

North Carolina Cooperative Extension

- 1999 -

Major Program Accomplishments Overview



Helping People Put Knowledge to Work

College of Agriculture & Life Sciences, North Carolina State University
School of Agriculture, North Carolina A&T State University

NORTH CAROLINA COOPERATIVE EXTENSION

1999 PROGRAM ACCOMPLISHMENT REPORT

Program Overview

North Carolina State University and North Carolina A & T State University deliver coordinated Extension educational programs to all people in North Carolina to improve the quality of their lives.

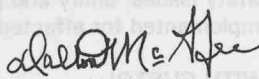
In 1999, North Carolina Cooperative Extension completed the fourth and final year of its long range plan entitled, *Foundations For The Future*. The plan consists of twenty Cooperative Extension Major Programs, which address priority needs of the state's citizens, within the construct of Extension's mission. Beginning in 2000 and thereafter, Cooperative Extension adopted a dynamic planning process, which allows for Extension to make continuous and rapid changes in response to the constantly emerging needs of our state's citizens.

The successful achievements indicated in this report reflect the vast array of impacts that Extension programs are having on the people of North Carolina. These results are the end products of educational programs coordinated by the two cooperating land-grant universities in each of the state's 100 counties and the Cherokee Reservation. The programs are supported through the cooperation of county, state and federal governments, and a wide variety of organizations, groups, and individuals.

Extension's educational programs were planned and implemented in collaboration with thousands of the state's citizens. These programs reach all areas of the state and a vast proportion of its population. The programs were evaluated to assess the resulting contributions to a profitable and sustainable agriculture; a protected and enhanced environment; stable communities; responsible youth; and strengthened families. The cumulative information that is reflected in the reported accomplishments demonstrates some of the scope and quality of Extension's programs.



Jon E. Ort,
Associate Dean and Director



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1999

EXTENSION MAJOR PROGRAM ACCOMPLISHMENTS OVERVIEW

Family and Consumer Sciences Programs

The family and consumer education program in North Carolina focuses on strengthening families and communities. The family, in its diverse forms, is the basic unit for raising children and supporting growth and development of all family members. Healthy families contribute to healthy communities. Preventative educational programs which enhance the economic and personal well-being of individuals and families and programs that respond to emerging needs of families through research-based information, are developed by the Department of Family and Consumer Sciences and are consistent with the missions of the North Carolina Cooperative Extension Service, the College of Agriculture and Life Sciences, North Carolina State University and North Carolina A&T State University.

Educational programs that help families and individuals develop and sustain economic and personal resiliency are based in six Cooperative Extension Major Programs: Aging With Gusto, Family and Consumer Economics, Family and Parent Education, Health and Human Safety, Nutrition and Wellness, and Residential and Community Water and Waste Management.

Participants in family and consumer education programs include more than 9,000 volunteers whose hourly program contributions can be valued at more than \$600,000, and about 500,000 other North Carolinians were participants in these programs.

The family and consumer education program in North Carolina was also responsive to needs of citizens in 33 counties affected by flooding from Hurricane Floyd. Additional programming on storm response and clean-up, food safety, health and safety issues, amity and parenting needs, stress reduction, and nutrition were implemented for affected counties.

CEMP 01 - AGING WITH GUSTO!

The Aging with Gusto! Program is designed to help adults of all ages understand and prepare for the challenges and opportunities of life in the middle and later years. The program is multidisciplinary and includes topics from all the fields of family and consumer education. Individuals who participated in

educational programs related to aging placed a value of nearly \$160,100 on increased financial status, improved health benefits, and improved food safety practices as a result of these programs.

In December, the program was awarded the National Award for Excellence in Aging Programs from the US Committee for the UN Celebration of the Year of Older Persons - 1999. This award was given to 12 programs nationally (out of 375) applicants who provided programs which emphasize positive aging, diversity in aging, enhancement of quality of life, have been evaluated and shown to produce positive results and are replicable.

A major contribution this year was the January 1999 broadcast of the national, Extension-developed satellite teleconference on grandparents raising grandchildren to 12 sites in the state with over 200 professionals from various agencies in attendance.

A large number of individuals (9058) reported increased awareness and knowledge of financial management techniques and consumer issues, while 1701 reported changing behaviors in this area. 1688 persons reported an increased awareness and knowledge of estate planning and 378 reported adoption of new practices with regard to estate planning. 1385 people increased awareness and knowledge of retirement planning practices and 349 reported adopting new practices. The impact of these programs include development of estate plans (247), development of plans for possible future incompetency and dependency (284), improved financial status (1807). The value of increased savings and/or retirement contributions is estimated at \$68,528.

Over 10000(10498) increased awareness and knowledge of healthy behaviors such as lowering fat intake. Over 1600 (1642) increased knowledge of community resources.

CEMP 08 - FAMILY AND CONSUMER ECONOMICS

Family and Consumer Economics promotes informed personal finance and other consumer decision making by individuals and families, emphasizing education to prevent financial problems. For persons who already have serious financial problems, Family and Consumer Education Agents make informed referrals to counseling and intervention services. Individuals who participated in family and consumer economics programs reported increased income, debt reduction, improved savings and other income benefits valued at more than \$760,000.

Programs in 60 counties assisted 30,109 individuals in increasing their awareness and knowledge of money management, financial/consumer decision making, financial resources, and or practices to extend or increase income. 1,220 volunteers gave their time to Family and Consumer Economics programs with a value of time of \$126,400.

1,220 Volunteers gave 12,640 hours @\$10/hour for a total value of \$126,400.

Limited resource families continue to develop skills and adopt behaviors which allow them to reach their financial goals, including debt reduction and increased savings.

A series of programs related to clean-up and repair after flooding and other hurricane damage were also conducted in the later months of 1999. Agents received in-service training on Home Modification and Moisture Control in March of 1999.

Consumer decision programs in 29 counties focused on selecting consumer products and services such as: financial services (credit, saving and investing options); health insurance (Medicare+Choice and LTC); and recognition/avoidance of consumer fraud (telemarketing, credit, and Medicare fraud). Strong partnering with Seniors Health Insurance Program (SHIP) and the Attorney General's Office continued in most counties.

Sixteen counties conducted educational efforts to help families extend income.

Objective one states:

2,879 people in 29 counties reported increased awareness and knowledge about money management and decision-making processes; 1298 wrote personal goals and 565 attained their personal goals. Debt was reduced by \$49,884 and over \$67,000 dollars were saved.

Participants in the Triad Money Management Center program reported adoption of practices that lead to asset development and improved financial states.

Agents continue to partner with community organizations and agencies to reach audiences and develop new programming including Goodwill, YMCA, Community Colleges, Consumer Credit Counseling Agencies, Family Resource Centers, Work First participants, correctional and parole units, DSS, the Faith Community, FEMA and Habitat for Humanity.

Objective two states:

Over 8,000 people in 25 counties reported increased awareness and knowledge of financial resources. 709 adopted financial planning and record keeping practices. 1,635 reported increased satisfaction with their ability to use resources.

Agents continue to partner with community organizations and agencies to reach audiences and develop new programming.

Objective three states:

2,989 people in 19 counties increased awareness and knowledge of housing financial decisions. 433 reported success in finding, securing, and maintaining housing. 485 reported adoption of successful budgets for housing and 927

succeeded in budgeting for repair, maintenance and/or remodeling costs. 437 succeeded in living independently in their own homes.

In 19 counties educational programs focused on pre-homeowner and post-homeowner education. "My Home Book" curriculum was used to meet the needs of the post homeowner education programs. Other educational efforts reported included: remodeling and renovation; modular housing, independent living skills; and budgeting for home ownership, selection and care of furnishings, and maintenance and repairs.

Objective four states:

13,776 people in 29 counties reported increased awareness and knowledge of consumer decision making skills. 3,252 adopted practices in selecting/caring for consumer products, and 5,469 in selecting/using consumer services. 4,570 increased skill and satisfaction with consumer decision. Financial status of individuals and families improved by \$240,341.

Consumer decision programs in 29 counties focused on selecting consumer products and services; health insurance and recognition/avoidance of consumer fraud. Strong partnering with SHIP and the Attorney Generall's office continued in most counties.

Objective five states:

2,456 persons in 16 counties reported increased awareness and knowledge of practices to extend or increase income. 1,765 attained skills to produce consumer goods. 798 reported improved use of human and financial resources.

Sixteen counties conducted educational efforts to help families extend income. Three counties conducted educational programs on the new clothing care labels.

CEMP 09 - FAMILY AND PARENT EDUCATION

The Family and Parent Education Cooperative Extension Major Program is helping parents and families acquire and develop the skills needed to foster qualities of responsibility, cooperation, courage and self-esteem. Nearly 18,000 participants in family and parent education programs reported adopting practices that would improve their personal or family context as a result of these programs, while 6,500 reported learning new skills that would enhance their ability to deal with the challenges of life.

Thousands of individuals and families across the state were contacted, taught, mentored, encouraged, and impacted by the combined efforts of 60 county partners working on one or more of the objectives in CEMP 09, Family and Parent Education, during 1999. An overall improvement in the quality of life was reported by 15,873 program participants.

14,462 individuals increased awareness and knowledge of developmental stages, basic needs, and appropriate behavior of children.

50 counties reported offering a variety of educational programs related to parenting and child care including health and stability of the family.

593 families demonstrated improved family relationships through the resolution of financial conflicts.

810 program participants reported improved self-esteem of family members by adopting strategies of affirmation, positive reinforcement, and expression of affection.

3,152 people increase awareness and knowledge of community services.

Objective 1 states: Participating individuals and families will increase parenting skills related to caring for oneself, understanding ones children, motivating, nurturing and guiding them, and serving as advocates when needed.

Fifty counties reported offering a variety of educational programs related to parenting and child care including health and stability of the family; fatherhood issues; incarcerated parents; building strong relationships; discipline strategies; communicating with children; developmental stages of children; nutrition education; financial planning; and child safety. 14,462 individuals increased awareness and knowledge of developmental stages, basic needs, and appropriate behavior of children. Over 10,800 individuals increased awareness and knowledge of appropriate discipline strategies. 5,105 individuals adopted appropriate discipline strategies. 19,616 individuals increased awareness and knowledge of techniques to control stress, time, and energy.

A 15-unit curriculum resource notebook on Parent Education was developed by the CEMP planning team and used at Extension Annual Conference and distributed in hard copy.

Extension Agents met with approximately 700 families who experienced severe flooding problems during Hurricane Floyd. Newspaper articles reached about 40,000 people; 3000 school children received educational material for parents and 500 people received disaster relief information through newsletters.

objective two states: Limited resource parents will use effective parenting skills and identify possible solutions to family problems associated with money to promote optimal child development and to reduce stress to improve their ability to face the daily challenges of parenting.

A variety of educational programs were implemented in 11 counties with limited resource clientele including budgeting; teaching children about money; use of children's car seats; alleviating stress; effective discipline; self-esteem, self-control, and responsibility.

over 593 families demonstrated improved family relationships through the

resolution of financial conflicts. 698 families demonstrated improved responsibility of parents and children. 737 families adopted improved quality of family life by adoption of effective parenting techniques.

Objective three states: Families and individuals will improve skills in critical thinking, family conflict resolution, and effective decision-making.

Sixteen counties reported conducting programming in leadership development; children's school readiness; parenting skills; stress reduction; conflict resolution; domestic violence; life skills; effective decision-making; communication skills, building self-esteem; handling problems relating to pressures in daily living and building strong families.

One county reported that school guidance counselors and parents in 4,000 households learned ways to help young adolescents deal with stress through a parenting newsletter.

Objective four states: Families will become aware of support services and will use them effectively.

Nine counties reported that over 3,000 people increased awareness and knowledge of community services. 793 persons increased their ability to communicate with service agencies. 644 persons increased their awareness and knowledge of skills such as listening, managing finances, and managing stress. Over 500 people adopted skills such as listening, managing finances, and managing stress.

One county reported that 191 citizens increased their knowledge and access to community services following Hurricane Floyd through handouts and interpretation provided by the FCS agent and volunteers. 162 Hispanic citizens had the increased ability to communicate with the Department of Social Services to receive hurricane relief funds through Extension efforts.

CEMP 12 - HEALTH AND HUMAN SAFETY

Health and Human Safety addresses pressing health concerns at the individual, family and community level. NCCES community-based educational programs enable individuals, families and communities to address health and safety needs. Participants in health and human safety educational programs reported nearly \$987,000 in cost avoidance from high risk behaviors and reduced illness and injury.

Ninety-eight hundred and fifty-two participants adopted recommended health care practices such as dietary intake, exercise, and other health promoting self-care practices. 4,942 increased their knowledge of appropriate use of available health care services and facilities. More than \$502,780 in costs have been avoided due to Extension efforts in reduction of high risk behaviors and through preventative health behaviors.

Thirteen hundred and fifty-nine individuals adopted practices to insure indoor air quality.

Twenty-five hundred and seventy participants were reported to have increased their awareness of agricultural (chemical) exposure and other agriculturally related health risks. \$484,000 was avoided in costs through reduced agricultural illnesses and injuries.

Seven hundred and thirty volunteers contributed 5,301 hours to local programs impacting on health and human safety. The dollar value of these contributions is estimated at \$53,010.

In the first CEMP objective, 115,517 participants increased their awareness and knowledge of preventative health behaviors such as eating properly, exercise, and safety in the home. over 9,000 participants adopted recommended health care practices such as dietary intake, exercise, and other health promoting self-care practices. 4,942 increased their knowledge of appropriate use of available health care services and facilities.

In the second CEMP objective, over 1,515 individuals adopted practices to remove safety hazards in the home and 1,003 adopted practices to make homes safer. 839 individuals adopted preventive measures including installing ventilation systems, radon, and carbon monoxide tests. 1,359 individuals adopted practices to insure indoor air quality, and 682 individuals increased their knowledge of the delivery of first aid. Counties in the Eastern part of the state reported working with flood victims in the clean-up and rebuilding of homes and communities affected by Hurricane Floyd.

Objective 3 reported that 2,570 participants were reported to have increased their awareness of agricultural (chemical) exposure and other agricultural related health risks. 2,129 participants increased their awareness and use of personal protective equipment. It was determined that \$484,000 was avoided in costs through reduced agricultural illnesses and inquiries. Programs in 12 counties focused on farm and home accident prevention.

Objective 4 reported 8 health networks and coalitions were established. Nine on-going systems to monitor health status and needs in counties were established. Five counties continue to be actively involved in the development of community health partnerships and community health coalitions.

CEMP 16 - NUTRITION AND WELLNESS

The Nutrition and Wellness CEMP provides nutrition education to all North Carolinians to promote optimum nutrition and healthy lifestyle management for positive outcomes throughout life.

Education programs addressing diet, health, and chronic disease prevention

were offered to North Carolinians of diverse income levels, age groups, genders, and/or cultural backgrounds across the state. Educational programs addressing nutrition, health, chronic disease prevention were attended by over 88,000 North Carolinians of diverse income levels, age groups, genders, and/or races/ethnicities in every county and on the Cherokee Indian Reservation. General audience programs included Give Your Heart a Healthy Beat, Healthy Heart, Healthy Choices by Design, Active for Life, HomePlate, Osteoporosis and Noonlighting. Educational programs designed for limited-resource audiences included Be Active Kids, Out for Lunch, Partners in Wellness, Expanded Food and Nutrition Education Program (EFNEP), Our Destiny is Our Decision and the In-Home Breast-feeding Support Program. Audiences reached included adults and the elderly, day care workers, hospital employees, housing authorities, Head Start, Red Cross, food banks, and community coalitions. CEMP members brought in more than 4 million dollars in grant and contract funds.

Over 63,000 participants increased awareness of their need to have good nutrition habits. Nearly 25,000 North Carolinians who participated in nutrition and wellness programs improved diets to be more consistent with recommended nutrition guidelines and about 2,800 individuals made changes that resulted in measurable wellness improvement, including decreased high blood cholesterol, decreased high blood pressure and decreased high blood glucose levels. 5,000 decreased dietary fat consumption, over 4,000 decreased dietary sodium consumption, over 5,000 increased fruit and vegetable consumption and over 3,400 increased dietary calcium consumption.

4101 volunteers gave 33,509 hours at \$10.00/hr giving a dollar value of \$335,070.00.

CEMP members brought in more than 4 million dollars in grant and contract funds in support of Nutrition and Wellness programming.

CEMP 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT

Almost 77,000 persons in 35 counties gained knowledge in water quality issues including watershed management, wastewater management and water quality improvement. 107,754 citizens increased their awareness and knowledge of water quality while 2933 adopted water quality best management practices to prevent water contamination. \$772,500 was saved through improved water quality. 93,370 gallons of used oil was collected for reuse. 150,000 gallons of wastewater have been removed from entering streams. 1372 volunteers were involved in the program with a value of time estimated at \$56,360.

The economic value of the Residential and Community Water and Waste Management Program is estimated at \$1,241,356 to the targeted audiences including business, industries, schools, communities, professionals, and the general public, with a program cost of \$209,521.

7700 people increased their knowledge and awareness of the need for water quality and conservation.

41,095 people increased their knowledge and awareness of waste management principles.

One county received a \$7350.00 grant from the NC Department of Agriculture to implement a pesticide container recycling program.

One county received three grants totaling \$145,000 to implement a watershed education program. More than ten local, state and federal organizations are working together to monitor streams to determine problem areas and to solve problems through innovative techniques. More than 25 citizens are participating in a volunteer monitoring program.

Approximately 2000 people participated in septic system maintenance programs, including 47 realtors.

Over 41,000 people increased their knowledge of waste management principles including 1800 K-3 students and 900 fifth graders through recycling/composting programs using Extension materials. 1560 industries adopted waste management practices. 55,333 pounds of household hazardous materials were collected for recycling.

FAMILY AND CONSUMER EDUCATION PROGRAM SUMMARY

The North Carolina family and consumer education program has effectively provided opportunities for individuals and families to improve the quality of their lives, through better nutrition practices, family resource management skills, parenting and family education skills, programs to assist with aging, improved health and safety practices. Participants have also helped improve their communities practicing effective residential water quality and waste management practices.

This year each of the CEMPS had increased participation, including: Aging with Gusto, 50,350; Family and Consumer Economics, 52,452; Family and Parent Education, 76,976; Health and Human Safety, 140,544; Nutrition and Wellness, 110,620; and Residential Water Quality and Waste Management, 77,000.

4-H Programs

Developing Responsible Youth

Our future in North Carolina lies in our youth. Through its 4-H program, Extension helps youth to gain the knowledge and skills they need to become productive and responsible citizens. Youth learn to manage relationships, make decisions, become resilient enough to overcome the risks they face, become better communicators, and serve their communities. 4-H's hands-on, learn-by-doing approach reaches hundreds of thousands of North Carolina's youth each year in schools, in community clubs, and in other settings. 4-H Youth Development programs:

- uniquely extend research-based curricula to youth, families, and educators in response to their expressed needs.
- support legislatively mandated university outreach to K-12 schools.
- work in partnership with other youth-serving agencies and sponsoring organizations.

Who Is Involved?

In 1999 4-H involved 197,344 youth and 28,340 adult and youth volunteers in local 4-H programs supported by the resources of the Cooperative Extension System at North Carolina State University and North Carolina A&T State University. The North Carolina 4-H Youth Development Program operates in a spirit of excellence to "make the best better." Youth from 5 to 19 years of age use 4-H to become responsible, productive citizens with their friends and families and in their schools and communities. They are actively involved in a variety of programs.

	Male	Female	Total	Units
* Organized 4-H Clubs	14,620	18,554	33,174	1,494
* Special Interest	52,372	59,897	112,269	3,264
* 4-H Overnight	3,539	3,560	7,099	307
* School Enrichment	40,106	42,757	82,863	2,668
* Individual Projects	1,625	1,425	3,050	
* 4-H After-School Programs	11,651	12,096	23,747	613
* 4-H TV/Video	135	143	278	
TOTAL	124,048	138,432	262,480	8,346

TOTAL (Duplications Eliminated) 89,224 108,120 197,344

* Data based on 1999 participation numbers from the federal ES-237 report.

Focusing Our Challenge

4-H designs and delivers programs that empower personal, local action in response to risk factors such as juvenile crime, teen suicide, school drop-out, child abuse, alcohol and drugs, family dissolution, and sexual activity.

4-H supports every youth's right to lead a healthy and productive life filled with protective factors such as:

- an ongoing relationship with a caring adult-parent, mentor, tutor, or coach.
- access to safe places and structured activities.
- a healthy start.
- a marketable skill through effective education.
- an opportunity to give back through community service.

4-H programs are:

- **Relevant** - respond to the needs of today's youth.
- **Productive** - deliver positive impacts for specific program users.
- **Economically efficient** - acquire, budget, and spend resources to produce value-added outcomes.
- **Broad in public appeal** - deliver programs that benefit large numbers of youth, families, and communities.
- **Unlimited in potential** - encourage youth to be all they can become and to experience state, national, and international opportunities.

	Female	Male	TOTAL
* 4-H TV/Videos	143	135	278
* 4-H After-School Programs	12,090	11,081	23,171
* Individual Projects	1,425	1,825	3,050
* School Enrichment	42,757	40,108	82,865
* Special Interest	55,891	52,372	108,263
TOTAL	130,932	124,048	254,980

4-H Programming Is Relevant

4-H'ers live on farms, in suburbs, and in towns and cities. Programs are designed to meet the needs of youth, families, schools, and communities.

4-H'ers and where they live:

Farm	12,419	6%
Towns	104,473	53%
Big Towns	48,177	24%
Suburbs	9,312	5%
Cities	22,963	12%
Total	197,344	100%

4-H takes pride in its cultural diversity. Youth are encouraged to become citizen leaders in service to their entire community.

4-H's diversity

White	130,489	66%
Black	58,294	29%
Indian	4,132	2%
Hispanic	3,428	2%
Asian/other	1,001	1%
Total	197,344	100%

Who Are 4-H Volunteers?

Dedicated adult volunteers provide the helping relationships that enable youth to become responsible, productive citizens. These volunteers also provide the basis for both the fiscal efficiency and productivity of 4-H. Youth also are actively engaged in community service and service learning through 4-H volunteering. 4-H volunteers encourage a sense of cultural diversity as they enable youth to become their "best selves." In 1999 there were a total of 28,340 4-H volunteers.

Diversity of 4-H Volunteers

	Adult Volunteer Service	Youth Volunteer Service
White	17,573	3,839
Black	5,142	1,178
Indian	297	56
Hispanic	153	54
Asian	26	22
Subtotals	23,191	5,149
Total		28,340

4-H Camping: A Legacy of Excellence

North Carolina's youth and families continue to "Discover the World Through 4-H Camps." Camps and educational center operations continue to grow in celebration of being exemplary units in the certification system managed by the American Camping Association. Eleven thousand, three hundred and thirty-three (11,333) youths had a 4-H camping experience in 1999.

Over 4,200 youths "discovered the world" during 20-unit weeks of junior camping and 14 weeks of specialty camps including: Marine Science and Sailing, Cloverbud Camping (ages 6-8), Fur, Fish, and Game Camp, Horsemanship, Shooting Sports, Adventure Camp, Challenge Camp, and 4-H Forestry Camp.

Our commitment to ongoing facility improvements through collaborations was realized with the construction of "Challenge Cabin" at Sertoma 4-H Center thanks to the North Carolina Bankers' Association, sponsors of "Challenge Camp," for at-risk youth.

4-H Programming is Productive

In addition to collecting annual program involvement data for youth and adults, 4-H collaborates in the 20 Cooperative Extension Major Programs and measures specific impacts in four:

- Child Care
- Leadership and Volunteer Development
- Resilient Youth, Families, and Communities
- Youth Development

CEMP 5 - CHILD CARE

The child care Cooperative Extension Major Program has two goals:

- 1) Improve the quality of child care in North Carolina and
- 2) To increase the availability of child care in North Carolina

Agents report having trained at least 8,900 child care providers in 1999. More importantly, 5,521 of these providers report that they increased their knowledge, attitudes, and skills as a result of this training, and 4,667 report implementing quality child care practices in one or more of the state mandated functional areas (topics). It is not surprising, therefore, that parents, child care providers and school personnel report that 23,524 children improved in social/emotional, cognitive, and physical development in the centers where staff received CES training. Thus, the North Carolina Cooperative Extension Service has an important impact on the 72,651 children reached by these child care providers.

Volunteers play an important role in the effort to increase availability and improve quality in child care. In 1999, 2,515 volunteers contributed \$486,920 dollars worth of service to the community.

The most direct evidence of the impact of the work of CES Agents is in the 3,328 new slots for children and the 123 new centers or family child care homes that were created across the state in 1999. This translates into 3,328 children who have care and 123 centers and homes that are now members of the child care industry because of the efforts of the Agents of the North Carolina Cooperative Extension Service.

CEMP 13 - LEADERSHIP AND VOLUNTEER DEVELOPMENT

The goal of the Leadership and Volunteer Development Cooperative Extension Major Program is to build the capacity of individuals, community groups, and organizations for involvement in their community for the public good. The results reported by counties in this major program for 1999 indicate that educational experiences offered to the public have helped achieve this goal.

Volunteer leaders, through training programs and role assignments, were prepared to involve others in accomplishing goals. Reports show many volunteers being trained as volunteer managers in Master Gardener programs, 4-H, Extension Homemakers and the Advisory Leadership System. Limited resource, non-traditional (7,846) and traditional participants (4,649) were taught leadership skills that helped some grow as individuals while others flourished as active members in groups. Individually and as groups the trained leaders are working to improve various aspects of their communities. Program participants (8,032) also learned to analyze issues and determine the impact of these issues on their lives and the lives of others. This knowledge served as the major impetus for their participation in public forums, on community boards, and

committees. These individuals have also facilitated discussions on issues, helped generate solutions and develop and activate plans to resolve issues. Their actions resulted in citizens/leaders addressing 189 issues and 887 problems being resolved or projects completed by limited resource/non-traditional leaders.

CEMP 19 - RESILIENT YOUTH, FAMILIES, AND COMMUNITIES

The "Resilient Youth, Families, and Communities State Major Program" of the North Carolina Cooperative Extension Service takes action to strengthen the resiliency of youth, families, and communities. Resiliency is the ability to cultivate strengths to positively meet challenges. The program focuses on prevention programming which strengthens "protective factors" and reduces "risk factors." Participants bring together and involve educators, researchers, agency and organizational personnel, youth, families, communities, advocates, and practitioners who share an interest in strengthening the resiliency of North Carolina's youth, families, and communities.

Youth in 40 counties have benefited as a result of involvement in community based programs which focus on building resilience. Youth in high risk environments have increased coping skills, are making more informed decisions, and have a sense of purpose for the future.

Families in ten counties have benefited from financial management programs conducted to help them learn basic money management skills such as budgeting and investing, allowing them to reallocate resources to meet pressing family financial demands. Volunteers have been trained and matched to mentor Work First participants. Through these efforts, program participants have become employed, retained employment, and improved employment status.

Eighteen counties reported the establishment of collaborations, the initiation of prevention programs, and reduction in criminal activities in targeted communities.

CEMP 20 - YOUTH DEVELOPMENT

Youth Development focuses on three major aspects of the 4-H program that contribute to the life skill and asset development of young people: the long-term 4-H Unit/Club, 4-H School Enrichment Program, and the Diverse Housing Program. Four major factors have been identified that contribute to the successful development of a child: social competence, problem solving, autonomy, and a sense of purpose and future. Those factors, along with the Search Institute's development assets, are incorporated into 4-H experiences. 4-H club activities, presentations, record keeping, judging teams, school enrichment experiences, peer helper/mentoring programs, community service projects, and recognition programs are designed to give the participants an opportunity to develop the life skills/assets that any child will need to succeed in life.

During 1999, approximately 200,000 young people between the ages of 5 and 19 participated in 4-H programs with 135,656 participants involved in 4-H club and other long-term units, school enrichment and diverse housing programs. The positive development of young people through 4-H participation can be illustrated by the following results from selected programs: 1) 40,853 youth increased their communication skills; 2) 38,567 youth have increased their decision making skills; 3) 43,364 youth increased their awareness of community service; 4) 73,793 youth increased their knowledge in various curriculum areas; and 5) 28,991 increased their self confidence. In addition, counties reported that as a result of the 4-H community service projects their communities saved \$542,743.

4-H Summary

The North Carolina 4-H Program created helping relationships to enable youth to become responsible, productive citizens during the 1999 programming year. The youth, families, and communities of North Carolina were well served by the mission accomplishment of 4-H through the related missions of the North Carolina Cooperative Extension Service, the College of Agricultural and Life Sciences, North Carolina State University, and North Carolina A&T State University.

1999 proved to be a great year of productive traditional and innovative programs focusing on four of Extension's major state programs: Child Care; Leadership and Volunteer Development; Resilient Youth, Families and Communities; and Youth Development. A total of 197,344 youths and 28,340 adult and youth volunteers worked to involve 33,174 youths in 1,494 4-H Clubs; 112,269 youths in 3,264 special interest programs; 82,863 youth in 2,668 (K-12) school enrichment designs; and 23,747 young people in 613 after-school, child care settings. Over 4,200 youths "discovered the world" during 20-unit weeks of junior camping and 14 weeks of 4-H specialty camps.

Fifty-four counties targeted child care to train 8,900 child care providers. One million, five hundred sixty-six thousand, five hundred eighty-nine dollars (\$1,566,589) in new resources was invested at 123 new centers to expand available child care slots by 3,328.

Sixty counties worked to expand Leadership and Volunteer Development by involving 7,846 participants to plan and implement 887 community based projects.

Forty counties focused on Resilient Youth, Families, and Communities. Resilience programs report 15,303 youths with increased life skills; 10,630 improved academic performance, 7,031 reduced drug and alcohol use, 631 reduced judicial involvement, and 1,153 reduced violence. Two hundred seventy-nine (279) developed money management plans. Two hundred nine (209) collaborations were established; and 60 prevention programs were developed.

Ninety-one counties targeted youth development and increased life skills in 187,163 youths while investing \$542,743 in community savings, youth scholarships, project work earnings, and project work savings. Studies representative of 4-H school enrichment programs indicated that 63% of the 39,579 students improved attendance; 65% of 37,226 students improved completing homework; and 72% of 39,305 students received better science grades. Teachers reported these results plus savings to school systems.

North Carolina's 4-H Program is a treasure shared by our state's youth, families, and communities. It demonstrates the value of collaborating effort and fiscal efficiency in the spirit of locally based, educational design. Youth, parents, educators, community, and regional and state leaders work to create the treasure that is 4-H. In 1999 that treasure blazed brightly across the state of North Carolina.

4-H Programming Has Unlimited Potential

Extension's 4-H program has a proud history of excellence and an exciting future. By continuing to respond to locally determined needs with programs that are relevant, productive, economically efficient, and of broad public appeal, the future of 4-H is unlimited in potential. The Cooperative Extension 4-H Youth Development network opens doors of state and national opportunities to all North Carolina's children and their families and communities.

AGRICULTURE, NATURAL RESOURCES, ENVIRONMENT, AND COMMUNITY AND RURAL DEVELOPMENT PROGRAMS OVERVIEW

CEMP 02 - AGRICULTURAL AND NATURAL RESOURCES POLICY

Public policy issues recognize the need for both policy and technical dimensions in educational programs. This program focuses on improving the efficiency and effectiveness of agriculture and natural resource policy through better informed stakeholders, decision-makers, and the general public. Informed individuals and groups increase their knowledge of the policy-making process and become involved in it. They increase their knowledge of how laws, rules, and regulations are developed. They gain greater understanding and awareness of agriculture and natural resource issues and develop problem solving and consensus building skills to deal with them.

Controversial issues addressed through public issues education principles and concepts include: water quality, water use, animal waste management, economic development, land use planning, zoning, farm programs, agricultural and environmental rules and regulations, farmland preservation, solid waste,

stream restoration, and tourism. The audiences addressed were farmers, elected officials, planners, environmentalists, developers, businesses, and citizens. More than 6,100 people participated in Extension programs, learning about specific policies, the process by which policies are developed, and conflict resolution techniques. Extension programs involved over 450 volunteers contributing over 3,100 hours valued at over \$31,000.

Extension continues to work to train its personnel as well as those of other agencies and organizations on the facilitation and collaborative problem solving processes as a means of minimizing conflict and enhancing cooperative solutions. The Natural Resources Leadership Institute continues to have an impact in North Carolina, with its participants involved in a variety of local and state-wide natural resource policy issues. Extension has been instrumental in addressing environmental issues throughout the state. Examples include water quality management in the Neuse River Basin, shellfish habitat protection in Coastal areas, air quality concerns in the mountains, and land use management conflicts in urbanizing Piedmont communities. Lessons learned from these programs are being taught to Extension and cooperating agency personnel and other customers involved in similar efforts around the state.

CEMP 03 - AGRICULTURE AND THE ENVIRONMENT

Agriculture and the Environment Programs educate customers on the relationships between agricultural systems and the environment. Production of livestock, poultry, agronomic, horticultural and ornamental crops is economically, socially and environmentally important to the citizens of North Carolina. Roughly 30 percent of North Carolina's GNP is derived from on-farm production or value added to farm products. Migration of non-farm population into agricultural production areas has resulted in much conflict between producers and non-farm residents. Concern about nuisance odor and pollution of surface and ground water from mismanagement of agricultural production systems has lead to adoption of many laws and regulations aimed at protecting the environment. In order for agricultural producers to comply with environmental regulations and maintain economic productivity, many are having to implement management and/or structural practices. Agriculture and the Environment educational and demonstration programs are targeted to producers, agribusiness and agricultural service agencies to make sound decisions that protect the environment and maintain productivity through adoption of sound practices to manage water, waste, soil, nutrients and pesticides. Targeted practices include nutrient and waste management, practices to reduce soil erosion and sediment delivery to surface waters, sustainable production systems that utilize reduced tillage and integrated pest management, and ecosystem management through restoration of habitat, wetlands, riparian buffers and streambank stabilization.

Program impacts include: utilization of more than 30 million pounds of nutrients derived from livestock waste or other recycled biosolids; use of conservation practices on roughly 50 percent of the states cropland resulting in a reduction in soil erosion by over 300,000 tons; continued re-certification of 3,000 waste

operators, 2,500 nursery, greenhouse or turf professionals and 11,000 pesticide applicators. The use of biotechnologies such as scouting and biological control practices reduced pesticide usage by over 67,000 pounds as compared to what would have been applied using conventional practices. Over 72,000 acres were treated with field borders, filter strips and permanent cover resulting in wildlife habitat establishment on nearly 5,000 acres. Over 400 miles of riparian buffers were established along intermittent and perennial streams. Extension faculty conducted 380 industry meetings and trade shows promoting environmentally sound agriculture with nearly 5000 agribusiness professionals participating. Two hundred and ten community and special interest environmental educational programs resulted in 22 policies being adopted that reflected both the agricultural community's and the special interest groups' needs. Public awareness and knowledge of the link between agriculture and the environment was increased by participation of 21,800 citizens in educational programs. Enhanced attitude toward agriculture was reflected by 217 media stories promoting a positive image of agriculture. Over the past year, roughly 3000 volunteers contributed over 27,000 hours valued at over \$270,000. Agriculture and the Environment programs costing roughly \$1.0 million are valued at \$20 million to the targeted audiences and nearly \$42 million to society through avertment of negative environmental impacts.

CEMP 04 - ANIMAL PRODUCTION AND MARKETING SYSTEMS

In 1999, livestock, poultry and aquatic species producers adopted and implemented practices or enterprises that enabled them to achieve business, individual and/or family goals related to profitability and quality of life. Best management production practices that optimize income were adopted by 7,384 producers, and 1,881 producers applied improved farm financial planning strategies. Collectively, an estimated \$8.8 million in income was associated with producer adoption of recommended nutrition, breeding, marketing and building/facilities practices. Over 58,800 farm and non-farm citizens improved knowledge and attitudes about animal agriculture, with over 6,400 farmers and 102,400 non-farm citizens demonstrating an understanding of animal agriculture, food supply facts and quality standards. It is estimated the 2,012 farms adopted standards, practices and procedures to address industry concerns and issues, such as environmental protection and product safety and quality. In conducting these programs, 2,828 volunteers were engaged, and they committed 20,740 hours with a value of almost \$205,000.

Youth programs are important in the extension livestock program as well. State and county programs documented 9,623 youths who demonstrated increased skills and knowledge through participation in animal projects and activities. Of these, 148 youths demonstrated advanced skills and knowledge through participation in multi-state, national or international events. Scholarships received by animal project participants totaled \$20,267, and sales of project animals netted almost \$560,000 above market price for the 1,112 youth involved. These benefits were provided to the participants by community partners of your youth animal project activities and sales. The projects are a learning experience and can affect many aspects of the lives of participants.

Enhanced personal development and leadership skills were demonstrated by 681 youths as a result of being a part of project-related events focused on public speaking skills, improved decision-making, and assisting other youth with their projects. There were 1,607 volunteers involved in these youth projects, committing 13,378 hours of time at a value of \$133,780.

CEMP 04 agents assumed a major role in coordinating the delivery and distribution of donated hay and feed as a result of needs created by Hurricane Floyd. Through January 2000, 335 loads of hay/feed were provided to livestock operators to feed horses, cattle, sheep, goats and other animals. Approximately 5,973 round bales, 19,112 square bales and 128 tons of feed and numerous loads of livestock supplies were sent in this effort. These loads originated from 40 North Carolina counties as well as Georgia, Pennsylvania, Florida and Illinois and were sent to 18 eastern North Carolina counties. In addition, livestock agents in eastern North Carolina played a major role in helping farmers recover live animals and dispose of dead animals in the aftermath of the hurricane.

CEMP 06 - COMMUNITY AND ECONOMIC DEVELOPMENT

The Community and Economic Development Program seeks to improve the ability of individuals and communities to become organizationally and individually equipped to improve the conditions in their community or enhance their own economic circumstances. Significant efforts to address community and rural economic needs were conducted in 1999. Citizens were involved in efforts to address community leadership, community services and needs of Hispanic and special needs populations, development of plans for infrastructure improvement, down town revitalization, and establishment of new enterprises. As a result of extension programs, there were 29 new start-up enterprises with an annual payroll of nearly \$100,000. Grants were used in many counties to acquire educational resources, and support and complement efforts of other programs and agencies. Primary areas of accomplishment were in tourism development, addressing needs of Hispanic populations, community development and leadership development.

Sustainable tourism has become a significant program area. Agents and others have participated in tours of other states to learn about development opportunities, have established tourism plans in selected counties and created heritage, ecological and agricultural tourism meetings, workshops, and programs. Interest in citizens and officials has increased and new tourism enterprises are beginning to emerge. A conference with over 150 participants has continued to help bring many parts of the tourism industry and those who support it together to develop new opportunities. One result is a work group that meets regularly to explore ways of assessing the opportunity and educating potential entrepreneurs.

In a number of counties the year-round Hispanic population has increased tremendously. Programs are being developed and implemented to provide community services, opportunities and information for this population. Many

programs strive to assist with language barriers providing materials in Spanish and language class opportunities. Community development continues to be a strong component of extension efforts. Many programs across the state strive to bring the programs and resources of the university related to GIS, strategic planning, community design, enterprise development to citizens and local government leaders to assist in addressing community issues, assisting in new opportunities for revitalization of communities, assisting in housing issues for people, and developing markets for local producers. Finally, leadership development through Community Voices and Voices Reaching Vision and other programs help local groups and individuals develop skills to determine their own future as individuals, many participates have used skills to become elected officials, as communities by developing plans and garnering grants, and by organizing groups to address particular issues or community needs.

CEMP 07 - CROP PRODUCTION AND MARKETING SYSTEMS

The focus of the Crop Production and Marketing Systems program is to develop and deliver programs that improve the profitability of North Carolina's agricultural industry, maintain environmentally safe farms and communities, and educate non-farm citizens about farming, food safety, and the importance of agriculture to our economy. Seventy seven counties reported accomplishments under one or more of the seven objectives.

Educational programs on corn, cotton, peanuts, small grains, soybeans and tobacco helped growers make informed decisions about new varieties, nutrient management, waste application, IPM, no-till production, BMPs, use of irrigation, marketing strategies, and many other farm practices. Programs were presented to North Carolina's vegetable, fruit, Christmas tree, greenhouse, and nursery industries, enhancing producer knowledge about variety selection, IPM, specialty crops, marketing strategies, and environmental issues. On-farm tests and demonstrations were established in many areas to evaluate new products and innovative practices. These sites are particularly valuable as growers must comply with new environmental restrictions and changing government policies. Local test sites provide numerous teaching opportunities for agents, farmers, and agribusiness.

Information about disease management through the use of resistant varieties, disease forecasting, scouting, and pesticide selection help growers reduce production costs, reduce the use of pesticides and increase profits. IPM programs were presented for forestry, forage, ornamental, fruit, and vegetable and field crops. By using digital cameras and internet microscopy for remote diagnosis, two counties provided pest diagnosis and proper treatment recommendations within hours instead of days, resulting in more effective, timely treatments. Diagnoses have included watermelon, corn, cotton, peanuts, cantaloupe, beans, strawberries, and many other commercial crops. Across the state, IPM programs reached over 5,585 individuals. An estimated 2,347 growers implemented IPM practices affecting over 341,016 acres. Across the state, adoption of IPM practices have the potential for saving growers over \$4.2 million and represents a reduction over 179,559 pounds of pesticide active

ingredients.

Tobacco is a major contributor to North Carolina's economy and producers face an uncertain future. County and campus faculty provided information to help growers minimize input costs, diversify crops, utilize alternative marketing strategies, and expand the use of float houses to supplement farm income. Baling tobacco was the subject of many programs; it can reduce handling and transportation costs, increasing profits by five cents per pound.

Approximately 1,850 tobacco and peanut growers adopted new market options, with a potential increase in income of over \$3.8 million. Over 3,920 adopted new production practices, affecting 121,381 acres for possible increase in profits of \$9 million. An additional 5,100 producers learned about global markets and trade policies, with 692 adopting practices associated with new products for estimated profits of \$1.5 million. Approximately 1,202 individuals adopted strategies that impacted their marketing success, increasing profits by \$1.2 million.

Over 543 part time, limited resource farmers were assisted in evaluating production BMPs for their farms, affecting approximately 37,267 acres for a potential profit of almost \$11.5 million. Programs discussing marketing options were presented to 832 individuals; 475 adopted the use of multiple markets. Diversification is a key to success of part time farmers. NCCE county programs were responsible for 292 part time farmers adopting new crops, affecting 6,023 acres for potential profits of \$614,000. Programs continue to promote sustainable farming systems through continued evaluation of alternative and conventional practices. In 1999, 6,555 growers adopted production BMPs and 11,594 increased their awareness of the importance of production systems. Over 5,655 growers adopted practices that lowered production costs, affecting 754,657 acres for a potential profit of \$4.9 million.

Environmental constraints on production practices has been an issue for many years. Waste management, water quality, and responsible pesticide use, have been the focus of many extension programs. Over 6,445 producers increased their awareness of BMPs that impact farm and community environment, with 3,123 adopting improved practices on 386,607 acres. Potential profits for these growers exceeds \$4.9 million.

Genetic engineering has led to the creation of new varieties and hybrids that contain herbicide or insect resistance traits. Programs have helped growers compare traditional and genetically engineered crops to determine which, if any, fit into their farming systems. Over 2,528 growers adopted the use of genetically engineered varieties affecting 245,172 acres. Using these varieties, potential profits were estimated to be more than \$4.5 million with approximately \$1.4 million savings in pesticides. Food safety and non-target influence of these crops has been an issue with many consumer groups and concerned citizens. Educational programs have increased the public awareness of biotechnology, reaching over 40,000 individuals.

CEMP 10 - FOOD AND FOREST PRODUCTS MANUFACTURING

The goals of the Food and Forest Products Manufacturing Program are to assist entrepreneurs and start-up businesses in the food industry, assist the food processing industry in the technology of producing a safe, wholesome, and economic product; and to increase the competitiveness and profitability of North Carolina's wood products industry, improve markets, and increase consumer understanding of wood products and their use. In 1999, 1000 individuals representing 800 companies were certified to implement Hazard Analysis and Critical Control Point (HACCP) having an estimated impact of \$1,000,000 to the North Carolina industry. This is important for small North Carolina industries to be in compliance with the Pathogen Reduction; Hazard Analysis Critical Control Point Systems rule is in force in January 2000. NC State Seafood Laboratory personnel have participated in 14 National Seafood HACCP Alliance and Training Workshops, resulting in 367 individuals certified in North Carolina. A HACCP pilot is in process for the dairy processing industry.

Forty-eight different educational events were used to reach 2,059 individuals interested in wood and wood products processing and utilization. Significant events dealt with drying and mill practices. As a result of these programs, one dimension manufacturer implemented yield measurement methods in the rough mill operation and had an estimated annual savings of \$160,000. A hardwood lumber manufacturer improved understanding of lumber grading rules and saved an estimated \$400,000 per year. The Carolina Log'n Demo, initiated by Cooperative Extension and now conducted by the North Carolina Forestry Association, allows loggers to view state-of-the-art equipment, and loggers in Martin County purchased 12 portable scales that are used to ensure that trucks are properly loaded. This has resulted in an estimated savings of \$100,000.

CEMP 11 - FOOD SAFETY AND QUALITY

County and departmental educators delivered a variety of food safety educational and train-the-trainer programs to diverse audiences. A growing number of agents are partnering with local Departments of Aging, schools, Environmental Health Departments, universities and community colleges to develop and deliver educational programs to enhance food safety in the home, public institutions, care facilities and food service establishments. In addition, specialists have provided programs and assistance to address a number of food safety issues, ranging from food processing to biotechnology, for a variety of audiences. Food processing industries are challenged with emerging food safety regulations. Specialists, cooperating with commodity and processing associations, have assisted the industry in meeting these challenges.

Sixty three counties and three departments reported against this program; they reported the following accomplishments. Eighteen hundred sixty four food safety educational programs and activities were conducted for various audiences, and food handler certification programs were provided for 451 consumers, food service workers, food handlers, regulators and others. To magnify the educational capacity of this program, 262 food safety

train-the-trainer programs were conducted in which 1,258 people participated. Over 20,500 participants in these programs increased their knowledge about safe food handling practices, and 2,378 individuals successfully completed food safety certification, with about three-fourths being food service workers and food handlers.

Impacts are determined by the level of adoption of safe food handling procedures by participants in the programs. Based on county and departmental reports, safe food handling practices were adopted by the following groups:

Consumers	10,987
Food service workers	15,191
Food handlers	1,705
Food regulators	20
Other professionals	150

In addition to these planned programs, members of this CEMP team responded with appropriate food safety and handling information in response to Hurricane Floyd. Two examples indicate some of the ways this program responded. Specialist members of the team engaged in an interdisciplinary effort to develop safety guidelines for horticultural crop growers producing underground crops. In another situation, a county educator provide TV stations with food safety information which was aired on at least two stations covering a wide area as people and communities prepared for the hurricane. Additional food safety information was broadcast on both TV and radio to areas impacted by the hurricane in its aftermath.

Five hundred fifty three volunteers participated in the Food Safety and Quality program, contributing 3,925 hours of time and effort valued at \$39,250.

CEMP 14 - MARKETING AND PRODUCTION OF ALTERNATIVE AGRICULTURAL OPPORTUNITIES AND ENTERPRISES.

CEMP 14 is focused on assisting both commercial and small, part-time and limited resource producers identify, analyze, select and implement alternative opportunities to increase their income. Program efforts have been made in developing and disseminating information on commercial horticulture specialty crops, niche markets and agri-tourism. The team continues to emphasize business planning to address issues of risk in production and marketing. It also helped in developing and disseminating information to assist farmers in coping with change as alternative enterprises are considered in response tobacco quota reductions and continued low commodity prices. The team also provided information to help these audiences respond to the effects of Hurricane Floyd.

Reporting units documented the following accomplishments. Over 2,800 producers became aware of opportunities and indicated an interest in developing alternative enterprises. Of those, 910 growers actually initiated use of new methods, new practices or tried new enterprise production, and 2,827 producers gained knowledge about alternative production and marketing

strategies. Approximately half of the beneficiaries of this program were small, part-time and limited resource farmers and their families.

Statewide impacts indicate significant incremental income as a result of producers exploring and implementing new production and marketing practices and new enterprises. These impacts included:

Producers invested \$2,428,250 in the production and marketing of alternative enterprises and related strategies.

These new investments produced additional gross income estimated at \$2,066,075 to these producers.

Volunteer involvement multiplies the educational capacity of this program. During 1999, 389 volunteers contributed 8,257 hours of time and effort, valued at \$82,570.

CEMP 15 - NATURAL RESOURCE CONSERVATION AND MANAGEMENT

The Natural Resource Conservation and Management program encompasses environmental and natural resource fundamentals and management of natural resources to benefit society. Educational programs span the range from understanding ecosystems, dealing with community decisions regarding environmental concerns, to managing forested and farmed properties to attain landowner and societal benefits.

Educational programs on environmental education, directed mainly at 4-H youth, and programs to enhance natural resource decision making, were delivered to over 29,000 people by 207 extension-trained volunteers, generating an estimated value to society of \$180,000. The publication "School Yard Environmental Projects: A Planning Primer" is used throughout the state and is available in English and Spanish. The Forest Stewardship Program resulted in 38 new stewardship plans, while existing Stewardship lands generated over \$6.4 million from timber sold and additional \$155,500 from recreational leases. These new plans encompass over 36,000 acres. New technology is being tested to cost-effectively increase desirable wildlife on farmlands in North Carolina and a new video "Quail at the Edge: Can We Bring Them Back" has been released. Statewide educational programs on wildlife and fishery management have resulted in over 35,000 acres being leased in addition to the over 100,000 leased in the Forest Stewardship Program.

CEMP 17 - RESIDENTIAL AND COMMUNITY HORTICULTURE, TURF, FORESTRY AND PEST MANAGEMENT

Demand for programs in the area of non-commercial horticulture and forestry and residential pest management continues to increase. The greater awareness of more diverse publics of the economic as well as environmental importance of landscape stewardship has emerged. Extension programs seek to increase the knowledge of North Carolina citizens and nonprofit organizations in

consumer horticulture and structural pest management. Programs target gardeners and home owners concerning: control of structural pests, installation and maintenance of home landscape and production of vegetables and fruits. Programs are also provided on community gardening, water conservation, beautification projects, youth and school gardening, and for caretakers of community property such as schools and parks and recreation grounds personnel. Through increased knowledge and adoption of practices, this program aims to improve the economic and aesthetic value of private and public property while ensuring environmental stewardship.

The use of IPM (Integrated Pest Management) is important to fulfilling the objectives of this major program. Educational programs on pest management helped more than 34,200 people increase their knowledge of IPM practices. Of these, more than 22,800 adopted IPM practices in their pest management strategies. About 27,000 people reported reducing risk of their own and their pets exposure to insecticides. Programs on federal guidelines governing wildlife control and depredation reached more than 7,000 people.

Educational programs helped 287,526 gardeners increase their knowledge of new or under utilized plant species/cultivars and how to select plants for a specific location. An additional 250,553 participants increased their knowledge of appropriate watering practices and water conservation methods. Over 230,900 gardeners increased their knowledge of plant fertilization needs and methods of application. 247,648 participants increased their knowledge of the prevention and management of pest problems (weeds, insects, diseases, wildlife) through non-chemical methods and correct methods for pesticide application. Over 142,300 gardeners adopted cultural practices that reduced/recycled yard waste.

The training and utilization of a Master Gardener Volunteer staff continues to be an economical way to enhance Extension teaching resources. Over 2,100 volunteers donated 116,073 hours of their time (valued at \$1,160,730) while assisting 421,900 gardeners (excluding mass media contacts). Activities included: answering 53,044 phone calls, diagnosing 10,498 plant samples, manning 158 exhibits for 201,900 people, 237 television/radio shows, writing 415 news articles, giving programs to 736 groups with 17,860 in attendance, conducting 287 school programs for 11,961 youth, developing 59 school gardens for 3,685 youth, sharing information with 14,254 friends and neighbors, and maintaining 118 demonstration gardens viewed by 119,216 gardeners. Volunteers contributed over \$35,628 out-of-pocket expenses, drove over 303,500 miles (valued at \$97,177), and raised \$143,996 for a total contribution of \$1,404,531. In addition, 10,752 youth demonstrating increased personal responsibility by growing and caring for their own plants at home, and 31,172 youth demonstrating increased proficiencies in application of horticulture skills and knowledge.

CEMP 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT (FCS component also shown under FCS program overview)

Residential and community water and waste management programs have environmental and economic impacts on both private and public sectors. Proper management of solid waste, wastewater and watersheds is necessary for optimum environmental and economic health. Through Extension programs, 77,000 persons gained knowledge in water quality issues including watershed management, wastewater management and water quality improvement. 1372 volunteers were involved in the program with a value of time estimated at \$56,360. The economic value of the Residential and Community Water and waste Management Program is estimated at \$1,241,356 to the targeted audiences including businesses, industries, schools, communities, professionals, and the general public, with a program cost of \$ 209,521. Environmental impacts include recycling/reuse of household hazardous waste including 7,000 lbs of pesticides, 6,000 lbs of pesticide containers, 5.25 tons of tires, 1 ton white goods, 3000 gallons of paint, and 4,000 lbs. of plastic pots. In addition, 93,370 gallons of used oil was collected for reuse. Extension programs involved over 1,300 volunteers contributing over 5,600 hours valued at over \$56,000.

The value of Extension programs to local communities totaled more than \$5 million through reduced waste in landfills. The value to homeowners totaled more than \$2 million, including \$425,000 in saved health care costs due to early detection of contaminated drinking water; \$395,000 saved in avoiding replacing septic systems through proper maintenance; \$78,000 saved through residential water conservation; and \$1,242,000 saved through recycling programs.

Program Volunteers, Hours Contributed, and Value for Each CEMP in 1999

CEMP	Volunteers	Hours Served	\$ Value@\$10 per Hour
01	903	3,681	\$36,810
02	458	3,150	\$31,500
03	3,146	27,849	\$278,490
04	4,435	33,848	\$338,480
05	2,515	48,692	\$486,920
06	981	7,234	\$72,340
07	2,169	17,669	\$176,690
08	1,220	12,640	\$126,400
09	1,205	6,147	\$61,470
10	3	1	\$10
11	553	3,925	\$39,250
12	734	5,301	\$53,010
13	19,382	216,267	\$2,162,670
14	389	8,257	\$82,570
15	903	7,399	\$73,990
16	3,697	28,283	\$282,830
17	2,940	78,302	\$783,020
18	1,359	5,937	\$59,370
19	2,180	54,873	\$548,730
20	15,883	224,692	\$2,246,920
Total	65055	794,147	\$7,941,470

Known Teaching Contacts for 1999

Face-to-Face Teaching Contacts by Gender

Female	1,284,964
Male	1,117,512
Total	2,402,476

Face-to-Face Teaching Contacts by Ethnic Origin

White	1,710,698
Black	598,859
American Indian/Alaskan Native	38,725
Asian/Pacific Islander	6,444
Hispanic	47,750
Total	2,402,476

Known Non Face-to-Face Teaching Contacts *

5,484,152

Grand Total of Known Teaching Contacts**

7,886,628

* Non Face-to-Face known contacts include telephone calls, newsletters and letters mailed, fax messages and computer messages sent, fact sheets and pamphlets mailed or distributed, video or audio cassettes loaned or distributed, and other means of information delivery in which known teaching contacts occur.

** Cooperative Extension uses mass media outlets such as newspapers, radio, and television to convey considerable amounts of information. However, due to the difficulty in determining the actual number of people who obtain information via these means, no attempt is made to count mass media contacts as known contacts even though these contacts are known to be effective means of delivering educational information to the public.

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