0
1990	4.2	2.0	1.0
1991	4.2	2.0	1.0

**\*REPORTING SCHEDULE**

Year	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

**\*CONTACT**

Program  
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Administrative  
(Same)

## NC04 DAIRY PRODUCTION AND MARKETING IN NORTH CAROLINA

### \*SITUATION

North Carolina has 1012 Grade A milk producers primarily located in the Piedmont (69%) and Mountains (25%). In addition, there are about 200 manufactured milk herds. The number of Grade A dairies has declined by 25 percent since 1980 while cow numbers have declined five percent, milk production has risen seven percent and sales have increased six percent. These trends will continue for the next four years. Changing government policy and marketing conditions have forced dairymen to seek means of improving efficiencies in production and marketing. Educational programs can help dairymen benefit from new technologies and thus remain competitive. Educational programs are needed in areas of government policy, marketing, business management, reproduction, milk quality, genetics, waste management, records, herd replacements, nutrition and feeding.

### \*OBJECTIVES

For North Carolina dairymen to:

1. Improve financial management skills and understanding of government policy and milk marketing.
2. Improve reproductive performance by shorter calving interval in 80 herds.
3. Improve milk quality and reduce mastitis as indicated by lowering somatic cell score from 3.45 to 3.20 in 435 herds.
4. Improve feeding management by increasing use of feed analysis by 10%, ration formulation by 10 % and use of blended rations by 20 %.
5. Improve use of high genetic merit AI sires as indicated by increasing PD\$\$ from \$100 to \$125 for 600 farms.
6. Improve management of livestock waste as indicated by no additional surface water miles impacted by dairy waste.
7. Improve management of herd replacements as indicated by lower calf death losses to 10 percent or less and by reducing calving age by one month.
8. Improve forage management as indicated by an increase in alfalfa acreage and increased use of effective methods for forage preservation.
9. Increase use and analysis of DHIA management records with emphasis on micro-computer programs.
10. Increase production efficiency as indicated by an increase in DHIA rolling herd average milk from 16,000 to 17,000.

### \*ACTION

Provide in-service training for agents with dairy responsibility (1988-91). Conduct meetings for dairymen on a state, area and county basis (1988-91) Provide newsletters, fact sheets, video tapes and computer programs for use by agents, dairymen and others (1988-91). Provide individual consultation to dairymen, agents and other practicing professionals (1988-91). Conduct demonstrations and DHIA herdbook clinics (1988-90). Reserve the flexibility to reprioritize programs in the event of a crisis such as drought.

### \*EVALUATION

Conduct surveys of dairymen at the beginning and end of the four-year planning period. Evaluate changes in DHIA production parameters. Summarize the number of meetings, consulting cases and participation in extension educational programs.

SCOPE Co in St 100 In Prog 36  
Agriculture and 4-H

**\*KEYWORDS**

Dairy cattle, cows, milk, dairy economics,  
dairy farm management

**\*ESTIMATED RESULTS/IMPACTS**

Increase DHIA rolling herd average milk From 16,000 to 17,000  
Improve reproductive performance Reduce calving interval in 80 herds  
Improve milk quality Reduce DHIA SCC from 3.45 to 3.2 in 435 herds  
Improve feeding management Increase feed analysis and ration formulation by 10 percent  
Improve genetic management Raise PD\$\$ from \$100 to \$125 for 600 farms  
Improve management of young stock Reduce calf losses to 10 percent and calving age by one month  
Improve knowledge of financial management Involve 400 farm managers or owners

**\*ESTIMATED FTEs**

Year	Prof	Para	Vol
1988	19.1	0	0
1989	19.1	0	0
1990	19.1	0	0
1991	19.1	0	0

**\*REPORTING SCHEDULE**

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

**\*CONTACT**

Program Administrative  
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**\*SITUATION:**

Decreased U.S. exports, large U.S. production and large carryover stocks have depressed commodity prices and continue to plague N.C. producers. Over 20% of respondents to a financial survey conducted by N. C. Crop and Livestock Reporting Service in February, 1986, report debt/asset ratios indicating moderate to severe financial stress. Much of this stress has resulted from farm businesses incurring excessive amounts of debt relative to the businesses' capacity to service such debt and the lack of understanding of how to document and analyze such capacity. Only 290 producers participate in the NCSU Mail-In Farm Records system, with an estimated 500 keeping the NCSU manual. Producers, agribusinesses and lenders need to evaluate many new alternative enterprises, new production technologies, and new marketing alternatives. The legal consequences of changing laws and governmental policies have to be better understood. Improved business and financial management is necessary if N.C. farmers are going to be competitive and profitable.

**\*OBJECTIVES:**

1. The number of farmers participating in the NCSU Farm Business Records system will increase by 35% by 1991.
2. 8,000 farm families participating in Extension programs will increase their knowledge of how to keep complete farm and family records, how to analyze such records, and how to use such records for farm and family planning and decision making.
3. 5000 farm families participating in financial management workshops will increase understanding of and ability to develop and analyze financial statements.
4. 400 lenders participating in financial workshops will increase their understanding and appreciation of farm record analysis, integrated financial statements, marketing alternatives and the agricultural economy in general.
5. 10,000 farm families, agribusinessmen, and professionals will become more aware of legal and tax considerations of farm business and family decisions, including estate and intergenerational transfers.
6. 10,000 farm families, agribusinessmen, and professionals will learn how to evaluate the economic consequences of adopting alternative marketing strategies.
7. 1,000 farm families, agribusinessmen, and other professionals will increase their understanding of and ability to evaluate changing farm programs, new technologies, and alternative enterprises.

**\*ACTION:**

In-service training for area agents and county agents with farm and family management responsibilities on record keeping and financial decision making. Development and adoption of software for use in county offices and homes on farm and family decisions. In-depth workshops for farmers and families with hands-on experience using financial management and marketing computer programs. In-depth lender/accountant/lawyer seminars on financial analysis, record keeping, marketing, farm planning and business survivability. Development and expanded use of video tape, mass media, and other innovative delivery techniques. Development of farm management/marketing clubs or associations will be explored and individual counseling will be available upon request.

**\*EVALUATION:**

Use pre- and post-knowledge tests at workshops, survey changes in behavior and

adoption of proposed practices, measure changes in participants' financial condition (net income and debt/asset ratio), measure number of participants in NCSU records programs, measure participation in governmental programs, and measure participation in various workshops, in-service training sessions, and seminars.

\*SCOPE Co in St 100 In Prog 100

ANR, Home Economics

\*KEYWORDS

Management, marketing, lender, financial management, increased understanding, debt, records, alternative enterprises, new technologies, legal, farm programs, tax

\*ESTIMATED RESULTS/IMPACTS

NCSU record system participants	35%
increased	
Farm planning, financial management, and marketing knowledge increased	8,000 farm family members others
Improved ability to analyze debt position	5,000 farm family members
Improved lender knowledge of records statements, mktg. alternatives ag. situation	400 lenders financial
Increased awareness of legal and tax considerations	10,000 farm family members
Improved marketing understanding	10,000 farm family members
Increased understanding of and ability to evaluate farm programs, new technologies, alt. enterprises	1,000 farm family members

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	28	0	0
1989	28	0	0
1990	25	0	0
1991	25	0	0

\*REPORTING SCHEDULE

Year	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

\*CONTACT

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Administrative  
(Same)



\*SITUATION

Feed grains and soybeans are grown annually on an average of 4.05 million acres with a value of \$598 million. The diversity of the utilization of feed grains and soybeans insures their continued significance to the economy of North Carolina. However, world stocks of feed grains and soybeans are at record high levels and low commodity prices are expected to continue for the next four years. Thus production systems (including IPM, Soil and Water Management and Marketing) need increased efficiency of management in producing feed grains and soybeans at per unit costs that can return profits under the farmer's selected marketing system.

\*OBJECTIVES

Twenty-five percent of the farmers reached through educational programs are expected to reduce production problems and increase efficiency of management in the following areas: Pest Management and Pesticide Use to include scouting, record-keeping, identification of insects, diseases, weeds, nematodes and selection of appropriate pesticides to reduce losses by 5% (currently estimated at 45%). Soil and Water Management including conservation, tillage, seedbed preparation, no-till, water quality, irrigation, use of marginal soils, fertility. Marketing to include available strategies and use of farm programs to increase profits by \$6 per acre to an average of \$20 from the current \$14 per acre and to increase the value 10% from \$598 million to \$658 million. Variety Selection to include increasing the acres of alternative grain crops such as oats, barley, sorghum and triticale) by 15% from currently 175,000 harvested acres to 201,000 acres. \*ACTION To accomplish these objectives will involve activities related to and centered around traditional and innovative teaching methods and techniques which include mass media, one-on-one consultation, use of computers, written education materials; on-site visitation and evaluation of special problems; use of the plant disease clinic, soil testing and tissue analysis; field days, tours, production meetings, on-farm demonstrations and on-farm tests; cooperating with agribusiness, universities and agencies.

\*EVALUATION

1. Measure losses from pest (insects, diseases, weeds, etc.).
2. Check improvements in conservation and water quality.
3. Measure percentage of acres grown in top yielding varieties.
4. Measure state acreage, yields per acre and production.
5. Measure state income for feed grains and soybeans.
6. Conduct a survey of the growers on various activities and cultural practices and how they helped improve or hindered profitability.
7. Conduct interviews to obtain frank responses by growers.
8. Survey associated agribusiness personnel and obtain opinions and statements of facts.

\*SCOPE Co in St 100 In Prog 100

Agriculture

\*ESTIMATED RESULTS/IMPACTS

Acres Impacted	.5 million
Costs Reduced	\$9.00/acre (6%)
Income Earned	\$658 million
Income Increased	10%
Losses from pests decreased	5%
Profitability Increased	\$6.00 per acre (43%)
Yields Per Acre Increased	9 bushels (20%)



\*SITUATION:

Commercial forest land covers 60 percent of North Carolina. The U.S. Forest Service predicts that by 2030 this acreage will decrease by 5 percent, that the private non-industrial pine acreage will decrease by 35 percent and that removals of pine and hardwoods will exceed growth around the year 2000. These trends can be changed if landowners manage their forests more aggressively. Surveys have shown that most forest landowners are unfamiliar with the benefits and methods of forest management, do not have clear objectives, are uncertain of available assistance, and are unfamiliar with business management and marketing methods. Specific data for N.C. is now being collected. Increased awareness and professional assistance will increase substantially landowner's financial returns from forest management. Management is also inhibited by a lack of markets for pine thinnings and low quality hardwoods in much of the state. Although trees are the most widely grown and one of the most profitable agricultural commodities, income is received infrequently. However, opportunities exist to increase annual income from pine straw, hunting leases, firewood and recreation. Over 3,000 wood products companies make up the state's second largest manufacturing industry with 145,000 employees and annual shipments of \$8 billion. Maintenance and growth of the industry is threatened by imported lumber and furniture and use of substitute materials. Studies have shown that 5 to 10 percent increases in yield can be obtained through improved quality control and use of the latest processing and computer technology. Finally, the public's understanding of the role of forests and forests is decreasing as the state becomes more urbanized. A focus of concern is on timber harvesting methods and stream sedimentation with growing calls for regulation.

\*OBJECTIVES

1. 3,000 forest owners improve financial mgt. and mktg. knowledge and practices.
2. 2,000 forest owners improve multiple use forest management knowledge and practices.
3. Landowners increase pine straw production from 50,000 to 100,000 acres.
4. 1,200 loggers, procurement foresters and landowners improve their knowledge of best management practices for timber harvesting.
5. 75 sawmills and furniture companies adopt lumber quality control programs
6. 100 jobs created with new wood products manufacturing companies
7. 1500 builders, architects, and engineers improve or increase their use of wood.

\*ACTION

State: Develop and maintain up-to-date publications, slide tapes, videotapes and computer programs on various aspects of forest management and wood products utilization. Conduct workshops for professionals, and environmental organizations. Undertake case studies with industry and landowners. Expand use of Woodland Management Correspondence Course and Master Forester program. Work closely with public and private organizations in development and delivery of programs. Local: Organizer meetings, tours, and demonstrations for forest landowners. Distribute media releases. Support County Interagency Woodlot Committees and County Forestry Association.

\*EVALUATION

Collect county data on forest management

activities. Determine knowledge and practice changes of program participants through pre-and post-tests and follow-up surveys. Conduct case studies to determine yield improvement and cost savings in saw mills and furniture plants.

\*SCOPE Co in St 100 In Prog 77

ANR, Home Economics, 4-H, CRD

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Income increased through improved financial management and marketing practices 3,000 forest owners  
Income increased through improved multiple-use forest mgt. practices 2,000 forest owners  
Private landowner acreage managed for pine straw prod. increased 50,000 acres  
Knowledge of best management practices for timber harvesting improved 1,200 loggers, procurement foresters and landowners  
Yield improved by lumber manufacturing and drying quality control programs 75 companies  
Jobs created with new wood products manufacturers 100 people  
Use of wood in construction improved or increased 1,500 builders, architects and engineers

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	19.9	1.4	6.2
1989	21.3	1.4	6.8
1990	21.2	1.4	7.3
1991	21.4	1.4	7.8

\*REPORTING SCHEDULE

Year	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

\*CONTACT

Program	Administrative
Michael Levi	(Same)
Specialist In-Charge	
Extension Forest Resources	
Box 8003, NCSU	
Raleigh, NC 27695-8003	
(919)737-3386	

**\*SITUATION**

Five major fruit crops, apples, peaches, blueberries, strawberries, and grapes are grown on a total of approximately 29,000 acres in North Carolina with a farm value of approximately \$50 million per year between 1982 and 1986. An unusually high incidence of frost/freeze damage reduced returns about 30% during this period. Production and marketing environments vary from local markets to national and international markets. Poor quality, large volume, competition from other production areas, and labor challenge the traditional commercial growers and shippers. Production, harvesting, handling, packing and shipping techniques often lead to a product less than the premium quality demanded by buyers and consumers. Management of pests, pathogens and beneficial organisms are essential and often costly components of quality fruit production. Excessive losses can occur from over-use, under-use or improper timing of applications of pesticides/growth regulators. Consumers are becoming increasingly concerned about potentially harmful effects from misused pesticides/growth regulators.

**\*OBJECTIVES**

1. Fruit growers to develop more profitable production systems in both the traditional and emerging regions of fruit production.
2. Growers to learn good management and marketing methods and how to utilize marketing alternatives.
3. Growers and agents to learn and keep up-to-date on methods for reducing losses from adverse weather conditions, how to improve quality by improving harvesting, handling, and packing techniques, optimizing pest management and efficient and proper use of pesticides/growth regulators.

**\*ACTION**

State: Sound integrated cultural and pest management practices with emphasis on the production of quality fruit will be demonstrated to growers and agents by using on-farm tests. Benefits from using practices that reduce the chance of major losses from adverse weather conditions will be demonstrated and emphasized. Agents will be kept up-to-date through in-service educational programs, visits by specialists, newsletters, publications, information delivered by video and computer technologies. Local: Promote and conduct meetings with local agribusinesses and grower associations. Encourage regional meetings. Conduct workshops on management, production and marketing strategies.

**\*EVALUATION**

Benchmark and annual data of production units, costs and fruit quality will be obtained through agent surveys, cooperation with the N. C. Department of Agriculture and a limited number of in-depth studies with individual growers. Additional data sought will include blueberry shipments with and without cooling, used of systems for frost protection in orchards and strawberry fields, producers utilizing pest management practices and computer-assisted pest forecasting systems, number of producers and acreage utilizing plastic mulches in strawberries, and pack-out percentages of USDA grades in apples and impact of the maturity program in the major apple producing areas.

\*SCOPE Co in St 100 In Prog 61

ANR

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Improve fruit quality 15%  
Increase profitability of  
fruit production 15%  
Improve marketing practices 15%  
Increase use of pest manage-  
ment practices 10%  
Better water management  
(irrigation & frost  
protection) 10%  
Improve pesticide usage  
and management 10%

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	12.93	3.32	6.09
1989	12.93	3.32	6.09
1990	12.93	3.32	6.09
1991	12.93	3.32	6.09

\*REPORTING SCHEDULE

Year	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

\*CONTACT

Program  
Dr. F. B. Poling  
Horticultural Science  
Box 7609, NCSU  
Raleigh, NC 27695-7609  
Dr. D. F. Ritchie  
Plant Pathology  
Box 7616  
Raleigh, NC 27695-7616

Administrative  
(Same)

NC09 LIVESTOCK (BEEF CATTLE, HORSES, SHEEP) PRODUCTION AND MARKETING IN  
NORTH CAROLINA

\*SITUATION

The North Carolina beef cattle, horse and sheep industries are major contributors to the state's economy, generating annually in excess of \$600 million. There are 775,000 beef cattle (cows, calves, replacements, yearlings) on 22,000 farms, 220,000 horses on 53,000 operations and 9,000 ewes and their lambs on 500 farms. About 3,900 and 2,300 youth are involved, respectively, in horse and meat animal programs. Only 9% of surveyed producers have herds on a performance testing program. Only 10 to 12% of the feeder calf crop is sold through state graded sales, and less than half of the producers plan their marketing. Adequate handling facilities are needed to implement total management programs. About 600 feed samples are tested annually by beef, horse and sheep producers, and use of the fescue endophyte lab has been minimal. Only 26% of beef growers use growth implants. New grazing techniques are beginning to be recognized as a means of improving forage use. Reproductive and health problems limit production and profits. In 1986 4,000 producers participated in adult horse programs, and additional educational needs in the horse area are developing rapidly.

\*OBJECTIVES

1. 300 producers to build or renovate handling facilities.
2. Farmers test additional 100 feed samples per year and 400 fescue samples for endophyte over 4 years.
3. 5% more producers use growth stimulants (30 vs 25%).
4. 15% more commercial producers develop and maintain herd records and increase weaning weights by 8%.
5. Producers implement herd health, vaccination and parasite control programs.
6. 5% more producers plan beef cattle marketing (50 vs 45%).
7. 100 additional farmers intensify grazing management.
8. 100 additional farmers improve reproductive management.
9. 8,000 horse owners improved management and marketing skills.
10. Producers participate in new organized horse marketing program.
11. Youth participation in horse activities increase from 3900 to 4300 and 200 volunteers obtain training.
12. Youth participation in meat animal activities increase 2700 from 2300, including new meats project.

\*ACTION

Agent and volunteer training, producer meetings, field days, workshops, demonstrations; mass media, bulletins, newsletters, videotapes; computer software and training, consultation, performance testing and state graded sales; youth horses and livestock shows, demonstrations, judging, quiz bowls, clinics and camps.

\*EVALUATION

Surveys of beef producers for practice implementation; conference evaluations reporting knowledge gained and impact on profits of horse meetings; summaries of data from feed, soil and endophyte labs, county accomplishment reports, feeder cattle, lamb and horse sales; adult and youth participants in beef, horse, and sheep activities; summary of data from performance testing programs.

\*SCOPE Co in St 100 In Prog 100

ANR, 4-H

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Handling facilities built or improved	300 farms
Feed samples tested	400 additional samples
Growth stimulant use	30% vs 25% of producers
Breeding and selection principles applied	15% increase in participation
Weaning weights increased	8% increase in weaning weights in performance tested herds
Planned marketing programs	50% vs 45% of producers
Intensified grazing management	100 additional farms
Improved reproductive rates	100 farms
Knowledge gained	8000 horse owners
Youth life skills improved - horses	400 additional participants
Youth life skills improved - livestock	400 additional participants

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	34	3	13.3
1989	34	3	13.3
1990	34	3	13.3
1991	34	3	13.3

\*REPORTING SCHEDULE

Year	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

\*CONTACTS

Program	Administrative
Dr. Roger G. Crickenberger	(Same)
Extension Animal Husbandry	
Box 7621, NC	
Raleigh, N. C. 27695-7621	



NC10 ORNAMENTAL PLANT PRODUCTION AND MARKETING in North  
Carolina

\*SITUATION

The demographics in North Carolina are changing rapidly with the population expected to 8,000,000 by the year 2000. An increase in commercial, recreational, and residential spaces will have a profound effect on the ornamentals, nursery, landscape, and turf industries. Currently, 4764 acres of woody ornamental nursery crops are in production in North Carolina with an annual income in excess of \$60 million. Major problems for the nursery industry are an inconsistent supply of plant materials and lack of uniformly high quality. Approximately 1,300 firms currently are producing floricultural crops with a wholesale value of about \$90 million dollars. Christmas tree production in North Carolina is expanding with some 9 million trees planted in 1986. Growers need to improve quality of trees produced and expand into the national market. About 2,000,000 acres of turfgrasses are grown in North Carolina with annual maintenance costs of \$700 million. Currently the landscape industry is a "billion" dollar business in North Carolina which includes services of architects, contractors, and garden centers. Landscape and pesticide education programs are needed to help the landscape professionals manage ornamentals and turfgrass properly. Many insect, weed, and disease problems occur on these plants and Urban IPM programs are needed to help manage these pests. Master gardener programs are active in 16 counties and more are needed.

\*OBJECTIVES

1. Growers using AAN and USDA standards for quality will increase by 25%.
2. Floral crop producers will become more efficient by increasing the number of growers who adopt recommended production and computerize operations by 25%.
3. Christmas tree growers will improve quality and market 50% more high quality trees.
4. 50% of the professional turfgrass managers will attend educational programs and adopt recommended turf management practices.
5. Attendance at landscape management schools will be increased by 25%.
6. Urban IPM programs will increase from 2 to 6 in the state.
7. Master gardener education programs on ornamentals and turf will increase by 25%.

\*ACTIONS

Conduct survey winter '87-'88 to determine base data for objectives 1-4. Educational packages (publications, slide sets, video tapes, etc.), demonstrations, field days, conferences, in-service-training, and applied research will be used to increase the technical competence of agents and clientele. Training programs will be developed for 1) professional landscape managers, 2) pesticide applicators, and 3) home owners. Video tape and computer programs for nursery, floral crop, Christmas tree growers, and sod producers will be developed. Resource materials, training sessions, and mass media packages will be developed to support agents and master gardeners. Organization of grower groups will be encouraged to help develop unified marketing and educational programs.

\*EVALUATION

Surveys will be used to determine the value of these commodities, educational programs, and of adopting proper management approaches. The number of master

gardeners, attendance at conferences and field days, and publications distributed will be reported.

\*SCOPE Co in St 100 In Prog 100

Agriculture, Community Resource Development

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

More growers using quality standards 25% increase

More high quality Christmas trees 50% increase

Increased attendance at landscape schools 25% increase

New Urban IPM programs Increase to 6 counties

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	32.5	4	5
1989	32.5	4	7
1990	32.0	4.5	9
1991	31.0	4.5	11

\*REPORTING SCHEDULE

Year Accompl Impact

1988

1989 X

1990

1991 X

\*CONTACTS

Program

Administrative

Leon T. Lucas

(same)

Ext. Plant Pathology Specialist

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## NC11 PEANUT PRODUCTION AND MARKETING IN NORTH CAROLINA

### \*SITUATION

Peanuts are produced by approximately 7,000 farmers in North Carolina on 150,000 acres with yields averaging 2,750 pounds per acre. Peanuts are produced under federal legislation that uses a quota poundage allotment to restrict peanut production for domestic edible use. The program includes a two-tier price support provision where quota peanuts (domestic use) are supported at a high support price while non-quota peanuts (additional for export or crushing) are supported at a low summer price. The average peanut producer is making a profit on quota peanuts. However, North Carolina growers are not able to produce additional peanuts at a profit because of the heavy use of high cost inputs such as seed, herbicides, fungicides, insecticides and fuel for production and drying. Thus, our producers are not always competitive in world peanut markets and acreage has declined to near the acreage needed to produce only quota peanuts. Marketing is becoming more difficult as consumers are expressing concerns about peanut quality and pesticide residues. Currently, growers are spending in excess of \$250 per acre for seed and pesticides. Approximately 60% of current pest control costs are for preventative treatments. Pesticide use can be reduced if growers will follow integrated pest management procedures for prescription pesticide application. Use of IPM concepts will help preserve environmental quality. Weather related crop modeling programs such as disease and insect outbreak forecasters and growth and yield models are available to growers and can aid growers in crop management and marketing decisions such as pesticide scheduling, harvesting at optimum maturity, proper drying, maintaining quality, contracting, and marketing.

### \*OBJECTIVES

In order to increase profits, improve world market competitiveness and reduce pesticides usage, peanut growers will adopt the following production and marketing practices.

- Growers to develop and implement weed, insect and disease management programs with emphasis on identifying specific problems, followed by selection and proper application of correct pesticides. Reduce pesticide costs 8% (\$150/acre to \$138/acre).
- Growers to use environmental data available through county extension offices as decision aids in disease and insect management and in optimizing harvest for maximum yield and quality.
- Growers to harvest and deliver a quality peanut to market. Growers must adopt proven practices that predict optimum maturity and quality, reduce harvest losses and damage, and proper drying and storage.
- Growers to improve their understanding of marketing and marketing alternatives for quota and non-quota production, contracting, government programs, storing and handling peanuts to maintain quality and increase profits.

### \*ACTION

State: Extension Specialist to disseminate information on IPM, scouting, disease and insect forecasting, other cultural practices, harvesting, digging and marketing through mass media and local extension agents. Revise and publish annually a peanut production guide. Provide two in-service training opportunities for local extension agents both in the field and the classroom each year. Develop and validate software and peanut growth models for use at the county level. Assist extension agents in securing funds to

purchase environmental monitoring equipment for each county. Local: Jointly establish and conduct at least two on-farm tests and/or demonstrations in each county. Jointly conduct peanut production, harvesting and drying meetings for growers, agri-business and peanut buyers.

Establish and utilize electronic mail, computer programs and video tapes for training growers.

**\*EVALUATION**

Baseline survey each county to determine changes in pest control programs. Determine number of growers who call extension offices for disease and insect forecasts. Analyze pesticide sales for changes in pesticide use or mix. Maintain a record of growers attending training sessions or field tours on production, harvesting and marketing. Analyze peanut grade data to determine changes in market quality. Use ASCS records to determine changes in crop yields. Determine number of growers using scouts to collect weed, disease and insect data.

**\*SCOPE** Co in St 100 In Prog 15

ANR

**\*ESTIMATED RESULTS/IMPACTS**

Pests Reduced

Disease infestation reduced 15%

Pesticide Use Reduced

8-10% reduction per acre, input costs

reduced 5-8%

Pest Control Increased

10% less loss due to insects, weeds,

diseases

Quality Improved

10% increase in grade index due to

better harvest time and drying

Harvesting Efficiency Improved

5% yield increase due to more

efficient timing and machinery

operation

Production Efficiency Improved

Marketing Options Awareness Improved

**\*ESTIMATED FTE**

Year	Prof	Para	Vol
1988	5.3	2.0	1.0
1989	5.3	2.0	1.0
1990	5.3	2.0	1.0
1991	5.3	2.0	1.0

**\*REPORTING PLANS**

Year	Accom	Impact
1988	0	
1989	X	
1990	X	
1991	X	

**\*CONTACT**

Program  
Dr. Gene A. Sullivan  
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North Carolina State University  
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(919) 737-3331

Administrative  
(Same)

**\*SITUATION**

North Carolina's billion dollar poultry industry is diverse with significant commercial production in broilers (\$699 million annual farm value), turkeys (\$342 million), breeder and table eggs (\$220 million), and ducklings (\$15 million). The state's poultry production has developed a strong growth pattern over the past decade; broilers increasing 43% and turkeys 143% due mainly to increasing consumer demands for broiler and turkey meat products. The diversity and growth has made disease control, housing, production and business management, and nutrition more critical than in the past. A 1986 Laryngotracheitis outbreak affected 1 1/2 million birds in four counties, causing up to 10 times normal mortality and condemnation rates, indicates a need for a statewide emergency disease program. In the summer of 1986 heat stress had a significant economic impact on poultry, doubling mortality and lowering weights and egg production. With 500 new growers projected to join the state's current 3,860 poultry farmers by 1991 an increased need for investment analysis and business management information is evident. The high and increasing poultry population make it essential to seriously address management and utilization of 1,618,000 tons of poultry manure being produced annually. The integrated structure of the poultry industry presents the opportunity to design unique educational programs for a number of different audiences, including poultry farmers and the 12,000 personnel who work different segments of integrated poultry operations.

**\*OBJECTIVES**

Poultry producers to retrofit florescent light fixtures in 260 production units at an annual savings of \$834,000 in energy costs. 15% of 4,000 producers install improved equipment and adopt management practices against heat stress. Processors involve residue and bacteria testing in 5 plants that result in improved quality of 200 million broilers and turkeys. Recommended record and enterprise analysis programs adopted by 100 poultrymen. The entire N. C. Poultry Industry adopt a state emergency disease program. Integrators improve vaccine programs that would impact 20% of 706 million poultry grown annually. Producers to change attitudes toward improved litter stockpiling and using soil test results as a basis for cropland utilization of poultry manure. 100 poultry flock supervisors adopt improved pest and ectoparasite programs. To establish benchmark data for evaluation including data on: normal weight gains, mortality, carcass quality and condemnation rates, and number of producers utilizing recommended stockpiling, and litter/soil testing, and business management techniques.

**\*ACTION**

Production and economic information from field trials and other sources will be presented in newsletter, popular press, educational meetings and individual assistance situations to include video tape and computer technology (1988-91). Investment analysis, farm records, and enterprise analysis to teach business management skills (1988-91). A state poultry emergency disease program established (1988-89) including an effective disease reporting system and an educational program on vaccination, isolation, and sanitation. Waste management educational materials will be updated and developed (1988-91). Expanded manure nutrient base and electronic media will be used to help farmers determine best fit waste management plans (1990-91).

**\*EVALUATION**

Rate of adoption of improved management and nutrition programs, ectoparasites control practices and use of new residue and carcass quality testing. Adoption of improved business skills. Emergency disease program drills, program adoption rates and changes in mortality and condemnations to evaluate disease programs. The rate of adoption of recommended waste management practices.

**\*SCOPE** Co. in St 100 In Prog 51

Agriculture (Poultry Science, Agricultural Engineering, Economics, Entomology, Food Science)

**\*KEYWORDS** Broilers, Turkeys, Eggs, Breeders, Ducks, Poultry, IPM, Cost Reduced, Waste Management, Energy Saved, Decision Making Improved, Practice Adopted, Quality, Disease

**\*ESTIMATED RESULTS/IMPACTS**

Fluorescent lighting adopted	260 producers save \$834,000 energy costs
Improved heat stress management adopted	15% of 4,000 producers
Attitude changes and in-house residue and bacterial testing adopted	5 processors improve quality of 200 million broilers and turkeys
Emergency disease program adopted	Entire N. C. Poultry Industry
Improved vaccine program adopted	25% of 706 million birds
Improved pest and ectoparasite programs adopted	100 flock supervisors

**\*ESTIMATED FTE**

Year	Prof	Para	Vol
1988	8.6	0	0
1989	8.6	0	0
1990	8.6	0	0
1991	8.6	0	0

**\*REPORTING PLANS**

1988	X
1989	X
1990	X
1991	X

**\*CONTACT**

Program  
Dr. Thomas A. Carter, In Charge  
Extension Poultry Science  
Box 7608  
Raleigh, NC 27695-7608  
(919) 737-2621

Administrative  
(Same)

**\*SITUATION**

There are 70,000 farms in North Carolina. Two out of every three are classified as small scale, with gross receipts less than \$50,000. These small commercial farms are scattered throughout North Carolina but are more numerous in non-Tidewater counties. Small farmers in the North Carolina mountains could generally be classified as traditional, subsistence or specialized while those in the industrialized Piedmont are predominantly part-time, weekend or hobby farmers. Many in the latter category are retired from career jobs. Small scale farmers have difficulty competing with conventional large scale agriculture in traditional crop and livestock enterprises. To realize higher income levels they either must specialize in non-traditional enterprises or develop a unique marketing technique or both. Many are under capitalized, labor deficient, and/or unskilled in business management and modern agricultural technology.

**\*OBJECTIVES:**

For 20 small scale farmers in 20 counties to develop demonstration model farms with one or more enterprises based upon whole farm analysis, validated budgets and market potential. For 500 small farm families in 50 counties to learn and demonstrate sound farm business management, record keeping and marketing skills. For 50 small farm families in 50 counties to establish alternative profitable enterprises. These families will increase net farm income by 20%.

**\*ACTION**

Recruit, plan and develop model farm demonstrations. Use model farms for data gathering, tours, educational laboratories and technology transfer tools. Plan, recruit participants and teach business management skills in short courses, seminars, individual consultations and regular newsletters. Establish on-farm demonstrations of alternative farm enterprises. Use demonstrations for data collections, tours, meetings, and enterprise evaluation.

**\*EVALUATION**

Quantify number of small model farm demonstrations developed through direct contact with appropriate agricultural agents. Determine numbers of small farmers enrolled in business management short courses and skill levels of participants before and after participation and new records systems developed by participants. Numbers of farms demonstrating new or alternative enterprises or farming systems. Volunteer record analysis or simple surveys to determine profitability.

**\*SCOPE** Co in St 100 In Prog 75

Agriculture, Home Economics

**\*KEYWORDS**

Small farms, family farms, part-time farmers, model farms, farming systems, alternative agriculture, farm business management

**\*ESTIMATED RESULTS/IMPACTS**

Established model farms	20 in 20 counties
Increased records & business management skills	500 farmers in 50 counties
Alternative farm enterprise estimated	50 farmers in 50 counties

**\*ESTIMATED FTE**

Year	Prof	Para	Vol
1988	14	0	0

1989	14	0	0
1990	14	0	0
1991	14	0	0

**\*REPORTING PLANS**

Year	Accom	Impact
1988		
1989	X	
1990		
1991	X	

**\*CONTACT**

Program Administrative  
 Dr. Joseph F. Brooks (Same)  
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 N. C. State University  
 Raleigh, NC 27695-7602  
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## NC14 NORTH CAROLINA SWINE PRODUCTION AND MARKETING

### \*SITUATION

Swine production in North Carolina represents a 400 million dollar a year business. The state ranks seventh nationally and is the only state in the top 10 outside the traditional corn belt. However, production levels and production costs vary widely. Only about 11% are using systematic crossbreeding systems, and only 12% are using performance tested sires. Pigs per sow per year is 12.8, but the potential exists for this to be 21.5. Feed efficiency is about 400 lbs of feed per 100 lbs of live wt gain. Pseudorabies continues to spread with 88 quarantined herds in 18 counties. An Extension survey shows that, of 8183 producers, only 1557 keep records of litter size at birth and weaning and only 1105 have cost of production records. Approximately 440 producers are using hand records and 100 producers are using the computerized Sow Productivity Program.

### \*OBJECTIVES

1. Swine producers will learn to evaluate new production practices on the basis of the potential for reducing unit costs and/or widening costs and returns.
2. All active seedstock producers will participate in on-farm and/or central station testing programs.
3. The number of commercial swine producers using systematic crossbreeding systems will increase from 11% to 20%.
4. The number of producers measuring reproductive efficiency, analyzing performance records, modifying production practices, and establishing reproductive efficiency goals will increase by 20%.
5. Herd feed conversions will be decreased to 375 lbs of feed per 100 lbs of live wt gain in 25% of the farrow-to-finish enterprises and to 325 lbs of feed per 100 lbs. of live wt gain in 25% of the feeder pig finishing units.
6. 1000 producers will begin using diagnostic laboratories, 2000 producers will implement or improve herd health programs, 3000 producers will follow recommended grain storage and handling practices, and 4000 will improve building environment.
7. Producers will gain knowledge and skills in keeping and analyzing production records for improving profitability.

### \*ACTION

State: Revise and improve microcomputer program for genetic evaluation of herd replacements (1987). Least-cost ration formulation computer program will be made available to county livestock agents (1988). In-service training schools for livestock agents will be held (1987-90). The Swine Development Center will be used to demonstrate herd management practices that maximize total herd production efficiency (1987-91). State newsletters, state and regional pork conferences, and individual agent contacts will be utilized (1987-91).

Local: Jointly promote and conduct programs with local agri-businesses. Utilize mass-media (radio, TV, newsletters). Hold county meetings with support of county swine producer organizations and state extension specialists (1987-91).

### \*EVALUATION

Conduct statewide county pre-and post-situation surveys. Monitor annual USDA PIG CROP REPORT, individual agent and specialist assessments, and producer attendance at educational functions. Individual case studies will be analyzed for changes.

\*SCOPE Co in St 100 In Prog 49  
Agriculture (Animal Science, Agricultural Engineering, Entomology,  
Agricultural Economics)

\*KEYWORDS

Swine

Breeding and Selection

Nutrition

Animal Health

\*ESTIMATED RESULTS/IMPACTS

Improved herd health programs 2000 producers

Improved crossbreeding systems 700 producers

Improved feed conversion 1350 producers

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	15.3	3	0
1989	15.3	3	0
1990	15.3	3	0

\*REPORTING PLANS

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

\*CONTACT

Program	Administrative
Dr. C. M. Stanislaw	(Same)
204 Polk Hall	
Box 7621	
N. C. State University	
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(919) 737-2566	

## NC 15 TOBACCO PRODUCTION AND MARKETING IN NORTH CAROLINA

### \*SITUATION

North Carolina produces 66% of the flue-cured and 5% of the burley tobacco grown in the USA. Collectively, tobacco is currently produced in 89 of 100 counties on 109,000 farms and represents over 20% of total farm receipts. Gross sales in 1986 were almost \$690 million although tobacco was grown on only 4% of the tillable cropland. Tobacco is still the most consistently profitable crop for NC farmers, but gross value has declined 32% since 1976 due to reductions in quotas and price supports. Numerous social and economic factors, including real increases in production costs and a declining price/quality relationship of US tobacco relative to that of some competing countries, have contributed to lower profitability and production of tobacco. In addition, the traditional high value of tobacco resulted in a "shotgun" approach to management which caused unnecessarily high production costs; currently, over 50% of total production costs are attributable to pesticides, fertilizers and curing fuel. Therefore, to improve tobacco profitability and production, growers must be more aware of world and US agricultural policy and use more economical production, marketing and financial practices to produce a better quality, price competitive product for the domestic and world market.

### \*OBJECTIVES

Tobacco growers will increase net profits and world market competitiveness by adopting the following practices and/or programs:

- A. Reduce pesticide applications by greater use of nematode assays and developing a better understanding of major pest biology, available cultural practices, specificity of available pesticides, and IPM principles.
- B. Reduce fertilizer costs by greater use of soil tests to determine or refine lime and nutrient needs for specific fields and improve nutrient efficiency by proper method and timing of fertilizer application.
- C. Produce quota on fewer acres by use of cost-effective practices (subsoiling, early topping, irrigation, solid planting) which will increase yield per acre without reducing leaf quality.
- D. Improve tobacco quality by using less nitrogen, better grass and sucker control practices, harvesting more ripe tobacco, developing a greater understanding and use of curing principles, and properly applying labeled pesticides at suggested rates.
- E. Become more knowledgeable of US and world tobacco policy needed to determine adaptive production and program changes, and develop communication and leadership skills necessary to influence these changes.

### \*ACTION

State Specialists will 1) develop and disseminate programs emphasizing the advantage of greater participation in IPM programs, 2) cooperate in conducting on-farm tests on cost effective management systems and disseminate information through annual production guides, newsletters, tours, mass media, grower meetings and agent training (classroom and field), 3) develop computer software and VCR tapes on specific technologies and problems and on "minimum input" management systems, and 4) develop, conduct and solicit funding for programs designed to improve leadership and communication skills of tobacco producers. County agents will identify on-farm test cooperators and supervise on-farm tests, winter meetings, deliver programs on cost reduction to farm and agribusiness clientele, and assist in selecting participants and planning leadership and communication programs.

**\*EVALUATION**

Agents and Specialists will: 1) survey growers in the major tobacco-producing counties to determine changing trends in pesticide and fertilizer usage, participation in IPM programs, and use of high-yield cultural practices, 2) cooperate with NCDA to determine changing trends in use of soil tests and nematode assays, 3) cooperate with USDA to determine changing trends in percentage of tobacco graded ripe, and 4) keep records of leadership program participants to determine their involvement in local, state and national farm or related organizations.

\*SCOPE Co in St 100 In Prog 89  
Agriculture, Community Res. Dev., 4-H

**\*ESTIMATED RESULTS/IMPACTS**

IPM acreage increased	from 12,000 to 16,000 acres
Use of low phosphorus fertilizers	from 50 to 65% of acreage increased
Early topping increased	from 35 to 50% of acreage
N rate decreased	from 75 to 70 lbs N/A
Use of wet bulb thermometer increased	from 25 to 40% of acreage
Ripe tobacco increased	from 47 to 60% of quota
Leadership development increased	from 200 to 250 growers

**\*ESTIMATED FTE**

Year	Prof	Para	Vol
1988	22.7	6	100
1989	22.7	6	100
1990	22.7	6	100
1991	22.7	6	100

**\*REPORTING PLANS**

Year	Accom	Impact
1988	0	
1989	X	
1990	0	
1991	X	

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# NC 16 VEGETABLE PRODUCTION AND MARKETING IN NORTH CAROLINA

## \*SITUATION

Commercial vegetable production in 1985 had an estimated value of \$186 million, \$60 million greater than 1975. Vegetables constitute over 50% of the value of the state's horticultural crop production and are produced on one-fourth of the approximately 73,000 farms. The industry functions in a totally free market and thus, experiences high variability in prices and income. Growers generally fail to adopt sound practices essential for efficient and competitive production and marketing. Superior management ability and enlightened marketing strategies are critical components of profitability. We need to provide realistic facts to troubled tobacco and row crop producers who are increasingly viewing vegetable production as a viable alternative.

## \*OBJECTIVES

1. For growers, via county agents, to furnish current and accurate base data on county and state vegetable acreage, losses from diseases, insects and weeds, irrigation, production systems, IPC pre-cooling facilities and volume, soil testing and profitability.
2. Vegetable growers increase profitability by 1991 over 1987 by 20%.
3. Vegetable growers to increase soil tests by 10% and fertilizing according to soil test results by 10%.
4. Growers, packers and/or shippers to pre-cool 80-100% of interstate shipped fresh vegetables.
5. Counties participating in Master Gardener Program will increase from 16 to 20.
6. Growers increase plastic and drip irrigation culture by 2000 acres.

## \*ACTION

Base data for Objective No. 1 will be collected by 100 county survey, winter of '87-'88.

State - Area vegetable schools conducted annually (1987-91) for farmers in 16 locations. Vegetable newsletters, Veg-I-News, will be distributed monthly. State wide commodity meetings (for sweet potatoes, cucumbers, tomatoes, etc.) conducted annually. Industry-wide Vegetable Expo (trade show and educational sessions) conducted annually. Appropriate bulletins, slide sets and videotapes will be prepared by specialists. Local - On-farm tests/demonstrations will be established annually '89-'91 in key locations to compare new vegetable varieties, cultural practices and methods of managing weeds, insects and nematodes. Local growers' meetings in all major vegetable producing counties conducted annually.

## \*EVALUATION

Use baseline data collected in '87-'88 for evaluations of impact of programs. Repeat baseline survey in 1990.

\*SCOPE Co in St 100 In Prog 100

Agriculture and Natural Resources

## \*KEYWORDS

Cultural practices, pest management, postharvest handling, farmers, agents, shippers, small farmers, demonstrations, publications, meetings.

## \*ESTIMATED RESULTS/IMPACTS

Fertilizing by soil test	10% increase
Plastic and drip irrigation usage	2000 acres, \$3 million
More county plant clinics	10 new county plant clinics
Reduced losses due to disease & insects	30-50% reduction

\*SCOPE Co in St 100 In Prog 100

ANR, 4-H

\*KEYWORDS animal husbandry, animal nutrition, reproduction, genetics,  
disease control, judging, showing animals

\*ESTIMATED RESULTS/IMPACTS

Animal science knowledge increased 40,000 youth  
Personal skills developed 10,000 youth  
Learning experiences enrollment 135,000 youth enrollments  
Volunteer leaders trained 600 leaders

\*ESTIMATED FTE's

	Prof	Para	Vol
1988	6.4	1.5	75
1989	6.4	1.5	78
1990	6.4	1.5	82
1991	6.4	1.5	95

\*REPORTING SCHEDULE

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

\*CONTACT

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**\*SITUATION**

Because of the decline of the family farm, today's youth need to be sold on the value that agriculture plays in their life style. They need to understand economic implications of agricultural products from production to the market and home consumption. Limited time, available space and dual working parents decrease opportunities for families to produce horticultural or agronomic crops.

Currently, projects and activities in the Plant and Soil Sciences curriculum are not in high demand by today's youth. Only 7 percent of the state's 4-H youth are enrolled in this curriculum. The major portion (60,355 youth) of the 4-H participants live in towns under 10,000 in population. Also, the interest in agricultural related activities have been reduced as a result of the present economic conditions facing farmers nationwide.

There is a need to develop a curriculum that allows urban and rural youth to learn about agricultural production in a small scale setting. An additional emphasis will be placed on "learn to earn" projects that produce a cash return.

**\*OBJECTIVES**

- A. Twenty-five percent of 4-H'ers in selected Plant and Soil Sciences curriculum will demonstrate a behavior change by adapting practices taught.
- B. Twenty-five percent of the total 4-H'ers enrolled in selected Plant and Soil Sciences curriculum will understand cultural practices and economic management principles (marketing, buying, selling, planning) related to agricultural principles.
- C. Ten percent of total 4-H'ers (6-19 years, all socio-economic groups) will participate in the Plant and Soil Sciences learning experiences.

**\*ACTION**

- A. Develop or redesign existing curriculum to address current trends in Horticultural Science, Crop Science, Soil and Water Conservation, Pesticides and Plant Pathology.
- B. Utilize new technology to teach subject matter. Video and computer games will be used to make the curriculum come alive.
- C. Plan curriculum appropriate for use in after school teaching programs, day care centers, housing developments and traditional 4-H clubs.
- D. Design packaged curriculum that will teach urban and suburban youth to understand methods to access impact of curriculum.
- E. Train agents and volunteers on implementation and evaluation steps.

**\*EVALUATION**

Pre and post-knowledge tests will be utilized to measure knowledge gained by participants in Plant and Soil Science programs. ES-237 data will be monitored to determine enrollment increase in the Plant and Soil Science curriculum. Follow-up surveys of selected participants in programs at 6 months to identify extent of practices adopted.

**\*SCOPE** Co in St 100 In Prog 90

ANR, 4-H

**\*KEYWORDS** Soils Science, Horticulture, Plants, Crops Science, decision Making, Farm Management, food preserved, money management practices, productivity improved, Water Conservation, Learn to Earn, Soil Conservation, Pesticides

**\*ESTIMATED RESULTS/IMPACTS**

Knowledge gained 2,000  
Increased participation 10,400 4-H'ers involved in Plant and Soil Science curriculum by 1991.  
Practices adopted 1,700

**\*ESTIMATED FTE's**

	Prof	Para	Vol
1988	1.5	0	35
1989	1.5	0	38
1990	1.5	0	42
1991	1.5	0	45

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989		
1990	X	
1991	X	

**\*CONTACT**

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NC19 4-H Mechanical Sciences in North Carolina

**\*SITUATION**

From 1971 to 1985, participation in all 4-H mechanical sciences projects and demonstrations remained relatively constant (15-20% of total participation in 4-H learning experience). However, if bicycle safety and fire safety are excluded, the percent participation drops to 5.2%. This period of time coincides with an era that has seen an increase in technology and mechanization of work and leisure activities. With new electronic and mechanical devices, there is a need to increase the knowledge and skills related to maintenance and operation. Computer operation has become a needed skill in educational, recreational and professional applications. Participation in computer programs increased from 40 in 1980 to approximately 1500 in 1986. Computer programs need to be offered on a broad basis, ensuring that all socio-economic groups have access to learning activities.

Learn To Earn projects require an understanding of mechanical and electrical applications. Greater involvement in care and operation of small engines has the potential of increasing net returns in these projects. Participation in small engine activities has decreased from 1087 in 1971 to 578 in 1986.

**\*OBJECTIVE**

1. To raise mechanical science participation (youth 6-19, all socio-economic levels excluding safety and computer) 4% and enhance knowledge and skills learned in targeted areas of mechanical science.
2. One thousand youth (250/year) will increase their knowledge and skills related to computers and "high tech" systems.
3. 75% of youth participating in the safety curriculum will increase their knowledge and skills.

**\*ACTION**

1. Market existing mechanical science curriculum through both specialized and process volunteers.
2. Revise existing curriculum or develop new curriculum to meet the needs of North Carolina youth particularly in the area of small engines, new technology and safety.
3. Utilize videotaped learning experiences to enhance the curriculum for youth.
4. Train agents and volunteers on implementation and evaluation of experiences.
5. Target appropriate audiences to assure program balance.

**\*EVALUATION**

1. ES237 Reports will provide information on participation level in mechanical sciences.
2. Pre-test, post-test and/or self anchoring scales will be used to access changes in knowledge and skills.

**\*SCOPE** Co in St 100 In Prog 100

ANR, 4-H

**\*KEYWORDS** Mechanical Sciences, high technology, electronics, safety, automotive, electricity, small engines, computers, video, knowledge, skills, change

**\*ESTIMATED RESULTS/IMPACTS**

Participation in mechanical sciences 9,000  
 Knowledge gained 5,000  
 Skills improved 3,000

**\*ESTIMATED FTE's**

	Prof	Para	Vol
1988	2	.4	60
1989	2	.4	61
1990	2	.4	62
1991	2	.4	64

**\*REPORTING SCHEDULE**

Accomp Impact

1988

1989 X

1990

1991 X

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NC20 4-H Leadership (Youth), Citizenship, Community Development,  
Communications programs in North Carolina

\*SITUATION

Currently, young persons face a strong "youth culture" that does not necessarily support the skills of communicating, decision-making, getting along with others, understanding yourself, and working cooperatively in groups. Increasing amounts of discretionary spendable funds, increasing amounts of self-supervised time, and increasing competition for youth's leisure time challenge youth development programs to provide creative, interesting, and effective opportunities which develop life skills.

Leading an activity with a group of young people, experiencing the responsibilities of effective citizenship, understanding how a community makes decisions, communicating with other persons, making career and education decisions, and learning about the economic realities of the community are life skills included in this program area. Youth learn these skills, directly, through participation in specific activities in this major program area and, indirectly, through participation in other 4-H subject matter program areas. These skills are vital in helping a young person respond to societal changes which affect them at the personal, family, school, community, and world levels. The ability to respond and adapt to these changes is a key factor in developing a young person's self-esteem.

\*OBJECTIVE

Youth ages 6-19 (all socio-economic levels) will learn and practice:

- decision-making skills which influence their career, education, or community.
- leadership skills which strengthen their ability to adapt to societal change.
- communications skills which improve their ability to interact with peers, leaders, and adults.

\*ACTION

- Develop and implement curricula (both existing and new) which increase youth competencies in decision-making, leadership, and communications skills.
- Design and implement curricula training packages for volunteer leaders and Extension 4-H agents.
- Develop an evaluation survey which will measure the results and impacts of the objectives listed above.
- Market leadership, citizenship, community development, communications programs to agents and leaders.
- Conduct training for agents and volunteers.

\*EVALUATION

Evaluation will include measurement of:

- changes in the number of youth in specified age groups participating in 4-H life skill programs (including leadership, citizenship, community development, career exploration, communications, and economics).
- the number of youth receiving training and certification in a 4-H program developed for this major program (for example, TRY certification, and parliamentary procedure certification).
- the number of youths in a given 4-H program utilizing the information they learn to teach other young persons.

-selected program areas and counties to assess knowledge, skill, attitude, or behavior changes associated with participation in a designated 4-H program area (via survey instrument).

\*SCOPE Co in St 100 In Prog 100

ANR, 4-H

\*KEYWORDS leadership, citizenship, community, career, communications, economics, decisions, decision-making, self-esteem, life skills, 4-H, youth-

**\*ESTIMATED RESULTS/IMPACTS**

Decision-making, leadership, or communications skills learned	3,000
Decision-making, leadership practiced, or communications skill	75% of 11-14 year old participants in selected programs
Leadership taught or communications skill	120 teachers (14-19 years old)
Participation	2,000 youth reached
Certification earned	8,000 youth
	150 youth

**\*ESTIMATED FTE's**

	Prof	Para	Vol
1988	10.6	2.1	45
1989	10.6	2.1	47
1990	10.6	2.1	50
1991	10.6	2.1	55

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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NC21 4-H Natural Resources and Environmental Education in  
North Carolina

\*SITUATION

From 1976 to 1986 the participation in the 4-H natural resources/outdoor education projects and activities increased by 85%, 19,000 up to 35,284 in 1986. This is significant when overall 4-H enrollment increased only 3% during the same period.

Major increases are noted in marine science, aquaculture, fish (234 in 1976 up to 4280 in 1986), soil and water conservation (400 to 3598) and wildlife, wildlife conservation (1885 to 5481). Conservation of natural resources increased by 269%, entomology 45%, and forestry, forestry products by 20% with other project areas showing significant increases. Participation in the self-determined and other ecology category increased dramatically from 251 participants to 2,965.

Most youth today have decreasing opportunities to have hands-on experience in nature and to develop positive attitudes toward the environment and 4-H is not reaching them.

Youth in general are not concerned with preservation, utilization and conservation of natural resources. Their lack of respect for self, property and others tend to cause problems of school dropouts, use and abuse of alcohol and drugs, and increasing crime rates.

There is a need for all young people to learn about and practice sound natural resources conservation practices.

\*OBJECTIVE

1. 50% of participating 4-H'ers (6-19, all socio-economic levels) will gain in knowledge of their environment as it pertains to outdoor ethics, shooting sports, land use practices, effects of weather, water quality and conservation of natural resources through selected curriculum experiences such as Project Learning Tree.
2. 25% of participating 4-H'ers will learn methodology for making decisions on environmental issues such as management of natural resources and personal and public safety.

\*ACTION

1. The existing curriculum will emphasize experiential learning through videotape, educational kits, field days and camping experiences. Curriculum will be designed so that adult and teen volunteers with minimum training can deliver the material.
2. Coordinate a network of interested parties to develop a curriculum which is experiential based with indepth subject matter on a myriad of issues along with supporting scenarios to build decision making skills.  
Computers could be utilized for determining economic consequences of decisions while on site visitation and interview could be used for compiling visual observation data and public opinion. Training would be supplied by persons with some expertise in environmental subject matter. Target appropriate audiences to assure program behavior.

\*EVALUATION

1. Quasi experimental instrument will be developed to test the knowledge gained by environmental curriculum delivered.
2. A survey and observational analysis tool will be developed to measure the degree of behavior modification regarding decision making and environmental issues studied.

\*SCOPE Co in St 100 In Prog 81

ANR, 4-H

\*KEYWORDS Wildlife, Forestry, Environmental Awareness, Entomology, Outdoor Education, Camping, Meteorology, Outdoor Ethics, Water Quality, Conservation, Natural Resources, Safety, Recreation, Landuse, Shooting Sports, PLT

\*ESTIMATED RESULTS/IMPACTS

50% of participants (in selected programs) in 81 counties will increase knowledge 16,000  
25% of participants in 81 counties will increase skills in personal safety 8,000  
Increased participation 12,000

\*ESTIMATED FTE's

	Prof	Para	Vol
1988	3.5	1.8	36
1989	3.5	1.8	40
1990	3.5	1.8	40
1991	3.5	1.8	43

\*REPORTING SCHEDULE

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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NC22 4-H Home and Family in North Carolina

\*SITUATION

Ever changing societal demands affecting the home and family life continue to exert changing pressures on our youth. The traditional nuclear family no longer dominates the life style of many youth. As a result, many youth are dealing with more time alone, greater responsibilities of managing a house and siblings, and frequent incidences of making decisions relative to family purchases and behavior.

Strengthening the family unit with focus upon interpersonal relationships, parental support and self-esteem of family members will give positive support for youth and families to meet their particular needs. North Carolina 4-H Youth were enrolled and participated in 46,000 home economics projects and learning opportunities during 1986. Through the development and enhancement of home economics life skills, youth will become better equipped to deal with life's challenges.

\*OBJECTIVES

- A. Twenty-five percent of 4-H membership (ages 6-19, all socio-economic groups) and their immediate family members will develop positive interpersonal relationships and support systems within the unit to foster individual and family self-worth.
- B. Twenty-five percent of 4-H membership (ages 6-19) will develop or enhance their skills in home economics subject matter to become better managers of their time and resources and more informed decision makers.

\*ACTION

- A. Market and implement existing Home Economics curriculum to targeted youth audiences to assure program balance.
- B. Develop, market and implement targeted curriculum related to diet, health, consumer education and human development.
- C. Train agents, volunteers (youth and adult) yearly to deliver Home Economics curriculum to youth.
- D. Develop appropriate evaluation methods to assess impact of Home Economics curriculum.

\*EVALUATION

- A. Twenty percent of youth in counties implementing a Home Economics curriculum package(s) will be surveyed via questionnaire to assess program impacts.
- B. Observation techniques will be used to assess skills developed and knowledge gained from Home Economics curriculum experiences.

\*SCOPE      Co in St 100      In Prog 100

Home economics, 4-H

\*KEYWORDS      Dietary Practices, Energy, Family Communication, Income, Income Earned, Money Management Practices, Skills Learned, Positive Self Development, Garments Constructed, Home Repairs Made, Leader Trained, Interpersonal Relationships

\*ESTIMATED RESULTS/IMPACTS

Family relationships, attitudes and behaviors changed

26,000 4-H'ers and 10,000 parents/family members

Knowledge gained  
Home Economic subject matter skills increased

15,000 4-H'ers  
10,000 4-H'ers

**\*ESTIMATED FTE's**

	Prof	Para	Vol
1988	8.2	3.2	56
1989	8.2	3.2	56
1990	8.2	3.2	58
1991	8.2	3.2	58

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

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**\*SITUATION**

The 4-H program in North Carolina depends on strong volunteer leaders. In the process of delivering the educational programs of 4-H, leaders benefit personally. 4-H is both a youth development and adult development program.

Volunteer participation in North Carolina has increased gradually over the past four years. In 1986 the annual report noted 26,000 adult and youth volunteers. The trend shows adult volunteers increasing while youth volunteers have remained relatively constant at 4,000. There is a need to increase the involvement of youth in all leadership roles.

Research indicates that volunteers have increased feelings of self worth especially when roles are viewed as important. With reduced paid staff there is increased need for volunteers who work with other volunteers. Research supports that volunteers are both willing and capable of increased responsibility. In contrast managers must employ sound management practices to empower volunteers.

Youth have special needs met by serving in volunteer leadership roles. Self esteem, a sense of autonomy, a belief in the future, and a feeling of belonging in community are powerful needs of youth. Having a voice in planning their own programs and serving in responsible leadership roles are ways to help them meet their needs.

Research studies support that volunteers are motivated by quality training that increases marketable skills. Since volunteers are so diversified there is continued need to develop training curriculum suitable for a variety of delivery options.

**\*OBJECTIVE**

For potential and current adult and teen volunteers (all socio-economic levels) to increase their level of competence and contribution through skill development in the following areas: (1) personal growth, (2) organizational processes, (3) development of curriculum, and (4) development of other volunteers.

**\*ACTION**

1. Continue innovative youth leadership development programs such as Teens Reaching Youth and expand leadership opportunities.
2. Market all teen volunteer leadership opportunities such as Performing Arts Troupe, Ambassadors, State 4-H Council, and speciality camps.
3. Develop and market additional innovative, diversified, and packaged leader training materials that can be delivered by master volunteers.
4. Expand opportunities for master volunteers, and develop training programs for expanding their involvement into more counties.
5. Develop marketing approaches for recruitment of target volunteers tailored to special needs and interest.
6. Conduct writers conferences to (1) develop volunteer skills in curriculum design and writing; (2) develop packaged curriculum for use with 4-H audiences.
7. Continue to improve effectiveness of volunteer support groups such as the Leaders' Association and the 4-H and Youth Committee.

**\*EVALUATION**

1. Use self anchoring scales with sample groups to document increases in competencies due to training programs and structured field experiences.

2. Use individual and team contracts to document fulfillment of volunteer roles.
3. Tracking participants through increasingly complex levels of involvement.

\*SCOPE Co in St 100 In Prog 100

4-H

\*KEYWORDS Youth leaders, Contracts, Self development, Organizational skills, Teaching skills, Writing curriculum guide skills

\*ESTIMATED RESULTS/IMPACTS

Contracts fulfilled	10,000
Leaders trained	6,000 youth, 8,000 adults
Youth taught by teen volunteers	32,000
Increased organizational skills	8,000
Increased teaching skills	16,000
Increased writing curriculum guide skills	800
Leaders accepting increasingly complex roles	1,000

\*ESTIMATED FTE's

	Prof	Para	Vol
1988	26.1	.6	250
1989	26.1	.6	300
1990	26.1	.6	350
1991	26.1	.6	400

\*REPORTING SCHEDULE

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

1988

1989 X

1990

1991 X

\*CONTACT

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## NC24 4-H Resource Development and Marketing in North Carolina

### \*SITUATION

Resource development and marketing are interdependent and vitally important to the health of 4-H. Federal support for Extension and the share of Extension resources devoted to the 4-H program have declined in recent years. The marketing and resource development components of 4-H need to be enhanced to increase the internal and external leveraging of the 4-H program. Regarding the current resource development situation, thirty counties reported receiving an average of \$4500 in United Way contributions. Forty counties reported no organized 4-H fund raising efforts. Twenty-one counties have organized volunteer-led finance committees or development funds. The value of physical resources is currently undetermined. Effective marketing of the North Carolina 4-H program will result in expanded commitment from 4-H'ers, volunteers and sponsors as an impact of four broad forms of communicating: mass media, targeted media, community and social gatherings and one-on-one contact. Forty-nine of one hundred and one reporting units identified increase in 4-H visibility, stimulation of public interest, use of media for large improvement and increased public awareness as priority problems.

### \*OBJECTIVE

1. By 1991, 80% of 4-H programs at the state and county level will receive 50% (annually) more financial and material resources from non-Extension sources than in 1986.
2. As a result of expanded: awareness, knowledge, positive feelings, preference, conviction, and commitment, 80% of county units will report expanded program involvement by 25% per year from newly committed 4-H'ers (6-19), volunteers, and sponsors representative of all socio-economic groups.

### \*ACTION

Increased resource development will be actualized by the following specific actions: staff training in resource development; interrelating marketing and evaluation efforts to communicate program value and accomplishments; increase solicitation with individuals (ex-4-H alumni), foundations, corporations, and government agencies; target special audiences (limited resource youths, handicapped, farm youths, urban youths) for funding priorities; increase feedback to donors; increase number of counties having organized financing programs through finance/development committees or funds; networking with agencies with mutually-served needs. The marketing action plan will focus on empowering 4-H agents, key volunteers, and committees to apply the "4-H Marketing Model" to new and ongoing programs. Specific methods for objective accomplishment include:

1. Refine data collections for reporting new/expansion 4-H'ers, volunteers, and sponsors.
2. Refine and expand "Marketing 4-H" as a specialized committee/task force guide for effective marketing design/application.
3. Develop 4-H Ambassador/Public Awareness Teams as a vehicle for expanded visibility.

### \*EVALUATION

1. Plan to survey counties to document percentage increase in non-Extension financial and material resources from 1986 to 1991.

2. Utilize ES-237 data to determine new 4-H'er, volunteer, sponsor involvement.

3. Monitor county development of "Marketing 4-H" specialized committees.

\*SCOPE Co in St 100 In Prog 80  
4-H

\*KEYWORDS Money Received, Goods Received, Services Received, Resource Development, Marketing, Public Awareness Generated, Audiences Targetted, Program Value Communicated, New Audiences Participating

\*ESTIMATED RESULTS/IMPACTS

80% of units to receive 50% more financial and material resources per year from non-Extension sources by 1991 \$150,000 more non-Extension financial resources going to counties per year by 1991

80% of units will report expanded involvement by 25% by 1991 from newly committed 4-H'ers, volunteers, sponsors 25,000 newly involved 4-H'ers, volunteers, and donors involved per year by 1991

\*ESTIMATED FTE's

	Prof	Para	Vol
1988	18.4	.5	50
1989	18.4	.5	80
1990	18.4	.5	100
1991	18.4	.5	120

\*REPORTING SCHEDULE

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

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919/737-2801

\*SITUATION

The critical issues addressed in the National Initiative "Improving Nutrition, Diet, and Health" parallel those found in North Carolina. North Carolina age-adjusted mortality rates for heart disease, stroke and diabetes are above the U.S. average. Atherosclerosis' mortality rates equal the national average. In the Behavioral Risk Factors Survey, adult North Carolinians self-reported hypertension rates at 22%, sedentary lifestyles at 62% and obesity at 25%. Stroke, diabetes, and hypertension mortality figures are considerably higher for minorities of both sexes. Infant mortality in North Carolina remains high with only four states having infant death rates higher than North Carolina in 1983. In addition to health concerns, changes in demographics, family structures and lifestyles create need for reliable information to help consumers make appropriate food selections and develop desirable physical fitness habits. Nutrition is replacing price as the key consideration in many food purchase decisions. Today's consumer also seeks convenience in foods. Population trends and shifts in the work force affect the way people eat; food expenditures, choices made and purchase location. Men and children are assuming more responsibility for food buying and preparation with teens spending 40% of the family food dollar. Assuring the safety of the food supply is a shared responsibility of consumers, producers, retailers and regulatory agencies. Consumers need knowledge and skills to make appropriate food selection, handling and storage decisions to prevent food-borne illnesses. Seventy-two percent of a sample of North Carolina food preservers, properly preserved low acid food. The Extension Service was the most cited source of home food preservation information. These changes in food buyers, preparers and their health interests present new challenges in meeting their educational needs.

\*OBJECTIVE

- . 142,350 participants in food and health, maternal nutrition, food buying and preservation programs will improve food, nutrition and health practices.
- . 36,000 participants in food and health programs will improve health through weight loss and exercise.
- . Participants in food buying programs will save \$480,000.
- . Families participating in food preservation activities will preserve \$10,000,000.
- . 1,800 volunteers will be trained in food buying and Master Food Preserver programs.

\*ACTION

Develop programs in food buying with health and cost effective emphases, safe home food preservation, home food preservation with lower salt and sugar emphases, weight control, walking exercise, maternal nutrition, and food selection/preparation with dietary guidelines emphases (1988-91). Prepare teaching packets, news releases, publications, and audiovisual support materials for program emphases (1988-91). Acquire dietary analysis computer program (1988). Conduct inservice education programs on appropriate food, nutrition and health topics (1988-91). Initiate cooperative programs with other agencies concerned with nutrition and health (1988-91). Market new and existing programs to non-traditional audiences using innovative approaches (1988-

91).

**\*EVALUATION**

Collect survey data from selected participants in food, nutrition and health programs. Collect volunteer hours contributed and number of people they reached. Conduct post-knowledge and practice tests for participants in food and health programs and pre- and post-knowledge tests of participants in maternal nutrition programs.

**\*SCOPE** Co in St 100 In Prog 100

Agriculture, 4-H Youth, EFNEP, Community & Rural Development.

**\*KEYWORDS**

Improved health	Food preserved	Food preservation
Knowledge gained	Weight control	Food buying
Practices improved	Food safety	
Maternal & infant nutrition	Exercise	

Money management practices	Food, nutrition & health
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**\*ESTIMATED RESULTS/IMPACTS**

Practices improved 142,350 participants

Improved health 36,000 participants

Money management practices - food buying \$48,000 saved

Food preserved \$10,000,000

Volunteers 1,800 volunteers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	58	0	0
1989	58	0	0
1990	58	0	0
1991	58	0	0

**\* REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

**\*CONTACT**

Program	Administrative
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Carolyn J. Lackey, Ext. Food & Nutrition Specialist	
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**\*SITUATION**

North Carolina's per capita income in 1984 was \$10,852, 15% below the national average with heavy debt, declining income, and an erosion of quality of life, major concerns of the county/state advisory leadership committees. Among those experiencing the greatest financial difficulties are farmers, unemployed rural/industrial employees, the under/unskilled, women heads of households, the aged and limited resource families. Five program focuses to help families/individuals manage economic pressures and promote financial security are: financial management, marketplace strategies, home production/renovation, management of non-monetary resources, and legal concerns. These areas relate to three National Extension Initiatives: Family and Economic Well-Being, Revitalizing Rural America, and Developing Human Capital.

**\*OBJECTIVE**

148,000 families/individuals will adopt basic money management skills; 50,000 families/individuals will improve their current/future financial security through insurance, savings/investment and legal decisions. 4,000 farm families will improve record keeping/financial decision-making practices; 30,000 persons will develop plans for managing financial affairs of their dependent elderly. 104,500 individuals will increase overall consumer purchasing power/satisfaction. 8,500 individuals will acquire small business management skills with 4,800 persons increasing income by \$1,500,000 through craft production. 100,500 individuals will develop home production skills in housing, home furnishings, clothing, foods and crafts to extend income by \$12,220,000. 132,500 families/individuals will learn to use their non-monetary resources.

**\*ACTION**

Some of the multi-disciplinary strategies include seminars for caregivers for the elderly, older adults, retirement planning (including estate, life/health insurance, housing facilities and financial), managing monetary and non-monetary resources (time, energy, care/maintenance of consumer goods), Farmer's Managing for Tomorrow and a Business of Your Own. Computer programming for financial management, housing and home furnishings and clothing options/care. Video tapes on legal concerns, do-it-yourself home repairs, financial management, clothing alterations/fitting. Home study courses in budgeting. Establishing financial planning centers. Do-it-yourself workshops for housing, home furnishings, clothing, foods and crafts for adults/youth. Other delivery systems include group/individual contact, electronic and print media support the objectives in family resource management, housing and home furnishings, clothing, foods and crafts subject matter. Interagency cooperation will be encouraged.

**\*EVALUATION**

Surveys to ascertain the economic values in family resource management, housing and home furnishings, clothing, foods and crafts <subject matter. Observation tools to observe improvement practices, behavior changes and new skills being adopted in identified subject matters, case studies to analyze growth for in-depth/intensive programs as it relates to financial management, legal issues and a Business of Your Own. Other appropriate tools will be developed/used.

**\*SCOPE**

Co in St 100

In Prog 100

Home Economics (Family Resource Management, Housing and Home furnishings, clothing, crafts, foods)

\*KEYWORDS

Decision-making improved

Practices adopted

Income extended

New or expanded enterprises

\*ESTIMATED RESULTS/IMPACTS

Improve money management skills 148,000 families/individuals

Improve financial security 50,000 families/individuals

Improve management of financial affairs for dependent elderly 30,000 persons

Increase consumer purchasing power/satisfaction 104,500 persons

Acquire small business management skills 8,500 persons

Increased income through craft production \$1,500,000

Extend income through home production \$12,220,000

\*ESTIMATED FTE

	Prof	Para	Vol
1988	97	0	0
1989	97	0	0
1990	97	0	0
1991	97	0	0

\* REPORTING SCHEDULE

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

\*CONTACT

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## NC27 FAMILY STRENGTHS AND SOCIAL ENVIRONMENT - NORTH CAROLINA

### \*SITUATION

North Carolina has had an increase in the number of non-family households, single parent households, children in day care and residents in retirement centers and nursing homes. Loneliness, stress, peer pressure, low self-esteem, drug dependency, suicide, teen pregnancy and abuse plague many families. The stress of balancing work and family responsibilities has been found to be a contributing factor to depression, family discord and marital failure.

More than half of the marriages in this state end in divorce, with more than 50% of divorced families involving minor children. Over 20% of babies born are to unwed mothers. Currently more than 70% women with children work. Older people make up about 11.2% of the population. Strengthening the social environment in which families live is essential to the state's strength and economic stability. Critical issues to enhancing family well being were identified by county advisory committees. These include: interpersonal relationships, stress management, self-esteem, childrearing, and human growth and development.

### \*OBJECTIVE

- . 162,000 participants will practice skills to manage stress, improve interpersonal relationships and increase own self-esteem.
- . 16,000 youth will adopt recommended decision and communication skills as they deal with peer pressure and other special concerns of youth, such as drug usage, sexuality, and personal growth and development.
- . Rural and farm families in 50 counties will practice recommended communication skills to reduce stress of participating in "Lean on Me", "Managing for Tomorrow", and other county supportive programs.
- . 80,000 participants in parent education, child care and family life education will improve childrearing and parenting practices.
- . 12,000 child caregivers and providers will improve childrearing techniques.
- . 18,000 older citizens, caregivers and providers will practice skills necessary to adjust to the special problems of retirement, independent living, widowhood and bereavement.

### \*ACTION

Develop programs and update relevant existing materials on stress management, self-esteem, interpersonal relationships, elder care and parent education. Prepare teaching packets, news releases, newsletters, videotapes, leader lessons and publications for program emphases. Jointly promote youth programs with 4-H. Develop master grandparent program.

### \*EVALUATION

Conduct pre-and post knowledge tests in home study courses. Follow-up EV's of participants in workshops, study courses and child care training. Use observations, telephone logs, county accomplishment reports and other surveys to determine achievements of goals.

\*SCOPE           Co in St 100   In Prog 100

Home Economics

### \*KEYWORDS

Interpersonal relations

Stress management

Childrearing  
 Human growth and development  
 Self-esteem

**\*ESTIMATED RESULTS/IMPACTS**

Practice skills to manage stress, improve interpersonal relationships and self-esteem 162,000  
 Adopt recommended skills in decision making, communications and peer pressure. 16,000  
 Practice recommended communication skills to reduce stress. 50 counties  
 Improve childrearing and parenting practices. 80,000  
 Improve childrearing techniques. 12,000  
 Practice skills to adjust to aging. 18,000

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	33	0	0
1989	33	0	0
1990	33	0	0
1991	33	0	0

**\* REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

**\*CONTACT**

Program **Administrative**  
 same  
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\*SITUATION

The National Extension Initiatives which are relevant to issues facing North Carolinians are: Revitalizing Rural America, Water Quality and Conservation and Management of Natural Resources, Family and Economic Well Being. North Carolina citizens are concerned about management of energy and other resources especially home energy use, water quality and conservation, moisture control and indoor air quality. Also, changing housing needs including rising costs of home improvements and evaluating housing options, are problems facing young families and individuals and special-needs groups, such as the aging, rural residents, and those with limited resources. Creating a functional, yet aesthetically pleasing and comfortable residential environment will be a challenge. Primary concerns include selection, care and maintenance of interior furnishings, fabrics, and surfaces, plus space use and planning.

\*OBJECTIVE

45,000 families, including the aging and those with limited resources, will reduce energy and water use by 10% or improve energy-efficiency and water quality in their homes for a dollar value of \$450,000.

15,000 families, including youth, will improve the environmental quality of their homes by applying one or more resources to control moisture or indoor air pollutants.

80,000 participants in home improvement and care/maintenance programs will make repairs and renovations improving their living environment for a dollar value of \$1.5 million.

10,000 families and individuals (including the aging) will obtain living environments to fit changing needs by using selection criteria and Extension house plans resulting in a dollar value of \$1 million.

50,000 families who participate in home furnishings programs make one or more decorating changes that improve the aesthetics of the interior and the use of the space in the home for a dollar value of \$1,000,000.

5,000 young families with children develop space(s) in the home that accommodate the personal needs and growth of both parents and children.

500 volunteers will be trained in the master furniture refinisher program.

\*ACTION

Develop programs in energy and water conservation, home environmental quality, home improvement and care/maintenance, housing alternatives, interior aesthetics, space planning and furniture refinishing, (1988-1991). Prepare teaching packets, news releases, publications, audio-visuals, i.e., home maintenance videos and computer program on care/maintenance to support above programs (1988-1991). Conduct inservice education programs on appropriate energy, housing and interior design topics (1988-1991).

\*EVALUATION

Collect pre- and post-application data from selected participants in designated energy, interior design and housing programs. Maintain logs of Extension house plans used, collect volunteer hours contributed in Master Volunteer Program and utilize case studies and site observations for home environmental quality programs.

\*SCOPE

Co in St 100

In Prog 100

Agriculture, 4-H Youth, Community and Rural Development

\*KEYWORDS

Practices adopted	Housing improved	Interiors improved
Families, youth	Home repairs made	Volunteers trained
Rural residents	Energy	Family & Economic
Environmental quality improved	Water saved	Well-Being
Revitalizing Rural America	Furnishings renovated	Conservation and Management of Natural Resources
	Water quality	

\*ESTIMATED RESULTS/IMPACTS

Reduce energy & water use/improve energy efficiency and water quality.	45,000 participants
Improved environmental quality of the home	15,000 participants
Housing improved and maintained for \$2.5 million	90,000 participants
Interiors improved for \$1 million	55,000 participants
Volunteers trained	500 participants

\*ESTIMATED FTE

	Prof	Para	Vol
1988	33	0	0
1989	33	0	0
1990	33	0	0
1991	33	0	0

\* REPORTING SCHEDULE

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

\*CONTACT

Program	Administrative
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## NC29 VOLUNTEERISM/LEADERSHIP DEVELOPMENT - NORTH CAROLINA

### \*SITUATION

North Carolina has developed and maintained a large (78,000+) Home Economics volunteer network which is recognized nationally for its quality leadership involvement. This network includes: Extension Homemakers, Advisory Leadership Systems, Master Volunteer Programs (4), Leadership Development for Minority Women, Certified Volunteer Unit Program, 4-H Youth Leaders, EFNEP volunteers and many volunteer resource people for Extension programs, etc. Decreasing budgets facing the Extension Service in terms of both personnel and resources, mandates increasing attention to utilization of volunteers in all modes of program development, implementation and evaluation. This need is across all program areas, clientele and geographic locations.

A key response to the problem is recruitment, training and involvement of individual volunteers and the ability to identify and procure material resources. There are numerous persons with varying skills, talents and time who are potential volunteers but are underutilized in Extension programming. In some cases Extension professionals need to be trained in ways and attitudes necessary to maximize efforts in quality volunteer development. In addition, an often overlooked resource in Home Economics Extension programming is solicitation of material resources such as buildings and space, equipment, supplies, endorsements and sponsorships as well as monetary support.

### \*OBJECTIVE

- . Twenty thousand (20,000) volunteers will demonstrate leadership opportunities and skills by influencing public policy and/or teaching others.
- . Ten thousand (10,000) volunteers facilitate and/or teach one or more phases of the Home Economics program.
- . Twelve thousand (12,000) volunteers will be recognized through state, district, county, community activities and the mass media for their accomplishments, thus increasing ownership and interest in home economics programs and building personal self-esteem and confidence.
- . Eight thousand (8,000) volunteers will demonstrate ownership of state, district, county and community programs through identifying needs and acquiring resources valued at two million dollars (\$2,000,000).
- . Sixty-five hundred (6,500) volunteer home economics groups will sponsor, co-sponsor, and/or endorse educational programs to improve the quality of life of North Carolina citizens. These sponsorships will total five hundred thousand dollars (\$500,000).

### \*ACTION

A Family Community Leadership Program (FCL) will be conducted at the state, district, county and community levels. A FCL notebook, video tapes, visuals, brochures, handouts, etc. will be produced and utilized. Leader training, with accompanying leader guides, will be conducted monthly for each of the 1500+ Extension Homemaker group leaders. Recognition events will be held at the state, district, county and community levels. A video tape will be produced and distributed to assist with statewide training in resource development and sponsorships. Five Master Volunteer programs will also be implemented.

**\*EVALUATION**

An EV-2 and EV-4 mailed survey form, longitudinal study through NCFCL, NCFCL District oral and written progress report, agent reported observations, telephone interviews, agent accomplishment reports, Extension Homemaker's Program of Work and scholarship report forms, etc. will be utilized to ascertain progress.

\*SCOPE Co in St 100 In Prog 100

CRD

**\*KEYWORDS**

Volunteerism

Leadership development

Home Economics volunteers

Master Volunteers

**\*ESTIMATED RESULTS/IMPACTS**

Demonstrate leadership opportunities and skills

20,000 volunteers

Participate/lead/teach home economics programs

10,000 volunteers

Receive visibility for accomplishments

12,000 volunteers

Demonstrate ownership of programs by participating in resource development activities

8,000 volunteers

Acquire resources

\$2,000,000

Educational program sponsorships and endorsements

\$500,000

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	46	0	420
1989	46	0	430
1990	46	0	435
1991	46	0	440

**\* REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

**\*CONTACT**

Program

Administrative

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same

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## NC30 COMMUNITY SERVICES AND FACILITIES in North Carolina

### \*SITUATION

According to the 1980 census, North Carolina's urban and rural non-farm populations comprised over 93% of the state's 5.9 million citizens. Population trends indicate North Carolina will become one of the most populous states by the turn of the century. These growing urban and "urbanizing-rural" populations are creating problems for many small towns and rural county governments responsible for community facilities and services. Complicating these increased demands for services and facilities are a decline of local property and local retail sales tax revenues, reduced farm income, plant closings, increased unemployment and decreased retail sales. Also, federal aid to communities with less than 25,000 population is proposed to drop and state revenue aid to local governments is unlikely to increase. The decision-making citizens and local officials in nearly two-thirds of North Carolina's counties have expressed a need for information about, and technical assistance with providing, improving and maintaining community facilities and delivering services such as: water, waste disposal, energy, transportation, housing, recreation, education, beautification, health and welfare, safety and communications.

### \*OBJECTIVES

1. To assist with evaluating the benefits and cost-effective methods of providing services and facilities.
2. To increase awareness of alternative methods of financing and securing revenue.
3. To become aware of laws and regulations affecting water systems and waste management.
4. To improve awareness of water pricing, allocation and conservation alternatives.
5. To understand the capabilities of soil and water resources and the technology for providing safe water supplies and acceptable wastewater and solid waste disposal.
6. To become aware of public housing and elder-care need and alternatives for providing these services and facilities.
7. To improve the training and professionalism of community pest control workers.
8. To assist in the development of outdoor recreation facilities.
9. To increase the understanding of the technical aspects of planning, promotion, follow through and funding of beautification projects.

### \*ACTION

Program efforts will use networking and linkages with other areas to:

1. Consult with public officials and community leaders with and responsible for assessing, planning, providing and maintaining community services and facilities.
2. Provide educational materials to public officials and citizens concerned with and affected by the allocation of services or establishment of facilities, and
3. Conduct workshops for groups of citizens and public officials.

### \*EVALUATION

Through annual accounting, progress will be compiled as to the number of communities assisted and the results; i.e., new facilities, costs reduced, projects completed, persons trained.

\*SCOPE Co in State 100 In Prog 60

ANR

\*KEYWORDS

Community Services and Facilities, Water and sewer, solid waste management, pest control, housing elder-care, visual environment, recreation, transportation, fire protection, public officials, community leaders

\*ESTIMATED RESULTS/IMPACTS

Educational programs on facilities 60 counties will conduct 78 separate programs

Improved facilities and services 50 (in all areas)

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	9.92	2.15	29.86
1989	9.91	1.62	30.84
1990	9.71	1.61	30.35
1991	9.75	1.65	30.88

\*REPORTING SCHEDULE

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

\*CONTACTS

Program

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(Same)

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**\*SITUATION**

The rapid changes in North Carolina make it difficult to specify the issues which will be faced by rural communities and small towns as they head down the pathway to the future. There are several emerging trends and forces which are at play which suggest the economic development environment of the future. There are several emerging trends and forces which are at play which suggest the economic development environment of the future. Some North Carolina communities are going to find that they will specialize or focus on some unique local attribute as the basis upon which they build their future. Other communities and areas will attempt to diversify from their high dependency upon the surrounding agricultural base. This simultaneous specialization and diversification will emphasize the need to focus programs upon the unique needs of each particular community or area. Increased conglomeration of industry will increase their power relative to small rural communities or areas and make it difficult to attract industry without becoming embroiled in a bidding war with other areas. Local economic development efforts, therefore, must focus upon the retention and expansion of existing local businesses. Reduction in funding at all governmental levels further increases the adjustment stress which rural areas will feel. Predicting the future demand for various governmental services usually provided by the community will increase in importance as funding becomes more constrained and the impact of costly mistakes increases. Economic development must build upon the existing economic base and strengths of the community. Linkages to the existing economic and natural resource base must be recognized and strategies for development clearly outlined.

**\*OBJECTIVES**

To increase community leaders' understanding of structural changes in the international, national, state and local economies, essentials for community growth and alternative strategies for economic growth; to increase community leaders' understanding of potentials for economic growth and the need for assistance to emerging and small businesses; to increase community leaders' understanding of and ability to conduct evaluations of their economic base and to define linkages between that base and development potential.

**\*ACTION**

Providing assistance in organizing and conducting educational workshops, meetings and conferences to: (a) increase the understanding and involvement of community leaders in planning for economic development efforts; (b) increase the capability of leaders to conduct economic evaluations of their communities, and (c) improve the organizational, production, financial, and marketing management skills of emerging and small businesses; providing assistance to private woodlot owners in organizing County Forestry Associations as a means of improving productivity, marketing efficiency, and income producing capability of forest products.

**\*EVALUATION**

Base data will be collected for each participating area at the beginning of a formal program and upon completion of the four year period. Progress made toward defined economic development objectives will be measured. Each workshop, meeting or conference will be evaluated by participants as to applicability and usefulness.

\*SCOPE Co in St 100 In Prog 26

Community and Rural Development

\*KEYWORDS

Public policy education, small business, public officials, private landowners, forest landowners, organizations, workshops

\*ESTIMATED RESULTS/IMPACT

Involvement of community leaders in economic development workshops

Involvement of 1200 community leaders in economic development workshops in state

Workshops for small businesses

Involvement of 500 small business persons in workshops

Evaluations of community economic base and projection of development potential

Involvement of 500 community leaders in economic base evaluation and development potential projection studies

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	3.0	0	9.0
1989	3.0	0	9.0
1990	3.0	0	9.0
1991	3.0	0	9.0

\*REPORTING PLANS

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

\*CONTACT

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Administrative  
(Same)

## NC32 FOOD PROCESSING TECHNOLOGY IN NORTH CAROLINA

### \*SITUATION

North Carolina is a major producer and supplier of raw and processed food products. Sales direct to consumers and food processors is of economic importance to farmers and processors. More than 23,500 food firms in North Carolina process these raw materials into food products for human consumption. Changes in consumer lifestyle determines what built-in convenience processors provide in processed foods. Thus it is essential that food plant personnel remain up-dated and aware of changing technology. With this increased emphasis on value-added foods, technological skills of personnel is required. In the competitive food industry, processing functions are performed under close attention to standard of excellence for product quality. Natural resources are used in this activity, therefore, means for their conservation are necessary. Growth in the food industry continues, presenting an array of opportunities for educating the learners and enhancing their standard of living.

### \*OBJECTIVES

Processing plants and respective personnel participating in training sessions for up-dating processing skills will increase 10 percent. Participating representatives from food processing firms will be advised and learn quality control techniques, product development and means for improving yields and reducing wastes. Ten percent of food firm managers will explore and consider systems for processing foods that aid in the conservation of natural resources.

### \*ACTION

Management will be made aware of new technologies through meetings, plant site visits, newsletters, demonstrations, workshops and other desired means. Food plant personnel will be presented information on skills, product quality and yields through workshops, demonstrations. Specialist, management and plant personnel will be kept aware of technological advances through media releases and pertinent meetings.

### \*EVALUATION

Increase in learner interest for prepared information to help improve processing skills. Determination and evaluation of learner interest for specific and requested skills. Inquiries from plant personnel will be recorded, as an indication process methods are implemented to maintain food quality. The number of plants requesting and adapting desired systems for the conservation of natural resources will be tabulated.

\*SCOPE Co in St 100 Co in Prog 14

ANR, HE

### \*KEYWORDS

Attitudes changed, decision making improved, energy saved, food preserved, job skills improved, minorities benefited persons trained, water quality improved and saved, and food processing

### \*ESTIMATED RESULTS/IMPACTS

Attitudes will change and job skills improved to maintain technological advances 9,000 plant personnel  
Food processing quality will be enhanced by person trained to applied acceptable methods 1,000 plant supervision

Decisions will be assisted to conserve natural resources through changes in attitudes

400 primary food processing firms

**\*ESTIMATED FTE**

Year	Prof	Para	Vol
1988	6	5	10
1989	6	5	10
1990	6	5	10
1991	6	5	10

**\*REPORTING SCHEDULE**

Year	Accom	Impact
1988	X	
1989	X	
1990	X	
1991	X	

**\*CONTACTS**

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\*SITUATION

Small communities and rural areas depend upon a strong, replenishable reservoir of volunteer leaders who are capable of addressing community, county or multi-county problems and issues. Historically, Extension has given emphasis to the development of this human capital...the men and women needed to lead organizations, communities and local governments. Recent social, economic, and public policy trends suggest these efforts will continue to be a challenge. Reduced federal spending for local community projects has placed greater responsibility on local citizens and their leaders to improve the quality of life. Population changes in many rural communities have increased pressures for additional community facilities and services. Changes in the nation economy also have caused serious alterations in rural North Carolina.

\*OBJECTIVES

2,000 potential and actual community leaders to increase their knowledge and skills required for undertaking activities aimed at solving community problems/issues. 5,000 leaders to increase their knowledge and skills of task-oriented processes. 60 ad-hoc groups to be organized to conduct activities aimed at solving community problems.

\*ACTION

Competencies that will be emphasized are 1) communication and influence skills, 2) group process and coalition building skills, 3) problem solving skills, 4) knowledge of local government institutions, 5) knowledge of community policy making process and citizen participation techniques, and 6) applied research and need-assessment skills. Throughout the next four years Extension's efforts will include 1) organization and implementation of leadership workshops and public affairs institutes for targeted audiences. 2) assistance in the initiation of groups that study, analyze and address community problems and, 3) provision of factual information concerning policy issues and analyses focused on alternatives and consequences.

\*EVALUATION

Indicators of results will include the number of leaders who receive training, the number of ad hoc groups that are organized and the number of different activities that are carried out. Self-anchoring scales will be used in selected programs to document increases in competencies due to training efforts. In the more intensive training programs, attempts will be made to document behavioral changes through pre- and post-test evaluation designs.

\*SCOPE Co in St 100 Co in Prog 25

Home Economics, Agriculture, CRD and 4-H

\*KEYWORDS

Leadership Development  
Organization Development  
Policy Process Education  
Public Problem Solving

\*ESTIMATED RESULTS/IMPACTS

Leaders trained 3,000  
Leadership skills improved 5,000  
Knowledge gained

\*ESTIMATED FTE

Year Prof Para Vol

1988	4.7	0	18
1989	4.7	0	18
1990	4.7	0	18
1991	4.7	0	18

**\*REPORTING PLANS**

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

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Administrative  
 (Same)

...will continue to be a challenge. Reduced federal spending for rural extension is a major concern. Community projects have been initiated to improve the lives of rural communities. The National Extension Council has been established to coordinate these efforts. The following are the major activities of the Council:

**OBJECTIVES**

1. To provide leadership and technical assistance to rural extension workers. 2. To provide training and continuing education for extension workers. 3. To provide information and resources for extension workers. 4. To provide a national forum for extension workers to discuss their work and share their experiences. 5. To provide a national forum for extension workers to discuss their work and share their experiences.

**ACTIONS**

1. To provide leadership and technical assistance to rural extension workers. 2. To provide training and continuing education for extension workers. 3. To provide information and resources for extension workers. 4. To provide a national forum for extension workers to discuss their work and share their experiences. 5. To provide a national forum for extension workers to discuss their work and share their experiences.

**EVALUATION**

Indicators of results will include the number of leaders who receive training, the number of ad hoc groups that are organized and the number of different activities that are carried out. Self-evaluating scales will be used in selected programs to determine leadership in organizations. In the near future training programs, extension workers will be made to document behavioral changes through pre- and post-test evaluation questions.

**PROJECTS**

1. To provide leadership and technical assistance to rural extension workers. 2. To provide training and continuing education for extension workers. 3. To provide information and resources for extension workers. 4. To provide a national forum for extension workers to discuss their work and share their experiences. 5. To provide a national forum for extension workers to discuss their work and share their experiences.

1988	4.7	0	18
1989	4.7	0	18
1990	4.7	0	18
1991	4.7	0	18

**\*REPORTING PLANS**

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

**\*CONTACT**

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Administrative  
 (Same)

1988	4.7	0	18
1989	4.7	0	18
1990	4.7	0	18
1991	4.7	0	18

**\*REPORTING PLANS**

Year	Accom	Impact
1988		
1989		
1990		
1991	X	

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Community projects have been...  
 their leaders to improve...  
 rural communities have...  
 facilities and services...  
 various alternatives in...  
 \*OBJECTIVES

2,000 potential and actual...  
 and skills required for...  
 problem/solutions. 2,000...  
 last-oriented processes...  
 activities aimed at solving...  
 \*ACTION

Objectives that will be...  
 (1) group process and...  
 (2) problem solving...  
 (3) knowledge of...  
 (4) knowledge of local...  
 (5) community policy...  
 (6) applied research and...  
 (7) organizational and...  
 (8) leadership workshops...  
 (9) evaluation in the...  
 and address community...  
 concerning policy issues...  
 consequences.

\*EVALUATION  
 Indicators of results...  
 including the number...  
 different activities...  
 used in selected...  
 training efforts. In...  
 be made to document...  
 evaluation designs.

FOCUS ON THE...  
 FROM ECONOMIC, AGRICULTURAL, AND...  
 LEADERSHIP DEVELOPMENT  
 ORGANIZATION DEVELOPMENT  
 POLICY PROCESS MONITORING  
 POLICY PROCESS MONITORING  
 PROMOTED RESULTS/IMPACTS  
 LEADERSHIP TRAINING  
 LEADERSHIP SKILLS IMPROVEMENT  
 KNOWLEDGE GAINING  
 \*ESTIMATED COST



NC34 NATURAL RESOURCES CONSERVATION AND DEVELOPMENT IN NORTH  
CAROLINA

\*SITUATION

Water, air and land are vital natural resources that affect everyone. We have lost 2.5 million acres of forestland over the past 30 years to growing urban population. The agricultural industry, consisting of 77,000 farms, is the largest contributor to the state's 14,150 stream miles. Landowners, public officials and the general public have shown increasing interest in educational programs in forest and wildlife management for economic gain. Land use planning, preservation of agricultural land, efficient use of energy, and recycling resources are relevant issues for a growing society. A fair distribution and assessment of costs and benefits for natural resource conservation and development alternatives will become very important.

\*OBJECTIVES

Natural resource conservation and management programs to help decision makers, landowners, and the general public to: 1) adopt programs and management practices to prevent the deterioration of soil, water, forest and wildlife. 2) bring agricultural land with excessive erosion into appropriate compliance, 3) implement forestry best management practices to reduce soil erosion and sediment transport to receiving streams, and 4) develop wildlife habitat preservation and income alternatives. Water quality programs to help landowners: 1) understand and adopt best management practices to prevent surface and groundwater impacts, especially new water impairments due to agriculture, 2) implement soil and water conservation practices and best management practices for land management, waste management and nonpoint source control, and 3) become aware and competent in land use preservation and decision making.

\*ACTION

Multi-agency programming will be conducted to encourage implementation of best management practices for agricultural production and waste management to meet specific needs at the local level. Cooperative programs will be conducted to help professionals and producers specify and implement soil conservation practices necessary to reduce erosion rates and take cropland with excess erosion out of production. A logger training program will be developed with the state forest service to educate and motivate individuals to reduce silvicultural impacts on environmental quality. Wildlife and land-use planning goals will be achieved by providing resources to individuals, citizen groups, and agency officials for their implementation of appropriate programs.

\*EVALUATION

Reduction in stream miles or waters with designated use impairments due to agriculture measure water quality improvements. Reduction in statewide or specific area erosion rates or compliance with soil loss control recommendations measures soil conservation. Loggers trained and best management practices installed for erosion control, proper harvesting and logging road construction are direct measures of forest resources protection. The number and location of participants in the Conservation Provision of the 1985 Farm Bill and N. C. Agricultural Cost-Share Program are measures of progress. The incorporation of agricultural data, views and expertise in the development of local plans measures land-use planning achievements. Other measures include: increase in soil and animal waste testing, fertilizer application reduction, farmers employing better

pesticide management, energy savings, change in recreational patterns, change in wildlife populations, wildlife and fishing success rate, reduction in water usage, reduction in fish kills and algal blooms, installment of successful on-site wastewater treatment systems, reduced regulatory agency violation citations, time spent with cooperating agencies, state or local conservation programs and environmentally related agency activities, and general to rigorous measures of changes in natural resource conservation and development.

\*SCOPE Co in St 100 Co in Prog 100  
Community and Rural Development, Agriculture, 4-H

\*KEYWORDS

Conservation and Management of Natural Resources, Water Quality

\*ESTIMATED RESULTS/IMPACTS

Eliminate stream miles impacted  
by agriculture  
Reduce statewide soil loss

Currently 6,570 of 14,150 total  
stream miles  
Reduce from 7.2 to 5 tons/acre/year  
or less

Increase proper land application  
of waste

No farm losses of nutrients and  
organics to receiving waters

Improve forestry practices  
Wildlife habitat

Implement 70% of recommended plans  
Prevent deterioration of wildlife  
habitat

of waste  
Fertilizer management

Match application with need  
Increase citizen involvement in  
policy making from 30 counties to  
50 counties

Land-use decision making

Increase rural land use planning  
from 30 counties to 50 counties

\*ESTIMATED FTE

Year	Prof	Para	Vol
1988	18.7	3.5	6.5
1989	18.7	3.5	6.5
1990	18.7	3.5	6.5
1991	18.7	3.5	6.5

\*REPORTING PLANS

Year	Accom	Impact
1988		
1989	X	
1990		
1991	X	

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**\*SITUATION**

The number of agricultural policies possessing the potential to affect agricultural producers appears to be increasing. A review of materials containing information about policies revealed that during the past 3 to 4 years, agricultural producers experienced or were exposed to several major agricultural policies. These policies included (1) The 1985 Food Security Act, (2) revised regulations governing selected pesticides, (3) a restructured farm credit system, (4) new tax laws, (5) a revised farm commodity program and (6) the Immigration Reform Act of 1986.

Failure to comply with or responding slowly to enacted agricultural policies can create problems. Small, part-time and limited-resource farmers often react slowly to and are usually late in adopting enacted policies. Their delayed reaction is often attributed to (1) identifying and locating the sponsoring agencies of policies, (2) receiving late information pertaining to an enacted policy, (3) difficulties in understanding the advantages and disadvantages of a policy and (4) the lack of special assistance designed to acquaint them with the provisions of a policy.

**\*OBJECTIVES**

1. To acquaint Farm Opportunities Program participants with the public agencies charged with implementing or enforcing selected major agricultural policies.
2. To provide 1,000 small, part-time and limited-resource farmers with basic, but timely information concerning new agricultural policies.
3. To encourage 1,000 small, part-time and limited-resource farmers to adopt agricultural policies that have the potential of enhancing their farming operation.
4. To familiarize each Farm Opportunities Program participant with selected agricultural policy.
5. To acquaint 30% of the Farm Opportunities Program participants with the basic processes and strategies associated with policy making at various levels of government.

**\*ACTION**

ANR Technicians will provide one-on-one on-the-farm assistance to Farm Opportunities Program enrollees. The mass media, small group meetings, small farm associations, leaflets, brochures, etc. will be used to inform small, part-time, and limited-resource farmers about enacted agricultural policies. Materials will be developed and workshops conducted for technicians and agents.

**\*EVALUATION**

Data will be collected pertaining to the number of small, part-time and limited-resource farmers reached, the perception of the farmers concerning the information they received and the number of farmers becoming familiar with public agencies charged with implementing and enforcing agricultural policies.

\*SCOPE Co in St 100 In Prog 100

ANR, HE

\*KEYWORDS

**\*ESTIMATED RESULTS/IMPACTS**

Skills developed 180 small farmers  
Knowledge gained 1,000 small farmers  
Practice adopted 700 small farmers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	2	2.0	0
1989	2	2.0	0
1990	2	2.0	0
1991	2	2.0	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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\*SITUATION

While public demand of North Carolina's natural resources continues to grow, the quality and quantity of those resources have been impacted due to various land use changes. Between 1974 and 1984, 1.4 million acres of forest land were diverted to other land uses primarily agriculture (722,000 acres) and urban development (478,000 acres); 119,000 acres of forest land were flooded to create new lakes. Although sixty-seven percent of the state's 18.4 million acres of forest land owned by private owners (farmers alone own 30 percent of the forest land) most of them do not actively manage their farm's natural resources. Small farmers, however variously described, tend to fall outside the mainstream of environmental awareness and they have not recognized the value of managing various natural resources for a profit. Many small farm operators are not motivated or encouraged to seek new alternative crops and enterprises for income enhancement. Problem areas include a lack of knowledge or understanding about hunting/fishing leases, water and soil conservation, aquaculture and the management of other natural resources. In general, the public needs additional emphasis to focus on the development of knowledge and skills for the intelligent prediction and evaluation of the impact that specific management decisions will have on the state's natural resources.

\*OBJECTIVES

1. Increase the number of limited-resource landowners adopting natural resource related enterprises (i.e., aquacultural commodities, mushrooms, land leases, wildlife management plans, etc.) by 400 landowners.
2. Assist 1,000 growers with the marketing of new alternative crops.
3. Increase knowledge of the public (1,500 youth & 1,200 adult educators) about the importance of natural resources and the impact sound management has on the future of those resources.

\*ACTION

Educational techniques will include media releases, meetings, field days, and demonstrations on alternative enterprises. Conduct Project Learning Tree (PLT) workshops and other natural resource related presentations for both youth and adult audiences. NCA&T Forestry and Agricultural Technicians will be trained as needed.

\*EVALUATION

Documentation of successful case studies. Benchmark forms to determine the number of new producers and income generated from alternative enterprises. Number of educators trained in PLT workshops and the number of youth reached through such workshops in classroom presentations. Number of participants attending related educational sessions.

\*SCOPE Co in St 100 In Prog 100  
ANR, HE, 4-H, CRD

\*KEYWORDS

**\*ESTIMATED RESULTS/IMPACTS**

New or expanded enterprises adopted 400 landowners  
Marketing improved 1,000 growers  
Leaders trained 1,200 adult educators  
Knowledge gained 1,500 youth

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.3	2.6	0
1989	.3	2.6	0
1990	.3	2.6	0
1991	.3	2.6	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

**\*CONTACT**

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**\*SITUATION**

There are approximately 20,000 small/limited-resource farms in North Carolina. They are being buffeted by the same forces of international economic change as is the rest of the economy. Demand for traditional N. C. farm products is shifting lower at the same time that production is increasing. This causes low prices to the producer at the same time that prices of inputs remain high. With low commodity prices and high cost of production, family farm income for small and limited-resource farmers has fallen substantially. Tobacco which remains important to these farms as a source of income is a good example of this trend. Still the returns per acre for tobacco remain high and tobacco is an important viable crop to consider in any farm plan. Small and limited-resource farmers continue to be beset by problems of low income due to their failure to utilize sound farm management recordkeeping or to market their products efficiently. These failures preclude good cost management, sound input purchasing practices, effective debt utilization, and consideration of alternative enterprises and production practices. Poor marketing techniques limit the options open to small farmers in spite of the fact that flexibility in responding to market signals by shifting labor should be a major advantage.

**\*OBJECTIVES**

1. 1,000 of the small/limited-resource audience will learn recordkeeping, debt management, cash flow and net worth analysis skills.
2. 500 small/limited-resource farmers will develop farm plans of varying degrees of complexity.
3. 500 will improve their marketing skills and practices.
4. 1,000 farmers will learn about world markets and the international context of their management and marketing situation.

**\*ACTION**

Work with paraprofessionals of the Farm Opportunities Program who will provide one-on-one assistance to farmer cooperators in approximately 20 counties. Provide training and educational materials to paraprofessionals. Revise Farm Management and Marketing Handbook. Produce newsletters, news releases, slide/tape sets and computer materials. Provide training and materials on international market situation and international development efforts.

**\*EVALUATION**

Use stakeholder analysis through interviews. Evaluate income and production practice changes through Benchmark form, Farm Business Analysis Computer Program and observation. Survey of participants at workshops and training sessions.

\*SCOPE Co in St 100 In Prog 100

ANR, HE

**\*KEYWORDS****\*ESTIMATED RESULTS/IMPACTS**

Farm management improved	1,000 farmers
Decision making improved	500 farmers
Marketing improved	500 farmers
Knowledge gained	1,000 farmers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.25	4	0
1989	.25	4	0
1990	.25	4	0
1991	.25	4	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989		
1990	X	
1991		

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1. 1,000 of the small/limited-resource farmers will learn recordkeeping, debt management, cash flow and net worth analysis skills.
2. 500 small/limited-resource farmers will develop farm plans of varying degrees of complexity.
3. 200 will improve their marketing skills and practices.
4. 1,000 farmers will learn about world markets and the international context of their management and marketing situation.

Work with parasitologists of the Farm Operations program who will provide on-site assistance to farmer cooperatives in approximately 20 counties. Provide training and educational materials to parasitologists. Develop Farm Management and Marketing Handbook. Produce newsletters, news releases, articles, etc. and conduct meetings. Provide training and materials to international extension and development efforts.

Use extension materials through intermediaries. Develop income and production practices through handbook with farm business analysis computer program and classroom survey of past history as well as testing questions.

1,000 farmers  
 500 farmers  
 200 farmers  
 1,000 farmers



\*SITUATION

Sixty percent of North Carolina's 31.2 million acre land base is covered with 18.4 million acres of commercial forest land; sixty-seven percent of it is owned by over 200,000 landowners. Farmers own 30 percent. North Carolina also has more nonwhite landowners than any other state. Some of those landowners are part of the target audience for the NCA&T Farm Opportunities Program (FOP). Whereas eighty-nine percent of NC landowners have tracts of timber which are 100 acres or less, the average FOP farm is 70 acres. Fifty-seven percent (3,040) of NC nonwhite farmers operate farms having less than 50 acres. Forest management practices, especially the selling of timber products on such farms are a continual concern statewide. Reforestation also remains a low priority with many landowners. Only 1 in 3 acres of harvested forest lands are now being deliberately replanted. Timber is one of the most profitable crops grown in the state and the demand for timber and related products is increasing but some landowners have not recognized the value of small woodlot management. They are also unfamiliar with sources of forestry information, services provided, and financial assistance available from various agencies. The future demand to produce more wood fiber and related products may be partially met through increased levels of technical assistance to educate and motivate small woodlot owners to increase the productivity of their forests.

\*OBJECTIVES

1. Increase income from timber sales of limited-resource landowners while improving their woodlots through sound forest management techniques (5,000 acres to be impacted).
2. Increase income of 40 limited-resource landowners through their understanding and adoption of alternative forest-related enterprises.
3. Increase 1,000 small woodlot owners' knowledge of existing agencies that can assist them in managing their forests.

\*ACTION

Landowner education will be increased through training of NCA&T Forestry and Farm Opportunities Program Technicians who will disseminate information to clients on a one-on-one basis. Extensive use will be made of meetings, tours, workshops, and demonstrations, with increasing use of microcomputer programs and videotapes.

\*EVALUATION

Number of acres under active management and number of new management plans developed. Number of timber sales using professional foresters. Number of new producers and income received from adoption of forestry-related enterprises. Number of individuals reached through tours, workshops, one-on-one assistance, and media releases. Benchmark data will be collected and evaluated.

\*SCOPE Co in St 100 In Prog 100

ANR, HE, 4-H, CRD

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Acres impacted	5,000 acres
New or expanded enterprises adopted	400 limited-resource landowners
Knowledge gained	1,000 small woodlot owners

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.4	2.6	0
1989	.4	2.6	0
1990	.4	2.6	0
1991	.4	2.6	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

**\*CONTACT**

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\*SITUATION

As of 1987, North Carolina is estimated to have fewer than 40,000 small farms with annual farm receipts of less than \$40,000. This trend towards fewer small farms is due primarily to reductions in tobacco poundage and lower agricultural prices received over the past several years. To insure their survival in the coming years, small farmers are being encouraged to diversify their farming operations, develop new crop and/or crop/livestock mixes. In their efforts to diversify, few small/limited-resource farmers are considering the economic opportunities offered by small ruminants (sheep and goats). Small ruminants are not labor-intensive, offer a low investment cost/hd, rapid cash flow, and make better use of poor quality roughages and areas not suited for cropping. Personal biases, poor managerial skills and a lack of production knowledge at the local level.

\*OBJECTIVES

1. 1,500 small/limited-resource farmers will learn basic principles (nutrition, reproduction, marketing, etc.) of sheep or goat production.
2. 100 Farm Opportunities Program (FOP) participants will generate farm income from sheep and/or goat production.
3. 90% of FOP participants (sheep or goat producers) will market through state-graded sales.

\*ACTION

Methods used to achieve these objectives will include participation in state and county meetings/conferences on sheep and/or goat production. Develop educational materials and on-farm demonstrations related to health, nutrition, reproduction, and management. Provide training and program support to agricultural professionals and paraprofessionals who will provide one-on-one assistance to small sheep and goat producers.

\*EVALUATION

Accountability will be based on county program activities and evaluations. Benchmark form data will be evaluated from Farm Opportunities Program participants for number of small/limited-resource farmers reporting income (also the amount) from the sale of sheep and/or goats and for number of producers marketing through state-graded sales. Media requests from counties for publications, factsheets, meetings, and workshops will be monitored and summarized.

\*SCOPE Co in St 100 In Prog 100

ANR, 4-H

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Knowledge gained	1,500 farmers
Income earned	100 farmers
Marketing improved	90 farmers

\*ESTIMATED FTE

	Prof	Para	Vol
1988	.33	6.8	0
1989	.33	6.8	0
1990	.33	6.8	0
1991	.33	6.8	0

**\*REPORTING SCHEDULE**

Accomp      Impact

1988  
1989      X  
1990  
1991      X

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...better use of poor quality roughage and areas not suited for cropping.  
...personal disease, poor managerial skills and a lack of production  
...knowledge at the local level.

**\*OBJECTIVES**

1. 500 small/limited-resource farmers will learn basic principles (nutrition, reproduction, marketing, etc.) of sheep or goat production.
2. 100 Farm Opportunity Program (FOP) participants will generate farm income from sheep and/or goat production.
3. 50% of FOP participants (sheep or goat producers) will market through state-graded sales.

**\*ACTION**

Methods used to achieve these objectives will include participation in state and county meetings/conferences on sheep and/or goat production. Develop educational materials and on-farm demonstrations related to health, nutrition, reproduction, and management. Provide training and program support to agricultural professionals and paraprofessionals who will provide one-on-one assistance to small sheep and goat producers.

**\*EVALUATION**

Accountability will be based on county program activities and evaluations. Benchmark form data will be evaluated from farm Opportunity Program participants for number of small/limited-resource farmers reporting income (also the amount) from the sale of sheep and goats and the number of producers marketing through state-graded sales. Media requests from counties for radio/television, fact sheets, meetings, and workshops will be monitored and reported.

**\*SCOPES** GS in 37 100      in 100

**\*KEYWORDS**

**\*RELATED RESEARCH/PROJECTS**

Knowledge gained  
Landscape design  
Marketing improved

Year	Vol.	Year	Vol.
1988	0	88	0
1989	0	89	0
1990	0	90	0
1991	0	91	0

1,500 farmers  
100 farmers  
50 farmers

**\*SITUATION**

In North Carolina, the population has increased primarily in the urban areas. Approximately 48 percent (1.8 million) of the state's population (5.9 million) is urban; forty-eight percent is classified as rural non-farm; and 3.2 percent is classified as rural farm. Nearly 478,000 acres of timberland were diverted to urban and related development between 1974 and 1984. Commercial, recreational, residential and highway construction will continue to place increasing demands on ornamental plant producers to supply markets with quality products (i.e., woody ornamentals, floral crops, Christmas trees and a variety of landscaping plants). With these higher demands, there will be room for more growers of quality products. Small farms, however variously described (i.e., farms with limited acreage, subsistence farms, part-time farms, and limited-resource farms) need to be encouraged to seek out such additional income-producing opportunities especially those farmers who can not afford to expand to larger farms, but want to be profitable and maximize from their on-farm resources at or near their current size. A general lack of knowledge and management skills in the production and marketing of quality plants has generally limited landowners from obtaining additional profits from this enterprise.

**\*OBJECTIVES**

1. Increase the number of acres in ornamental plant production by 1,000 acres (i.e., native ornamentals, Christmas trees, etc.) and the adoption of such new enterprises by 100 small/limited-resource clients.
2. Improve the marketing, management and production skills of 1,000 clients growing ornamental plants.

**\*ACTION**

Educational strategies to include development of demonstration sites, printed and video media, workshops, tours and meetings. Conduct training for Forestry and Farm Opportunities Program (FOP) Technicians in order that they may provide one-on-one assistance to participating clients.

**\*EVALUATION**

Benchmark surveys of landowners. Pre and post surveys of Forestry and FOP Technicians completing training programs. Number of new producers and acres placed into production. Number of participants reached via media releases and the number of participants attending educational sessions.

**\*SCOPE** Co in St 100 In Prog 100

ANR, CRD

**\*KEYWORDS****\*ESTIMATED RESULTS/IMPACTS**

Acres impacted	1,000 acres
New or expanded enterprises adopted	100 small/limited-resource clientele
Marketing improved/knowledge gained	1,000 producers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.3	2.6	0
1989	.3	2.6	0
1990	.3	2.6	0
1991	.3	2.6	0

**\*REPORTING SCHEDULE**

Accomp      Impact

1988  
1989      X  
1990  
1991      X

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Year	Accomplishments	Impact
1988	1. Increase the number of acres in ornamental plant production by 1,000 acres (i.e., native ornamentals, Christmas Trees, etc.) and the addition of such new enterprises by 100 small/limited-resource clients. 2. Improve the marketing, management and production skills of 1,000 clients growing ornamental plants.	
1989	Educational strategies to include development of demonstration sites, printed and video media, workshops, tours and meetings. Conduct training for Forestry and Farm Opportunities Program (FOP) Technicians in order that they may provide one-on-one assistance to participating clients. Benchmark surveys of landowners. Two and post surveys of forestry and FOP Technicians completing training program. Number of new producers and acres planted into production. Number of participants reached via media releases and the number of participants attending educational sessions.	
1990	1,000 new producers 1,000 new acres 100 new/limited-resource clients	
1991	1,000 new producers 1,000 new acres 100 new/limited-resource clients	

**\*SITUATION**

Worldwide, commercial rabbit numbers are estimated to be about 700 million, ranking rabbits fifth in total numbers, compared with other livestock species. In 1984, the United States produced 33 million pounds of rabbit meat with American consumption estimated at 25-30 million pounds annually. Continued pressure on the tobacco industry and the fact that rabbit production is well suited to the small farm and suburban situation have increased interest in rabbit production from both a home food supply and commercial standpoint over the past four years. However, the instability of available markets continue to hinder the expansion and profitability of rabbit production. Few small/limited-resource farmers possess the managerial skills and knowledge of genetics, nutrition and disease control necessary for high productivity. Creative extension programs are needed to assist agricultural agents, paraprofessionals and farmers in making correct production and marketing decisions.

**\*OBJECTIVES**

1. 2,000 small/limited-resource farmers will become acquainted with the economic potential of rabbit production as an alternative agricultural enterprise.
2. 1,000 small/limited-resource farmers will improve their knowledge of rabbit nutrition, genetics, reproduction, and disease control.
3. 60% of commercial producers will market directly to commercial rabbit processors.

**\*ACTION**

Methods used to achieve these objectives will include one-on-one, on-site instructions provided by agricultural professionals and paraprofessionals; the development of educational materials and factsheets on genetics, nutrition, reproduction and herd health; conduction of on-farm demonstrations, farm tours, workshops and/or meetings, conferences, and radio and tv programs; and in-service training of agricultural professionals and/or paraprofessionals.

**\*EVALUATION**

Accountability will be based on county program activity and evaluation as well as the evaluation of Benchmark form data. Surveys of county extension programs and participants in workshops and training sessions. Number of rabbit producers and number of rabbits produced statewide annually. Number of participants reached via media releases, workshops and training sessions.

\*SCOPE Co in St 100 In Prog 100

ANR

**\*KEYWORDS**

**\*ESTIMATED RESULTS/IMPACTS**

Attitudes changed  
 Knowledge gained  
 Marketing improved

2,000 farmers  
 1,000 farmers  
 60% of commercial  
 producers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.33	6.8	0
1989	.33	6.8	0
1990	.33	6.8	0
1991	.33	6.8	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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NC42 213 SMALL AND PART-TIME FARMERS MAJOR PROGRAM IN  
NORTH CAROLINA (1890)

\*SITUATION

Two thirds of the 70,000 farms in North Carolina can be classified as small (grossing less than \$40,000 per year). While tobacco, corn and livestock continue to be primary production foci of many of these farms, reduction in tobacco quotas, and other factors have hurt small farm income. As a result many farmers are looking to improve their production practices in terms of cost management. They are also looking to alternative sources of income. For that reason many have found off-farm employment and should be considered part-time farmers. These small and part-time farmers are examining alternative agricultural opportunities such as ornamentals, alternative livestock enterprises, market niches and non-conventional production as additional sources of farm income. The identification and economic evaluation of these alternative agricultural opportunities is a major problem area. The examination of the marketing aspects of the enterprise is almost more important than questions about the production side. Thus farm management (recordkeeping and record use, farm planning, financial management) and marketing education (market identification, planning, packaging, etc.) are major problem areas for small and part-time farmers. Production management questions remain as important problems as well. Finally small and part-time farmers need information on government policies and international events which affect their situation.

\*OBJECTIVES

10,000 small and part-time farmers will become acquainted with alternative agricultural enterprises. 80% of these will initiate new or alternative enterprise production. 33% will improve their marketing. 10,000 small and part-time farmers will receive training in farm recordkeeping and budgeting, farm planning or farm business management practices. 50% of them will adopt improved farm management practices. 10,000 small and part-time farmers will be involved in discussions of government policies and international events so that they may make knowledgeable business decisions to improve their quality of life.

\*ACTION

Innovative programming will be necessary to reach these goals with the hard-to-reach audience. Work with non-traditional extension groups, tours and meetings at unusual times, programs aimed specifically at this group during meetings, fairs, demonstrations, tours all will be necessary. The NCA&TSU Farm Opportunities Program will use paraprofessionals in 15 counties for one-on-one long term assistance to limited resource small farms.

\*EVALUATION

Evaluation will be built on a baseline using the NCA&TSU Benchmark information, FBAS (a computerized farm business analysis program) and the NCSU Mail-In Records system. Questionnaires, surveys and observation will be used to collect data on alternative enterprise and marketing education.

\*SCOPE Co in St 100 In Prog 100

ANR, HE

\*KEYWORDS

SMALL AND PART-TIME FARMERS, FARM PROFITABILITY AND COMPETITIVENESS,  
ALTERNATIVE AGRICULTURAL OPPORTUNITIES

**\*ESTIMATED RESULTS/IMPACTS**

New and expanded enterprises	8,000 farms
Marketing improved	3,300 farmers
Farm management improved	5,000 farmers
Knowledge gained	10,000 farmers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	2	16	0
1989	2	16	0
1990	2	16	0
1991	2	16	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

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**\*SITUATION**

In 1985, there were 8,183 swine producers in the state of North Carolina, with a large sector (69%) of those producers being small, maintaining one to 50 sows. Swine production is a major source of farm income and food supply for many small producers, but several problems face small/limited-resource farmers as they attempt to produce livestock on a competitive basis. Due to poor reproductive and nutritional management as well as a lack of quality herd health programs, small/limited-resource farmers are not as productive and obtain only substandard returns at market time. The implementation of effective extension programs directed towards small swine producers on herd health, nutrition, reproduction, housing and management will lead ultimately to increased profit margins for them.

**\*OBJECTIVES**

1. 2,000 small/limited-resource farmers will improve market income from swine through improved knowledge of reproduction, nutrition, herd health and management.
2. 800 (200 annually) small/limited-resource farmers enrolled in the Farm Opportunities Program (FOP) will report farm income from the sale of swine.
3. 70% (560 or 140 annually) of FOP participants will market through state-grade sales.

**\*ACTION**

Methods used to achieve these objectives will include participation in state and county meetings/conferences on swine production. Develop educational materials and on-farm demonstrations related to herd health, reproduction, nutrition and management. Provide training and program support to agricultural professionals and paraprofessionals who will provide one-on-one assistance to small swine producers.

**\*EVALUATION**

Accountability will be based on county program activities and evaluations. Benchmark form data will be evaluated from Farm Opportunities Program participants (20 counties) for number of small/limited-resource farmers reached, number reporting farm income from the sale of swine and the number of small/limited resource-farmers marketing through state-graded sales. Media requests from counties for publications, factsheets, meetings and workshops will be monitored and summarized.

**\*SCOPE** Co in St 100 In Prog 100

ANR

**\*KEYWORDS**

**\*ESTIMATED RESULTS/IMPACTS**

Knowledge gained	2,000 farmers
Income earned	800 farmers
Marketing improved	560 farmers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.33	6.8	0
1989	.33	6.8	0
1990	.33	6.8	0
1991	.33	6.8	0

**\*REPORTING SCHEDULE**

Accomp Impact

1988  
 1989 X  
 1990  
 1991 X

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1. 2,000 small/limited-resource farmers will improve market income from swine through improved knowledge of reproduction, nutrition, herd health and management.
2. 800 (200 small/limited-resource farmers enrolled in the Farm Opportunities Program (FOP) will report farm income from the sale of swine.
3. 700 (200 or 140 annually) of FOP participants will market through state-trade sales.

Methods used to achieve these objectives will include participation in state and county marketing conferences on swine production. Develop educational materials and on-farm demonstrations related to herd health, reproduction, nutrition and management. Provide training and program support to agricultural professionals and paraprofessionals who will provide one-on-one assistance to small swine producers.

Accountability will be based on county program activities and evaluations. Benchmark farm data will be evaluated for number of Opportunities Program participants (20 counties) for number of small/limited-resource farmers reached, number reporting farm income from the sale of swine and the number of small/limited resource farmers marketing through state-trade sales. Media responses from county for publications, treatment, meetings and workshops will be monitored.

\*GROUP Co in 20 100 in 200 100

**\*REVENUE**

Year	Base	Vol
1984	10	0
1985	12	0
1986	13	0
1987	14	0

**\*REVENUE PER**

Year	Base	Vol
1984	10	0
1985	12	0
1986	13	0
1987	14	0

**\*SITUATION**

Tobacco remains one of the major sources of farm income for small farms in North Carolina. Sixty percent of the income reported by small and limited-resource cooperators of the NCA&TSU Farm Opportunities Program came from production of flue cured and burley tobacco. The dependence on tobacco has declined somewhat in recent years; however, farm production systems based on tobacco and the impact that significant changes in the tobacco program will have for financial stability remain of utmost importance to small farmers. Alternatives to tobacco need to be analyzed and evaluated in the context of tobacco production as well. Economic analysis of various production practices, government policy changes, the world market situation and tobacco manufacturers' practices are essential problem areas critical for profitability. While tobacco production tends to be labor intensive and hence is of interest to small family farms, efficient management of purchased production inputs usually means the difference between profit and loss. To that end, recordkeeping and knowledge of the macro economic climate are essentials which many small farmers are still lacking.

**\*OBJECTIVES**

1. Small tobacco farm participation in any of the extension recordkeeping systems for business analysis will increase by 500.
2. 1,000 small farmers will improve production management of tobacco because of their use of records.
3. 1,000 small farmers will examine profitability options of tobacco and other alternative enterprises.
4. 75% of that number will adopt alternative enterprises at least on a tentative basis.

**\*ACTION**

Presentations at county small farm committees and at farm management meetings. Participation in tobacco production meetings focusing on questions relating to cost management and macro economic issues. Participation in alternative agriculture field days. Training and support of Farm Opportunities Program Technicians in alternative enterprise opportunities.

**\*EVALUATION**

Farm Opportunities Program Benchmark Form information on alternative enterprises and income. Survey of participants in workshops, in in-service training and computer program workshops. Survey of county Farm Opportunities Program accomplishments on an annual basis.

**\*SCOPE** Co in St 100 In Prog 100

ANR, CRD, 4-H

**\*KEYWORDS****\*ESTIMATED RESULTS/IMPACTS**

Farm management improved	1,000 farmers
Profitability increased	1,000 farmers
New or expanded enterprises adopted	750 farmers
Knowledge gained	1,000 farmers

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	.25	4	0
1989	.25	4	0
1990	.25	4	0
1991	.25	4	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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\*SITUATION

While vegetable production in North Carolina in 1985 was estimated to be worth \$194 million, it is an area of farming where production and marketing management has to be of the highest caliber. Timely delivery of high quality produce requires rapid response to market signals, up to date post harvest technology and attention to production details. On the other hand demand for vegetables and produce continues to rise and to become more diversified. Small and limited-resource farmers are looking at vegetables as possible alternative agricultural opportunities. They are looking particularly to identify local niche markets within the state or very specialized markets in nearby metropolises. These include local fresh markets, direct market operations, pick your own, organic food markets, tail gate operations, farmers markets, sales to larger producers, cooperatives and other marketing outlets and approaches. Key problems are market identification and contact, developing a market plan, establishing a production and marketing rhythm and obtaining credit. While knowledge and skill problems are constraining factors, one of the most basic problems for small and limited-resource farmers is attitude. They lack the aggressive, self-promoting self confidence essential for success as marketers.

\*OBJECTIVES

1,000 small and limited-resource farmers will participate in marketing education programs in their counties to develop self image attitudes and basic skills necessary to market alternative vegetable production. Participating farmers will learn the basics of establishing a marketing plan and the skills necessary to make market contacts. 60% of the farmers will increase their income by accessing alternative markets. 1,000 small and limited-resource farmers will gain knowledge about the functioning of the market system.

\*ACTION

Continue development of marketing education program for small and limited-resource farmers (1987-1988). Training and program support for NCA&TSU Farm Opportunities Program Technicians. In-service training for agents on marketing education and consideration of alternative agricultural opportunities.

\*EVALUATION

Evaluation will be done with pre-post questionnaires at market education workshops, observation and surveys. Stakeholder analysis interviews will also provide benchmarks for comparison in terms of attitude adjustment, skill development and knowledge gained.

\*SCOPE Co in St 100 In Prog 100

ANR

\*KEYWORDS

\*ESTIMATED RESULTS/IMPACTS

Attitudes changed	1,000 farmers
Income increased	600 farmers
Knowledge gained	1,000 farmers

\*ESTIMATED FTE

	Prof	Para	Vol
1988	.25	4	0
1989	.25	4	0
1990	.25	4	0
1991	.25	4	0

\*REPORTING SCHEDULE

	Accomp	Impact
1988		
1989	X	
1990		
1991	X	

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1,000 small and limited-resource farmers will participate in marketing education programs in their counties to develop skills in production and basic skills necessary to market alternative vegetable products. Participating farmers will learn the basics of establishing a marketing plan and the skills necessary to make market contacts. The farmers will increase their income by increasing alternative markets. 1,000 small and limited-resource farmers will gain knowledge about the functioning of the market system.

Continued development of marketing education program for small and limited-resource farmers (1987-1991). Training and program support for NCATTS Farm Opportunities Program Technicians. In-service training for agents on marketing education and construction of alternative agricultural opportunities.

Evaluation will be done with pre-post questionnaires to assess education workshop, identification and surveys. Marketing agents interviews will also provide benchmark for comparison in terms of relative adjustment, skill development and knowledge gained.

1,000 Farmers  
 500 Farmers  
 1,000 Farmers

1,000 Farmers  
 500 Farmers  
 1,000 Farmers



NC46 226 FAMILY ECONOMIC STABILITY AND SECURITY  
IN NORTH CAROLINA (1890)

\*SITUATION

Widespread poverty in the state of North Carolina is a continuing problem. In 1984, 17.3 percent of the state's population lived in poverty, which equaled 1,015,731 people. The effects of the poverty situation are further accentuated by economic instability and cuts in welfare benefits, which removed 260,000 families from federal poverty programs. Many of these families fell into a growing "near-poor" population in this state, which is currently estimated at 282,361. Approximately 60 percent of the state's poverty households are headed by women. The majority of these households consist of a single parent with children. The increase in poverty of these household types increases the number of children in poverty. One third of the poverty households are headed by individuals over 65. Due to a lack of financial resources, many of these families will find it necessary to develop and use untapped resources within their homes and communities.

Four areas of concern to limited-resource families have been identified: financial management, marketplace strategies, home production and renovation, and management of non-economic resources. These areas relate to two National Extension Initiatives -- Family and Economic Well-Being and Building and Developing Human Capital.

\*OBJECTIVES

1. 1250 families and individuals will learn and adopt financial management skills.
2. 1175 families and individuals will learn and adopt practices in planning purchases, alternative spending and consumer rights and responsibilities.
3. 880 families and individuals will extend income through home production and renovation of garments.
4. 835 families and individuals will develop management practices which maximize the use of non-monetary resources in the home and community.

\*ACTION

State: Develop appropriate in-service training materials and teaching resource packets on financial management, consumer awareness, clothing construction, garment repair, time and energy management and clothing care. Conduct in-service training for field staff.

County: Provide educational programs that will promote family financial well-being. Delivery methods include workshops, demonstrations, group and individual contacts, electronic and print media, and volunteer training.

\*EVALUATION

Pre- and post-tests will be used to determine knowledge gained. Surveys, observations, case studies and other appropriate evaluation tools will be used to determine practice change. County annual reports will indicate major accomplishments made.

\*SCOPE Co in St 100 In Prog 4

HE

\*KEYWORDS

SKILLS LEARNED, PRACTICES ADOPTED, KNOWLEDGE GAINED, GARMENTS CONSTRUCTED, GARMENTS RENOVATED/REPAIRED, DOLLAR VALUE/SAVINGS

**\*ESTIMATED RESULTS/IMPACTS**

Money management knowledge gained	800 adults/200 elderly/ 250 youth
Improved money management practices adopted	585 families
Consumer buymanship knowledge gained/ practices adopted	750 families
Garments constructed/repared;	408/807 garments by 737
Clothing construction/repair skills learned	adults, 100 youth
Dollar value/savings from construction/ repairs	\$20,265
Clothing care skills learned/knowledge gained	by 250 adults, 110 youth/ by 265 adults, 110 youth
Clothing care practices adopted	by 775 adults
Home management knowledge gained/ practices adopted	750 families

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	3.8	.35	0
1989	3.8	.35	0
1990	3.8	.35	0
1991	3.8	.35	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

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\*SITUATION

Societal and economical changes affect family well-being. While all families are affected by change, poor families tend to be affected more. This state's poverty population was 17.3 percent (1,015,731 persons) in 1984. Families composed of a mother and her children represent 11.6 percent, and married couples account for 63 percent of the households in North Carolina. Half of the female-headed households with children are poor. Nearly 72 percent of this state's women with school-age children work outside the home. There were 24,848 teen pregnancies and 14,199 live births to teens in this state in 1984. There were 19,786 reported cases of child abuse and neglect in this state in 1985. In 1984, 820 North Carolinians (132 youth) committed suicide. Suicide ranks second as the cause of death among teenagers. Elderly persons (685,501) represent 11.2 percent of this state's total population. One third of this state's elderly persons are poor. In 1984, median age for North Carolinians was 31 and projected to be 35 by 1995. There are 2.3 million persons between the ages of 35-60 in this state.

\*OBJECTIVES

1. 1175 limited-resource families and individuals will gain knowledge of child care, growth and development; positive parenting; self-esteem; interpersonal relations and adult growth and development.
2. 850 limited-resource families and individuals will acquire and practice skills in effective parenting, positive parent/child relations, interpersonal relations and independent living.
3. 400 limited-resource families and individuals will become aware and use community resources available to assist with the needs of the elderly and families with special concerns.

\*ACTION

State: Develop in-service education materials, teaching resource packages, and fact sheets designed for low level reading skills on child care, growth and development; interpersonal skills; self esteem; parenting; retirement preparation; and adult growth and development. Conduct in-service workshops on the above topics for field staff. Cooperate with other agencies in developing, implementing and evaluating selected educational programs.

County: Provide educational programs to promote family functioning and optimal growth and development of family members at various stages of the life cycle. Delivery strategies will include home teaching visits, group meetings, workshops demonstrations, newsletters, and radio programs. Work jointly with other agencies in developing and implementing selected educational programs.

\*EVALUATION

Pre- and post-tests will be administered to assess knowledge gain. Telephone and mail surveys, observations, and other appropriate evaluation tools will be used to determine practice change. County accomplishment reports.

\*SCOPE Co in St 100 In Prog 4

HE

**\*KEYWORDS**

HUMAN DEVELOPMENT, PARENTING, SELF-CONCEPT, SELF-ESTEEM,  
INTERPERSONAL SKILLS

**\*ESTIMATED RESULTS/IMPACTS**

Knowledge gained in child care, growth  
and development 400 individuals/families  
Skills improved in parent/child relations 300 individuals/families  
Skills adopted and practiced in effective  
parenting 300 individuals/families  
Knowledge gained in self-esteem and  
interpersonal relations 375 individuals/families  
Interpersonal and communication skills  
improved and practiced 250 individuals/families  
Knowledge gained in adult development  
and retirement preparation 400 individuals/families  
Increased awareness and use of community  
resources 400 individuals/families

**\*ESTIMATED FTE**

	Prof	Para	Vol
1988	1.4	.3	0
1989	1.4	.3	0
1990	1.4	.3	0
1991	1.4	.3	0

**\*REPORTING SCHEDULE**

	Accomp	Impact
1988	X	
1989	X	
1990	X	
1991	X	

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